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DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	PROACTIVE BROWSER CONTENT ANALYSIS

As the below named inventor, I hereby declare that:

This declaration is directed to:

- [x] The attached application, or
- [ ] United States application or PCT international application number _____ filed on _____.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

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LEGAL NAME OF INVENTOR

Inventor: Joe Jaroch Date (Optional): 10/31/2012

Signature: _____

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PROACTIVE BROWSER CONTENT ANALYSIS

CROSS REFERENCE TO RELATED APPLICATION

[0001] The present application claims the benefits of and priority, under 35 U.S.C. § 119(e), to U.S. Provisional Application No. 61/542,693, filed October 3, 2011, entitled "PROACTIVE BROWSER CONTENT ANALYSIS," which is incorporated herein by this reference in its entirety for all that is teaches and for all purposes.

FIELD

[0002] An exemplary aspect of the present invention generally relates to computer system management. In particular, but not by way of limitation, an exemplary aspect relates to systems and methods for controlling pestware or malware or other undesirable or unwanted applications and/or instructions.

BACKGROUND

[0003] Personal computers and business computers are continually attacked by viruses, trojans, spyware, adware, etc, collectively referred to as "malware" or "pestware." These types of programs generally act to gather information about a person or organization--often without the person or organization's knowledge. Some pestware is highly malicious. Other pestware is non-malicious but may cause issues with privacy or system performance. And yet other pestware is actually beneficial or wanted by the user. Wanted pestware is sometimes not characterized as "pestware" or "spyware." But, unless specified otherwise, "pestware" or "malware" as used herein refers to any program that is malicious in some way and/or collects and/or reports information about a person or an organization and any "watcher processes" related to the pestware or malware.

SUMMARY

[0004] In accordance with an exemplary aspect, a protection module operates to analyze threats, at the protocol level (e.g., at the HTML level), by intercepting all requests that a browser engine resident in a computing device sends and receives, and the protection agent completes the requests without the help of the browser engine.

[0005] And then the protection module analyzes and/or modifies the completed data before the browser engine has access to it, to, for example, display it. After performing all of its processing, removing, and/or adding any code as needed, the protection module provides the HTML content to the browser engine, and the browser engine receives responses from the protection agent as if it was speaking to an actual web server, when in fact, browser engine is speaking to an analysis engine of the protection module.

[0006] This allows the protection module to have control over what a browser engine "sees," providing means to remove any exploits, malware, and other threats dynamically. This also enables the protection module to add content into the browser stream at the HTML level, before receipt by the browser.

[0007] In some exemplary implementations, search engine results (e.g., results provided by Google®, Yahoo®, and Bing®) are annotated/updated/amended by the protection module -- within the HTML code -- to denote if a particular website is legitimate or malicious. For example, a legitimate link in the search results may be depicted in connection with a green check mark and a suspect link may be depicted with a red cross. (Of course other indicators could also be used that identify to a user whether or not a link is "good," "bad," or "unknown.) In addition to search result annotation, the protocol-

level analysis approach may also be used in connection with anti-phishing and URL analysis among other types of analysis.

[0008] The differences between the disclosed protocol-level analysis approach compared to other prior anti-malware approaches are significant. In the context of search result annotation for example, the data (e.g., a web page of search results) is first analyzed and modified by an analysis engine of the protection module, which has control over every element of a web page before the web page is operated on by the browser engine. This is in contrast to prior approaches that just make high-level modifications to the content after the content has been rendered and displayed through a Browser Helper Object. With an exemplary aspect of the present protocol-level approach, there is virtually no performance overhead, and in many cases, there is actually a performance improvement when performing the browser content analysis.

[0009] When the protection module receives content from a web server, the protection module then, if necessary, decrypts and decompresses the web content and then assembles the requested web page (e.g., in a decrypted and decompressed HTML format that the web page existed in at the remote server). The protection module then analyzes the web page to determine whether the web page includes links that may lead to sites hosting malware or whether the web page itself includes malware. The analysis of the assembled web page may include communicating with a remote security center so that a malware management analysis may be performed to analyze one or more portions of the content of the assembled web page and/or the protection module itself may perform analysis of content of the assembled webpage. The analyzed webpage can then be forwarded to the web browser for display to a user.

[0010] The preceding is a simplified summary of the disclosure to provide an understanding of some aspects of the disclosure. This summary is neither an extensive nor exhaustive overview of the disclosure and its various aspects, embodiments, and/or configurations. It is intended neither to identify key or critical elements of the disclosure nor to delineate the scope of the disclosure but to present selected concepts of the disclosure in a simplified form as an introduction to the more detailed description presented below. As will be appreciated, other aspects, embodiments, and/or configurations of the disclosure are possible utilizing, alone or in combination, one or more of the features set forth above or described in detail below.

BRIEF DESCRIPTION OF THE FIGURES

[0011] Fig. 1 illustrates an exemplary embodiment of a computing environment according to an exemplary embodiment.

[0012] Fig. 2 illustrates an exemplary embodiment of systems and operations at the remote computer.

[0013] Fig. 3 is a flowchart illustrating exemplary process flow at the remote computer.

[0014] Fig. 4 illustrates an exemplary embodiment of one of the computers in Fig. 1.

DETAILED DESCRIPTION

[0015] Referring now to the drawings, where like or similar elements are designated with identical reference numerals throughout the several views, and referring in particular to FIG. 1, it is a block diagram depicting an environment in which several embodiments of the invention may be implemented. As shown, a security center 102 (also referred to

herein as a "central" or "base" computer), remote user 104 operating a remote computer 105, a malware source 106, and a web server 108 are all communicatively coupled through one or more networks (e.g., the Internet and/or local or wide area networks) 110 and links 5. Although only one remote user 104, remote computer 105, malware source 106, web server 108, and security center 102 are depicted, each of these logically represents a potentially unlimited number of persons, entities and/or computers or computing resources.

[0016] The remote user 104 may be a an individual or a business enterprise that operates the remote computer 105, which may each be a personal computer, a server of any type, a PDA, mobile phone, tablet, netbook, an interactive television, or any other device capable of loading and operating computer objects.

[0017] In the depicted environment, the malware source 106 generally represents a source of malware that ends up or is strategically placed at the web server 108, which may or may not be suspected of hosting malware. For example, the malware source 106 may generate a malware object in a variety of forms including in a scripting language such as ECMAscript-based scripting languages (e.g., JavaScript or Adobe Flash), but the malware source may generate other types of objects such as computer files, part of a file or a sub-program, an instruction(s), macro, web page or any other piece of code to be operated by or on the computer, or any other event whether executed, emulated, simulated or interpreted.

[0018] As depicted, the security center 102 is disposed and configured to be accessible to the user 104 so that, as discussed further herein, the security center 102 may facilitate the management of malware on the remote computer 104. In many implementations, the

security center 102 operates according to a Software as a Service (SaaS) business model to generally provide Web security services "in the cloud."

[0019] As depicted in FIG. 1, the exemplary security center 102 includes a malware management portion 112 that is coupled to a data store 114. Although not depicted, the security center 102 may also include components that provide other services (e.g., internet policy enforcement, in/outbound content control, application control, compliance-related services, etc.).

[0020] The security center 102 is generally configured to obtain information about malware threats and to be a resource for the remote computer 105 to enable the remote computer to manage malware threats more effectively and efficiently. It should be noted that that the malware management component 112 and data store 114 are presented for convenience as single entities, but the security center 102 can be scaled and comprised of multiple geographically distributed computers and servers, etc., and the data store can be made up multiple databases and storage distributed around this central system and/or be located in a cloud-type environment.

[0021] Although not required, the malware management 112 component of the security center 102 may maintain the data store 114 as a community database that is populated, over time, with information relating to each object run on all of the connected remote computers as disclosed in US A 2007/0016953, published 18th January 2007, entitled "METHODS AND APPARATUS FOR DEALING WITH MALWARE," the entire contents of which are hereby incorporated herein by reference. As discussed in the above-identified application, data representative of each malware object may take the form of a

so-called signature or key relating to and/or identifying the object, its attributes and/or behavior(s).

[0022] In operation, the protection agent 116 in this embodiment operates to analyze threats, at the protocol level (e.g., at the HTML level), by intercepting all requests that the browser engine 118 sends and receives, and the protection agent 116 completes the requests without the help of the browser engine 118. And then the protection agent 116 analyzes and/or modifies the completed data before the browser engine 118 has access to it. After performing all of its processing, removing, and/or adding any code as needed, the protection agent feeds the HTML content back to the browser engine 118, and the browser engine 118 receives responses from the protection agent 116 as if it was "speaking" to an actual web server (e.g., web server 108) when in fact, it is speaking to an analysis engine of the protection agent 116. This allows the protection agent 116 to have full control over what the browser engine 118 "sees," providing means to remove any exploits, malware, and other threats dynamically. This also enables the protection agent 116 to add content into the browser stream at the HTML level. Stated another way, the protection agent 116 caches web content requested by a browser, analyzes and/or modifies the retrieved web content, and provides a clean or sanitized version of the web content, free of malware, to the browser.

[0023] In some optional implementations for example, search engine results (e.g., results provided by Google, Yahoo, and Bing) are annotated by the protection agent 116--within the HTML code--to denote if a particular website is legitimate or malicious. For example, a legitimate link in the search results may be depicted in connection with a green check mark and a suspect link may be depicted with a red cross. In addition to search result

annotation, the protocol-level analysis approach may also be used in connection with anti-phishing and URL analysis among other types of analysis.

[0024] The differences between the protocol-level analysis approach disclosed herein as compared to other prior anti-malware approaches are significant. In the context of search result annotation for example, the data (e.g., a web page of search results) is first analyzed and modified by an analysis engine of the protection agent 116, which has full control over every element of the web page before the page is operated on by the browser engine 118. This is in contrast to prior approaches that just make high-level modifications to the content after it has been displayed through a Browser Helper Object. With the present protocol-level approach, there is virtually no performance overhead, and in many cases, there is actually a performance improvement when performing the browser content analysis.

[0025] When the protection agent 116 receives content from the web server 108, the protection agent 116 then, if necessary, decrypts and decompresses the web content and then assembles the requested web page (e.g., in a decrypted and decompressed HTML format that the web page existed in at the remote server 108). The protection agent 116 then analyzes the web page to determine whether the web page includes links that may lead to sites hosting malware or whether the web page itself includes malware. The analysis of the assembled web page may include communicating with the security center 102 so that the malware management component 112 may analyze one or more portions of the content of the assembled web page and/or the protection agent 116 itself may perform analysis of content of the assembled webpage.

[0026] In many embodiments, the cleaning process that the protection agent 116 carries out takes place through a highly optimized routine written in, for example, raw C with an inline assembler reducing processing effort within the browser engine 118 itself by decrypting/decompressing/de-encoding any of the content outside of the browser engine 118. Having full control at this level also means that complex inferential algorithms can be applied to the browser content as a whole, taking into account any external script/image links, to build an in-memory picture of the final content before it is rendered to the user by the browser on a display (not shown). This general operation can be extended to remove/modify any form of content, whether illicit images, ads, fake password request forms, malicious exploits, cross site scripting attacks (XSS), etc.

[0027] Referring to FIG. 2, shown is a block diagram depicting exemplary functional components and operations that reside and take place on the remote computer 105 at the location of the remote user 104. In the depiction of FIG. 2, the browser-related processes and protection-agent-related processes are separated so that the interaction between the two types of processes may be more clearly understood. While referring to FIG. 2, simultaneous reference is also made to FIG. 3, which depicts exemplary aspects of the process flow that occurs in connection with the components depicted in FIG. 2. Depicted next to each of the blocks in FIG. 3 is either a "K" or a "U," which indicate that the operation is implemented at the kernel or user-level, respectively. It should be recognized, however, that the operations described with reference to FIGS. 2 and 3 may be implemented with some kernel-mode operations being implemented at the user-level and vice versa. Moreover, the illustrated arrangement of components in FIGS. 2 and 3 is

logical, and is not meant to be an actual hardware diagram. Thus, many of the components can be combined and/or further separated in an actual implementation.

[0028] As shown, the browser processes in this embodiment include agent processes 220 that are installed on the remote computer 105 in connection with the protection agent 116 so that functions of the protection agent 116 are integrated with a typical browser engine 218. In other words, the agent processes 220 of the browser processes are implemented by additional of code that is wrapped around a typical browser engine 218 to intercept what is requested and received. As discussed further herein, these agent processes 220 enable all content that is requested by an application 222 (e.g., a browser) and received by the browser engine 218 to be intercepted.

[0029] More specifically as shown, when a user initiates a request via the application 222 (e.g., web browser or other application that requests web content), a connection request 360 is initiated as a POST/GET request 362 to a website (e.g., hosted by the webserver 108) and the analysis engine 224 looks at the context of the request to assess whether the request is the first request in a session (Block 364), and if the request is the first request, a determination is made as to whether the request is associated with known, malicious content (Block 366), and if so, the request is blocked (Blocks 368, 370).

[0030] In some embodiments, the analysis engine 224 accesses the security center 102 via the Internet and the security center 102 is utilized to facilitate whether the request is a request for known malicious content (e.g., the URL of the request may be compared to a black list of URLs). But the analysis engine 224 may also include some malware checking functionality locally. As shown, if the request is not blocked, the request may be pre-processed by the content acquisition component 226 (Block 372) (e.g., to set aside

sufficient memory in RAM in anticipation of the content from the website being received) before the request is sent to the destination website 108.

[0031] And as shown, when the first response is received by the content acquisition component 226 (Block 374), if the response is not complete, the response is stored in memory (Block 376), and the next request is sent to the destination website 108 (Block 378). In this way, the content acquisition component 226 continues to obtain content from the website 108 (Blocks 374, 376, 378) until the web page is complete, and the complete page is held in memory by the content acquisition component 226.

[0032] Thus, in short, the initial request 360 by the application (e.g., browser) is intercepted and if the request does not appear to be a request for malicious content, the content acquisition component 226 iteratively sends requests and receives content (Blocks 374, 376, 378) from the website 108 until the requested content has been completely received. This is very different from the ordinary operation of the browser engine 218, which would (if unaltered by the protection agent 116) obtain the content from the webserver 108 itself by way of a series of GET requests.

[0033] As shown in FIG. 2, once the web content is completely gathered by the content acquisition component 226, the content is passed along to the service process component 228 via the user process component 230, and the data is then preprocessed (Block 380), if necessary, to decrypt, remove chunks, and decompress the gathered content. When a web page is received from the webserver 108, it may be compressed, chunked encoded, and encrypted, and decompressing, decoding and unencrypting the content enables a complete picture of the webpage looked like before if any of the these forms of obfuscation were applied to the content by the webserver 108. One of ordinary skill in the

art will appreciate that various layers of encoding and compression may be applied to content, but for simplicity, these known details are not included herein for clarity.

[0034] And after the data is decrypted and decompressed, the data is in an HTML format, so at this point, the protection has the content in the same HTML format that the website 108 had the content in. And at this point the browser engine 218 is unaware that the requested content (e.g., an entire webpage) has been received. As a consequence, the browser page may be analyzed by the protocol-level analysis/modification component 382 depicted in FIG. 3 outside of the context of the browser engine 218 before the browser engine 218 has operated on the webpage. For example, all the links in the webpage, all the pictures in the webpage, and any scripts in the webpage may be analyzed at a low level of granularity. And code may be changed, enhanced, and removed according to default modes and/or user-configurable mode of operation. As one particular example, if a malicious script is found, it may be commented out before the content is handed to the browser engine.

[0035] In addition, in many modes of operation the protocol-level analysis/modification component 382 modifies and/or annotates the content—as HTML within the content-- to provide the user with textual, audible and/or graphical indicators of risk associated with the content. In the context of a webpage that include search results from a user's search query, for example, a green check may be added within the HTML code next to a result that is a low risk link, and a red X may be added within the HTML code next to a result the is a high risk link. For example, an image tag and/or text may be added within the HTML to indicate a risk of being exposed to malware. Beneficially, making modifications to the content (e.g., to include risk indicators) at the HTML level avoids

having to address the differences that different browsers introduce into the presentation of rendered content.

[0036] This approach of modifying content at the HTML level (e.g., to add annotations) is very different than the prior approaches of rendering (e.g., using a Browser Helper Object) annotations on top of a page that has already be parsed and rendered by a browser engine. This prior approach is problematic because it allows the browser engine to potentially execute malicious scripts or perform malicious actions while it is parsing and rendering the code. And in addition, because the annotations are added after rending, the annotation process must account for the rendering differences (e.g., differences in how and where content is displayed) that different browsers (e.g., Firefox, Safari, Chrome, Internet Explorer, etc.) exhibit.

[0037] It should be recognized that although search results annotation is one application for the protocol-level (e.g., HTML level) handling of content, it is certainly contemplated that there are other anti-malware-related applications of the protocol-level handling of content. One application for example, is an anti-phishing application, which may automatically modify HTML data so that user need not type in a password and expose the password to a keylogger object.

[0038] As shown in FIG. 2, more details of the protocol-level analysis/modification component 382 are depicted. As shown, once a complete collection of content is received, the service process 228 is utilized to initiate parsing of the HTML content and extraction of any scripts 230 in the content before building a tree representation of the content 234, which is then asynchronously analyzed 236. As shown in FIG. 2 for example, the analysis may include URL analysis 238, IP analysis 240, image analysis (e.g., to analyze

phishing threat) 242, and script/HTML analysis 244. The results of the analysis are then aggregated by the result aggregator 246 so that cloud verification 248 may be performed on the single aggregated collection of data by the base computer 112 of the security center 102 to determine malware vulnerabilities.

[0039] But in optional embodiments, the verification may be effectuated locally or in combination with the security center 102. As shown, the results of the cloud verification are provided to the final content packager 250 of the service process 228, and then in some modes of operation, annotations are performed 252 on the packaged HTML code before being distributed 254 back to the data wrapper component 256, which sits on top of the response receive component of the browser engine 218 and performs final context modifications 258 to ensure content is properly displayed before being passed to the browser engine 218. As shown, final content modifications are performed at 258 before the final content 260 is provided to the browser engine 218 for parsing and rendering of the HTML content before being displayed by the application 222.

[0040] Referring again to FIG. 3, shown is a loop (Blocks 384, 386, 364) that depicts the cleaned and/or annotated content being fed back to the browser engine 218. As shown, as the browser engine requests more content, the pointer is set to the next byte to be read (Block 384), and once all the content is on hand, the browser engine requests content (Block 386), and the cleaned and/or annotated content is fed to the browser engine 218 in the manner the browser engine 218 would have requested and received the content.

[0041] In other words, from the browser engine's 218 perspective, the browser engine 218 is obtaining the content from the webserver 108 directly. In other words, the protection agent 116 operates as an emulated server in memory to provide the clean

content in the way the web server 108 would have provided the content to the browser engine 118, 218 if the browser received the content form the web server 108 directly.

[0042] In the exemplary embodiment however, for operational speed, the clean/modified content is not encoded or encrypted once it is cleaned. As a consequence, the packet headers (e.g., length headers) are modified to reflect that the content being provided to the browser engine 118, 218 is in a decrypted, decompressed, and/or de-chunked format. In this way, the browser is not expecting to receive encrypted, encoded, compressed content. Beneficially, the decryption and decompression is carried out with code implemented in raw C (and most browsers are written in a high level language), so the decryption and decompression are actually carried out faster than an ordinary browser would do so. Additionally, the decryption and decoding is generally carried out after the request is complete, so the decryption and decompression is more efficient than handling the decryption and decompression over several passes.

[0043] Referring next to FIG. 4, shown is a block diagram depicting hardware components in an exemplary embodiment of the protected computer described with reference to FIG. 1. As shown, the *N* processing components 140 described with reference to FIG. 1 are depicted as *N* processors 440 that are coupled to a bus 460, and also coupled to the bus 460 are a memory 438 (corresponding to memory 138), storage medium 412 (corresponding to the storage medium 112), a keyboard/pointing device 462, a display/graphics adapter 464, and a network interface 466. In addition, a display 468 is coupled to the display/graphics adapter 464.

[0044] The storage medium 412 may be any device capable of holding substantial amounts of data, such as a hard drive, flash memory, or some other form of fixed or

removable storage device. And the storage medium 412 in this embodiment stores processor-readable code with instructions to effectuate the functions described herein (e.g., the functions of the components in FIG. 1 depicted in the user 102 and kernel 104 environments). The processors 440 generally function to execute code and process other information that resides in memory and may be any specific or general-purpose processor such as an INTEL x86 or POWERPC-compatible central processing unit (CPU), and each may include one or multiple (e.g., four) cores. The memory 438 may include several gigabytes of random access memory, but this is merely exemplary and other memory types and sizes may be utilized. As one of ordinarily skill will appreciate, an operating system (e.g., LINUX® or WINDOWS®) may also reside in the storage medium 412 and memory 438 and function (e.g., when executed by one or more of the processors 440) to enable the components to operate as described with reference to FIG. 1.

[0045] As one of ordinary skill in the art in light of this disclosure will appreciate, FIG. 4 depicts only an exemplary embodiment, and the processes presented herein are not inherently related to any particular computing device or other apparatus. Various general purpose systems may be used with programs in accordance with the teachings herein, or it may prove convenient to construct a more specialized apparatus to perform the desired method. In addition, embodiments of the present invention are not described with reference to any particular programming language. It will be appreciated that a variety of programming languages may be used to implement the teachings of the invention as described herein. In addition, it should be understood that operations, capabilities, and features described herein may be implemented with any combination embodied in

firmware, software, application-specific integrated circuits (ASICs), and/or programmable logic devices.

[0046] It is to be appreciated that a lesser or more equipped computer system than the example described above may be desirable for certain implementations. Therefore, the configuration of the system illustrated in the figure can vary from implementation to implementation depending upon numerous factors, such as its intended use, price constraints, performance requirements, storage requirements, technological improvements, and/or other circumstances, or the like.

[0047] It should also be noted that while the embodiments and methods described herein may be performed and used with a computer similar to the one described herein, other embodiments and variations can be used with computer that vary from the described example. Therefore, nothing disclosed herein concerning the configuration of the illustrated computer should be construed as limiting the disclosure to a particular embodiment wherein the recited operations are performed by a specific combination of hardware components.

[0048] The various embodiments and variations thereof illustrated in the accompanying Figures and/or in the totality of this document are merely exemplary and are not meant to limit the scope of the invention. It is to be appreciated that numerous variations of the invention have been contemplated as would be obvious to one of ordinary skill in the art with the benefit of this disclosure. Additionally, while certain features may be categorized under one or more headings to assist with readability, it is to be appreciated that the feature(s) described under a particular heading may be used in associating with other portions of the specification and/or feature(s) described herein. Similarly, while

certain embodiments are discussed in relation to specific languages, it is to be appreciated that the techniques disclosed herein can be used with any software language(s).

[0049] While the above described methodology has been discussed in relation to a particular sequence of events, it should be appreciated that minor changes to this sequence can occur without materially effecting the operation of the invention.

[0050] The above-described system and methodology, as has been indicated herein, can be implemented on a computing device, such as a personal computer, server, dedicated computing device, distributed processing system, in a cloud, or the like, or a separately programmed general purpose computer. Additionally, the systems and methods of this invention can be implemented on a special purpose computer, a programmed microprocessor or microcontroller and peripheral integrated circuit element(s), an ASIC or other integrated circuit, a digital signal processor, a hard-wired electronic or logic circuit such as a discrete element circuit, a programmable logic device such as a PLD, PLA, FPGA, PAL, or the like, in fuzzy logic, artificial intelligence and/or neural networks. In general, any device(s) or module, which can be any combination of hardware and/or software, capable of implementing a state machine that is in turn capable of implementing the processes described herein can be used to implement this invention.

[0051] Furthermore, the disclosed methods may readily implemented in software using, for example, object or object-oriented software development environments that provide portable source code that can be used on a variety of computer or workstation and/or server platforms. The software can be stored on a non-transitory computer-readable medium, with the software including one or more processor executable instructions. The disclosed system and methodology may also be implemented partially or fully in

hardware using standard logic circuits or, for example, a VLSI design. Whether software or hardware is used to implement the systems in accordance with this invention is dependent on the speed and/or efficiency requirements of the system, the particular function, and the particular software or hardware systems or microprocessor or microcomputer systems being utilized. The systems and methods illustrated herein can be readily implemented in hardware and/or software using any suitable systems, means, structures, devices and/or the functionality stored on an appropriate information storage medium, by those of ordinary skill in the applicable art from the functional description provided herein and with a basic general knowledge of the computer and software arts.

[0052] While the embodiments illustrated herein may show some of the various components collocated, it is to be appreciated that the various components of the system can be located at distant portions of a distributed network, such as a communications network and/or the Internet and/or within a dedicated network. Thus, it should be appreciated that the various components can be combined into one or more devices or collocated on a particular node of a distributed network and/or in a cloud. As will be appreciated from the description, and for reasons of computational efficiency, the components can be arranged at any location within a distributed network without affecting the operation of the system.

[0053] Furthermore, it should be appreciated that various links connecting elements can be wired or wireless links, or a combination thereof, or any known or later developed element(s) that is capable of supplying and/or communicating data to and from the elements.

[0054] The present disclosure, in various aspects, embodiments, and/or configurations, includes components, methods, processes, systems and/or apparatus substantially as depicted and described herein, including various aspects, embodiments, configurations embodiments, subcombinations, and/or subsets thereof. Those of skill in the art will understand how to make and use the disclosed aspects, embodiments, and/or configurations after understanding the present disclosure. The present disclosure, in various aspects, embodiments, and/or configurations, includes providing devices and processes in the absence of items not depicted and/or described herein or in various aspects, embodiments, and/or configurations hereof, including in the absence of such items as may have been used in previous devices or processes, e.g., for improving performance, achieving ease and\or reducing cost of implementation.

[0055] The foregoing discussion has been presented for purposes of illustration and description. The foregoing is not intended to limit the disclosure to the form or forms disclosed herein. In the foregoing Detailed Description for example, various features of the disclosure are grouped together in one or more aspects, embodiments, and/or configurations for the purpose of streamlining the disclosure. The features of the aspects, embodiments, and/or configurations of the disclosure may be combined in alternate aspects, embodiments, and/or configurations other than those discussed above. This method of disclosure is not to be interpreted as reflecting an intention that the claims require more features than are expressly recited in each claim. Rather, as the following claims reflect, inventive aspects lie in less than all features of a single foregoing disclosed aspect, embodiment, and/or configuration. Thus, the following claims are hereby

incorporated into this Detailed Description, with each claim standing on its own as a separate exemplary, and separately claimable, embodiment of the disclosure.

[0056] While exemplary aspects have been described in conjunction with a number of embodiments, it is evident that many alternatives, modifications and variations would be or are apparent to those of ordinary skill in the applicable arts. Accordingly, this disclosure is intended to embrace all such alternatives, modifications, equivalents and variations that are within the spirit and scope of this disclosure.

Claims:

1. A content analysis and malware prevention method comprising:

receiving web content from one or more web servers;

performing one or more of analyzing and modifying of the web content;

modifying, by a processor, any content identified as malware; and

providing the web content to a web browser application for rendering and display.

2. The method of claim 1, further comprising a receiving a request for web content from the web browser application.

3. The method of claim 1, further comprising supplementing the web content with indicators regarding a vulnerability of one or more links within the web content.

4. The method of claim 1, wherein the analysis of the web content includes include one or more of URL (Uniform Resource Locator) analysis, IP (Internet Protocol) analysis, image analysis, and script/HTML analysis.

5. The method of claim 1, further comprising determining whether a request for the web content from the web browser application is a first request.

6. The method of claim 1, further comprising performing one or more of pre-process data decryption, de-chinking and decompressing.

7. The method of claim 1, wherein the analysis is a protocol-level analysis.

8. The method of claim 1, further comprising assembling a modified version of the web content and providing the modified version of the web content to the web browser application.

9. The method of claim 1, further comprising performing cloud verification of the web content.

10. The method of claim 1, further comprising allocating memory for caching of the web content.

11. A content analysis and malware prevention system comprising:

a protection agent and processor that:

receive web content from one or more web servers;

perform one or more of analysis and modification of the web content;

modify any content identified as malware; and

provide the web content to a web browser application for rendering and display.

12. The system of claim 11, wherein a request for web content is received from the web browser application.

13. The system of claim 11, wherein the protection agent further supplements the web content with indicators regarding a vulnerability of one or more links within the web content.

14. The system of claim 11, wherein the analysis of the web content includes include one or more of URL (Uniform Resource Locator) analysis, IP (Internet Protocol) analysis, image analysis, and script/HTML analysis.

15. The system of claim 11, wherein the protection agent further determines whether a request for the web content from the web browser application is a first request.

16. The system of claim 11, wherein the protection agent further performs one or more of pre-process data decryption, de-chinking and decompressing.

17. The system of claim 11, wherein the analysis is a protocol-level analysis.

18. The system of claim 11, further comprising a browser engine that receives a modified version of the web content and provides the modified version of the web content to the web browser application.

19. The system of claim 11, further comprising a security center that performs cloud verification of the web content.

20. The system of claim 11, wherein memory for caching of the web content is allocated by the protection agent.

ABSTRACT

A protection module operates to analyze threats, at the protocol level (e.g., at the HTML level), by intercepting all requests that a browser engine resident in a computing device sends and receives, and the protection agent completes the requests without the help of the browser engine. And then the protection module analyzes and/or modifies the completed data before the browser engine has access to it, to, for example, display it. After performing all of its processing, removing, and/or adding any code as needed, the protection module provides the HTML content to the browser engine, and the browser engine receives responses from the protection agent as if it was speaking to an actual web server, when in fact, browser engine is speaking to an analysis engine of the protection module.

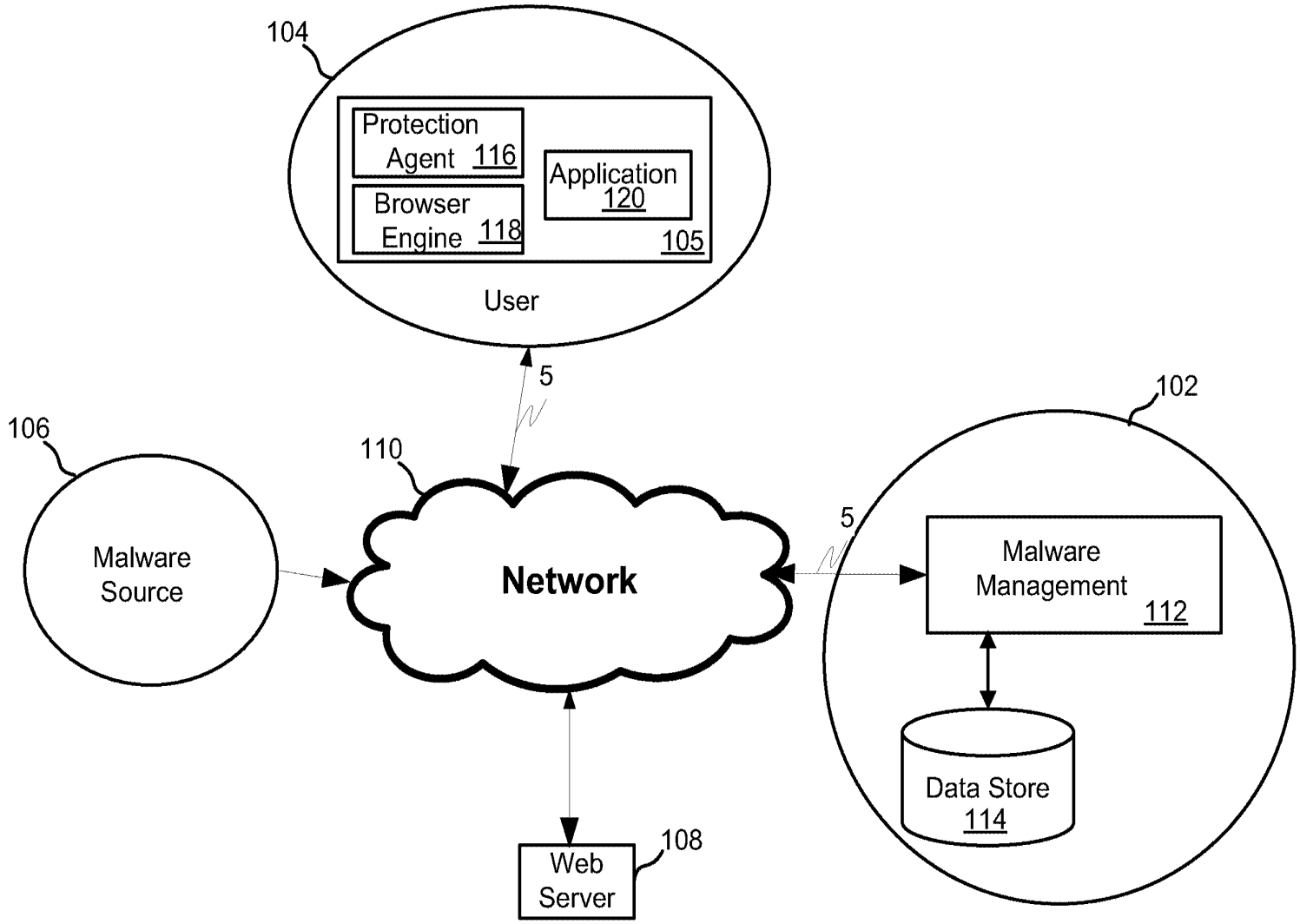

104
Protection Agent 116
Browser Engine 118
Application 120
105
User
5
102
106
110
Malware Source
Network
5
Malware Management 112
Data Store 114
108
Web Server

FIG. 1

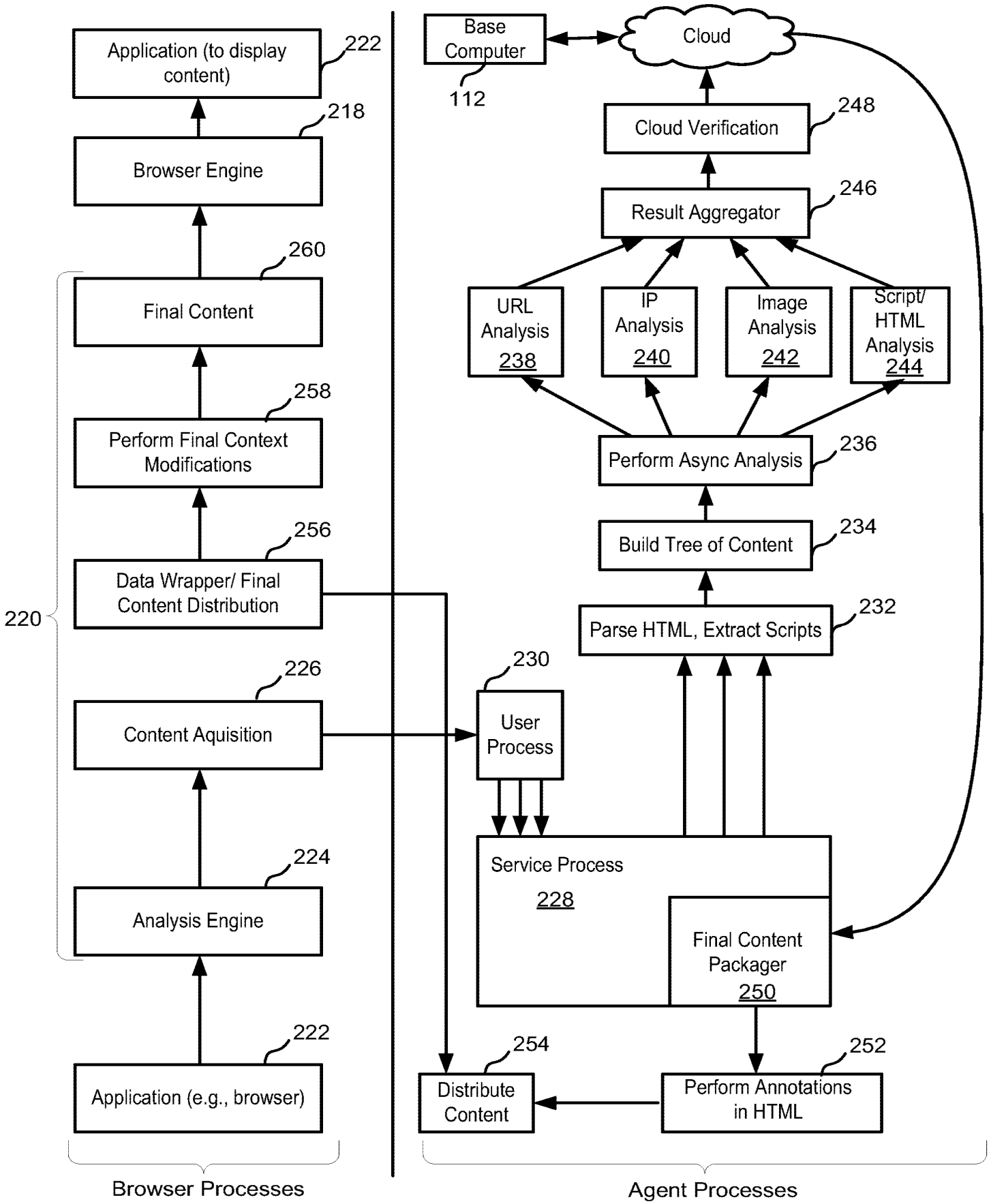

Application (to display content)
222
Browser Engine
218
Final Content
260
Perform Final Context Modifications
258
Data Wrapper/ Final Content Distribution
256
220
Content Aquisition
226
Analysis Engine
224
Application (e.g., browser)
222
Browser Processes
Base Computer
112
Cloud
Cloud Verification
248
Result Aggregator
246
URL Analysis 238
IP Analysis 240
Image Analysis 242
Script/ HTML Analysis 244
Perform Async Analysis
236
Build Tree of Content
234
Parse HTML, Extract Scripts
232
User Process
230
Service Process 228
Final Content Packager 250
Distribute Content
254
Perform Annotations in HTML
252
Agent Processes

FIG. 2

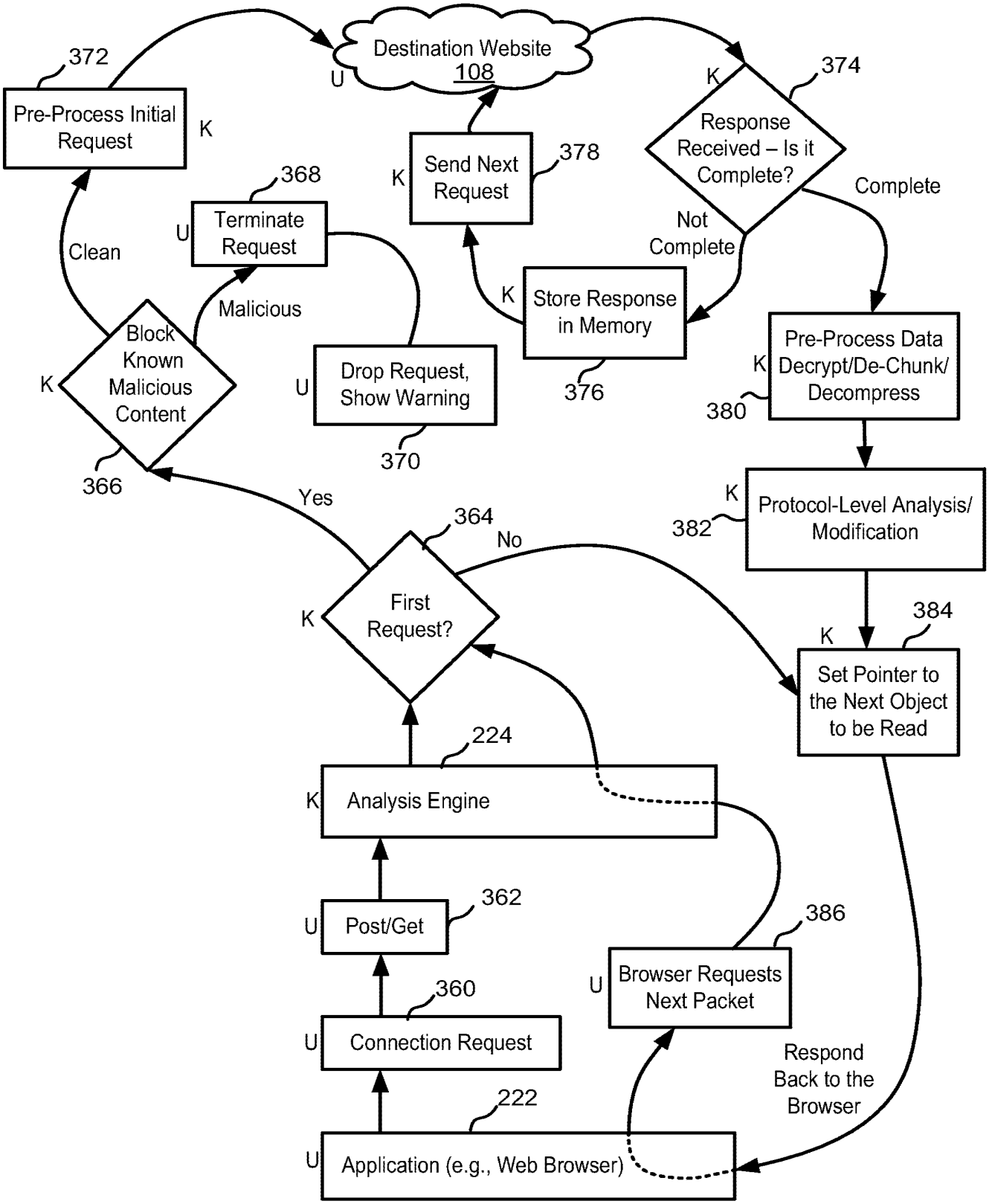

Destination Website
108
U
372
Pre-Process Initial Request
K
374
Response Received – Is it Complete?
K
Complete
Not Complete
Send Next Request
K
378
368
Terminate Request
U
Clean
Malicious
Block Known Malicious Content
K
366
Drop Request, Show Warning
U
370
Store Response in Memory
K
376
Pre-Process Data Decrypt/De-Chunk/ Decompress
K
380
Protocol-Level Analysis/ Modification
K
382
Yes
No
364
First Request?
K
384
Set Pointer to the Next Object to be Read
K
224
Analysis Engine
K
362
Post/Get
U
386
Browser Requests Next Packet
U
360
Connection Request
U
Respond Back to the Browser
222
Application (e.g., Web Browser)
U

FIG. 3

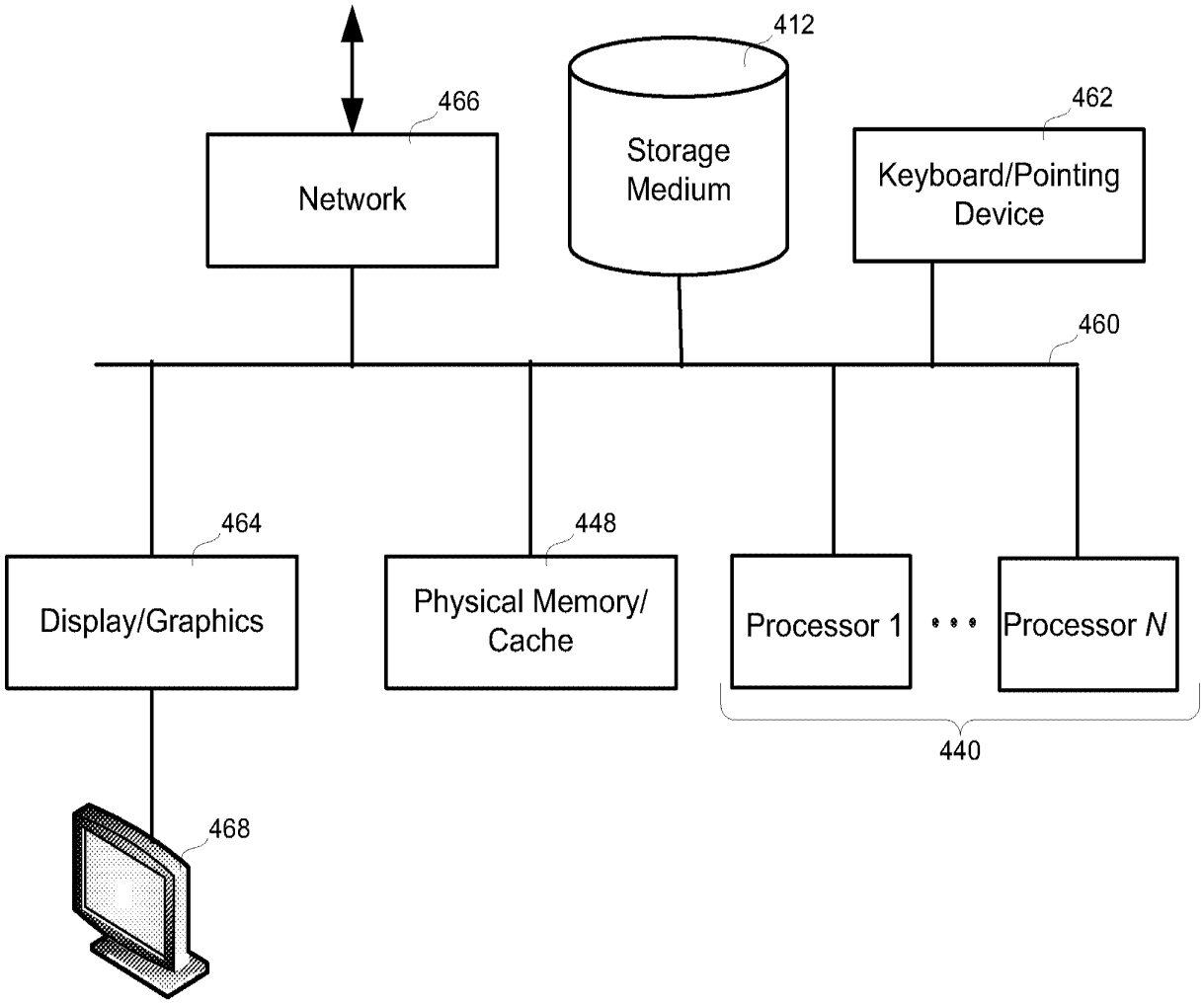

412
466
462
Network
Storage Medium
Keyboard/Pointing Device
460
464
448
Display/Graphics
Physical Memory/ Cache
Processor 1
Processor N
440
468

FIG. 4

Electronic Patent Application Fee Transmittal

Application Number:	
Filing Date:	
Title of Invention:	PROACTIVE BROWSER CONTENT ANALYSIS
First Named Inventor/Applicant Name:	Joe Jaroch
Filer:	Jason Vick/Joanne Vos
Attorney Docket Number:	6890-90

Filed as Large Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Utility application filing	1011	1	380	380
Utility Search Fee	1111	1	620	620
Utility Examination Fee	1311	1	250	250
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**1250**

Electronic Acknowledgement Receipt

EFS ID:	13898301
Application Number:	13633956
International Application Number:	
Confirmation Number:	1029
Title of Invention:	PROACTIVE BROWSER CONTENT ANALYSIS
First Named Inventor/Applicant Name:	Joe Jaroch
Customer Number:	22442
Filer:	Jason Vick/Joanne Vos
Filer Authorized By:	Jason Vick
Attorney Docket Number:	6890-90
Receipt Date:	03-OCT-2012
Filing Date:	
Time Stamp:	10:45:07
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$1250
RAM confirmation Number	11983
Deposit Account	191970
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

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Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Application Data Sheet	ADS.pdf	1399285 108c915c4a3587ebf3348c9d318894779014f4c1	no	5
Warnings:					
Information:					
2	Oath or Declaration filed	Executed_Declaration.pdf	662350 dc398a03af6a3b45f3af5bc810c6fefcef2b93fe	no	1
Warnings:					
Information:					
3		Specification_FINAL.pdf	141635 66e90169eb745d237c6aa3db75fa6d81284c215d	yes	26

Multipart Description/PDF files in .zip description

Document Description	Start	End
Specification	1	21
Claims	22	25
Abstract	26	26

Warnings:					
Information:					
4	Drawings-only black and white line drawings	Figures_FINAL.pdf	45278 c3c029803721bf11605c22c297675e1fd7bbe2a4	no	4
Warnings:					
Information:					
5	Fee Worksheet (SB06)	fee-info.pdf	32878 bcb113825910a17b6c65424477960c0bc6d9216a	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	2281426		

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If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Electronic Acknowledgement Receipt

EFS ID:	13898301
Application Number:	13633956
International Application Number:	
Confirmation Number:	1029
Title of Invention:	PROACTIVE BROWSER CONTENT ANALYSIS
First Named Inventor/Applicant Name:	Joe Jaroch
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Filer Authorized By:	Jason Vick
Attorney Docket Number:	6890-90
Receipt Date:	03-OCT-2012
Filing Date:	
Time Stamp:	10:45:07
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$1250
RAM confirmation Number	11983
Deposit Account	191970
Authorized User	

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Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Application Data Sheet	ADS.pdf	1399285 108c915c4a3587ebf3348c9d318894779014f4c1	no	5
Warnings:					
Information:					
2	Oath or Declaration filed	Executed_Declaration.pdf	662350 dc398a03af6a3b45f3af5bc810c6fefcef2b93fe	no	1
Warnings:					
Information:					
3		Specification_FINAL.pdf	141635 66e90169eb745d237c6aa3db75fa6d81284c215d	yes	26

Multipart Description/PDF files in .zip description

Document Description	Start	End
Specification	1	21
Claims	22	25
Abstract	26	26

Warnings:					
Information:					
4	Drawings-only black and white line drawings	Figures_FINAL.pdf	45278 c3c029803721bf11605c22c297675e1fd7bbe2a4	no	4
Warnings:					
Information:					
5	Fee Worksheet (SB06)	fee-info.pdf	32878 bcb113825910a17b6c65424477960c0bc6d9216a	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	2281426		

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New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/AIA/14 (08-12)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	6890-90
	Application Number	
Title of Invention	PROACTIVE BROWSER CONTENT ANALYSIS	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Joe		Jaroch	

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

City	Elk Grove Village	State/Province	IL	Country of Residence i	US

Mailing Address of Inventor:

Address 1	1484 Worden Way		
Address 2			
City	Elk Grove Village	State/Province	IL
Postal Code	60007	Country i	US

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button. Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	22442		
Email Address	srlaw@sheridanross.com	Add Email	Remove Email

Application Information:

Title of the Invention	PROACTIVE BROWSER CONTENT ANALYSIS		
Attorney Docket Number	6890-90	Small Entity Status Claimed	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Suggested Class (if any)		Sub Class (if any)	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)	4	Suggested Figure for Publication (if any)	

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	6890-90
	Application Number	
Title of Invention	PROACTIVE BROWSER CONTENT ANALYSIS	

Publication Information:

☐	Request Early Publication (Fee required at time of Request 37 CFR 1.219)
☐	**Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32).
Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	◉ Customer Number	○ US Patent Practitioner	○ Limited Recognition (37 CFR 11.9)
Customer Number	22442		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.

Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	non provisional of	61/542693	2011-10-03

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button. Add

Foreign Priority Information:

This section allows for the applicant to claim benefit of foreign priority and to identify any prior foreign application for which priority is not claimed. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(a).

Remove

Application Number	Country ⁱ	Filing Date (YYYY-MM-DD)	Priority Claimed
			○ Yes ◉ No

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button. Add

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	6890-90
	Application Number	
Title of Invention	PROACTIVE BROWSER CONTENT ANALYSIS	

Authorization to Permit Access:

☐ Authorization to Permit Access to the Instant Application by the Participating Offices

If checked, the undersigned hereby grants the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual property offices in which a foreign application claiming priority to the instant patent application is filed access to the instant patent application. See 37 CFR 1.14(c) and (h). This box should not be checked if the applicant does not wish the EPO, JPO, KIPO, WIPO, or other intellectual property office in which a foreign application claiming priority to the instant patent application is filed to have access to the instant patent application.

In accordance with 37 CFR 1.14(h)(3), access will be provided to a copy of the instant patent application with respect to: 1) the instant patent application-as-filed; 2) any foreign application to which the instant patent application claims priority under 35 U.S.C. 119(a)-(d) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the instant patent application; and 3) any U.S. application-as-filed from which benefit is sought in the instant patent application.

In accordance with 37 CFR 1.14(c), access may be provided to information concerning the date of filing this Authorization.

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Applicant 1

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Remove

◉ Assignee	○ Legal Representative under 35 U.S.C. 117
○ Person to whom the inventor is obligated to assign.	○ Person who shows sufficient proprietary interest

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor :	

If the Assignee is an Organization check here. ☒

Organization Name	WEBROOT INC.

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	6890-90
	Application Number	
Title of Invention	PROACTIVE BROWSER CONTENT ANALYSIS	

Mailing Address Information:			
Address 1	385 Interlocken Crescent		
Address 2	Suite 800		
City	Broomfield	**State/Province**	CO
Country [i]	US	Postal Code	80021
Phone Number		Fax Number	
Email Address			

Additional Applicant Data may be generated within this form by selecting the Add button. Add

Signature:

Remove

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications

Signature	/Jason H. Vick/			Date (YYYY-MM-DD)	2012-10-03
First Name	Jason H.	Last Name	Vick	Registration Number	45285

Additional Signature may be generated within this form by selecting the Add button. Add

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

SCORE Placeholder Sheet for IFW Content

Application Number: 13633956 Document Date: 10/03/2012

The presence of this form in the IFW record indicates that the following document type was received in electronic format on the date identified above. This content is stored in the SCORE database.

- Drawings – Other than Black and White Line Drawings

Since this was an electronic submission, there is no physical artifact folder, no artifact folder is recorded in PALM, and no paper documents or physical media exist. The TIFF images in the IFW record were created from the original documents that are stored in SCORE.

To access the documents in the SCORE database, refer to instructions developed by SIRA.

At the time of document entry (noted above):

- Examiners may access SCORE content via the eDAN interface.
- Other USPTO employees can bookmark the current SCORE URL (http://es/ScoreAccessWeb/).
- External customers may access SCORE content via the Public and Private PAIR interfaces.

Form Revision Date: February 8, 2006

PTO/AIA/80 (07-12)
Approved for use through 11/30/2014. OMB 0651-0035
U.S. Patent and Trademark Office; U.S DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(c).

I hereby appoint:

■ Practitioners associated with Customer Number: 22442

OR

☐ Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number	Name	Registration Number

As attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignments documents attached to this form in accordance with 37 CFR 3.73(c).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(c) to:

■ The address associated with Customer Number: 22442

OR

☐	Firm or Individual Name			
	Address			
	City		State	Zip
	Country			
	Telephone		Email	

Assignee Name and Address: WEBROOT INC.
385 Interlocken Crescent, Ste. 800
Broomfield, Colorado 80021

A copy of this form, together with a statement under 37 CFR 3.73(c) (Form PTO/AIA/96 or equivalent) is required to be Filed in each application in which this form is used. The statement under 37 CFR 3.73(c) may be completed by one of The practitioners appointed in this form, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Signature	David Huberman	Date	1 OCT 2012
Name	David Huberman, Esq.	Telephone	720-842-3627
Title	General Counsel		

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Electronic Acknowledgement Receipt

EFS ID:	13904417
Application Number:	13633956
International Application Number:	
Confirmation Number:	1029
Title of Invention:	PROACTIVE BROWSER CONTENT ANALYSIS
First Named Inventor/Applicant Name:	Joe Jaroch
Customer Number:	22442
Filer:	Jason Vick/Joanne Vos
Filer Authorized By:	Jason Vick
Attorney Docket Number:	6890-90
Receipt Date:	04-OCT-2012
Filing Date:	
Time Stamp:	13:07:21
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		Statement_Under_373c_w_POA.pdf	97161 6fe907e70baaafae161450cb718a45934ca63a82	yes	3

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Assignee showing of ownership per 37 CFR 3.73.	1	2
	Power of Attorney	3	3
Warnings:			
Information:			
	Total Files Size (in bytes):	97161	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/AIA/96 (08-12)
Approved for use through 01/31/2013. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: WEBROOT INC.

Application No./Patent No.: 13/633,956 Filed/Issue Date: October 3, 2012

Titled: PROACTIVE BROWSER CONTENT ANALYSIS

WEBROOT INC., a Corporation

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

1. ☑ The assignee of the entire right, title, and interest.

2. ☐ An assignee of less than the entire right, title, and interest (check applicable box):

   ☐ The extent (by percentage) of its ownership interest is _____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.

   ☐ There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. ☐ The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. ☐ The recipient, via a court proceeding or the like (*e.g.*, bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

A. ☑ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 029067, Frame 0845, or for which a copy thereof is attached.

B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

   1. From: _____ To: _____

      The document was recorded in the United States Patent and Trademark Office at

      Reel _____, Frame _____, or for which a copy thereof is attached.

   2. From: _____ To: _____

      The document was recorded in the United States Patent and Trademark Office at

      Reel _____, Frame _____, or for which a copy thereof is attached.

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450**.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

STATEMENT UNDER 37 CFR 3.73(c)

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

4. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

5. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

6. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☑ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Jason H. Vick/	October 4, 2012
Signature	Date
Jason H. Vick	45,285
Printed or Typed Name	Title or Registration Number

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 13/633,956

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	390
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	620
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	250
TOTAL CLAIMS (37 CFR 1.16(i))	20 minus 20 =	*			OR	x 62 =	0.00
INDEPENDENT CLAIMS (37 CFR 1.16(h))	2 minus 3 =	*				x 250 =	0.00
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						0.00
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							0.00
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	1260

APPLICATION AS AMENDED - PART II

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT A	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE($)	ADDITIONAL FEE($)		RATE($)	ADDITIONAL FEE($)
AMENDMENT B	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
13/633,956	10/03/2012	2447	1250	6890-90	20	2

CONFIRMATION NO. 1029

22442
Sheridan Ross PC
1560 Broadway
Suite 1200
Denver, CO 80202

FILING RECEIPT

OC00000057201254

Date Mailed: 10/22/2012

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)
Joe Jaroch, Elk Grove Village, IL;

Applicant(s)
WEBROOT INC., Broomfield, CO

Assignment For Published Patent Application
WEBROOT INC., Broomfield, CO

Power of Attorney: The patent practitioners associated with Customer Number 22442

Domestic Priority data as claimed by applicant
This appln claims benefit of 61/542,693 10/03/2011

Foreign Applications (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.)

If Required, Foreign Filing License Granted: 10/19/2012

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 13/633,956**

Projected Publication Date: 04/04/2013

Non-Publication Request: No

Early Publication Request: No

Title

PROACTIVE BROWSER CONTENT ANALYSIS

Preliminary Class

709

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

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set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

SelectUSA

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage, facilitate, and accelerate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.

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United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/633,956	10/03/2012	Joe Jaroch	6890-90

CONFIRMATION NO. 1029

POA ACCEPTANCE LETTER

22442
Sheridan Ross PC
1560 Broadway
Suite 1200
Denver, CO 80202

OC000000057201289

Date Mailed: 10/22/2012

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 10/04/2012.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/tnguyen/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/633,956	10/03/2012	Joe Jaroch	6890-90

CONFIRMATION NO. 1029

22442
Sheridan Ross PC
1560 Broadway
Suite 1200
Denver, CO 80202

PUBLICATION NOTICE

OC000000060250666

Title:PROACTIVE BROWSER CONTENT ANALYSIS

Publication No.US-2013-0086681-A1
Publication Date:04/04/2013

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently http://www.uspto.gov/patft/.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently http://pair.uspto.gov/. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Office of Data Managment, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

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Alexandria, Virginia 22313-1450
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/633,956	10/03/2012	Joe Jaroch	6890-90	1029

22442 7590 07/18/2013

Sheridan Ross PC
1560 Broadway
Suite 1200
Denver, CO 80202

EXAMINER	
WILLIAMS, JEFFERY L	
ART UNIT	PAPER NUMBER
2437	

NOTIFICATION DATE	DELIVERY MODE
07/18/2013	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

e-docket@sheridanross.com
srlaw@sheridanross.com

Office Action Summary	Application No. 13/633,956	Applicant(s) JAROCH, JOE	
	Examiner JEFFERY WILLIAMS	Art Unit 2437	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *3 October 2012*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

5)☒ Claim(s) *1-20* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *1-20* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☒ The drawing(s) filed on *03 October 2012* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some * c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

DETAILED ACTION

Claims 1 – 20 are pending.

Any references to applicant's specification are made by way of applicant's U.S. pre-grant printed patent publication.

Claim Rejections - 35 USC § 112

The following is a quotation of 35 U.S.C. 112(b):

> (b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 6 and 11 – 20 are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor, or for pre-AIA the applicant regards as the invention.

Claim elements "protection agent" (e.g. claim 11) and "security center" (e.g. claim 19) are limitations that invoke 35 U.S.C. 112, sixth paragraph. However, the written description fails to disclose the corresponding structure, material, or acts for performing each and every recited function within the claims. The examiner notes that each claimed function of the "protection agent" and "security center" must be identified within

applicant's disclosure by the specific algorithm, thereby adequately describing the structure of the "protection agent" and "security center".

Applicant may:

(a) Amend the claim so that the claim limitation will no longer be interpreted as a limitation under 35 U.S.C. 112, sixth paragraph; or

(b) Amend the written description of the specification such that it expressly recites what structure, material, or acts perform the claimed function without introducing any new matter (35 U.S.C. 132(a)).

If applicant is of the opinion that the written description of the specification already implicitly or inherently discloses the corresponding structure, material, or acts so that one of ordinary skill in the art would recognize what structure, material, or acts perform the claimed function, applicant should clarify the record by either:

(a) Amending the written description of the specification such that it expressly recites the corresponding structure, material, or acts for performing the claimed function and clearly links or associates the structure, material, or acts to the claimed function, without introducing any new matter (35 U.S.C. 132(a)); or

(b) Stating on the record what the corresponding structure, material, or acts, which are implicitly or inherently set forth in the written description of the specification, perform the claimed function. For more information, see 37 CFR 1.75(d) and MPEP §§ 608.01(o) and 2181.

Regarding claims 6 and 16, the term "de-chinking" does not appear to have a clear meaning within the art, thus rendering the scope of the claims indefinite. For the purpose of examination, the examiner presumes the applicant intends to recite subject matter respecting web or html links.

The following is a quotation of the fourth paragraph of 35 U.S.C. 112:

Subject to the [fifth paragraph of 35 U.S.C. 112], a claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed. A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers.

Claims 12 – 17 and 20 are rejected under 35 U.S.C. 112, 4th paragraph, as being of improper dependent form for failing to further limit the subject matter of the claim upon which it depends, or for failing to include all the limitations of the claim upon which it depends. Applicant may cancel the claim(s), amend the claim(s) to place the claim(s) in proper dependent form, rewrite the claim(s) in independent form, or present a sufficient showing that the dependent claim(s) complies with the statutory requirements.

Specifically, regarding these apparatus claims, the examiner notes that the applicant fails to claim any further structure for limiting the claimed apparatus. Instead, the applicant appears only to recite characterizations of the intended use or functionality of the claimed apparatus. The examiner notes that while functional or intended use recitations are permitted within apparatus claims, such recitations must be shown to

restrict or define the structural elements, less they fail to further define or limit the claimed apparatus.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of pre-AIA 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 – 20 are rejected under pre-AIA 35 U.S.C. 102(b) as being anticipated by Scott et al. (Scott), "Abstracting Application-Level Web Security".

Regarding claim 1, Scott discloses:

receiving web content from one or more web servers (e.g. Scott, fig. 4; sect. 3, par. 2; sect. 3.4.1). Herein, a browser and web server each provide web content to an executing "security gateway".

performing one or more of analyzing and modifying of the web content(e.g. Scott, fig. 4)*;*

modifying, by a processor, any content identified as malware (e.g. Scott, fig. 4: validation, transformation, modified response)*;*

and providing the web content to a web browser application for rendering and display (e.g. Scott, fig. 4: return HTTP request).

Regarding claim 2, Scott discloses*:*

further comprising a receiving a request for web content from the web browser application (e.g. Scott, fig. 4: receive HTTP request)*.*

Regarding claim 3, Scott discloses*:*

further comprising supplementing the web content with indicators regarding a vulnerability of one or more links within the web content (e.g. Scott, sect. 3.4, par. 2 – error message; sect. 3.1, par. 2 – HTTP response annotated with MACs)*.*

Regarding claim 4, Scott discloses:

wherein the analysis of the web content includes include one or more of URL (Uniform Resource Locator) analysis, IP (Internet Protocol) analysis, image analysis, and script/HTML analysis (e.g. Scott, pg. 401 – analysis of headers, html encoding, cookies, scripting, URLs, etc.)*.*

Regarding claim 5, Scott discloses*:*

determining whether a request for the web content from the web browser application is a first request (e.g. Scott, sect. 3.4.2 – replays are detected, i.e. determining whether a “first request” was received)*.*

Regarding claim 6, Scott discloses:

further comprising performing one or more of pre-process data decryption, de-chinking and decompressing (e.g. Scott, sect. 3.2).

Regarding claim 7, Scott discloses:

wherein the analysis is a protocol-level analysis (e.g. Scott, sect. 2 – application level).

Regarding claim 8, Scott discloses:

further comprising assembling a modified version of the web content and providing the modified version of the web content to the web browser application (e.g. Scott, fig. 4 - modified response).

Regarding claim 9, Scott discloses:

further comprising performing cloud verification of the web content (e.g. Scott, fig. 1; abstract – the verifications are performed within the web, i.e. “cloud”).

Regarding claim 10, Scott discloses:

further comprising allocating memory for caching of the web content (e.g. Scott, fig. 4; sect. 3.4 – memory is allocated within the security gateway to analyze the content).

Regarding claims 11 – 20, they are system essentially corresponding to the above method claims and they are rejected, at least, for the same reasons. Furthermore, Scott discloses a “protection agent and processor”, “security center”, and a “browser engine” (e.g. Scott, fig. 1, 4).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

See Notice of References Cited.

A shortened statutory period for reply is set to expire **3** months (not less than 90 days) from the mailing date of this communication.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFERY WILLIAMS whose telephone number is (571)272-7965. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Eleni Shiferaw can be reached on (571)272-3867. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jeffery Williams/
Examiner, Art Unit 2437

Notice of References Cited	Application/Control No. 13/633,956	Applicant(s)/Patent Under Reexamination JAROCH, JOE	
	Examiner JEFFERY WILLIAMS	Art Unit 2437	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2011/0219446 A1	09-2011	Ichnowski, Jeffrey	726/22
*	B	US-2009/0193497 A1	07-2009	Kikuchi et al.	726/1
*	C	US-2009/0125976 A1	05-2009	Wassermann et al.	726/1
*	D	US-2013/0055386 A1	02-2013	KIM et al.	726/22
*	E	US-6,029,245 A	02-2000	Scanlan, Thomas K.	726/4
*	F	US-2004/0260754 A1	12-2004	Olson et al.	709/200
*	G	US-6,898,619 B1	05-2005	Tran, Tuan	709/203
*	H	US-6,594,697 B1	07-2003	Praitis et al.	709/225
*	I	US-2004/0073811 A1	04-2004	Sanin, Aleksey	713/201
*	J	US-2003/0037236 A1	02-2003	Simon et al.	713/161
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	David Scott and Richard Sharp. 2002. Abstracting application-level web security. In Proceedings of the 11th international conference on World Wide Web (WWW '02). ACM, New York, NY, USA, 396-407. DOI=10.1145/511446.511498 http://doi.acm.org/10.1145/511446.511498
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13633956	JAROCH, JOE
	Examiner	Art Unit
	JEFFERY WILLIAMS	2437

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
713, 726, 380: limited classification search	7/15/2013	jw
East search: uspat, uspgpub, epo, jpo, derwent	7/15/2013	jw
npl search: ibmtdb	7/15/2013	jw
Inventor name search: PALM	7/15/2013	jw

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

/JEFFERY WILLIAMS/ Examiner.Art Unit 2437	

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L5	5	l3 and (warn alert notify) with browser	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2013/07/15 03:04
L4	456	l3 and (warn alert notify)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2013/07/15 03:04
L3	594	injection and (cross adj site with script$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2013/07/15 03:03
L2	2	("713".clas. "380".clas. "726".clas.) and injection with request with browser	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2013/07/15 03:02
L1	1	"20130086681"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2013/07/15 02:25
S89	9	S88 and @ad<"20030620"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/02/13 23:48
S88	113	cross adj site adj script$3 and user with input$3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/02/13 23:48
S87	12	726/22.ccls. and cross adj site adj script$3 and user with input$3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/02/13 23:46
S86	4	S83 and @pd<"20020620"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2008/07/04 12:24
S85	9	S84 and @pd<"20020620"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2008/07/04 12:23

S84	190	log$4 with attack$1 with server	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2008/07/04 12:23
S83	193	microsoft.as. and script$3 and (filter$3 examin$5) and attack$3	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2008/07/04 12:21
S82	32	S81 and html	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2008/07/04 12:19
S81	89	S80 and attack$3	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2008/07/04 12:19
S80	236	S79 and valid$5	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2008/07/04 12:18
S79	308	simon.in. and filter$3 and script$3	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2008/07/04 12:18
S78	5667	simon.in. and filter$3	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2008/07/04 12:17
S77	3	US-6605120-$.DID. OR US-6558431-$.DID. OR US-6732102-$.DID.	US-PGPUB; USPAT; USOCR	OR	OFF	2008/07/04 12:14
S76	3	razmov.in. and filter$3	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2008/07/04 12:11
S75	2	S74 and @ad<"20030620"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/10/28 22:08
S74	37	user adj input and cross adj site adj script$3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/10/28 22:08
S73	1	(filter encode) with user adj input and cross adj site adj script$3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/10/28 22:08
S72	5	(filter encode) with user adj input and	US-PGPUB;	OR	OFF	2007/10/28

		HTTP and malicious	USPAT; EPO; JPO; DERWENT; IBM_TDB			22:08
S71	9	726/22.ccls. and cross adj site adj script$3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/10/28 22:08
S51	17	S50 and @ad<"20030620"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/10/28 22:08
S67	840	726/22.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/10/28 21:59
S70	2	"20040073811"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/05/17 13:10
S69	17	S68 and @ad<"20030620"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/05/17 11:42
S66	28	S64 and @ad<"20030620"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/05/17 11:42
S68	36	S67 and script$3 same attack$3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/05/17 11:41
S13	55	S12 and @ad<"20030620"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/05/17 11:02
S64	47	malicious adj request$1	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/05/17 11:01
S65	25	S64 and client and server	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/05/17 11:00
S63	7	726/22.ccls. and script with attack	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/12/08 17:23
S62	47	(cross adj site adj script$3) (XSS with	US-PGPUB;	OR	OFF	2006/12/06

		script$3)	USPAT; EPO; JPO; DERWENT; IBM_TDB			14:59
S2	0	S1 and (cross adj site with script$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/12/06 14:59
S61	69	S60 and @ad<"20030620"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/12/05 15:41
S60	89	(modify add delete remove adjust new old) same (validat$3) adj parameters	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/12/05 15:41
S59	70	S58 and @ad<"20030620"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/12/05 15:41
S58	96	(modify add delete remove) with (filter$3 validat$3) adj parameters	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/12/05 15:40
S57	2	(modify add delete remove) with list with (filter$3 validat$3) adj parameters	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/12/05 15:34
S56	96	(modify add delete remove) with (filter$3 validat$3) adj parameters	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/12/05 15:33
S55	1	(modify add delete remove) with verification adj parameters	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/12/05 15:32
S54	2	"20040260754"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/12/05 15:31
S53	9	"6488586"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/12 16:54
S52	2	"20020165027"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/12 16:49
S30	33	S29 and @ad<"20030620"	US-PGPUB;	OR	OFF	2006/07/12

			USPAT; EPO; JPO; DERWENT; IBM_TDB			14:19
S50	40	("400" with bad adj request) and ($2try re$1submi$5 re$1load$3 re$1send$3 re$1transmi$5)	US-PGPUB; USPAT; USOCR	OR	OFF	2006/07/12 14:18
S49	26	("400" with bad adj request) and (re$1submi$5 re$1load$3 re$1send$3 re$1transmi$5)	US-PGPUB; USPAT; USOCR	OR	OFF	2006/07/12 14:18
S48	3	("400" with bad adj request) same (re$1submi$5 re$1load$3 re$1send$3 re$1transmi$5)	US-PGPUB; USPAT; USOCR	OR	OFF	2006/07/12 14:18
S36	49	user with correct$3 with (re$1submi$5 re$1load$3 re$1send$3 re$1transmi$5) with (request page)	US-PGPUB; USPAT; USOCR	OR	OFF	2006/07/12 14:13
S47	18	HTTP with error with "400" with request	US-PGPUB; USPAT; USOCR	OR	OFF	2006/07/12 14:12
S46	3	HTTP with error with "401" with request	US-PGPUB; USPAT; USOCR	OR	OFF	2006/07/12 14:02
S45	4	S44 and (re$1submi$5 re$1load$3 re$1send$3 re$1transmi$5)	US-PGPUB; USPAT; USOCR	OR	OFF	2006/07/12 14:01
S39	8	(HTTP same ((re$1submi$5 re$1load$3 re$1send$3 re$1transmi$5) with ($2valid request page))) and ((dangerous malicious mal$1formed attack$3) with (script$3 applet$1 code program$1))	US-PGPUB; USPAT; USOCR	OR	OFF	2006/07/12 13:57
S44	17	S43 and @ad<"20030620"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/12 13:56
S43	40	cross$site and script$3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/12 13:56
S42	29	S41 and @ad<"20030620"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/12 13:43
S41	45	(HTTP same ((re$1submi$5 re$1load$3 re$1send$3 re$1transmi$5) with ($2valid request page))) and ((dangerous malicious mal$1formed attack$3) and(script$3 applet$1 code program$1))	US-PGPUB; USPAT; USOCR	OR	OFF	2006/07/12 13:42
S40	11	(HTTP same ((re$1submi$5 re$1load$3 re$1send$3 re$1transmi$5) with ($2valid request page))) and ((dangerous malicious mal$1formed attack$3) same (script$3 applet$1 code program$1))	US-PGPUB; USPAT; USOCR	OR	OFF	2006/07/12 13:42
S38	8	HTTP same (re$1submi$5 re$1load$3	US-PGPUB;	OR	OFF	2006/07/12

		re$1send$3 re$1transmi$5) with ($2valid request page) and (dangerous malicious mal$1formed attack$3) with (script$3 applet$1 code program$1)	USPAT; USOCR			13:41
S37	6	HTTP with (re$1submi$5 re$1load$3 re$1send$3 re$1transmi$5) with (request page) and (dangerous malicious mal$1formed attack$3) with (script$3 applet$1 code program$1)	US-PGPUB; USPAT; USOCR	OR	OFF	2006/07/12 13:38
S34	2	S33 and (re$1submi$5 re$1load$3 re$1send$3)	US-PGPUB; USPAT; USOCR	OR	OFF	2006/07/12 12:22
S35	11	S33 and (alert$3 warn$3 notifi$6 error)	US-PGPUB; USPAT; USOCR	OR	OFF	2006/07/12 12:21
S33	14	("5892911" | "6134680" | "6202087" | "6269460" | "6273622" | "6353855" | "6421715" | "6421740" | "6438716").PN. OR ("6594697").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/07/12 11:59
S32	15	S30 and (warn alert notify)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/12 10:34
S31	1	S30 and attack and error	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/12 10:27
S29	44	(re$submi$5 with request) same HTTP	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/12 10:27
S1	431	726/22.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/12 10:26
S28	2	(malicious mal$1formed) same (script$3) and (re$1submi$5 same user)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/11 20:22
S27	8	S26 and (warn notify alert) same user	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/11 20:21
S26	40	cross$site and script$3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/11 20:05
S10	31	cross$site and script$3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/11 20:05

S25	6	((warn notify alert) with user) same (script and (attack malicious mal$form$3))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/11 19:59
S24	2	"20040260754"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/11 19:58
S23	10	S22 and @ad<"20030620"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/18 15:28
S22	14	((log$1 or logging) adj2 attack$1) SAME server	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/18 15:28
S21	54	S20 and @ad<"20030620"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/18 15:28
S20	83	((log$1 or logging) with attack$1) SAME server	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/18 15:28
S15	37	S14 and @ad<"20030620"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/18 15:25
S19	0	((log$1 or logging) with attack$1) SAME evaluat$3 SAME server	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/18 15:24
S18	0	((log$1 or logging) with attack$1) SAME evaluation SAME server	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/18 15:24
S17	0	((log$1 or logging) with attack$1) SAME (evaluation with server)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/18 15:23
S16	0	((log$1 or logging) with attack$1) SAME (evaluation with server) SAME later	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/18 15:23
S14	55	(log$1 or logging) with attack$1 with server	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/18 15:22

S12	84	log$4 with attack$1 with server	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/18 15:12
S11	2	"20040260754"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/13 16:48
S7	83	cross$1site	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/13 15:43
S9	1	S1 and (prevent with script)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/13 15:42
S8	27	S7 and prevent	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/13 15:41
S6	0	S1 and ((cross$1site))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/13 14:46
S5	0	S1 and ((cross$1site) SAME script$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/13 14:45
S4	0	S1 and ((cross adj site) SAME script$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/13 14:45
S3	0	S1 and ((cross adj site) with script$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/13 14:45

EAST Search History (Interference)

<This search history is empty>

7/15/2013 4:08:21 AM
C:\Users\jwilliams\Documents\EAST\Workspaces\13633956-ProactiveBrowserContentAnalysis.wsp

UNITED STATES PATENT AND TRADEMARK OFFICE

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BIB DATA SHEET

CONFIRMATION NO. 1029

SERIAL NUMBER	FILING or 371(c) DATE RULE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
13/633,956	10/03/2012	726	2437	6890-90

APPLICANTS

Joe Jaroch, Elk Grove Village, IL;
WEBROOT INC., Broomfield, CO

**** CONTINUING DATA ***************************

This appln claims benefit of 61/542,693 10/03/2011

**** FOREIGN APPLICATIONS ***************************

**** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ****

10/19/2012

Foreign Priority claimed	☐ Yes ☑ No	☐ Met after Allowance	STATE OR COUNTRY	SHEETS DRAWINGS	TOTAL CLAIMS	INDEPENDENT CLAIMS
35 USC 119(a-d) conditions met	☐ Yes ☑ No					
Verified and Acknowledged	/JEFFERY L WILLIAMS/ Examiner's Signature	jw Initials	IL	4	20	2

ADDRESS

Sheridan Ross PC
1560 Broadway
Suite 1200
Denver, CO 80202
UNITED STATES

TITLE

PROACTIVE BROWSER CONTENT ANALYSIS

FILING FEE RECEIVED		
1250	FEES: Authority has been given in Paper No._____ to charge/credit DEPOSIT ACCOUNT No._____ for following:	☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13633956	JAROCH, JOE
	Examiner	**Art Unit**
	JEFFERY WILLIAMS	2437

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	07/15/2013								
	1	✓								
	2	✓								
	3	✓								
	4	✓								
	5	✓								
	6	✓								
	7	✓								
	8	✓								
	9	✓								
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	16	✓								
	17	✓								
	18	✓								
	19	✓								
	20	✓								

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.: 13/633,956	)	Confirmation No.: 1029
Applicant: Joe Jaroch et al.	)	TC/A.U.: 2437
Filed: October 3, 2012	)	Examiner: WILLIAMS, JEFFERY L.
Docket No.: 6890-90	)	***Filed Electronically***
For: "PROACTIVE BROWSER CONTENT ANALYSIS"	)	

AMENDMENT AND RESPONSE

Mailstop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Commissioner:

Applicant submits this Amendment and Response to address the Office Action having a mailing date of July 18, 2013. A Petition for a one month Extension of Time along with the requisite fees has been filed concurrently herewith. Although Applicant believes that no additional fees are due in connection with filing this Amendment and Response, please charge any fees deemed necessary to Deposit Account No. 19-1970.

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A content analysis and malware prevention method comprising:

receiving, at a protection agent on a remote computer, web content from one or more web servers;

~~performing~~identifying, by the protection agent, ~~one or more of analyzing and modifying of~~ a malware threat within the web content;

modifying, by ~~a processor~~the protection agent, ~~any~~ the ~~content~~ identified ~~as~~ malware threat within the web content;

assembling, by the protection agent, a modified version of the web content; and

providing, by the protection agent, the assembled web content to a web browser application on the remote computer for rendering and display.

2. (Currently Amended) The method of claim 1, further comprising ~~a~~ receiving, by the protection agent, a request for web content from the web browser application.

3. (Currently Amended) The method of claim 1, further comprising supplementing, by the protection agent, the web content with indicators regarding a vulnerability of one or more links within the web content.

4. (Currently Amended) The method of claim 1, wherein ~~the~~ an analysis ~~of~~to identify a malware threat within the web content includes ~~include~~ one or more of a URL (Uniform Resource Locator) analysis, an IP (Internet Protocol) analysis, an image analysis, and a script/HTML analysis.

5. (Currently Amended) The method of claim 1, further comprising determining, by the protection agent, whether a request for the web content from the web browser application is a first request.

6. (Currently Amended) The method of claim 1, further comprising performing one or more of pre-process data decryption, de-chunking ~~de-chinking~~ and decompressing.

7. (Currently Amended) The method of claim 1, wherein ~~the analysis is~~ a protocol-level analysis is utilized to identify the malware threat within the web content.

8. (Canceled)

9. (Currently Amended) The method of ~~claim 1~~claim 4, further comprising performing cloud verification of the web content, wherein cloud verification determines one or more malware vulnerabilities based on an aggregation of one or more of the analyses.

10. (Currently Amended) The method of claim 1, further comprising allocating memory for caching ~~of~~ the web content.

11. (Currently Amended) A content analysis and malware prevention system comprising:

a protection agent residing on a remote computer having a processor and memory, wherein the protection agent is configured to ~~and processor that~~:

receive web content from one or more web servers;

~~perform~~ identify ~~one or more of analysis and modification of~~a malware threat within the web content;

modify ~~any content~~the identified ~~as~~ malware threat within the web content;

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assemble a modified version of the web content; and

provide the assembled web content to a web browser application on the remote computer for rendering and display.

12. (Currently Amended) The system of claim 11, wherein the protection agent is further configured to receive a request for web content ~~is received~~ from the web browser application.

13. (Currently Amended) The system of claim 11, wherein the protection agent is further configured to ~~further supplements~~ supplement the web content with indicators regarding a vulnerability of one or more links within the web content.

14. (Currently Amended) The system of claim 11, wherein the protection agent is configured ~~analysis~~to identify the malware threat within ~~of~~ the web content by performing ~~includes include~~ one or more of a URL (Uniform Resource Locator) analysis, an IP (Internet Protocol) analysis, an image analysis, and a script/HTML analysis.

15. (Currently Amended) The system of claim 11, wherein the protection agent is further configured to ~~determines~~ determine whether a request for the web content from the web browser application is a first request.

16. (Currently Amended) The system of claim 11, wherein the protection agent is further configured to perform ~~performs~~ one or more of pre-process data decryption, ~~de-chinking~~de-chunking, and decompressing.

17. (Currently Amended) The system of claim 11, wherein the protection agent is further configured to identify the malware threat utilizing ~~analysis is~~ a protocol-level analysis.

18. (Canceled)

19. (Currently Amended) The system of claim 11, further comprising a security center that performs cloud verification of the web content, wherein cloud verification determines one or more malware vulnerabilities based on an aggregation of one or more of the analyses.

20. (Currently Amended) The system of claim 11, wherein the protection agent is further configured to ~~memory for caching of~~cache the web content in allocated memory ~~is allocated by the protection agent~~.

21. (New) The method of claim 1, wherein the malware threat comprises a Uniform Resource Locator (URL).

22. (New) The system of claim 11, wherein the protection agent is further configured to determine if a malware threat comprises a Uniform Resource Locator (URL).

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REMARKS

Status of the Claims

The above-identified patent application has been reviewed in light of the Examiner's Action dated July 18, 2013. Claims 1-7, 9-17 and 19-20 have been amended, and claims 8 and 18 have been canceled, without intending to abandon or to dedicate to the public any patentable subject matter. Claims 21-22 have been added. Accordingly, claims 1-7, 9-17, and 19-22 are now pending. As set forth herein, reconsideration and withdrawal of the rejections of the claims are respectfully requested.

Claim Rejections Under 35 U.S.C. §112

Claims 6 and 11-20 have been rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor, or for pre-AIA the applicant regards as the invention. In particular, the Examiner suggests that the claimed elements "protection agent" and "security center" are limitations that invoke 35 U.S.C. 112, six paragraph. Applicant respectfully traverses this rejection.

Before the Office can assert that "protection agent" and "security center" are limitations that invoke 35 U.S.C. 112, sixth paragraph, the Office must **determine** whether the claim limitation invokes the sixth paragraph of 35 U.S.C. § 112. MPEP § 2181(I) states that a claim feature will be presumed to invoke the sixth paragraph of 35 U.S.C. § 112 if the feature meets the following 3-prong analysis:
(A) the claim limitations must use the phrase "means for" or "step for";
(B) the "means for" or "step for" must be modified by functional language; and
(C) the phrase "means for" or "step for" must not be modified by sufficient structure, material, or acts for achieving the specified function.

In this case, claims 6 and 11-20 do not include the recitation "means for" or "step for" and, therefore, cannot be considered to invoke the sixth paragraph of 35 U.S.C. § 112. In addition, the claim features are not written as a function to be performed, but instead recited as sufficient structure to preclude application of the sixth paragraph of 35 U.S.C. § 112. Because the term "protection agent" and "security center" cannot be interpreted to invoke the sixth paragraph of 35 U.S.C. § 112, Applicants respectfully

submit that claims 6 and 11-20 do not invoke 35 U.S.C. 112, six paragraph, as alleged by the Office Action.

Accordingly, withdrawal of the rejection is respectfully requested.

Claims 6 and 16 were rejected because the term "de-chinking" does not appear to have clear meaning within the art, thus render the scope of the claims indefinite. Claims 6 and 16 have been amended. Accordingly, Applicant respectfully submits that the rejection of claim 6 and claim 16 should be reconsidered and withdrawn.

Claims 12-17 and 20 have been rejected under 35 U.S.C. 112, 4th paragraph, as being of improper dependent form for failing to further limit the subject matter of the claim upon which it depends, or for failing to include all limitations of the claim upon which it depends. Claims 12-17 and 20 have been amended to further limit the subject matter of the claim upon which each of claims 12-17 and 20 depend. Accordingly, Applicant respectfully submits that the rejection of claims 12-17 and 20 under 35 U.S.C. 112, 4th paragraph should be reconsidered and withdrawn.

Claim Rejections Under 35 U.S.C. §102

Claims 1-7, 9-17, and 19-20 have been rejected under pre-AIA 35 U.S.C. 102(b) as being anticipated by Scott et al. ("Scott"), "Abstracting Application-Level Web Security." Anticipation under 35 U.S.C. §102 requires that the reference teach every aspect of the claimed invention either explicitly or impliedly. (*See* MPEP §706.02.) "[U]nless a reference discloses within the four corners of the document not only all of the limitations claimed but also all of the limitations arranged or combined in the same way as recited in the claim, it cannot be said to prove prior invention of the thing claimed, and, thus, cannot anticipate under 35 U.S.C. §102." (*Net Moneyin, Inc. v. Verisign, Inc.*, 545 F.3d 1359, 1371 (Fed. Cir. 2008); 88 U.S.P.Q.2d 1751, 1759 (2008)). Applicant respectfully submits that Scott fails to disclose not only all elements of the claimed invention, but also all elements arranged or combined in the same way as recited by the claimed invention.

The claimed invention is generally directed to systems and methods for controlling pestware or malware or other undesirable or unwanted applications and/or instructions. In particular, the claimed invention operates to analyze threats by

intercepting all requests that a browser engine sends and receives and completes the requests without the help of the browser engine. In accordance with at least one embodiment, a protection agent analyzes and/or modifies the completed data before the browser engine has access to it. Accordingly, after performing all of its processing, removing, and/or adding any code as needed, the protection agent feeds the HTML content back to the browser engine, and the browser engine receives responses from the protection agent as if it was "speaking" to an actual web server when in fact, it is speaking to an analysis engine of the protection agent. This allows the protection agent to have full control over what the browser engine "sees," providing means to remove any exploits, malware, and other threats dynamically. This also enables the protection agent to add content into the browser stream at the HTML level. Stated another way, the protection agent may cache web content requested by a browser, analyze and/or modify the retrieved web content, and provides a clean or sanitized version of the web content, free of malware, to the browser.

The Scott reference, on the other hand, is generally directed to bolstering the security of a web server by filtering what comes in thereby avoiding tampering and malicious content **sent to a website**. In particular, Scott describes tools and techniques to address the problem of application-level web security, where application-level web security refers to vulnerabilities inherent in the code of a web-application itself. *See e.g., Scott,* Abstract and Introduction ¶ 0002. For example, Scott presents a tool which assists programmers to develop secure applications which are resilient to a wide range of common **attacks.** *See e.g., Scott,* Abstract. That is, as Scott describes a system which operates to protect web servers, Scott is generally directed to system that operates on a completely opposite side of the landscape than the claimed invention. That is, section 3.4 paragraph 3 of Scott actually teaches away from the claimed invention. Scott provides that if "all of the validation expressions evaluate to *true* then the **HTTP request is forwarded to the web-server and the page is fetched.** *See e.g., Scott,* section 3.4 paragraph 3 (emphasis added). Accordingly, Scott cannot and does not teach the claimed invention.

In particular, Scott provides no disclosure pertaining to where a protection agent on a remote computer receives web content from one or more servers, identifies a

malware threat within the web content, modifies the identified malware threat, assembles the modified web content, and then provides the assembled web content to a web browser application. As discussed earlier, Scott is generally directed to bolstering the security of a web server. Scott cannot and does operate in the manner as claimed. Accordingly, Scott does not disclose at least receiving, at a protection agent on a remote computer, web content from one or more web servers; identifying, by the protection agent, a malware threat within the web content; modifying, by the protection agent, the identified malware threat within the web content; assembling, by the protection agent, a modified version of the web content; and providing, by the protection agent, the assembled web content to a web browser application on the remote computer for rendering and display. As Scott does not teach or disclose all elements of the claimed invention, Applicant respectfully submits that the rejections of claims 1-7, 9-17, and 19-20 should be reconsidered and withdrawn.

Independently allowable dependent claims

In addition to depending from allowable independent claims, the dependent claims provide additional and independent reasons for allowance. For instance, dependent claim 3 requires that the protection agent supplement the web content with indicators regarding a vulnerability of one or more links within the web content. The Office identified the error message in section 3.4 paragraph 2 and the HTTP response annotated with MACs in section 3.1 paragraph 2 of Scott as disclosing such a feature. Despite the assertions of the Office, the Applicant is unsure as to how these portions of Scott teach the features as claimed. That is, nowhere does Scott include an indicator regarding a vulnerability of one or more links. Moreover, as previously discussed, section 3.4 paragraph 3 actually teaches away from the claimed invention. That is, Scott provides that if "all of the validation expressions evaluate to *true* then the **HTTP request is forwarded to the web-server and the page is fetched.** *See e.g., Scott,* section 3.4 paragraph 3 (emphasis added). Accordingly, Scott cannot and does not teach the above feature. For at least these reasons, the rejection of claim 3 should be reconsidered and withdrawn.

Conclusion

The application now appearing to be in form for allowance, early notification of same is respectfully requested. Applicant does not acquiesce to any objection, rejection, or argument not specifically addressed herein. Rather, the Applicant believes the amendments and arguments contained herein overcome all objections, rejections, or arguments.

The Examiner is invited to contact the undersigned by telephone if doing so would be of assistance.

Respectfully submitted,

SHERIDAN ROSS P.C.

Date: November 18, 2013

By: /Brent R. Lindon/

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1560 Broadway, Suite 1200
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PTO/AIA/22 (03-13)
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PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)

Docket Number (Optional): 6890-90

Application Number: 13/633,956

Filed: 2012-10-03

For: PROACTIVE BROWSER CONTENT ANALYSIS

Art Unit: 2437

Examiner: WILLIAMS JEFFERY L.

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above-identified application.

The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):

	Fee	Small Entity Fee	Micro Entity Fee	
☑ One month (37 CFR 1.17(a)(1))	$200	$100	$50	$ 100.00
☐ Two months (37 CFR 1.17(a)(2))	$600	$300	$150	$
☐ Three months (37 CFR 1.17(a)(3))	$1,400	$700	$350	$
☐ Four months (37 CFR 1.17(a)(4))	$2,200	$1,100	$550	$
☐ Five months (37 CFR 1.17(a)(5))	$3,000	$1,500	$750	$

☑ Applicant asserts small entity status. See 37 CFR 1.27.

☐ Applicant certifies micro entity status. See 37 CFR 1.29.
Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.

☐ A check in the amount of the fee is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☐ The Director has already been authorized to charge fees in this application to a Deposit Account.

☑ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 191970.

☑ Payment made via EFS-Web.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

I am the

☐ applicant.

☑ attorney or agent of record. Registration number 67424.

☐ attorney or agent acting under 37 CFR 1.34. Registration number _____.

/Brent R. Lindon/ — Signature

2013-11-18 — Date

Brent R. Lindon — Typed or printed name

303-863-9700 — Telephone Number

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.

☐ * Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.136(a). The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 6 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

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2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal

Application Number:	13633956
Filing Date:	03-Oct-2012
Title of Invention:	PROACTIVE BROWSER CONTENT ANALYSIS
First Named Inventor/Applicant Name:	Joe Jaroch
Filer:	Brent Robert Lindon/Kathy Johnston
Attorney Docket Number:	6890-90

Filed as Small Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Extension - 1 month with $0 paid	2251	1	100	100

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
			Total in USD ($)	**100**

Electronic Acknowledgement Receipt

EFS ID:	17431725
Application Number:	13633956
International Application Number:	
Confirmation Number:	1029
Title of Invention:	PROACTIVE BROWSER CONTENT ANALYSIS
First Named Inventor/Applicant Name:	Joe Jaroch
Customer Number:	22442
Filer:	Brent Robert Lindon/Kathy Johnston
Filer Authorized By:	Brent Robert Lindon
Attorney Docket Number:	6890-90
Receipt Date:	18-NOV-2013
Filing Date:	03-OCT-2012
Time Stamp:	17:59:00
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$100
RAM confirmation Number	6054
Deposit Account	191970
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		AMEND_01.pdf	159815 0f5a9afc6ea6a3b340552956021e6ade28d20c39	yes	10

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Amendment/Req. Reconsideration-After Non-Final Reject	1	1
	Claims	2	5
	Applicant Arguments/Remarks Made in an Amendment	6	10

Warnings:					
Information:					
2	Extension of Time	aia0022_EOT_1mo.pdf	163211 74ce8db32819503d84c36384646721349eb9e6d2	no	2
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	30174 304cab2b4e318e626300676ac6724602dc5166ae	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	353200		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 13/633,956	Filing Date 10/03/2012	☐ To be Mailed

ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

	(Column 1)	(Column 2)		
FOR	NUMBER FILED	NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

		(Column 1)		(Column 2)	(Column 3)		
	11/18/2013	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
AMENDMENT	Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0	X $80 =	0
	Independent (37 CFR 1.16(h))	* 2	Minus	***3	= 0	X $420 =	0
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
						TOTAL ADD'L FEE	**0**

		(Column 1)		(Column 2)	(Column 3)		
		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
AMENDMENT	Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
						TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
/VENICE WILLIAMS/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/633,956	10/03/2012	Joe Jaroch	6890-90	1029

22442 7590 03/11/2014

Sheridan Ross PC
1560 Broadway
Suite 1200
Denver, CO 80202

EXAMINER	
WILLIAMS, JEFFERY L	
ART UNIT	PAPER NUMBER
2495	

NOTIFICATION DATE	DELIVERY MODE
03/11/2014	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

e-docket@sheridanross.com

Office Action Summary	Application No. 13/633,956	Applicant(s) JAROCH, JOE	
	Examiner JEFFERY WILLIAMS	Art Unit 2495	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 November 2013*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

5)☒ Claim(s) *1-7,9-17 and 19-22* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *1-7,9-17,19-22* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☒ The drawing(s) filed on *03 October 2012* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some * c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

Claims 1 – 7, 9 – 17, and 19 – 22 are pending.

Any references to applicant's specification are made by way of applicant's U.S. pre-grant printed patent publication.

Claim Rejections - 35 USC § 112

The following is a quotation of 35 U.S.C. 112(b):
(b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 9, 11 – 17 and 19 – 22 are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor, or for pre-AIA the applicant regards as the invention.

Claim elements "protection agent" (e.g. claim 11) and "security center" (e.g. claim 19) are limitations that invoke 35 U.S.C. 112, sixth paragraph. However, the written

description fails to disclose the corresponding structure, material, or acts for performing each and every recited function within the claims. The examiner notes that each claimed function of the “protection agent” and “security center” must be identified within applicant’s disclosure by the specific algorithm, thereby adequately describing the structure of the "protection agent" and "security center".

Applicant may:

(a) Amend the claim so that the claim limitation will no longer be interpreted as a limitation under 35 U.S.C. 112, sixth paragraph; or

(b) Amend the written description of the specification such that it expressly recites what structure, material, or acts perform the claimed function without introducing any new matter (35 U.S.C. 132(a)).

If applicant is of the opinion that the written description of the specification already implicitly or inherently discloses the corresponding structure, material, or acts so that one of ordinary skill in the art would recognize what structure, material, or acts perform the claimed function, applicant should clarify the record by either:

(a) Amending the written description of the specification such that it expressly recites the corresponding structure, material, or acts for performing the claimed function and clearly links or associates the structure, material, or acts to the claimed function, without introducing any new matter (35 U.S.C. 132(a)); or

(b) Stating on the record what the corresponding structure, material, or acts, which are implicitly or inherently set forth in the written description of the specification,

perform the claimed function. For more information, see 37 CFR 1.75(d) and MPEP §§ 608.01(o) and 2181.

Claims 9 and 19 are rejected because the broad recitation "…*determines one or more malware vulnerabilities based on an aggregation of one … of the analysis …",* renders the scope of the claims unclear. Specifically and aggregation constitutes a plurality, thereby contradicting the applicant's broad recitation of "**one** or more".

Depending claims are rejected by virtue of dependency.

Claim Rejections - 35 USC § 103

The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1 – 7, 9 – 17, and 19 – 22 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Scott et al. (Scott), "Abstracting Application-Level Web Security" in view of Hallak, US 8,464,318 B1.

Regarding claim 1, Scott discloses:

receiving, at a protection agent on a remote computer, web content from one or more web servers (e.g. Scott, fig. 4; sect. 3, par. 2; sect. 3.4.1). Herein, a browser and web server each provide web content from a server to an executing security gateway.

identifying, by the protection agent, a malware threat within the web content (e.g. Scott, fig. 4, Abstract; sect. 2). Herein, the security gateway operates to identify malware within the web content.

modifying, by the protection agent, the identified malware threat within the web content, assembling, by the protection agent, a modified version of the web content (e.g. Scott, fig. 4: validation, transformation, modified response)*;*

and providing, by the protection agent, the assembled web content to a web browser application … for rendering and display (e.g. Scott, fig. 4: return HTTP request).

Scott discloses a system utilizing a secured gateway for protecting web applications from malicious attacks, such as XSS attacks and other web attacks (e.g. Scott, Abstract; sect. 2). However, Scott does not explicitly state that the browser application is "on the remote computer", i.e. that the browser and the gateway (i.e. "protection agent") are on the same computer.

Hallak also discloses a system utilizing a secured gateway for protecting web applications from malicious attacks, such as XSS attacks and other web attacks (e.g. Hallak, Abstract; sect. 2; 12:10-22). Furthermore, Hallak discloses that the browser

application is "on the remote computer", i.e. that the browser and the gateway (i.e. "protection agent") are on the same computer (e.g. Hallak, fig. 2a; fig. 2g).

It would have been obvious to one of ordinary skill in the art to art to recognize that the secured gateway can be located on any of a server, a physically separate device, or a client (i.e. "remote computer"), as is taught by Hallak. This would have been obvious because one of skill in the art would have been motivated by the teachings that either arrangement is useful for protecting a web application (e.g. Hallak, 3:13-38).

Regarding claim 2, the combination enables*:*

further comprising a receiving, by the protection agent, a request for web content from the web browser application (e.g. Scott, fig. 4: receive HTTP request)*.*

Regarding claim 3, the combination enables*:*

further comprising supplementing, by the protection agent, the web content with indicators regarding a vulnerability of one or more links within the web content (e.g. Scott, sect. 3.4, par. 2 – error message; sect. 3.1, par. 2 – HTTP response annotated with MACs).

Regarding claim 4, the combination enables*:*

wherein an analysis to identify a malware threat within the web content includes one or more of URL (Uniform Resource Locator) analysis, an IP (Internet Protocol)

analysis, an image analysis, and a script/HTML analysis (e.g. Scott, pg. 401 – analysis of headers, html encoding, cookies, scripting, URLs, etc.).

Regarding claim 5, the combination enables*:*

determining , by the protection agent, whether a request for the web content from the web browser application is a first request (e.g. Scott, sect. 3.4.2 – replays are detected, i.e. determining whether a "first request" was received).

Regarding claim 6, the combination enables*:*

further comprising performing one or more of pre-process data decryption, de-chunking and decompressing (e.g. Scott, sect. 3.2).

Regarding claim 7, the combination enables*:*

wherein a protocol-level analysis is utilized to identify the malware threat within the web content (e.g. Scott, sect. 2 – application level).

Regarding claim 9, the combination enables*:*

further comprising performing cloud verification of the web content, wherein cloud verification determines one or more malware vulnerabilities based on an aggregation of one or more of the analysis (e.g. Scott, fig. 1; abstract – the verifications are performed within the web, i.e. "cloud").

Regarding claim 10, the combination enables*:*

further comprising allocating memory for caching of web content (e.g. Scott, fig. 4; sect. 3.4 – memory is allocated within the security gateway to analyze the content).

Regarding claim 21, the combination enables*:*

wherein the malware threat comprises a Uniform Resource Locator (URL) (e.g. Scott, pg. 401 – analysis of headers, html encoding, cookies, scripting, URLs, etc.).

Regarding claims 11 – 17, 19, 20, and 22, they are system claims essentially corresponding to the above method claims and they are rejected, at least, for the same reasons. Furthermore, the combination enables a “protection agent and processor”, “security center”, and a “browser engine” (e.g. Scott, fig. 1, 4; Hallak, fig. 2g).

Response to Arguments

Applicant's arguments filed 11/18/13 have been fully considered but they are not persuasive.

Applicant argues or alleges essentially that:

…

In this case, claims 6 and 11-20 do not include the recitation "means for" or "step for" and, therefore, cannot be considered to invoke the sixth paragraph of 35 U.S.C. § 112. In addition, the claim features are not written as a function to be performed, but instead recited as sufficient structure to preclude application of the sixth paragraph of 35 U.S.C. § 112. …

…

(Remarks, pg. 6)

Examiner respectfully responds:

The examiner respectfully disagrees and notes that the claimed language “configured to” is equivalent and serves the same purpose as “means for”, and it thus interpreted to invoke the sixth paragraph of 35 U.S.C. § 112. Furthermore, the examiner notes that features associated with the configuration of the "protection agent" and “security center” are clearly recited as functions and do not constitute any clear and distinct structural elements.

Applicant argues or alleges essentially that:

…

In particular, Scott provides no disclosure pertaining to where a protection agent on a remote computer receives web content from one or more servers, identifies a malware threat within the web content, modifies the identified malware threat, assembles the modified web content, and then provides the assembled web content to a web browser application. …

…

(Remarks, pg. 7 - 9)

Examiner respectfully responds:

The examiner notes that the rejection was made in view of the combination of Scott and Hallak. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant argues or alleges essentially that:

…

… Despite the assertions of the Office, the Applicant is unsure as to how these portions of Scott teach the features as claimed. That is, nowhere does Scott include an indicator regarding a vulnerability of one or more links. …

…

(Remarks, pg. 9)

Examiner respectfully responds:

The examiner respectfully disagrees. An error message sent by the gateway indicates that malicious content was found. Furthermore, the MAC annotations indicate malicious modifications (i.e. vulnerabilities) within the web content.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

See Notice of References Cited.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFERY WILLIAMS whose telephone number is (571)272-7965. The examiner can normally be reached on 9:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Farid Homayounmerhr can be reached on 571-272-3739. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JEFFERY WILLIAMS/
Primary Examiner, Art Unit 2495

Notice of References Cited	Application/Control No. 13/633,956	Applicant(s)/Patent Under Reexamination JAROCH, JOE	
	Examiner JEFFERY WILLIAMS	Art Unit 2495	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-8,464,318 B1	06-2013	Hallak, Renen	726/4
*	B	US-2011/0239288 A1	09-2011	Cross et al.	726/11
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	David Scott and Richard Sharp. 2002. Abstracting application-level web security. In Proceedings of the 11th international conference on World Wide Web (WWW '02). ACM, New York, NY, USA, 396-407. DOI=10.1145/511446.511498 http://doi.acm.org/10.1145/511446.511498
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13633956	JAROCH, JOE
	Examiner	Art Unit
	JEFFERY WILLIAMS	2437

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	07/15/2013	03/05/2014							
	1	✓	✓							
	2	✓	✓							
	3	✓	✓							
	4	✓	✓							
	5	✓	✓							
	6	✓	✓							
	7	✓	✓							
	8	✓	-							
	9	✓	✓							
	10	✓	✓							
	11	✓	✓							
	12	✓	✓							
	13	✓	✓							
	14	✓	✓							
	15	✓	✓							
	16	✓	✓							
	17	✓	✓							
	18	✓	-							
	19	✓	✓							
	20	✓	✓							
			✓							
			✓							

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	431	726/22.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/12 10:26
S2	0	S1 and (cross adj site with script$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/12/06 14:59
S3	0	S1 and ((cross adj site) with script$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/13 14:45
S4	0	S1 and ((cross adj site) SAME script$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/13 14:45
S5	0	S1 and ((cross$1site) SAME script$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/13 14:45
S6	0	S1 and ((cross$1site))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/13 14:46
S7	83	cross$1site	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/13 15:43
S8	27	S7 and prevent	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/13 15:41
S9	1	S1 and (prevent with script)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/13 15:42
S10	31	cross$site and script$3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/11 20:05

S11	2	"20040260754"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/13 16:48
S12	84	log$4 with attack$1 with server	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/18 15:12
S13	55	S12 and @ad<"20030620"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/05/17 11:02
S14	55	(log$1 or logging) with attack$1 with server	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/18 15:22
S15	37	S14 and @ad<"20030620"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/18 15:25
S16	0	((log$1 or logging) with attack$1) SAME (evaluation with server) SAME later	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/18 15:23
S17	0	((log$1 or logging) with attack$1) SAME (evaluation with server)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/18 15:23
S18	0	((log$1 or logging) with attack$1) SAME evaluation SAME server	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/18 15:24
S19	0	((log$1 or logging) with attack$1) SAME evaluat$3 SAME server	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/18 15:24
S20	83	((log$1 or logging) with attack$1) SAME server	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/18 15:28
S21	54	S20 and @ad<"20030620"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/18 15:28
S22	14	((log$1 or logging) adj2 attack$1) SAME server	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/18 15:28

S23	10	S22 and @ad<"20030620"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/18 15:28
S24	2	"20040260754"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/11 19:58
S25	6	((warn notify alert) with user) same (script and (attack malicious mal$form$3))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/11 19:59
S26	40	cross$site and script$3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/11 20:05
S27	8	S26 and (warn notify alert) same user	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/11 20:21
S28	2	(malicious mal$1formed) same (script$3) and (re$1submi$5 same user)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/11 20:22
S29	44	(re$submi$5 with request) same HTTP	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/12 10:27
S30	33	S29 and @ad<"20030620"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/12 14:19
S31	1	S30 and attack and error	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/12 10:27
S32	15	S30 and (warn alert notify)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/12 10:34
S33	14	("5892911" | "6134680" | "6202087" | "6269460" | "6273622" | "6353855" | "6421715" | "6421740" | "6438716").PN. OR ("6594697").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/07/12 11:59
S34	2	S33 and (re$1submi$5 re$1load$3 re$1send$3)	US-PGPUB; USPAT; USOCR	OR	OFF	2006/07/12 12:22
S35	11	S33 and (alert$3 warn$3 notifi$6 error)	US-PGPUB; USPAT;	OR	OFF	2006/07/12 12:21

			USOCR			
S36	49	user with correct$3 with (re$1submi$5 re$1load$3 re$1send$3 re$1transmi$5) with (request page)	US-PGPUB; USPAT; USOCR	OR	OFF	2006/07/12 14:13
S37	6	HTTP with (re$1submi$5 re$1load$3 re$1send$3 re$1transmi$5) with (request page) and (dangerous malicious mal$1formed attack$3) with (script$3 applet$1 code program$1)	US-PGPUB; USPAT; USOCR	OR	OFF	2006/07/12 13:38
S38	8	HTTP same (re$1submi$5 re$1load$3 re$1send$3 re$1transmi$5) with ($2valid request page) and (dangerous malicious mal$1formed attack$3) with (script$3 applet$1 code program$1)	US-PGPUB; USPAT; USOCR	OR	OFF	2006/07/12 13:41
S39	8	(HTTP same ((re$1submi$5 re$1load$3 re$1send$3 re$1transmi$5) with ($2valid request page))) and ((dangerous malicious mal$1formed attack$3) with (script$3 applet$1 code program$1))	US-PGPUB; USPAT; USOCR	OR	OFF	2006/07/12 13:57
S40	11	(HTTP same ((re$1submi$5 re$1load$3 re$1send$3 re$1transmi$5) with ($2valid request page))) and ((dangerous malicious mal$1formed attack$3) same (script$3 applet$1 code program$1))	US-PGPUB; USPAT; USOCR	OR	OFF	2006/07/12 13:42
S41	45	(HTTP same ((re$1submi$5 re$1load$3 re$1send$3 re$1transmi$5) with ($2valid request page))) and ((dangerous malicious mal$1formed attack$3) and(script$3 applet$1 code program$1))	US-PGPUB; USPAT; USOCR	OR	OFF	2006/07/12 13:42
S42	29	S41 and @ad<"20030620"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/12 13:43
S43	40	cross$site and script$3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/12 13:56
S44	17	S43 and @ad<"20030620"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/12 13:56
S45	4	S44 and (re$1submi$5 re$1load$3 re$1send$3 re$1transmi$5)	US-PGPUB; USPAT; USOCR	OR	OFF	2006/07/12 14:01
S46	3	HTTP with error with "401" with request	US-PGPUB; USPAT; USOCR	OR	OFF	2006/07/12 14:02
S47	18	HTTP with error with "400" with request	US-PGPUB; USPAT; USOCR	OR	OFF	2006/07/12 14:12
S48	3	("400" with bad adj request) same (re$1submi$5 re$1load$3 re$1send$3 re$1transmi$5)	US-PGPUB; USPAT; USOCR	OR	OFF	2006/07/12 14:18

S49	26	("400" with bad adj request) and (re$1submi$5 re$1load$3 re$1send$3 re$1transmi$5)	US-PGPUB; USPAT; USOCR	OR	OFF	2006/07/12 14:18
S50	40	("400" with bad adj request) and ($2try re$1submi$5 re$1load$3 re$1send$3 re$1transmi$5)	US-PGPUB; USPAT; USOCR	OR	OFF	2006/07/12 14:18
S51	17	S50 and @ad<"20030620"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/10/28 22:08
S52	2	"20020165027"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/12 16:49
S53	9	"6488586"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/12 16:54
S54	2	"20040260754"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/12/05 15:31
S55	1	(modify add delete remove) with verification adj parameters	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/12/05 15:32
S56	96	(modify add delete remove) with (filter$3 validat$3) adj parameters	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/12/05 15:33
S57	2	(modify add delete remove) with list with (filter$3 validat$3) adj parameters	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/12/05 15:34
S58	96	(modify add delete remove) with (filter$3 validat$3) adj parameters	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/12/05 15:40
S59	70	S58 and @ad<"20030620"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/12/05 15:41
S60	89	(modify add delete remove adjust new old) same (validat$3) adj parameters	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/12/05 15:41
S61	69	S60 and @ad<"20030620"	US-PGPUB; USPAT; EPO; JPO; DERWENT;	OR	OFF	2006/12/05 15:41

			IBM_TDB			
S62	47	(cross adj site adj script$3) (XSS with script$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/12/06 14:59
S63	7	726/22.ccls. and script with attack	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/12/08 17:23
S64	47	malicious adj request$1	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/05/17 11:01
S65	25	S64 and client and server	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/05/17 11:00
S66	28	S64 and @ad<"20030620"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/05/17 11:42
S67	840	726/22.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/10/28 21:59
S68	36	S67 and script$3 same attack$3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/05/17 11:41
S69	17	S68 and @ad<"20030620"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/05/17 11:42
S70	2	"20040073811"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/05/17 13:10
S71	9	726/22.ccls. and cross adj site adj script$3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/10/28 22:08
S72	5	(filter encode) with user adj input and HTTP and malicious	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/10/28 22:08
S73	1	(filter encode) with user adj input and cross adj site adj script$3	US-PGPUB; USPAT; EPO; JPO; DERWENT;	OR	OFF	2007/10/28 22:08

			IBM_TDB			
S74	37	user adj input and cross adj site adj script$3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/10/28 22:08
S75	2	S74 and @ad<"20030620"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/10/28 22:08
S76	3	razmov.in. and filter$3	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2008/07/04 12:11
S77	3	US-6605120-$.DID. OR US-6558431-$.DID. OR US-6732102-$.DID.	US-PGPUB; USPAT; USOCR	OR	OFF	2008/07/04 12:14
S78	5667	simon.in. and filter$3	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2008/07/04 12:17
S79	308	simon.in. and filter$3 and script$3	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2008/07/04 12:18
S80	236	S79 and valid$5	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2008/07/04 12:18
S81	89	S80 and attack$3	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2008/07/04 12:19
S82	32	S81 and html	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2008/07/04 12:19
S83	193	microsoft.as. and script$3 and (filter$3 examin$5) and attack$3	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2008/07/04 12:21
S84	190	log$4 with attack$1 with server	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2008/07/04 12:23
S85	9	S84 and @pd<"20020620"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2008/07/04 12:23

S86	4	S83 and @pd<"20020620"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2008/07/04 12:24
S87	12	726/22.ccls. and cross adj site adj script$3 and user with input$3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/02/13 23:46
S88	113	cross adj site adj script$3 and user with input$3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/02/13 23:48
S89	9	S88 and @ad<"20030620"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/02/13 23:48
S90	1	"20130086681"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2013/07/15 02:25
S91	2	("713".clas. "380".clas. "726".clas.) and injection with request with browser	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2013/07/15 03:02
S92	594	injection and (cross adj site with script$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2013/07/15 03:03
S93	456	S92 and (warn alert notify)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2013/07/15 03:04
S94	5	S92 and (warn alert notify) with browser	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2013/07/15 03:04
S95	3	"20130086681"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/03/03 22:20
S96	4	xss and malicious and gateway with client same browser	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/03/03 22:31

EAST Search History (Interference)

<This search history is empty>

3/5/2014 6:21:03 PM
C:\Users\jwilliams\Documents\EAST\Workspaces\13633956-ProactiveBrowserContentAnalysis.wsp

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13633956	JAROCH, JOE
	Examiner	Art Unit
	JEFFERY WILLIAMS	2437

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
713, 726, 380: limited classification search	7/15/2013	jw
East search: uspat, uspgpub, epo, jpo, derwent	7/15/2013	jw
npl search: ibmtdb	7/15/2013	jw
Inventor name search: PALM	7/15/2013	jw
updated search of the above	3/5/2014	jw

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

	/JEFFERY WILLIAMS/ Primary Examiner.Art Unit 2495

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REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL
(Submitted Only via EFS-Web)

Application Number	13/633,956	Filing Date	2012-10-03	Docket Number (if applicable)	04584.0005USU1	Art Unit	2495
First Named Inventor	JOE JAROCH			Examiner Name	WILLIAMS, JEFFERY L.		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

- ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____
- ☐ Other _____

☒ Enclosed

- ☒ Amendment/Reply
- ☐ Information Disclosure Statement (IDS)
- ☐ Affidavit(s)/ Declaration(s)
- ☐ Other _____

MISCELLANEOUS

☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____ (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

☐ Other _____

FEES

The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.

☒ The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to Deposit Account No 132725

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

☒ Patent Practitioner Signature

☐ Applicant Signature

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Signature of Registered U.S. Patent Practitioner			
Signature	/Andrew T. Pouzeshi/	Date (YYYY-MM-DD)	2014-06-11
Name	Andrew T. Pouzeshi	Registration Number	67672

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

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6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

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Application Number	13/633,956
Filing Date	October 3, 2012
First Named Inventor	Joe Jaroch
Title	PROACTIVE BROWSER CONTENT ANALYSIS
Art Unit	2495
Examiner Name	WILLIAMS, JEFFERY L.
Attorney Docket Number	04584.0005USU1

SIGNATURE of Applicant or Patent Practitioner

Signature	/Andrew T. Pouzeshi/	Date (Optional)	June 11, 2014
Name	Andrew T. Pouzeshi	Registration Number	67672
Title (if Applicant is a juristic entity)			
Applicant Name (if Applicant is a juristic entity)			

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.

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Application Number	Filing Date

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Telephone		Email			

I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):

WEBROOT INC.

☐ Inventor or Joint Inventor (title not required below)

☐ Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)

☑ Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)

☐ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature		Date (Optional)	May 12, 2014
Name	Ryan Howe		
Title	Associate General Counsel		

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.

☐ Total of forms are submitted.

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STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: WEBROOT INC.

Application No./Patent No.: 13/633,956 Filed/Issue Date: October 3, 2012

Titled: PROACTIVE BROWSER CONTENT ANALYSIS

WEBROOT INC., a corporation

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

1. ☑ The assignee of the entire right, title, and interest.

2. ☐ An assignee of less than the entire right, title, and interest (check applicable box):

   ☐ The extent (by percentage) of its ownership interest is _____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.

   ☐ There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. ☐ The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. ☐ The recipient, via a court proceeding or the like (*e.g.*, bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

A. ☑ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 029067, Frame 0845, or for which a copy thereof is attached.

B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

   1. From: _____ To: _____

      The document was recorded in the United States Patent and Trademark Office at

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This collection of information is required by37 CFR3.73(b). The information is required toobtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentialityis governed by35 U.S.C. 122and 37 CFR1.11 and1.14. Thiscollection is estimated to take 12 minutes to complete, including gathering, preparing, and submittingthe completed application form to the USPTO.Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent tothe Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS.**SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450**

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STATEMENT UNDER 37 CFR 3.73(c)

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5. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

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The document was recorded in the United States Patent and Trademark Office at

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☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☑ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Andrew T. Pouzeshi/	June 11, 2014
Signature	Date
Andrew T. Pouzeshi	67672
Printed or Typed Name	Title or Registration Number

Privacy Act Statement

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1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the informationin order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an InternationalApplication filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, arecord may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from thissystem of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PATENT
Conf. No. 1029

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	JOE JAROCH	Examiner:	WILLIAMS, JEFFERY L.
Serial No.:	13/633,956	Group Art Unit:	2495
Filed:	OCTOBER 3, 2012	Docket No.:	04584.0005USU1
Title:	PROACTIVE BROWSER CONTENT ANALYSIS		

Filed Via EFS-Web on June 11, 2014

AMENDMENT & RESPONSE TO FINAL OFFICE ACTION

Mail Stop RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Commissioner:

In response to the Final Office Action mailed March 11, 2014, please amend the above-identified application as follows:

Amendments to the Specification begin on page 2 of this paper.

Amendments to the Claims are reflected in the listing of claims that begins on page 3 of this paper.

Remarks/Arguments begin on page 7 of this paper.

Amendments to the Specification:

Please amend paragraph [0028] as follows:

As shown, the browser processes in this embodiment include agent processes 220 that are installed on the remote computer 105 in connection with the protection agent 116 so that functions of the protection agent 116 are integrated with a typical browser engine 218. In other words, the agent processes 220 of the browser processes are implemented by additional [[of]] code that is wrapped around a typical browser engine 218 to intercept what is requested and received. As discussed further herein, these agent processes 220 enable all content that is requested by an application 222 (e.g., a browser) and received by the browser engine 218 to be intercepted.

Please amend paragraph [0036] as follows:

This approach of modifying content at the HTML level (e.g., to add annotations) is very different than the prior approaches of rendering (e.g., using a Browser Helper Object) annotations on top of a page that has already been parsed and rendered by a browser engine. This prior approach is problematic because it allows the browser engine to potentially execute malicious scripts or perform malicious actions while it is parsing and rendering the code. And in addition, because the annotations are added after rending, the annotation process must account for the rendering differences (e.g., differences in how and where content is displayed) that different browsers (e.g., Firefox, Safari, Chrome, Internet Explorer, etc.) exhibit.

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Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (Currently Amended) A content analysis and malware prevention method comprising:

intercepting, by a protection agent, a request from a web browser;

determining, by the protection agent, whether the request is associated with known malicious content;

when the request is associated with known malicious content, blocking, by the protection agent, the request; and

when the request is not associated with known malicious content:

sending, by the protection agent, the request to one or more web servers;

receiving, at [[a]] the protection agent on a remote computer, web content from the one or more web servers;

identifying, by the protection agent, a malware threat within the web content;

modifying, by the protection agent, the web content based on the identified malware threat within the web content;

assembling, by the protection agent, a modified version of the web content; and

providing, by the protection agent, the assembled web content to [[a]] the web browser application on the remote computer for rendering and display.

2. (Canceled)

3. (Previously Presented) The method of claim 1, further comprising supplementing, by the protection agent, the web content with indicators regarding a vulnerability of one or more links within the web content.

4. (Previously Presented) The method of claim 1, wherein an analysis to identify a malware threat within the web content includes one or more of a URL (Uniform Resource Locator) analysis, an IP (Internet Protocol) analysis, an image analysis, and a script/HTML analysis.

5. (Previously Presented) The method of claim 1, further comprising determining, by the protection agent, whether a request for the web content from the web browser application is a first request.

6. (Previously Presented) The method of claim 1, further comprising performing one or more of pre-process data decryption, de-chunking and decompressing.

7. (Previously Presented) The method of claim 1, wherein a protocol-level analysis is utilized to identify the malware threat within the web content.

8. (Canceled)

9. (Currently Amended) The method of claim 4, further comprising performing cloud verification of the web content, wherein cloud verification determines one or more malware vulnerabilities based on an aggregation of ~~one or more of~~ the analyses.

10. (Previously Presented) The method of claim 1, further comprising allocating memory for caching the web content.

11. (Currently Amended) A content analysis and malware prevention system comprising:

at least one processor; and

~~a protection agent residing on a remote computer having a processor and memory, wherein the protection agent is configured to:~~

memory encoding computer executable instructions that, when executed by the at least one processor, perform a method comprising:

intercepting a request from a web browser;

determining whether the request is associated with known malicious content;

when the request is associated with known malicious content, blocking, by a protection agent, the request; and

when the request is not associated with known malicious content:

sending the request to one or more web servers;

receiving ~~receive~~ web content from one or more web servers;

identifying a malware threat within the web content;

modifying the web content based on the identified malware threat within the web content;

assembling ~~assemble~~ a modified version of the web content; and

providing ~~provide~~ the assembled web content to a web browser application on the remote computer for rendering and display.

12. (Canceled)

13. (Currently Amended) The system of claim 11, wherein the method ~~protection agent is~~ further ~~configured to~~ comprises supplementing the web content with indicators regarding a vulnerability of one or more links within the web content.

14. (Currently Amended) The system of claim 11, wherein the method ~~protection agent is~~ further ~~configured to~~ comprises identifying the malware threat within the web content by performing one or more of a URL (Uniform Resource Locator) analysis, an IP (Internet Protocol) analysis, an image analysis, and a script/HTML analysis.

15. (Currently Amended) The system of claim 11, wherein the method ~~protection agent is~~ further ~~configured to determine~~ comprises determining whether a request for the web content from the web browser application is a first request.

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16. (Currently Amended) The system of claim 11, wherein the method ~~protection agent is~~ further ~~configured to~~ comprises performing one or more of pre-process data decryption, de-chunking, and decompressing.

17. (Currently Amended) The system of claim 11, wherein the method ~~protection agent is~~ further ~~configured to~~ comprises identifying the malware threat utilizing a protocol-level analysis.

18-19. (Canceled)

20. (Currently Amended) The system of claim 11, wherein the method ~~protection agent is~~ further ~~configured to cache~~ comprises caching the web content in allocated memory.

21. (Previously Presented) The method of claim 1, wherein the malware threat comprises a Uniform Resource Locator (URL).

22. (Currently Amended) The system of claim 11, wherein the method ~~protection agent is~~ further ~~configured to determine~~ comprises determining if a malware threat comprises a Uniform Resource Locator (URL).

23. (New) The method of claim 1, wherein sending the request to one or more web servers comprises iteratively sending a plurality of requests to the one or more web servers.

24. (New) The method of claim 1, further comprising processing the web content prior to identifying the malware threat within the web content.

25. (New) The system of claim 11, wherein sending the request to one or more web servers comprises iteratively sending a plurality of requests to the one or more web servers.

REMARKS/ARGUMENTS

This Amendment and the following remarks are intended to fully respond to the final Office Action dated March 11, 2014, hereinafter "Office Action." In that Office Action, claims 1-7, 9-17, and 19-22 were examined and claims 1-7, 9-17, and 19-22 were rejected. Claims 9, 11-17, and 19-22 were rejected under 35 U.S.C. § 112, second paragraph, for allegedly failing to particularly point out and distinctly claim the subject matter that Applicant regards as their invention. Claims 1-7, 9-17, and 19-22 were rejected under 35 U.S.C. § 103(a) as being unpatentable over "Abstracting Application-Level 26 Web Security" (hereinafter "Scott") in view of Hallak (U.S. Pat. No. 8,464,318; hereinafter "Hallak").

Reconsideration of these rejections, as they might apply to the original and amended claims in view of these remarks, is respectfully requested. In this Amendment, claims 1, 9, 11, 13-17, 20, and 22 have been amended, claims 2, 12, and 19 have been canceled, and new claims 23-25 have been added. Therefore, claims 1, 2-7, 9-11, 13-17, and 20-25 remain present for examination.

Amendments to the Specification:

The Specification has been amended to correct typographical errors. No new matter has been added. Applicant respectfully requests that the amendments to the Specification are entered.

Claim Rejections under 35 U.S.C. § 112, second paragraph:

Claims 9, 11-17, and 19-22 were rejected under 35 U.S.C. § 112, second paragraph, for allegedly failing to particularly point out and distinctly claim the subject matter that Applicant regard as their invention.

Claims 9, 11-17, 19-20, and 22 have been amended and claim 19 has been canceled. In light of this amendment, Applicant respectfully requests that Examiner withdraw the § 112 rejection and allow claims 9, 11-17, and 20-22.

Claim Rejections Under § 103(a):

Claims 1-7, 9-17, and 19-22 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Scott in view of Hallak. Applicant respectfully traverses the § 103 rejection because the Office Action has not established a prima facie case of obviousness. To establish a prima facie case of obviousness under 35 U.S.C. § 103(a), the references must teach or suggest all of the claimed limitations to one of ordinary skill in the art at the time the invention was made. M.P.E.P §§ 2142, 2143.03; In re Royka, 490 F.2d 981, 985 (C.C.P.A. 1974); In re Wilson, 424 F.2d 1382, 1385 (C.C.P.A. 1970). Further, under KSR Int'l Co. v. Teleflex, Inc., there "must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." 127 S. Ct. 1727, 1741 (2007). Applicant traverses the rejection because the references fail to teach or suggest all of the recited limitations of the claims.

Embodiments of the present disclosure relate to providing protection from malicious software by intercepting requests from a browser intended for one or more web servers. In embodiments, threats are analyzed on a protocol level. The intercepted requests may be analyzed to determine whether the request is associated with known malicious code. If the request is associated with known malicious code, the request is blocked. However, if the request is not associated with known malicious code, the request is sent to one or more web servers. In response to sending the request to the one or more web servers, web content is received and analyzed for malicious code (e.g., malware, pestware, viruses, etc.). Upon identifying malicious code in the web content, the web content may be modified. The modified web content may then be provided to the browser.

Scott relates to providing application-level web security. More specifically, Scott provides a scalable structuring mechanism for facilitating the abstraction of security policies from large web-applications developed in heterogeneous multi-platform environments and a tool for assisting programmers to develop secure applications. *See* Scott, Abstract. Scott provides a security gateway that receives HTTP requests, extracts a URL from the HTTP header of the request, and determines validation rules based on the extracted URL. If the URL does not match any URLs with a specified security policy, the request is not propagated by the security gateway.

If the URL is identified, the security gateway checks the parameters of the HTTP request based upon the validation rules associated with known the URL. *See id.* § 3.4.

Scott, however, fails to teach or suggest at least "intercepting, by a protection agent, a request from a web browser" "determining, by a protection agent, whether the request is associated with known malicious content," "when the request is associated with known malicious content, blocking, by a protection agent, the request," "when the request is not associated with known malicious content: sending, by the protection agent, the request to one or more web servers; receiving, at the protection agent, web content from one or more web servers; identifying, by the protection agent, a malware threat within the web content;" and "modifying, by the protection agent, the web content based on the identified malware threat within the web content," as recited by independent claim 1. Scott provides a mechanism to protect web servers from attacks. In doing so, Scott provides a gateway that receives requests, identifies the web server the request is intended for, and then identifies verification rules for the identified web server. The verification rules are then used to validate the request to ensure that it complies with the requirements of the identified web server. Conversely, embodiments of the present application relate to protecting a client device from receiving malicious code in a response to a request made to a web server. Upon intercepting the request, embodiments of the present application provide for "determining, by a protection agent, whether the request is associated with known malicious content." The process of identifying verification rules by Scott's security gateway is not analogous to determining whether the request is associated with known malicious content. Furthermore, when the request is not associated with known malicious content, the embodiment recited in claim 1 provides for evaluating a response to the request and modifying content to ensure that the response does not include a malware threat. Thus, the recited embodiment provides for checking both the request and the response for malicious content. Scott, on the other hand, teaches validating a request for a web server. For at least the forgoing reasons, independent claim 1 is allowable over Scott.

Hallak fails to compensate for Scott's deficiencies. Hallak relates to a "method for securing a web client against malicious web attacks, the method is performed by a secure gateway deployed between a web client and a web server. The method comprises receiving a

uniform resource locator (URL) request from the web client; sending the URL request to the web server for executing server side web application code responsive to the URL request; receiving client side application code from the web server; executing the client side application code on behalf of the web client; and sending the web client user interface updates rendered responsive to the execution of the client side application code." Hallak, Abstract. Hallak, however, fails to teach or suggest at least "intercepting, by a protection agent, a request from a web browser" "determining, by a protection agent, whether the request is associated with known malicious content," and "when the request is associated with known malicious content, blocking, by a protection agent, the request," as recited by independent claim 1. Thus, Hallak fails to compensate for Scott's deficiencies. For at least the forgoing reasons, independent claim 1 is allowable over the combination of Scott and Hallak.

For at least similar reasons, independent claim 11 is allowable over the combination of the references. Claim 11 recites, *inter alia*, "intercepting a request from a web browser;" determining whether the request is associated with malicious content;" "when the request is associated with malicious content, blocking, by a protection agent, the request" "when the request is not associated with known malicious content: sending the request to one or more web servers; receiving web content from one or more web servers; identifying a malware threat within the web content;" and "modifying the web content based on the identified malware threat within the web content," Thus, claim 11 is allowable for at least similar reasons as discussed with respect to claim 1.

For at least the foregoing reasons, independent claims 1 and 11 are allowable over the combination of Scott and Hallak. All other claims, i.e., claims 3-7, 9-10, 13-17, and 20-22, depend from one of allowable claims 1 or 11 and, thus, are also allowable. Applicants respectfully request that the Examiner issue a Notice of Allowance for claims 1, 3-7, 9-11, 13-17, and 20-22.

New Claims 23-25:

New claims 23-25 have been added in this Amendment. Applicant submits that claims 23-25 are allowable over the combination of Scott and Hallak and respectfully requests that the Examiner issue a Notice of Allowance for all claims.

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CONCLUSION

This Amendment fully responds to the Office Action mailed on March 11, 2014. Still, that Office Action may contain arguments and rejections that are not directly addressed by this Amendment due to the fact that they are rendered moot in light of the preceding arguments in favor of patentability. Hence, failure of this Amendment to directly address an argument raised in the Office Action should not be taken as an indication that the Applicant believes the argument has merit. Furthermore, the claims of the present application may include other elements, not discussed in this Amendment, which are not shown, taught, or otherwise suggested by the references of record. Accordingly, the preceding arguments in favor of patentability are advanced without prejudice to other bases of patentability.

This Amendment is filed concurrently with a Request for Continued Examination. It is believed that no further fees are due with this Response. However, the Commissioner is hereby authorized to charge any deficiencies or credit any overpayment with respect to this patent application to deposit account number 13-2725.

In light of the above remarks and amendments, it is believed that the application is now in condition for allowance and such action is respectfully requested. Should any additional issues need to be resolved, the Examiner is requested to telephone the undersigned to attempt to resolve those issues.

Respectfully submitted,

Dated: June 11, 2014

/Andrew T. Pouzeshi/

Andrew T. Pouzeshi, Reg. No. 67,672
Merchant & Gould P.C.
P.O. Box 2903
Minneapolis, MN 55402-0903
(303) 357-1639

23552
PATENT TRADEMARK OFFICE

PATENT
Conf. No. 1029

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	JOE JAROCH	Examiner:	WILLIAMS, JEFFERY L.
Serial No.:	13/633,956	Group Art Unit:	2495
Filed:	OCTOBER 3, 2012	Docket No.:	04584.0005USU1
Title:	PROACTIVE BROWSER CONTENT ANALYSIS		

Filed Via EFS-Web on June 11, 2014

ASSERTION OF SMALL ENTITY STATUS PURSUANT TO 37 C.F.R. §1.27 (c)(1)

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Commissioner:

The assignee of the above-identified application, Webroot Inc., hereby asserts that it is entitled to small entity status as defined in 37 C.F.R. 1.27.

Respectfully submitted,

Dated: June 11, 2014

/Andrew T. Pouzeshi/
Andrew T. Pouzeshi, Reg. No. 67,672
Merchant & Gould P.C.
P.O. Box 2903
Minneapolis, MN 55402-0903
(303) 357-1639

23552
PATENT TRADEMARK OFFICE

Electronic Patent Application Fee Transmittal

Application Number:	13633956
Filing Date:	03-Oct-2012
Title of Invention:	PROACTIVE BROWSER CONTENT ANALYSIS
First Named Inventor/Applicant Name:	Joe Jaroch
Filer:	Andrew T. Pouzeshi/Jacquelyn Slate
Attorney Docket Number:	6890-90

Filed as Small Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
Request for Continued Examination	2801	1	600	600
		Total in USD ($)		**600**

Electronic Acknowledgement Receipt

EFS ID:	19279520
Application Number:	13633956
International Application Number:	
Confirmation Number:	1029
Title of Invention:	PROACTIVE BROWSER CONTENT ANALYSIS
First Named Inventor/Applicant Name:	Joe Jaroch
Customer Number:	22442
Filer:	Andrew T. Pouzeshi/Jacquelyn Slate
Filer Authorized By:	Andrew T. Pouzeshi
Attorney Docket Number:	6890-90
Receipt Date:	11-JUN-2014
Filing Date:	03-OCT-2012
Time Stamp:	18:44:46
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$600
RAM confirmation Number	5230
Deposit Account	132725
Authorized User	POUZESHI, ANDREW

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Power of Attorney	2014_06_11_POAExecuted_04584_0005USU1.PDF	271445 8e4a5ff951a46881485724073d4b2596d6e7ad41	no	2
Warnings:					
The page size in the PDF is too large. The pages should be 8.5 x 11 or A4. If this PDF is submitted, the pages will be resized upon entry into the Image File Wrapper and may affect subsequent processing					
Information:					
2	Assignee showing of ownership per 37 CFR 3.73.	2014_06_11_373c_04584_0005USU1.PDF	118057 cfb7219625f943d240fd735b1f162f36d988844b	no	3
Warnings:					
Information:					
3		2014_06_11_RespFOA_03112014_04584_0005USU1.PDF	136046 7bf2679b1c9b3cb78aa2bcb3ca627d494fc12f28	yes	12

Multipart Description/PDF files in .zip description

Document Description	Start	End
Amendment Submitted/Entered with Filing of CPA/RCE	1	1
Specification	2	2
Claims	3	6
Applicant Arguments/Remarks Made in an Amendment	7	12

Warnings:					
Information:					
4	Request for Continued Examination (RCE)	2014_06_11_RCE_04584_0005USU1.PDF	697868 ad720c0db1ed55734335e8438654642c6fc73cee	no	3
Warnings:					
Information:					
5	Assertion of entitlement to small entity status	2014_06_11_SmallEntityAssertion04584_0005USU1.PDF	87398 637d6e6c421a4fe4408fb292debd59d361b5f1ec	no	1
Warnings:					
Information:					
6	Fee Worksheet (SB06)	fee-info.pdf	30260 5f69cdde4c6b9f60a44c5327005b7b27e571dd9c	no	2
Warnings:					

Information:	
Total Files Size (in bytes):	1341074

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (09-11)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 13/633,956	Filing Date 10/03/2012	☐ To be Mailed

ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT **06/11/2014**

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0	X $40 =	0
Independent (37 CFR 1.16(h))	* 2	Minus	***3	= 0	X $210 =	0
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	0

AMENDMENT

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
/VIKKI GRAY/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Joe Jaroch	Examiner:	Williams, Jeffery L.
Serial No.:	13/633,956	Group Art Unit:	2495
Filed:	10/03/2012	Docket No.:	04584.0005USU1
Title:	PROACTIVE BROWSER CONTENT ANALYSIS		

Filed EFS-WEB

REQUEST UNDER 37 CFR § 1.48

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Attn: Commissioner for Patents:

The correct inventors were not listed on the originally filed ADS. A new ADS is filed herewith to amend the inventorship in compliance with 37 C.F.R. § 1.48(a). Specifically, Harry Murphey McCloy III and Robert Edward Adams have been added as inventors. As such, Applicants respectfully request entry of the new ADS at the earliest opportunity of the Office.

Payment in the amount of $70 Under 37 CFR 1.17(i) is being submitted via credit card for a small entity. It is believed that no further fees are due with this paper. However, the Commissioner is hereby authorized to charge any deficiencies or credit any overpayment with respect to this patent application to deposit account number 13-2725.

Respectfully submitted,

Date: September 26, 2014

/Andrew T. Pouzeshi/

Andrew T. Pouzeshi, Reg. No. 67,672
MERCHANT & GOULD P.C.
P.O. Box 2903
Minneapolis, Minnesota 55402-0903
303.357.1639

23552
PATENT TRADEMARK OFFICE

PTO/AIA/14 (12-13)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	~~6890-90~~ 04584.0005USU1
	Application Number	13/633,956
Title of Invention	PROACTIVE BROWSER CONTENT ANALYSIS	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Joe		Jaroch	

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

City	Elk Grove Village	State/Province	IL	Country of Residence	US

Mailing Address of Inventor:

Address 1	1484 Worden Way		
Address 2			
City	Elk Grove Village	State/Province	IL
Postal Code	60007	Country	US

Inventor 2 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Harry	Murphey	McCloy	III

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

City	Longmont	State/Province	CO	Country of Residence	US

Mailing Address of Inventor:

Address 1	3569 Larkspur Circle		
Address 2			
City	Longmont	State/Province	CO
Postal Code	80503	Country	US

Inventor 3 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Robert	Edward	Adams	

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

PTO/AIA/14 (12-13)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	~~6890-90~~ 04584.0005USU1
	Application Number	13/633,956
Title of Invention	PROACTIVE BROWSER CONTENT ANALYSIS	

City	Sunnyvale	State/Province	CA	Country of Residence	US

Mailing Address of Inventor:

Address 1	1391 Los Arboles Avenue		
Address 2			
City	Sunnyvale	State/Province	CA
Postal Code	94087	Country	US

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button. Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	~~22442~~ 23552		
Email Address		Add Email	Remove Email

Application Information:

Title of the Invention	PROACTIVE BROWSER CONTENT ANALYSIS		
Attorney Docket Number	~~6890-90~~ 04584.0005USU1	Small Entity Status Claimed	☑
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	4	Suggested Figure for Publication (if any)	

Filing By Reference :

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

PTO/AIA/14 (12-13)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	~~6890-90~~ 04584.0005USU1
	Application Number	13/633,956
Title of Invention	PROACTIVE BROWSER CONTENT ANALYSIS	

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32).
Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	(●) Customer Number	( ) US Patent Practitioner	( ) Limited Recognition (37 CFR 11.9)
Customer Number	~~22442~~ 23552		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.
When referring to the current application, please leave the application number blank.

Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	Claims benefit of provisional	61/542693	2011-10-03

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button.

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(d). When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)[i] the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(h)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

			Remove
Application Number	Country[i]	Filing Date (YYYY-MM-DD)	Access Code[i] (if applicable)

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button.

PTO/AIA/14 (12-13)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	~~6890-90~~ 04584.0005USU1
	Application Number	13/633,956
Title of Invention	PROACTIVE BROWSER CONTENT ANALYSIS	

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

Authorization to Permit Access:

☑ Authorization to Permit Access to the Instant Application by the Participating Offices

If checked, the undersigned hereby grants the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual property offices in which a foreign application claiming priority to the instant patent application is filed access to the instant patent application. See 37 CFR 1.14(c) and (h). This box should not be checked if the applicant does not wish the EPO, JPO, KIPO, WIPO, or other intellectual property office in which a foreign application claiming priority to the instant patent application is filed to have access to the instant patent application.

In accordance with 37 CFR 1.14(h)(3), access will be provided to a copy of the instant patent application with respect to: 1) the instant patent application-as-filed; 2) any foreign application to which the instant patent application claims priority under 35 U.S.C. 119(a)-(d) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the instant patent application; and 3) any U.S. application-as-filed from which benefit is sought in the instant patent application.

In accordance with 37 CFR 1.14(c), access may be provided to information concerning the date o f filing this Authorization.

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

PTO/AIA/14 (12-13)
Approved for use through 01/31/2014. OMB 0651-0032
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Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	~~6890-90~~ 04584.0005USU1
	Application Number	13/633,956
Title of Invention	PROACTIVE BROWSER CONTENT ANALYSIS	

Applicant 1

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

(●) Assignee	( ) Legal Representative under 35 U.S.C. 117	( ) Joint Inventor
( ) Person to whom the inventor is obligated to assign.	( ) Person who shows sufficient proprietary interest	

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor :

If the Applicant is an Organization check here. ☒

Organization Name	WEBROOT INC.		
Mailing Address Information For Applicant:			
Address 1	385 Interlocken Crescent		
Address 2	Suite 8800		
City	Broomfield	**State/Province**	CO
Country	US	Postal Code	80021
Phone Number		Fax Number	
Email Address			

Additional Applicant Data may be generated within this form by selecting the Add button.

Assignee Information including Non-Applicant Assignee Information:

Providing assignment information in this section does not subsitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Assignee 1

Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication . An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.

If the Assignee or Non-Applicant Assignee is an Organization check here. ☒

PTO/AIA/14 (12-13)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	~~6890-90~~ 04584.0005USU1
	Application Number	13/633,956
Title of Invention	PROACTIVE BROWSER CONTENT ANALYSIS	

Organization Name			
Mailing Address Information For Assignee including Non-Applicant Assignee:			
Address 1	385 Interlocken Crescent		
Address 2	Suite 8800		
City	Broomfield	**State/Province**	CO
Country i	US	Postal Code	80021
Phone Number		Fax Number	
Email Address			

Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button.

Signature:

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Signature	/Andrew T. Pouzeshi/			Date (YYYY-MM-DD)	09/26/2014
First Name	Andrew T.	Last Name	Pouzeshi	Registration Number	67672

Additional Signature may be generated within this form by selecting the Add button.

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent C o o p eration Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PTO/AIA/01 (06-12)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	PROACTIVE BROWSER CONTENT ANALYSIS

As the below named inventor, I hereby declare that:

This declaration is directed to:

☐ The attached application, or

☒ United States application or PCT international application number 13/633,956

filed on October 3, 2012.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

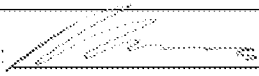
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Robert Edward Adams Date (Optional): 9/8/2014

Signature: 

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/AIA/01 (06-12)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Title of Invention	PROACTIVE BROWSER CONTENT ANALYSIS

As the below named inventor, I hereby declare that:

This declaration is directed to:

☐ The attached application, or

☒ United States application or PCT international application number 13/633,956

filed on October 3, 2012.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

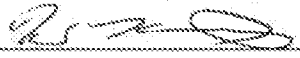
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

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LEGAL NAME OF INVENTOR

Inventor: Harry Murphey McCloy III Date (Optional): 9/8/2014

Signature: 

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

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Privacy Act Statement

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9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal

Application Number:	13633956
Filing Date:	03-Oct-2012
Title of Invention:	PROACTIVE BROWSER CONTENT ANALYSIS
First Named Inventor/Applicant Name:	Joe Jaroch
Filer:	Andrew T. Pouzeshi/Jacquelyn Slate
Attorney Docket Number:	04584.0005USU1

Filed as Small Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
PROCESSING FEE, EXCEPT PROV. APPLS.	2830	1	70	70
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
			Total in USD ($)	**70**

Electronic Acknowledgement Receipt

EFS ID:	20256331
Application Number:	13633956
International Application Number:	
Confirmation Number:	1029
Title of Invention:	PROACTIVE BROWSER CONTENT ANALYSIS
First Named Inventor/Applicant Name:	Joe Jaroch
Customer Number:	23552
Filer:	Andrew T. Pouzeshi/Jacquelyn Slate
Filer Authorized By:	Andrew T. Pouzeshi
Attorney Docket Number:	04584.0005USU1
Receipt Date:	26-SEP-2014
Filing Date:	03-OCT-2012
Time Stamp:	14:19:11
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$70
RAM confirmation Number	550
Deposit Account	132725
Authorized User	POUZESHI, ANDREW

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request under Rule 48 correcting inventorship	2014_09_26_ReqCorrectInventorship_04584_0005USU1.PDF	84084 75dca4f7ab33df7dd5fa6a1104072848b5913b56	no	2
Warnings:					
Information:					
2	Application Data Sheet	2014_09_26_SupplementalADS_04584_0005USU1.PDF	136691 c2b02845167d5dba771e2c009cc1d8a7bc53f4c8	no	7
Warnings:					
Information:					
This is not an USPTO supplied ADS fillable form					
3	Oath or Declaration filed	Declaration_Adams_Executed_04584_0005USU1.PDF	591363 fd077b78a403726135edcc989082c8404af62dea	no	1
Warnings:					
Information:					
4	Oath or Declaration filed	Declaration_McCloy_Executed_04584_0005USU1.PDF	97954 a5a4001a53c113e7432df1dc0a85f45249c67d42	no	2
Warnings:					
The page size in the PDF is too large. The pages should be 8.5 x 11 or A4. If this PDF is submitted, the pages will be resized upon entry into the Image File Wrapper and may affect subsequent processing					
Information:					
5	Fee Worksheet (SB06)	fee-info.pdf	30390 993f55e8fabac3bdbd43891b578749274481fe98	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	940482		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Document code: WFEE

United States Patent and Trademark Office
Sales Receipt for Accounting Date: 10/02/2014

ABALINAN SALE #00000016 Mailroom Dt: 09/26/2014 132725 13633956
01 FC : 2819 300.00 DA

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/633,956	10/03/2012	Joe Jaroch	6890-90

CONFIRMATION NO. 1029

POA ACCEPTANCE LETTER

23552
MERCHANT & GOULD PC
P.O. BOX 2903
MINNEAPOLIS, MN 55402-0903

OC000000069011908

Date Mailed: 09/30/2014

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 06/11/2014.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/vgray/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/633,956	10/03/2012	Joe Jaroch	6890-90

CONFIRMATION NO. 1029

POWER OF ATTORNEY NOTICE

22442
Sheridan Ross PC
1560 Broadway
Suite 1200
Denver, CO 80202

OC000000069011891

Date Mailed: 09/30/2014

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 06/11/2014.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

/vgray/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
13/633,956	10/03/2012	2495	1250	04584.0005USU1	20	2

CONFIRMATION NO. 1029

CORRECTED FILING RECEIPT

23552
MERCHANT & GOULD PC
P.O. BOX 2903
MINNEAPOLIS, MN 55402-0903



Date Mailed: 10/07/2014

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Joe Jaroch, Elk Grove Village, IL;
Harry Murphey McCloy III, Longmont, CO;
Robert Edward Adams, Sunnyvale, CA;

Applicant(s)

WEBROOT INC., Broomfield, CO

Assignment For Published Patent Application

WEBROOT INC., Broomfield, CO

Power of Attorney: The patent practitioners associated with Customer Number 23552

Domestic Priority data as claimed by applicant

This appln claims benefit of 61/542,693 10/03/2011

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access - A proper **Authorization to Permit Access to Application by Participating Offices** (PTO/SB/39 or its equivalent) has been received by the USPTO.

If Required, Foreign Filing License Granted: 10/19/2012
The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 13/633,956**
Projected Publication Date: Not Applicable

Non-Publication Request: No

Early Publication Request: No
**** SMALL ENTITY ****
Title

PROACTIVE BROWSER CONTENT ANALYSIS

Preliminary Class

726

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications:

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

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This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

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The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop technology, manufacture products, deliver services, and grow your business, visit http://www.SelectUSA.gov or call +1-202-482-6800.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/633,956	10/03/2012	Joe Jaroch	04584.0005USU1	1029

23552 7590 10/23/2014

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EXAMINER	
WILLIAMS, JEFFERY L	
ART UNIT	PAPER NUMBER
2495	

NOTIFICATION DATE	DELIVERY MODE
10/23/2014	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USPTO23552@merchantgould.com

Office Action Summary	Application No. 13/633,956	Applicant(s) JAROCH ET AL.	
	Examiner JEFFERY WILLIAMS	Art Unit 2495	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 June 2014*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

5)☒ Claim(s) *1, 2 – 7, 9 – 11, 13 – 17, and 21 – 25* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *1, 2 – 7, 9 – 11, 13 – 17, and 21 – 25* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☒ The drawing(s) filed on *03 October 2012* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some * c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

Claims 1, 2 – 7, 9 – 11, 13 – 17, and 21 – 25 are pending.

Any references to applicant's specification are made by way of applicant's U.S. pre-grant printed patent publication.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/7/14 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1 – 7, 9 – 17, and 19 – 22 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Scott et al. (Scott), "Abstracting Application-Level Web Security" in view of Hallak, US 8,464,318 B1.

Regarding claim 1, Scott discloses:

intercepting, by a protection agent, a request from a web browser (e.g. Scott; fig. 4:"Receive HTTP Request"; sect. 3.4,par. 1)*;*

determining, by the protection agent, whether the request is associated with known malicious content (e.g. Scott; sect. 3.4,par. 1)*;*

when the request is associated with known malicious content, blocking, by the protection agent, the request (e.g. Scott; sect. 3.4,par. 1 – if the request is malformed, it is not propagated to the web server)*;*

and when the request is not associated with known malicious content: sending, by the protection agent, the request to one or more web servers (e.g. Scott; sect. 3.4,par. 1 – if the request is proper, it is propagated to the web server)*;*

receiving, at the protection agent on a remote computer, web content from one or more web servers (e.g. Scott, fig. 4; sect. 3, par. 2; sect. 3.4.1). Herein, a browser and web server each provide web content from a server to an executing security gateway.

identifying, by the protection agent, a malware threat within the web content (e.g. Scott, fig. 4, Abstract; sect. 2). Herein, the security gateway operates to identify malware within the web content.

modifying, by the protection agent, the web content based on the identified malware threat within the web content, assembling, by the protection agent, a modified version of the web content (e.g. Scott, fig. 4: validation, transformation, modified response)*;*

and providing, by the protection agent, the assembled web content to a web browser application … for rendering and display (e.g. Scott, fig. 4: return HTTP request)*.*

Scott discloses a system utilizing a secured gateway for protecting web applications from malicious attacks, such as XSS attacks and other web attacks (e.g. Scott, Abstract; sect. 2). However, Scott does not explicitly state that the browser application is "on the remote computer", i.e. that the browser and the gateway (i.e. "protection agent") are on the same computer.

Hallak also discloses a system utilizing a secured gateway for protecting web applications from malicious attacks, such as XSS attacks and other web attacks (e.g. Hallak, Abstract; sect. 2; 12:10-22). Furthermore, Hallak discloses that the browser

application is “on the remote computer”, i.e. that the browser and the gateway (i.e. “protection agent”) are on the same computer (e.g. Hallak, fig. 2a; fig. 2g).

It would have been obvious to one of ordinary skill in the art to art to recognize that the secured gateway can be located on any of a server, a physically separate device, or a client (i.e. “remote computer”), as is taught by Hallak. This would have been obvious because one of skill in the art would have been motivated by the teachings that either arrangement is useful for protecting a web application (e.g. Hallak, 3:13-38).

Regarding claim 3, the combination enables*:*

further comprising supplementing, by the protection agent, the web content with indicators regarding a vulnerability of one or more links within the web content (e.g. Scott, sect. 3.4, par. 2 – error message; sect. 3.1, par. 2 – HTTP response annotated with MACs).

Regarding claim 4, the combination enables*:*

wherein an analysis to identify a malware threat within the web content includes one or more of URL (Uniform Resource Locator) analysis, an IP (Internet Protocol) analysis, an image analysis, and a script/HTML analysis (e.g. Scott, pg. 401 – analysis of headers, html encoding, cookies, scripting, URLs, etc.).

Regarding claim 5, the combination enables*:*

determining , by the protection agent, whether a request for the web content from the web browser application is a first request (e.g. Scott, sect. 3.4.2 – replays are detected, i.e. determining whether a "first request" was received).

Regarding claim 6, the combination enables*:*

further comprising performing one or more of pre-process data decryption, de-chunking and decompressing (e.g. Scott, sect. 3.2).

Regarding claim 7, the combination enables*:*

wherein a protocol-level analysis is utilized to identify the malware threat within the web content (e.g. Scott, sect. 2 – application level).

Regarding claim 9, the combination enables*:*

further comprising performing cloud verification of the web content, wherein cloud verification determines one or more malware vulnerabilities based on an aggregation of one or more of the analysis (e.g. Scott, fig. 1; abstract – the verifications are performed within the web, i.e. "cloud").

Regarding claim 10, the combination enables*:*

further comprising allocating memory for caching of web content (e.g. Scott, fig. 4; sect. 3.4 – memory is allocated within the security gateway to analyze the content).

Regarding claim 21, the combination enables*:*

wherein the malware threat comprises a Uniform Resource Locator (URL) (e.g. Scott, pg. 401 – analysis of headers, html encoding, cookies, scripting, URLs, etc.)*.*

Regarding claim 23, the combination does not explicitly disclose the retrieval of web content by the "iterative" sending of requests, however, the examiner notes that it was well known in the art for web content to be fetched from a web server through the use of a plurality of iterative requests and responses.

Regarding claim 24, the combination enables*:*

processing the web content prior to identifying the malware threat within the web content (e.g. Scott, fig. 4, Abstract; sect. 2). Herein, the security gateway processes the content to identify malware within the web content.

Regarding claims 11 – 17, 19, 20, 22, and 25, they are system claims essentially corresponding to the above method claims and they are rejected, at least, for the same reasons. Furthermore, the combination enables a "protection agent and processor", "security center", and a "browser engine" (e.g. Scott, fig. 1, 4; Hallak, fig. 2g).

Response to Arguments

Applicant's arguments filed 6/11/14 have been fully considered but they are not persuasive.

Applicant argues or alleges essentially that:

…

… Thus, the recited embodiment provides for checking both the request and the response for malicious content. Scott, on the other hand, teaches validating a request for a web server. For at least the forgoing reasons, independent claim 1 is allowable over Scott.…

…

(Remarks, pg. 8 - 11)

Examiner respectfully responds:

The examiner respectfully disagrees and notes that the prior art discloses checking both the request (e.g. Scott; sect. 3.4,par. 1 – if the request is malformed, it is not propagated to the web server) and the response (e.g. Scott, Abstract; fig. 4; sect. 3, par. 2; sect. 3.4.1 - herein, a web server provides web content from a server to an executing security gateway, wherein the security gateway operates to identify malware within the web content).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFERY WILLIAMS whose telephone number is (571)272-7965. The examiner can normally be reached on 9:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Farid Homayounmerhr can be reached on 571-272-3739. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JEFFERY WILLIAMS/
Primary Examiner, Art Unit 2495

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13633956	JAROCH, JOE
	Examiner	Art Unit
	JEFFERY WILLIAMS	2437

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	07/15/2013	03/05/2014	10/20/2014						
	1	✓	✓	✓						
	2	✓	✓	-						
	3	✓	✓	✓						
	4	✓	✓	✓						
	5	✓	✓	✓						
	6	✓	✓	✓						
	7	✓	✓	✓						
	8	✓	-	-						
	9	✓	✓	✓						
	10	✓	✓	✓						
	11	✓	✓	✓						
	12	✓	✓	-						
	13	✓	✓	✓						
	14	✓	✓	✓						
	15	✓	✓	✓						
	16	✓	✓	✓						
	17	✓	✓	✓						
	18	✓	-	-						
	19	✓	✓	-						
	20	✓	✓	✓						
	21		✓	✓						
	22		✓	✓						
	23			✓						
	24			✓						
	25			✓						
				✓						

PATENT
Conf. No. 1029

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Jaroch, et al.	Examiner:	Williams, Jeffery L.
Serial No.:	13/633,956	Group Art Unit:	2495
Filed:	October 3, 2012	Docket No.:	04584.0005USU1
Title:	PROACTIVE BROWSER CONTENT ANALYSIS		

Filed Via EFS-Web on February 23, 2015

AMENDMENT & RESPONSE TO NON-FINAL OFFICE ACTION

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Commissioner:

In response to the Non-Final Office Action mailed October 23, 2014, please amend the above-identified application as follows:

Amendments to the Specification begin on page 2 of this paper.

Amendments to the Claims are reflected in the listing of claims that begins on page 3 of this paper.

Remarks/Arguments begin on page 7 of this paper.

Amendments to the Specification:

Please amend paragraph [0016] as follows:

The remote user 104 may be [[a]] an individual or a business enterprise that operates the remote computer 105, which may each be a personal computer, a server of any type, a PDA, mobile phone, tablet, netbook, an interactive television, or any other device capable of loading and operating computer objects.

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Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (Previously Presented) A content analysis and malware prevention method comprising:

intercepting, by a protection agent, a request from a web browser;

determining, by the protection agent, whether the request is associated with known malicious content;

when the request is associated with known malicious content, blocking, by the protection agent, the request; and

when the request is not associated with known malicious content:

sending, by the protection agent, the request to one or more web servers;

receiving, at the protection agent on a remote computer, web content from the one or more web servers;

identifying, by the protection agent, a malware threat within the web content;

modifying, by the protection agent, the web content based on the identified malware threat within the web content;

assembling, by the protection agent, a modified version of the web content; and

providing, by the protection agent, the assembled web content to the web browser application on the remote computer for rendering and display.

2. (Canceled)

3. (Previously Presented) The method of claim 1, further comprising supplementing, by the protection agent, the web content with indicators regarding a vulnerability of one or more links within the web content.

4. (Previously Presented) The method of claim 1, wherein an analysis to identify a malware threat within the web content includes one or more of a URL (Uniform Resource

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Locator) analysis, an IP (Internet Protocol) analysis, an image analysis, and a script/HTML analysis.

5. (Previously Presented) The method of claim 1, further comprising determining, by the protection agent, whether a request for the web content from the web browser application is a first request.

6. (Previously Presented) The method of claim 1, further comprising performing one or more of pre-process data decryption, de-chunking and decompressing.

7. (Previously Presented) The method of claim 1, wherein a protocol-level analysis is utilized to identify the malware threat within the web content.

8. (Canceled)

9. (Previously Presented) The method of claim 4, further comprising performing cloud verification of the web content, wherein cloud verification determines one or more malware vulnerabilities based on an aggregation of the analyses.

10. (Previously Presented) The method of claim 1, further comprising allocating memory for caching the web content.

11. (Previously Presented) A content analysis and malware prevention system comprising:

at least one processor; and

memory encoding computer executable instructions that, when executed by the at least one processor, perform a method comprising:

intercepting a request from a web browser;

determining whether the request is associated with known malicious content;

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when the request is associated with known malicious content, blocking, by a protection agent, the request; and

when the request is not associated with known malicious content:

sending the request to one or more web servers;

receiving web content from one or more web servers;

identifying a malware threat within the web content;

modifying the web content based on the identified malware threat within the web content;

assembling a modified version of the web content; and

providing the assembled web content to a web browser application on the remote computer for rendering and display.

12. (Canceled)

13. (Previously Presented) The system of claim 11, wherein the method further comprises supplementing the web content with indicators regarding a vulnerability of one or more links within the web content.

14. (Previously Presented) The system of claim 11, wherein the method further comprises identifying the malware threat within the web content by performing one or more of a URL (Uniform Resource Locator) analysis, an IP (Internet Protocol) analysis, an image analysis, and a script/HTML analysis.

15. (Previously Presented) The system of claim 11, wherein the method further comprises determining whether a request for the web content from the web browser application is a first request.

16. (Previously Presented) The system of claim 11, wherein the method further comprises performing one or more of pre-process data decryption, de-chunking, and decompressing.

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17. (Previously Presented) The system of claim 11, wherein the method further comprises identifying the malware threat utilizing a protocol-level analysis.

18-19. (Canceled)

20. (Previously Presented) The system of claim 11, wherein the method further comprises caching the web content in allocated memory.

21. (Previously Presented) The method of claim 1, wherein the malware threat comprises a Uniform Resource Locator (URL).

22. (Previously Presented) The system of claim 11, wherein the method further comprises determining if a malware threat comprises a Uniform Resource Locator (URL).

23. (Previously Presented) The method of claim 1, wherein sending the request to one or more web servers comprises iteratively sending a plurality of requests to the one or more web servers.

24. (Previously Presented) The method of claim 1, further comprising processing the web content prior to identifying the malware threat within the web content.

25. (Previously Presented) The system of claim 11, wherein sending the request to one or more web servers comprises iteratively sending a plurality of requests to the one or more web servers.

REMARKS/ARGUMENTS

This Amendment and the following remarks are intended to fully respond to the non-final Office Action dated October 23, 2014, hereinafter "Office Action." In that Office Action, claims 1, 3-7, 9-11, 13-17, and 21-25 were examined and all claims were rejected. Claims 1, 3-7, 9-11, 13-17, and 21-25 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Scott et al. ("Abstracting Application-Level Web Security;" hereinafter "Scott") in view of Hallak (U.S. Pat. No. 8,464,318; hereinafter "Hallak").

Reconsideration of these rejections, as they might apply to the original and amended claims in view of these remarks, is respectfully requested. In this Amendment, no claims have been amended, canceled, or added. Therefore, claims 1, 3-7, 9-11, 13-17, and 21-25 remain present for examination.

Amendments to the Specification:

The Specification has been amended to correct typographical errors. No new matter has been added. Applicant respectfully requests that the amendments to the Specification are entered.

Claim Rejections Under § 103(a):

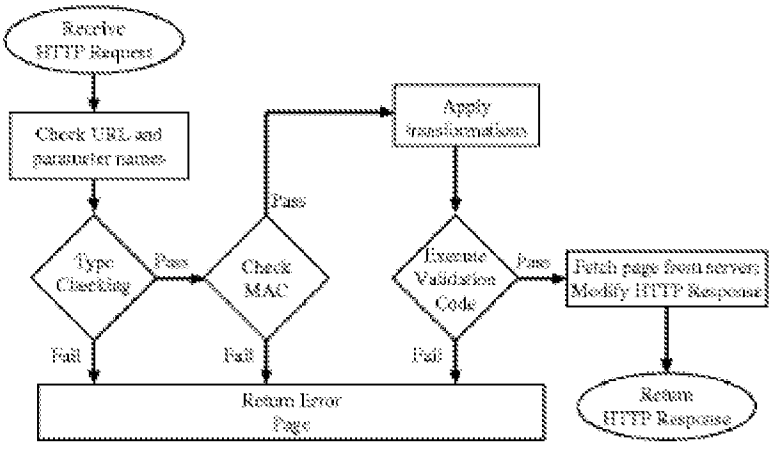
Claims 1, 3-7, 9-11, 13-17, and 21-25 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Scott in view of Hallak. Applicant respectfully traverses the § 103 rejection because the Office Action has not established a prima facie case of obviousness. To establish a prima facie case of obviousness under 35 U.S.C. § 103(a), the references must teach or suggest all of the claimed limitations to one of ordinary skill in the art at the time the invention was made. M.P.E.P §§ 2142, 2143.03; In re Royka, 490 F.2d 981, 985 (C.C.P.A. 1974); In re Wilson, 424 F.2d 1382, 1385 (C.C.P.A. 1970). Applicant traverses the rejection because the references fail to teach or suggest all of the recited limitations of the claims.

Aspects of the present disclosure relate to providing protection from malicious software by intercepting requests from a browser intended for one or more web servers. In examples,

threats are analyzed on a protocol level. The intercepted requests may be analyzed to determine whether the request is associated with known malicious code. If the request is associated with known malicious code, the request is blocked. However, if the request is not associated with known malicious code, the request is sent to one or more web servers. In response to sending the request to the one or more web servers, web content is received and analyzed for malicious code (e.g., malware, pestware, viruses, etc.). Upon identifying malicious code in the web content, the web content may be modified. The modified web content may then be assembled by a protection agent. The assembled web content may then be provided to the browser.

Scott relates to providing application-level web security. More specifically, Scott provides a scalable structuring mechanism for facilitating the abstraction of security policies from large web-applications developed in heterogeneous multi-platform environments and a tool for assisting programmers to develop secure applications. *See* Scott, Abstract. Scott provides a security gateway that receives HTTP requests, extracts a URL from the HTTP header of the request, and determines validation rules based on the extracted URL. If the URL does not match any URLs with a specified security policy, the request is not propagated by the security gateway. If the URL is identified, the security gateway checks the parameters of the HTTP request based upon the validation rules associated with known the URL. *See id.* § 3.4.

Figure 4 of Scott describes the algorithm performed by the security gateway.



When a HTTP request is received by the security gateway, the security gateway performs checks on the URL, type, and MAC of the received request. If the checks pass, Scott performs a

transformation on the HTTP request. If the transformed request is validated, then the security gateway modifies a HTTP response provided by the server and returns the HTTP response to the requestor.

Scott, however, fails to teach or suggest at least "identifying, by the protection agent, a malware threat within the web content" and "modifying, by the protection agent, the web content based on the identified malware threat within the web content," as recited in independent claim 1. As illustrated in Figure 4, Scott's security gateway performs a URL check, type validation, and a MAC check when a HTTP request is received. Even if Scott's checks teach "identifying, by the protection agent, a malware threat," which Applicant does not concede, the checks are performed on HTTP requests. On the other hand, claim 1 recites that the malware is identified "within the web content." Because Scott teaches deploying a security gateway to protect web servers, not client devices, the checks are performed on HTTP requests directed towards the server – not the web content provided by the server.

Furthermore, because Scott fails to teach "identifying . . . a malware threat within the web content," Scott cannot teach "modifying, by the protection agent, the web content based on the identified malware threat within the web content." As previously discussed, Scott teaches protecting web servers from attacks. As such, Scott teaches performing checks on HTTP requests sent to the web servers. The content provided by the web server in response to the HTTP does not need to be checked for a malware threat, let alone modified as recited in claim 1.

Additionally, Scott fails to teach or suggest at least "assembling, by the protection agent, a modified version of the web content," as recited in claim 1. As noted above, Scott teaches checking HTTP requests – not web content – and therefore does not teach modifying web content based on malware identified within the web content and, thus, cannot teach "assembling . . . a modified version of the web content." While Scott's Figure 4 does include a step that states "Modify HTTP Response," the reference teaches modifying a HTTP response, not web content. Even if the HTTP response can be equated to web content, which Applicant does not concede, Figure 4 of Scott teaches that the modified response is returned to the requestor. Merely returning a response to a requestor is not the same as "assembling, by the protection agent, a modified version of the web content." Indeed, there is no assembling of web content whatsoever

prior to returning the HTTP response. For at least the foregoing reasons, independent claim 1 is allowable over Scott.

Hallak fails to compensate for Scott's deficiencies. Hallak discloses to a "method for securing a web client against malicious web attacks, the method is performed by a secure gateway deployed between a web client and a web server. The method comprises receiving a uniform resource locator (URL) request from the web client; sending the URL request to the web server for executing server side web application code responsive to the URL request; receiving client side application code from the web server; executing the client side application code on behalf of the web client; and sending the web client user interface updates rendered responsive to the execution of the client side application code." Hallak, Abstract. Hallak, however, does not teach or suggest at least "identifying, by the protection agent, a malware threat within the web content," "modifying, by the protection agent, the web content based on the identified malware threat within the web content," and "assembling, by the protection agent, a modified version of the web content." Thus, claim 1 is allowable over the combination of Scott and Hallak.

For at least similar reasons, independent claim 11 is allowable over the combination of the references. Claim 11 recites, *inter alia*, "identifying a malware threat within the web content;" "modifying the web content based on the identified malware threat within the web content" and "assembling a modified version of the web content." Thus, claim 11 is allowable for at least similar reasons as discussed with respect to claim 1.

For at least the foregoing reasons, independent claims 1 and 11 are allowable over the combination of Scott and Hallak. All other claims, i.e., claims 3-7, 9-10, 13-17, and 20-25, depend from one of allowable claims 1 or 11 and, thus, are also allowable. Applicants respectfully request that the Examiner issue a Notice of Allowance for claims 1, 3-7, 9-11, 13-17, and 20-25.

CONCLUSION

This Amendment fully responds to the Office Action mailed on October 23, 2014. Still, that Office Action may contain arguments and rejections that are not directly addressed by this Amendment due to the fact that they are rendered moot in light of the preceding arguments in favor of patentability. Hence, failure of this Amendment to directly address an argument raised in the Office Action should not be taken as an indication that the Applicant believes the argument has merit. Furthermore, the claims of the present application may include other elements, not discussed in this Amendment, which are not shown, taught, or otherwise suggested by the references of record. Accordingly, the preceding arguments in favor of patentability are advanced without prejudice to other bases of patentability.

This Amendment is filed concurrently with a Petition for Extension of Time. It is believed that no further fees are due with this Response. However, the Commissioner is hereby authorized to charge any deficiencies or credit any overpayment with respect to this patent application to deposit account number 13-2725.

In light of the above remarks and amendments, it is believed that the application is now in condition for allowance and such action is respectfully requested. Should any additional issues need to be resolved, the Examiner is requested to telephone the undersigned to attempt to resolve those issues.

Respectfully submitted,

Dated: February 23, 2015

/Andrew T. Pouzeshi/

Andrew T. Pouzeshi, Reg. No. 67,672
Merchant & Gould P.C.
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23552
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PTO/SB/22 (03-13)
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PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)

Docket Number (Optional): 04584.0005USU1

Application Number: 13/633,956

Filed: October 3, 2012

For: PROACTIVE BROWSER CONTENT ANALYSIS

Art Unit: 2495

Examiner: WILLIAMS, JEFFERY L.

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above-identified application.

The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):

		Fee	Small Entity Fee	Micro Entity Fee	
☑	One month (37 CFR 1.17(a)(1))	$200	$100	$50	$ 100.00
☐	Two months (37 CFR 1.17(a)(2))	$600	$300	$150	$
☐	Three months (37 CFR 1.17(a)(3))	$1,400	$700	$350	$
☐	Four months (37 CFR 1.17(a)(4))	$2,200	$1,100	$550	$
☐	Five months (37 CFR 1.17(a)(5))	$3,000	$1,500	$750	$

☑ Applicant asserts small entity status. See 37 CFR 1.27.

☐ Applicant certifies micro entity status. See 37 CFR 1.29.
Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.

☐ A check in the amount of the fee is enclosed.

☑ Payment by credit card. Form PTO-2038 is attached.

☐ The Director has already been authorized to charge fees in this application to a Deposit Account.

☑ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 132725.

☑ Payment made via EFS-Web.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

I am the

☐ applicant/inventor.

☐ assignee of record of the entire interest. See 37 CFR 3.71. 37 CFR 3.73(b) statement is enclosed (Form PTO/SB/96).

☑ attorney or agent of record. Registration number 67672.

☐ attorney or agent acting under 37 CFR 1.34. Registration number _____.

/Andrew T. Pouzeshi/ — Signature

February 23, 2015 — Date

Andrew T. Pouzeshi — Typed or printed name

303-357-1639 — Telephone Number

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.

☐ * Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.136(a). The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 6 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

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6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal

Application Number:	13633956
Filing Date:	03-Oct-2012
Title of Invention:	PROACTIVE BROWSER CONTENT ANALYSIS
First Named Inventor/Applicant Name:	Joe Jaroch
Filer:	Andrew T. Pouzeshi/Jacquelyn Slate
Attorney Docket Number:	04584.0005USU1

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension - 1 month with $0 paid	2251	1	100	100
Miscellaneous:				
			Total in USD ($)	**100**

Electronic Acknowledgement Receipt

EFS ID:	21567651
Application Number:	13633956
International Application Number:	
Confirmation Number:	1029
Title of Invention:	PROACTIVE BROWSER CONTENT ANALYSIS
First Named Inventor/Applicant Name:	Joe Jaroch
Customer Number:	23552
Filer:	Andrew T. Pouzeshi/Jacquelyn Slate
Filer Authorized By:	Andrew T. Pouzeshi
Attorney Docket Number:	04584.0005USU1
Receipt Date:	23-FEB-2015
Filing Date:	03-OCT-2012
Time Stamp:	12:58:21
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$100
RAM confirmation Number	10274
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		2015_02_23_RespNFOA_of_102314_04584_0005USU1.PDF	138414 2636fb920c46d2d194eebb5ca55c3882d890fb82	yes	11

Multipart Description/PDF files in .zip description

Document Description	Start	End
Amendment/Req. Reconsideration-After Non-Final Reject	1	1
Specification	2	2
Claims	3	6
Applicant Arguments/Remarks Made in an Amendment	7	11

Warnings:

Information:

2	Extension of Time	2015_02_23_EOT_04584_0005USU1.PDF	194606 75add2eee092ad3b0e8a6c2684874e8f71fb15e6	no	2

Warnings:

Information:

3	Fee Worksheet (SB06)	fee-info.pdf	30722 f7a739acc5a2693088db3429756dac2ad7e4c0ad	no	2

Warnings:

Information:

Total Files Size (in bytes):	363742

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 13/633,956	Filing Date 10/03/2012	☐ To be Mailed

ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT	02/23/2015	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0	X $40 =	0
	Independent (37 CFR 1.16(h))	* 1	Minus	***3	= 0	X $210 =	0
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
						TOTAL ADD'L FEE	0

AMENDMENT		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
						TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
/SHEILA D. CHAPMAN/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/633,956	10/03/2012	Joe Jaroch	04584.0005USU1	1029

23552 7590 06/11/2015

MERCHANT & GOULD P.C.
P.O. BOX 2903
MINNEAPOLIS, MN 55402-0903

EXAMINER
WILLIAMS, JEFFERY L

ART UNIT	PAPER NUMBER
2495	

NOTIFICATION DATE	DELIVERY MODE
06/11/2015	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USPTO23552@merchantgould.com

Office Action Summary	Application No. 13/633,956	Applicant(s) JAROCH ET AL.	
	Examiner JEFFERY WILLIAMS	Art Unit 2495	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 February 2015*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

5)☒ Claim(s) *1, 2 – 7, 9 – 11, 13 – 17, and 21 – 25* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *1, 2 – 7, 9 – 11, 13 – 17, and 21 – 25* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☒ The drawing(s) filed on *03 October 2012* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some * c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

Claims 1, 2 – 7, 9 – 11, 13 – 17, and 21 – 25 are pending.

Any references to applicant's specification are made by way of applicant's U.S. pre-grant printed patent publication.

This action is in response to the communication filed on 2/23/15.

All objections and rejections not set forth below have been withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1 – 7, 9 – 17, and 19 – 22 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Scott et al. (Scott), "Abstracting Application-Level Web Security" in view of Hallak, US 8,464,318 B1.

Regarding claim 1, Scott discloses:

intercepting, by a protection agent, a request from a web browser (e.g. Scott; fig. 4:"Receive HTTP Request"; sect. 3.4,par. 1)*;*

determining, by the protection agent, whether the request is associated with known malicious content (e.g. Scott; sect. 3.4,par. 1)*;*

when the request is associated with known malicious content, blocking, by the protection agent, the request (e.g. Scott; sect. 3.4,par. 1 – if the request is malformed, it is not propagated to the web server)*;*

and when the request is not associated with known malicious content: sending, by the protection agent, the request to one or more web servers (e.g. Scott; sect. 3.4,par. 1 – if the request is proper, it is propagated to the web server)*;*

receiving, at the protection agent on a remote computer, web content from one or more web servers (e.g. Scott, fig. 4; sect. 3, par. 2; sect. 3.4.1). Herein, a browser and web server each provide web content from a server to an executing security gateway.

identifying, by the protection agent, a malware threat within the web content (e.g. Scott, fig. 4, Abstract; sect. 2). Herein, the security gateway operates to identify malware within the web content.

modifying, by the protection agent, the web content based on the identified malware threat within the web content, assembling, by the protection agent, a modified version of the web content (e.g. Scott, fig. 4: validation, transformation, modified response)*;*

and providing, by the protection agent, the assembled web content to a web browser application … for rendering and display (e.g. Scott, fig. 4: return HTTP request).

Scott discloses a system utilizing a secured gateway for protecting web applications from malicious attacks, such as XSS attacks and other web attacks (e.g. Scott, Abstract; sect. 2). However, Scott does not explicitly state that the browser application is "on the remote computer", i.e. that the browser and the gateway (i.e. "protection agent") are on the same computer.

Hallak also discloses a system utilizing a secured gateway for protecting web applications from malicious attacks, such as XSS attacks and other web attacks (e.g. Hallak, Abstract; 12:10-22). Furthermore, Hallak discloses that the browser application is "on the remote computer", i.e. that the browser and the gateway (i.e. "protection agent") are on the same computer (e.g. Hallak, fig. 2a; fig. 2g).

It would have been obvious to one of ordinary skill in the art to art to recognize that the secured gateway can be located on any of a server, a physically separate device, or a client (i.e. "remote computer"), as is taught by Hallak. This would have been obvious because one of skill in the art would have been motivated by the teachings that either arrangement is useful for protecting a web application (e.g. Hallak, 3:13-38).

Regarding claim 3, the combination enables:

further comprising supplementing, by the protection agent, the web content with indicators regarding a vulnerability of one or more links within the web content (e.g. Scott, sect. 3.4, par. 2 – error message; sect. 3.1, par. 2 – HTTP response annotated with MACs).

Regarding claim 4, the combination enables*:*

wherein an analysis to identify a malware threat within the web content includes one or more of URL (Uniform Resource Locator) analysis, an IP (Internet Protocol) analysis, an image analysis, and a script/HTML analysis (e.g. Scott, pg. 401 – analysis of headers, html encoding, cookies, scripting, URLs, etc.).

Regarding claim 5, the combination enables*:*

determining , by the protection agent, whether a request for the web content from the web browser application is a first request (e.g. Scott, sect. 3.4.2 – replays are detected, i.e. determining whether a “first request” was received).

Regarding claim 6, the combination enables*:*

further comprising performing one or more of pre-process data decryption, de-chunking and decompressing (e.g. Scott, sect. 3.2).

Regarding claim 7, the combination enables*:*

wherein a protocol-level analysis is utilized to identify the malware threat within the web content (e.g. Scott, sect. 2 – application level).

Regarding claim 9, the combination enables*:*

further comprising performing cloud verification of the web content, wherein cloud verification determines one or more malware vulnerabilities based on an aggregation of one or more of the analysis (e.g. Scott, fig. 1; abstract – the verifications are performed within the web, i.e. “cloud”).

Regarding claim 10, the combination enables*:*

further comprising allocating memory for caching of web content (e.g. Scott, fig. 4; sect. 3.4 – memory is allocated within the security gateway to analyze the content).

Regarding claim 21, the combination enables*:*

wherein the malware threat comprises a Uniform Resource Locator (URL) (e.g. Scott, pg. 401 – analysis of headers, html encoding, cookies, scripting, URLs, etc.).

Regarding claim 23, the combination does not explicitly disclose the retrieval of web content by the “iterative” sending of requests, however, the examiner notes that it was well known in the art for web content to be fetched from a web server through the use of a plurality of iterative requests and responses.

Regarding claim 24, the combination enables*:*

processing the web content prior to identifying the malware threat within the web content (e.g. Scott, fig. 4, Abstract; sect. 2). Herein, the security gateway processes the content to identify malware within the web content.

Regarding claims 11 – 17, 19, 20, 22, and 25, they are system claims essentially corresponding to the above method claims and they are rejected, at least, for the same reasons. Furthermore, the combination enables a “protection agent and processor”, “security center”, and a “browser engine” (e.g. Scott, fig. 1, 4; Hallak, fig. 2g).

Response to Arguments

Applicant's arguments filed 2/23/15 have been fully considered but they are not persuasive.

Applicant argues or alleges essentially that:

…

… Scott, however, fails to teach or suggest at least "identifying, by the protection agent, a malware threat within the web content" and "modifying, by the protection agent, the web content based on the identified malware threat within the web content," as recited in independent claim 1. As illustrated in Figure 4, Scott's security gateway performs a URL check, type. … Because Scott teaches deploying a security gateway to

protect web servers, not client devices, the checks are performed on HTTP requests directed towards the server - not the web content provided by the server.

…

Furthermore, because Scott fails to teach "identifying . . . a malware threat within the web content," Scott cannot teach "modifying, by the protection agent, the web content based on the identified malware threat within the web content." …

…

(Remarks, pg. 9)

Examiner respectfully responds:

The examiner notes that the argument essentially that the prior art fails to disclose checking the response from the web server was previously presented and previously addressed.

The examiner respectfully disagrees and maintains that the prior art discloses checking both the request to a web server (e.g. Scott; sect. 3.4,par. 1 – if the request is malformed, it is not propagated to the web server) and the response from the web server, wherein the portions of the response are modified when insecure content is identified (e.g. Scott, Abstract; fig. 4; sect. 3, par. 2; sect. 3.4.1 - herein, a security gateway fetches and modifies potentially insecure sections of web content from a server).

Applicant argues or alleges essentially that:

…

… Additionally, Scott fails to teach or suggest at least "assembling, by the protection agent, a modified version of the web content," as recited in claim 1. As noted above, Scott teaches checking HTTP requests - not web content - and therefore does not teach modifying web content based on malware identified within the web content and, thus, cannot teach "assembling. .. a modified version of the web content." While Scott's Figure 4 does include a step that states "Modify HTTP Response," the reference teaches modifying a HTTP response, not web content. Even if the HTTP response can be equated to web content, which Applicant does not concede, Figure 4 of Scott teaches that the modified response is returned to the requestor. Merely returning a response to a requestor is not the same as "assembling, by the protection agent, a modified version of the web content." Indeed, there is no assembling of web content whatsoever prior to returning the HTTP response. …

…

(Remarks, pg. 9, 10)

Examiner respectfully responds:

The examiner respectfully disagrees. First, the examiner points out that applicant's assertion that an HTTP response from a web server is not "web content" represents only an allegation that is unsupported by evidence or rationale. An HTTP response from a web server is clearly information comprised within the "web" (i.e. "web content").

Secondly, the applicant is mistaken that the prior art “merely teaches returning a response". Rather the prior art clearly teaches that the gateway creates (i.e. "assembles”) a modified response which comprises a plurality of HTML forms that were modified by the gateway.

Applicant argues or alleges essentially that:

…

… Hallak, however, does not teach or suggest at least "identifying, by the protection agent, a malware threat within the web content," "modifying, by the protection agent, the web content based on the identified malware threat within the web content," and "assembling, by the protection agent, a modified version of the web content." Thus, claim 1 is allowable over the combination of Scott and Hallak.

…

(Remarks, pg. 10)

Examiner respectfully responds:

The examiner respectfully disagrees and points out that, as does Scott, Hallak also teaches the claimed subject matter. Specifically, Hallak teaches modifying portions of web content from a web server and creating a modified response that is sent to the client (e.g. Hallak, fig. 4; 6:27-39; 11:1-22).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFERY WILLIAMS whose telephone number is (571)272-7965. The examiner can normally be reached on 9:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Farid Homayounmerhr can be reached on 571-272-3739. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JEFFERY WILLIAMS/
Primary Examiner, Art Unit 2495

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13633956	JAROCH, JOE
	Examiner	Art Unit
	JEFFERY WILLIAMS	2437

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	07/15/2013	03/05/2014	10/20/2014	06/06/2015					
	1	✓	✓	✓	✓					
	2	✓	✓	-	-					
	3	✓	✓	✓	✓					
	4	✓	✓	✓	✓					
	5	✓	✓	✓	✓					
	6	✓	✓	✓	✓					
	7	✓	✓	✓	✓					
	8	✓	-	-	-					
	9	✓	✓	✓	✓					
	10	✓	✓	✓	✓					
	11	✓	✓	✓	✓					
	12	✓	✓	-	-					
	13	✓	✓	✓	✓					
	14	✓	✓	✓	✓					
	15	✓	✓	✓	✓					
	16	✓	✓	✓	✓					
	17	✓	✓	✓	✓					
	18	✓	-	-	-					
	19	✓	✓	-	-					
	20	✓	✓	✓	✓					
	21		✓	✓	✓					
	22		✓	✓	✓					
	23			✓	✓					
	24			✓	✓					
	25			✓	✓					
				✓	✓					

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY.DOCKET NO./TITLE	REQUEST ID
13/633,956	10/03/2012	Joe Jaroch	04584.0005USU1	8927

Acknowledgement of Loss of Entitlement to Entity Status Discount

The entity status change request below filed through Private PAIR on 12/11/2015 has been accepted.

CERTIFICATIONS:

Change of Entity Status:

X Applicant changing to regular undiscounted fee status.
NOTE: Checking this box will be taken to be notification of loss of entitlement to small or micro entity status, as applicable.

This portion must be completed by the signatory or signatories making the entity status change in accordance with 37 CFR 1.4(d)(4).

Signature:	/Andrew T. Pouzeshi/
Name:	Andrew T. Pouzeshi
Registration Number:	67672

PTO/SB/30EFS (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL
(Submitted Only via EFS-Web)

Application Number	13633956	Filing Date	2012-10-03	Docket Number (if applicable)	04584.0005USU1	Art Unit	2495
First Named Inventor	Joe Jaroch			Examiner Name	WILLIAMS, JEFFERY L.		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

- ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____
- ☐ Other _____

☒ Enclosed

- ☒ Amendment/Reply
- ☐ Information Disclosure Statement (IDS)
- ☐ Affidavit(s)/ Declaration(s)
- ☐ Other _____

MISCELLANEOUS

☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____ (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

☐ Other _____

FEES

The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.
☒ The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to Deposit Account No 132725

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

X Patent Practitioner Signature

Applicant Signature

PTO/SB/30EFS (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Signature of Registered U.S. Patent Practitioner			
Signature	/Dylan J. Nelson/	Date (YYYY-MM-DD)	2015-12-11
Name	Dylan J. Nelson	Registration Number	65974

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PTO/SB/22 (03-13)
Approved for use through 3/31/2013. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)

Docket Number (Optional): 04584.0005USU1

Application Number: 13/633,956

Filed: October 3, 2012

For: PROACTIVE BROWSER CONTENT ANALYSIS

Art Unit: 2495

Examiner: WILLIAMS, JEFFERY L.

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above-identified application.

The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):

	Fee	Small Entity Fee	Micro Entity Fee	
☐ One month (37 CFR 1.17(a)(1))	$200	$100	$50	$
☐ Two months (37 CFR 1.17(a)(2))	$600	$300	$150	$
☑ Three months (37 CFR 1.17(a)(3))	$1,400	$700	$350	$ 1,400.00
☐ Four months (37 CFR 1.17(a)(4))	$2,200	$1,100	$550	$
☐ Five months (37 CFR 1.17(a)(5))	$3,000	$1,500	$750	$

☐ Applicant asserts small entity status. See 37 CFR 1.27.

☐ Applicant certifies micro entity status. See 37 CFR 1.29.
Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.

☐ A check in the amount of the fee is enclosed.

☑ Payment by credit card. Form PTO-2038 is attached.

☐ The Director has already been authorized to charge fees in this application to a Deposit Account.

☑ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 132725.

☑ Payment made via EFS-Web.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

I am the

☐ applicant/inventor.

☐ assignee of record of the entire interest. See 37 CFR 3.71. 37 CFR 3.73(b) statement is enclosed (Form PTO/SB/96).

☑ attorney or agent of record. Registration number 65974.

☐ attorney or agent acting under 37 CFR 1.34. Registration number _____.

/Dylan J. Nelson/ — Signature

December 11, 2015 — Date

Dylan J. Nelson — Typed or printed name

303-357-1240 — Telephone Number

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.

☐ * Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.136(a). The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 6 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal

Application Number:	13633956
Filing Date:	03-Oct-2012
Title of Invention:	PROACTIVE BROWSER CONTENT ANALYSIS
First Named Inventor/Applicant Name:	Joe Jaroch
Filer:	Dylan James Nelson/Jacquelyn Slate
Attorney Docket Number:	04584.0005USU1

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension - 3 months with $0 paid	1253	1	1400	1400
Miscellaneous:				
RCE- 2nd and Subsequent Request	1820	1	1700	1700
		Total in USD ($)		**3100**

Electronic Acknowledgement Receipt

EFS ID:	24335442
Application Number:	13633956
International Application Number:	
Confirmation Number:	1029
Title of Invention:	PROACTIVE BROWSER CONTENT ANALYSIS
First Named Inventor/Applicant Name:	Joe Jaroch
Customer Number:	23552
Filer:	Dylan James Nelson/Jacquelyn Slate
Filer Authorized By:	Dylan James Nelson
Attorney Docket Number:	04584.0005USU1
Receipt Date:	11-DEC-2015
Filing Date:	03-OCT-2012
Time Stamp:	13:24:29
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$3100
RAM confirmation Number	11081
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		2015-12-11-RespFOA-of-04584-0005USU1.PDF	141992 e47c83b41ce8a1ff2173696011406c762a335bfc	yes	11

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Amendment Submitted/Entered with Filing of CPA/RCE	1	1
	Claims	2	5
	Applicant Arguments/Remarks Made in an Amendment	6	11

Warnings:

Information:

2	Request for Continued Examination (RCE)	2015-12-11-RCE-04584-0005USU1.PDF	697610 c3ba9cbe23d4992fcc61db03151db15b2dd0b05f	no	3

Warnings:

Information:

3	Extension of Time	2015-12-11-EOT-04584-0005USU1.PDF	187531 c1eeac5b3230df2c665a7d4800ad98301c2feab4	no	2

Warnings:

Information:

4	Fee Worksheet (SB06)	fee-info.pdf	32572 5fba7c33c36fae4db16aeabfade586a1390c8a15	no	2

Warnings:

Information:

Total Files Size (in bytes):	1059705

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PATENT

Conf. No. 1029

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor:	Jaroch, et al.	**Examiner:**	Williams, Jeffrey L.
Application No.:	13/633,956	**Group Art Unit:**	2495
Filed:	10/03/2012	**Docket No.:**	04584.0005USU1
Title:	PROACTIVE BROWSER CONTENT ANALYSIS		

RESPONSE TO FINAL OFFICE ACTION

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Commissioner:

In response to the Final Office Action mailed June 11, 2015, please accept the following Response:

Amendments to the Claims are reflected in the listing of claims that begins on page 2 of this paper.

Remarks/Arguments begin on page 6 of this paper.

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (Previously Presented) A content analysis and malware prevention method comprising:

intercepting, by a protection agent, a request from a web browser;

determining, by the protection agent, whether the request is associated with known malicious content;

when the request is associated with known malicious content, blocking, by the protection agent, the request; and

when the request is not associated with known malicious content:

sending, by the protection agent, the request to one or more web servers;

receiving, at the protection agent on a remote computer, web content from the one or more web servers;

identifying, by the protection agent, a malware threat within the web content;

modifying, by the protection agent, the web content based on the identified malware threat within the web content;

assembling, by the protection agent, a modified version of the web content; and

providing, by the protection agent, the assembled web content to the web browser application on the remote computer for rendering and display.

2. (Canceled)

3. (Previously Presented) The method of claim 1, further comprising supplementing, by the protection agent, the web content with indicators regarding a vulnerability of one or more links within the web content.

4. (Previously Presented) The method of claim 1, wherein an analysis to identify a malware threat within the web content includes one or more of a URL (Uniform Resource

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p. 229

Locator) analysis, an IP (Internet Protocol) analysis, an image analysis, and a script/HTML analysis.

5. (Previously Presented) The method of claim 1, further comprising determining, by the protection agent, whether a request for the web content from the web browser application is a first request.

6. (Previously Presented) The method of claim 1, further comprising performing one or more of pre-process data decryption, de-chunking and decompressing.

7. (Previously Presented) The method of claim 1, wherein a protocol-level analysis is utilized to identify the malware threat within the web content.

8. (Canceled)

9. (Previously Presented) The method of claim 4, further comprising performing cloud verification of the web content, wherein cloud verification determines one or more malware vulnerabilities based on an aggregation of the analyses.

10. (Previously Presented) The method of claim 1, further comprising allocating memory for caching the web content.

11. (Currently Amended) A content analysis and malware prevention system comprising:

at least one processor; and

memory encoding computer executable instructions that, when executed by the at least one processor, perform a method comprising:

intercepting a request from a web browser;

determining whether the request is associated with known malicious content;

when the request is associated with known malicious content, blocking, by a protection agent, the request; and

when the request is not associated with known malicious content:

sending the request to one or more web servers;

receiving web content from one or more web servers;

identifying a malware threat within the web content;

modifying the web content based on the identified malware threat within the web content, wherein modifying the web content comprises modifying the web content as HTML within the web content;

assembling a modified version of the web content; and

providing the assembled web content to a web browser application on the remote computer for rendering and display.

12. (Canceled)

13. (Previously Presented) The system of claim 11, wherein the method further comprises supplementing the web content with indicators regarding a vulnerability of one or more links within the web content.

14. (Previously Presented) The system of claim 11, wherein the method further comprises identifying the malware threat within the web content by performing one or more of a URL (Uniform Resource Locator) analysis, an IP (Internet Protocol) analysis, an image analysis, and a script/HTML analysis.

15. (Previously Presented) The system of claim 11, wherein the method further comprises determining whether a request for the web content from the web browser application is a first request.

16. (Previously Presented) The system of claim 11, wherein the method further comprises performing one or more of pre-process data decryption, de-chunking, and decompressing.

17. (Previously Presented) The system of claim 11, wherein the method further comprises identifying the malware threat utilizing a protocol-level analysis.

18-19. (Canceled)

20. (Previously Presented) The system of claim 11, wherein the method further comprises caching the web content in allocated memory.

21. (Previously Presented) The method of claim 1, wherein the malware threat comprises a Uniform Resource Locator (URL).

22. (Previously Presented) The system of claim 11, wherein the method further comprises determining if a malware threat comprises a Uniform Resource Locator (URL).

23. (Previously Presented) The method of claim 1, wherein sending the request to one or more web servers comprises iteratively sending a plurality of requests to the one or more web servers.

24. (Previously Presented) The method of claim 1, further comprising processing the web content prior to identifying the malware threat within the web content.

25. (Previously Presented) The system of claim 11, wherein sending the request to one or more web servers comprises iteratively sending a plurality of requests to the one or more web servers.

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REMARKS/ARGUMENTS

This Response and the following remarks are intended to fully respond to the Final Office Action dated June 11, 2015, hereinafter "Office Action." In that Office Action, Claims 1, 3-7, 9-11, 13-17 and 20-25 were examined and all claims were rejected.

Claims 1-7, 9-17 and 19-22 were reportedly rejected under 35 U.S.C. § 103(a) as being unpatentable over "Abstracting Application-Level Web Security" to Scott et al. (hereinafter "Scott") in view of Hallak et al. (U.S. Pat. No. 8,464,318; hereinafter "Hallak"). However, Applicants respectfully point out that claims 2 and 12 were previously canceled. Further, claims 20 and 23-25 have been addressed by the Office Action as allegedly being "system claims essentially corresponding to the above method claims [claims individually discussed and rejected in the Office Action as obvious over Scott, or Scott in view of Hallak] and they are rejected, at least, for the same reasons." Therefore, although not specifically designated as such, Applicants assume that claims 20 and 23-25 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Scott in view of Hallak.

Reconsideration of these rejections, as they might apply to the original and amended claims in view of these remarks, is respectfully requested. By this Response, claim 11 has been amended and no claims have been canceled or added. Therefore, claims 1, 3-7, 9-11, 13-17 and 20-25 remain present for examination.

Claim Rejections Under § 103(a)

Claims 1-7, 9-17 and 19-22 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Scott in view of Hallak. As discussed above, this Response assumes that claims 23-25 have been rejected over Scott in view of Hallak under the same rationale.

Applicants respectfully traverse the § 103(a) rejections because the Examiner failed to state a *prima facie* case of obviousness. To establish a *prima facie* case of obviousness under 35 U.S.C. § 103(a), the references must teach or suggest all of the claimed limitations to one of ordinary skill in the art at the time the invention was made. M.P.E.P §§ 2142, 2143.03; *In re Royka*, 490 F.2d 981, 985 (C.C.P.A. 1974); *In re Wilson*, 424 F.2d 1382, 1385 (C.C.P.A. 1970). Applicants submit that no combination of the cited references teach or suggest all of the claimed limitations.

The present application recites a protection module for analyzing threats by intercepting all requests that a browser engine resident in a computing device sends and receives. The protection module includes a protection agent, which caches web content requested by a browser, analyzes and/or modifies the retrieved web content, and provides a clean or sanitized version of the web content free of malware, to the browser. The protection module also includes an analysis engine, which looks at each request and assesses whether the request is the first request in a session, and if the request is the first request, a determination is made as to whether the request is associated with known, malicious content, and if so, the request is blocked. In certain embodiments, the analysis engine makes the determination, at least in part, by comparing the URL of the request to a black list of URLs.

In contrast, Scott discloses a structuring technique which helps *designers* abstract security policies from large web applications. The systems disclosed therein include a security gateway that determines whether the URL for each request matches a list of "safe" URLs stored in the system's database. If the URL does not match any of those specified in the security policy then the request is not propagated to the web-server and an error page is returned to the user. By forbidding all URLs that do not match those explicitly stored in the database threats utilizing obscure, non-standard URL encoding techniques to circumvent the security gateway may be prevented.

In rejecting claim 1 as being obvious over Scott in view of Hallak, the Examiner asserts that Scott discloses, *inter alia*:

... determining, by the protection agent, whether the request is associated with known malicious content;

when the request is associated with known malicious content, blocking by the protection agent the request; and

when the request is not associated with known malicious content: sending by the protection agent, the request to one or more web servers ...

Office Action at 3 (citing Scott; sect. 3.4, par. 1). Applicants respectfully point out that Scott teaches a wholly different mechanism for filtering out malicious content than is provided by embodiments of Applicants' invention as set forth in claim 1, and as such, none of the steps recited above are capable of being anticipated or rendered obvious by Scott.

Specifically, in filtering malicious content according to aspects of the current disclosure, "the analysis engine accesses the security center via the Internet and the security center is utilized to facilitate whether the request is a request for ***known malicious content*** (e.g., the URL of the request may be compared to a black list of URLs)." Specification at [0030] (emphasis added). In contrast, according to Scott:

> ... the URL is extracted from the HTTP header ... to select the appropriate validation rules and transformations to apply. If the URL does not match *any of those specified in the security policy* then the request is not propagated to the web-server and an error page is returned to the user. By forbidding all URLs that do not match those explicitly in [the] database [the method] prevent[s] a cracker using obscure, *non-standard URL encoding techniques* to circumvent the security gateway ...

Scott at sect. 3.4, par. 1. Thus, Scott teaches determining whether the URL is associated with known ***safe*** content and encoding techniques, while embodiments of the current invention as provided by claim 1, determine whether the URL is associated with known ***malicious*** content. As such, the systems and methods disclosed by Scott are fundamentally different from the present systems.

Additionally, although it is asserted in the Office Action that Scott teaches "and when the request is not associated with known malicious content sending by the protection agent, the request to one or more web servers," as set forth by claim 1, Applicants respectfully further disagree for at least the following reasons.

Scott discloses forwarding an HTTP request to web-servers only upon performing an evaluation of all of the validation expressions, and finding that they each evaluate to true. *See id.* at par. 3 ("Finally all validation expressions are evaluated. If all of the validation expressions evaluate to *true*, then the HTTP request is forwarded to the web-server and the page is fetched."). That is, Scott only sends an HTTP request to the web-servers after: (1) type checking, (2) checking MAC, and (3) executing validation code. *See id.* at Fig. 4. In contrast, claim 1 of the current Application provides that a request is sent to one or more web servers upon determining that the request is not associated with known malicious content, i.e., by comparing the URL against a black list of URLs. Therefore, at least because the mechanisms by which requests are sent to web-servers differs between Scott and embodiments of the current invention as set forth by claim 1, Scott does not anticipate or render obvious claim 1.

The Examiner cites Hallak as making up for the deficiencies of Scott. Hallak is directed to methods for securing a web client against malicious web attacks. The methods disclosed by Hallak are performed by a secure gateway deployed between a web client and a web server. According to Hallak, HTTP requests are forwarded to web servers after determining that the URL is allowed according to stored attributes of the URL, and according to the target application. *See* Hallak at col. 6, lines 8-25. More specifically, such requests are allowed and ultimately forwarded along to web servers only upon making the determination that a client had previously visited the page indicated by the URL, or that target application isn't protected by the gateway. According to that method, only once the gateway decides to allow the request, the request is a session formed with a web server, and the request is forwarded by the gateway to the web server. *Id.* at col. 6, lines 20-24. As such, Hallak does not teach or render obvious the mechanism for forwarding HTTP requests to a web server as provided by claim 1, including, for example: "determining, by the protection agent, whether the request is associated with known malicious content," "when the request is associated with known malicious content, blocking by the protection agent the request; and/or "when the request is not associated with known malicious content: sending by the protection agent, the request to one or more web servers."

Accordingly, withdrawal of this rejection is respectfully requested as to claim 1. Withdrawal of this rejection is also requested as to claims 3-7 and 9-10, which depend therefrom and therefore carry forward the same limitations as claim 1.

Independent claim 11 recites similar limitations to claim 1 and is allowable over the cited references for at least the same reasons as recited above with regard to claim 1. Specifically, claim 11 recites, *inter alia*:

> … *determining whether the request is associated with known malicious content*;
>
> *when the request is associated with known malicious content, blocking, by a protection agent, the request*; and
>
> *when the request is not associated with known malicious content:*
>
> *sending the request to one or more web servers* …

As such, claim 11 is not obvious in view of any combination of Scott and/or Hallak, and is allowable for at least the same reasons as recited above with regard to claim 1.

Additionally, claim 11 has been amended to recite "*modifying the web content based on the identified malware threat within the web content, wherein modifying the web content*

comprises modifying the web content as HTML within the web content." The Office Action argues that Scott teaches this feature as previously presented relying on the Modify "HTTP Response" step displayed in Figure 4. However, the mere mention of modifying a HTTP response does not teach the specific type of modification recited in claim 11, namely, that the modification is performed by *modifying the web content as HTML within the web content*. The specification outlines at least some of the benefits provided by modifying the web content in this manner:

> This approach of modifying content at the HTML level (e.g., to add annotations) is very different than the prior approaches of rendering (e.g., using a Browser Helper Object) annotations on top of a page that has already be parsed and rendered by a browser engine. This prior approach is problematic because it allows the browser engine to potentially execute malicious scripts or perform malicious actions while it is parsing and rendering the code. And in addition, because the annotations are added after rending, the annotation process must account for the rendering differences (e.g., differences in how and where content is displayed) that different browsers (e.g., Firefox, Safari, Chrome, Internet Explorer, etc.) exhibit.

Specification at [0036]. Thus, the combination of the references fails to teach or suggest at least ""*modifying the web content based on the identified malware threat within the web content, wherein modifying the web content comprises modifying the web content as HTML within the web content*," as recited in independent claim 11. For at least this additional reason, claim 11 is allowable over the combination of the references. Withdrawal of this rejection is therefore respectfully requested as to claim 11. Accordingly, withdrawal of this rejection is also requested with respect to claims 13-17 and 20-25, which depend from claim 11 and thereby carry forth all of its limitations.

Based on the above, Applicants submit that all pending claims are patentable over all of the cited references, and are in condition for allowance.

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CONCLUSION

This paper fully responds to the Office Action. Still, the Office Action may contain arguments and rejections that are not directly addressed by this Response due to the fact that they are rendered moot in light of the preceding arguments in favor of patentability. Hence, failure of this Response to directly address an argument raised in the Office Action should not be taken as an indication that the Applicants believe the argument has merit. Furthermore, the claims of the present application may include other elements, not discussed in this Response, which are not shown, taught, or otherwise suggested by the references of record. Accordingly, the preceding arguments in favor of patentability are advanced without prejudice to other bases of patentability.

This Amendment is filed concurrently with a Petition for Extension of Time and Request for Continued Examination. It is believed that no further fees are due with this Response. However, the Commissioner is hereby authorized to charge any deficiencies or credit any overpayment with respect to this patent application to deposit account number 13-2725.

In light of the above remarks, it is believed that the application is now in condition for allowance and such action is respectfully requested. Should any additional issues need to be resolved, the Examiner is requested to telephone the undersigned to attempt to resolve those issues.

Respectfully submitted,

MERCHANT & GOULD P.C.

Date: December 11, 2015

By: /Dylan J. Nelson/
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 13/633,956	Filing Date 10/03/2012	☐ To be Mailed

ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT **12/11/2015**

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0	X $80 =	0
Independent (37 CFR 1.16(h))	* 2	Minus	***3	= 0	X $420 =	0
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	0

AMENDMENT

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
/JACQUELYN WILLIAMS/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/633,956	10/03/2012	Joe Jaroch	04584.0005USU1	1029

23552 7590 01/21/2016

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EXAMINER	
WILLIAMS, JEFFERY L	

ART UNIT	PAPER NUMBER
2495	

NOTIFICATION DATE	DELIVERY MODE
01/21/2016	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USPTO23552@merchantgould.com

Office Action Summary	Application No. 13/633,956	Applicant(s) JAROCH ET AL.	
	Examiner JEFFERY WILLIAMS	Art Unit 2495	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12/11/15*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5)☒ Claim(s) *1, 3 – 7, 9 – 11, 13 – 17, and 20 – 25* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *1, 3 – 7, 9 – 11, 13 – 17, and 20 – 25* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

Claims 1, 3 – 7, 9 – 11, 13 – 17, and 20 – 25 are pending.

Any references to applicant's specification are made by way of applicant's U.S. pre-grant printed patent publication.

This action is in response to the communication filed on 12/11/15.

All objections and rejections not set forth below have been withdrawn.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/11/15 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 3 – 7, 9 – 11, 13 – 17, and 20 – 25 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Scott et al. (Scott), "Abstracting Application-Level Web Security" in view of Hallak, US 8,464,318 B1.

Regarding claim 1, Scott discloses:

intercepting, by a protection agent, a request from a web browser (e.g. Scott; fig. 4:"Receive HTTP Request"; sect. 3.4,par. 1)*;*

determining, by the protection agent, whether the request is associated with known malicious content (e.g. Scott; sect. 3.4,par. 1)*;*

when the request is associated with known malicious content, blocking, by the protection agent, the request (e.g. Scott; sect. 3.4,par. 1 – if the request is malformed, it is not propagated to the web server)*;*

and when the request is not associated with known malicious content: sending, by the protection agent, the request to one or more web servers (e.g. Scott; sect. 3.4,par. 1 – if the request is proper, it is propagated to the web server)*;*

receiving, at the protection agent on a remote computer, web content from one or more web servers (e.g. Scott, fig. 4; sect. 3, par. 2; sect. 3.4.1). Herein, a browser and web server each provide web content from a server to an executing security gateway.

identifying, by the protection agent, a malware threat within the web content (e.g. Scott, fig. 4, Abstract; sect. 2). Herein, the security gateway operates to identify malware within the web content.

modifying, by the protection agent, the web content based on the identified malware threat within the web content, assembling, by the protection agent, a modified version of the web content (e.g. Scott, fig. 4: validation, transformation, modified response)*;*

and providing, by the protection agent, the assembled web content to a web browser application … for rendering and display (e.g. Scott, fig. 4: return HTTP request)*.*

Scott discloses a system utilizing a secured gateway for protecting web applications from malicious attacks, such as XSS attacks and other web attacks (e.g. Scott, Abstract; sect. 2). However, Scott does not explicitly state that the browser application is “on the remote computer”, i.e. that the browser and the gateway (i.e. “protection agent”) are on the same computer.

Hallak also discloses a system utilizing a secured gateway for protecting web applications from malicious attacks, such as XSS attacks and other web attacks (e.g. Hallak, Abstract; 12:10-22). Furthermore, Hallak discloses that the browser application

is “on the remote computer”, i.e. that the browser and the gateway (i.e. “protection agent”) are on the same computer (e.g. Hallak, fig. 2a; fig. 2g).

It would have been obvious to one of ordinary skill in the art to art to recognize that the secured gateway can be located on any of a server, a physically separate device, or a client (i.e. “remote computer”), as is taught by Hallak. This would have been obvious because one of skill in the art would have been motivated by the teachings that either arrangement is useful for protecting a web application (e.g. Hallak, 3:13-38).

Regarding claim 3, the combination enables*:*

further comprising supplementing, by the protection agent, the web content with indicators regarding a vulnerability of one or more links within the web content (e.g. Scott, sect. 3.4, par. 2 – error message; sect. 3.1, par. 2 – HTTP response annotated with MACs).

Regarding claim 4, the combination enables*:*

wherein an analysis to identify a malware threat within the web content includes one or more of URL (Uniform Resource Locator) analysis, an IP (Internet Protocol) analysis, an image analysis, and a script/HTML analysis (e.g. Scott, pg. 401 – analysis of headers, html encoding, cookies, scripting, URLs, etc.).

Regarding claim 5, the combination enables*:*

determining , by the protection agent, whether a request for the web content from the web browser application is a first request (e.g. Scott, sect. 3.4.2 – replays are detected, i.e. determining whether a "first request" was received).

Regarding claim 6, the combination enables*:*

further comprising performing one or more of pre-process data decryption, de-chunking and decompressing (e.g. Scott, sect. 3.2).

Regarding claim 7, the combination enables*:*

wherein a protocol-level analysis is utilized to identify the malware threat within the web content (e.g. Scott, sect. 2 – application level).

Regarding claim 9, the combination enables*:*

further comprising performing cloud verification of the web content, wherein cloud verification determines one or more malware vulnerabilities based on an aggregation of one or more of the analysis (e.g. Scott, fig. 1; abstract – the verifications are performed within the web, i.e. "cloud").

Regarding claim 10, the combination enables*:*

further comprising allocating memory for caching of web content (e.g. Scott, fig. 4; sect. 3.4 – memory is allocated within the security gateway to analyze the content).

Regarding claim 21, the combination enables*:*

wherein the malware threat comprises a Uniform Resource Locator (URL) (e.g. Scott, pg. 401 – analysis of headers, html encoding, cookies, scripting, URLs, etc.)*.*

Regarding claim 23, the combination does not explicitly disclose the retrieval of web content by the "iterative" sending of requests, however, the examiner notes that it was well known in the art for web content to be fetched from a web server through the use of a plurality of iterative requests and responses.

Regarding claim 24, the combination enables*:*

processing the web content prior to identifying the malware threat within the web content (e.g. Scott, fig. 4, Abstract; sect. 2). Herein, the security gateway processes the content to identify malware within the web content.

Regarding claims 11, 13 – 17, 19, 20, 22, and 25, they are system claims essentially corresponding to the above method claims and they are rejected, at least, for the same reasons. Furthermore, the combination enables a "protection agent and processor", "security center", and a "browser engine" (e.g. Scott, fig. 1, 4; Hallak, fig. 2g).

Furthermore, regarding claim 11, the combination enables:

… wherein modifying the web content comprises modifying the web content as HTML within the web content (e.g. Scott, fig. 4; pg. 401, col. 1). Herein, the web content is transformed with HTML encodings.

Response to Arguments

Applicant's arguments filed 12/11/15 have been fully considered but they are not persuasive.

Applicant argues or alleges essentially that:

…

… Applicants respectfully point out that Scott teaches a wholly different mechanism for filtering out malicious content than is provided by embodiments of Applicants' invention as set forth in claim 1, and as such, none of the steps recited above are capable of being anticipated or rendered obvious by Scott.

Specifically, in filtering malicious content according to aspects of the current disclosure, "the analysis engine …Specification at [0030] (emphasis added). In contrast, according to Scott: ... As such, the systems and methods disclosed by Scott are fundamentally different from the present systems.

…

(Remarks, pg. 6 - 8)

Examiner respectfully responds:

The examiner respectfully disagrees, at least, for the reason that the applicant is merely arguing features within the applicant's specification and fails to address any specific claim recitation.

Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Applicant argues or alleges essentially that:

…

… That is, Scott only sends an HTTP request to the web- servers after: (1) type checking, (2) checking MAC, and (3) executing validation code. See id. at Fig. 4. In contrast, claim 1 of the current Application provides that a request is sent to one or more web servers upon determining that the request is not associated with known malicious content, i.e., by comparing the URL against a black list of URLs.

…

(Remarks, pg. 8)

Examiner respectfully responds:

The examiner respectfully disagrees, at least, for the reason that the applicant's argument is based upon features which are not claimed, specifically "determining that the request is not associated with known malicious content, *i.e., by comparing the URL against a black list of URLs.*"

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant argues or alleges essentially that:

…

… As such, Hallak does not teach or render obvious the mechanism for forwarding HTTP requests to a web server as provided by claim 1, including, for example: "determining, by the protection agent, whether the request is associated with known malicious content," "when the request is associated with known malicious content, blocking by the protection agent the request; and/or "when the request is not associated with known malicious content: sending by the protection agent, the request to one or more web servers."

…

(Remarks, pg. 9)

Examiner respectfully responds:

The examiner respectfully disagrees, at least, for the reason that the features argued by the applicant were already shown to be disclosed by Scott.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant argues or alleges essentially that:

…

Additionally, claim 11 has been amended to recite "*modifying the web content based on the identified malware threat within the web content, wherein modifying the web content comprises modifying the web content as HTML within the web content*." The Office Action argues that Scott teaches this feature as previously presented relying on the Modify "HTTP Response" step displayed in Figure 4. However, the mere mention of modifying a HTTP response does not teach the specific type of modification recited in claim 11, namely, that the modification is performed by modifying the web content as HTML within the web content. …

…

(Remarks, pg. 9, 10)

Examiner respectfully responds:

The examiner respectfully disagrees, at least, for the reason that Scott clearly discloses that the web content or response is transformed by HTML encodings (e.g. Scott, fig. 4; pg. 401, col. 1).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFERY WILLIAMS whose telephone number is (571)272-7965. The examiner can normally be reached on 9:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Farid Homayounmerhr can be reached on 571-272-3739. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JEFFERY WILLIAMS/
Primary Examiner, Art Unit 2495

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13633956	JAROCH, JOE
	Examiner	Art Unit
	JEFFERY WILLIAMS	2437

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	07/15/2013	03/05/2014	10/20/2014	06/06/2015	01/12/2016				
	1	✓	✓	✓	✓	✓				
	2	✓	✓	-	-	-				
	3	✓	✓	✓	✓	✓				
	4	✓	✓	✓	✓	✓				
	5	✓	✓	✓	✓	✓				
	6	✓	✓	✓	✓	✓				
	7	✓	✓	✓	✓	✓				
	8	✓	-	-	-	-				
	9	✓	✓	✓	✓	✓				
	10	✓	✓	✓	✓	✓				
	11	✓	✓	✓	✓	✓				
	12	✓	✓	-	-	-				
	13	✓	✓	✓	✓	✓				
	14	✓	✓	✓	✓	✓				
	15	✓	✓	✓	✓	✓				
	16	✓	✓	✓	✓	✓				
	17	✓	✓	✓	✓	✓				
	18	✓	-	-	-	-				
	19	✓	✓	-	-	-				
	20	✓	✓	✓	✓	✓				
	21		✓	✓	✓	✓				
	22		✓	✓	✓	✓				
	23			✓	✓	✓				
	24			✓	✓	✓				
	25			✓	✓	✓				

PATENT
Conf. No. 1029

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Jaroch, et al.	Examiner:	Williams, Jeffery L.
Serial No.:	13/633,956	Group Art Unit:	2495
Filed:	October 3, 2012	Docket No.:	04584.0005USU1
Title:	PROACTIVE BROWSER CONTENT ANALYSIS		

AMENDMENT & RESPONSE TO NON-FINAL OFFICE ACTION

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Commissioner:

In response to the Non-Final Office Action mailed January 21, 2016, please amend the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims that begins on page 2 of this paper.

Remarks/Arguments begin on page 6 of this paper.

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p. 255

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (Currently Amended) A content analysis and malware prevention method comprising:

intercepting, by a protection agent, a request from a web browser;

determining, by the protection agent, whether the request is associated with known malicious content;

when the request is associated with known malicious content, blocking, by the protection agent, the request; and

when the request is not associated with known malicious content:

sending, by the protection agent, the request to one or more web servers;

receiving, at the protection agent on a remote computer, web content from the one or more web servers;

identifying, by the protection agent, a malware threat within the web content;

in response to identifying the malware threat, modifying, by the protection agent, the web content, wherein modifying the web content comprises modifying the web content at protocol level to remove the malware threat from the web content; ~~based on the identified malware threat within the web content;~~

assembling, by the protection agent, a modified version of the web content; and

providing, by the protection agent, the assembled web content to the web browser application on the remote computer for rendering and display.

2. (Canceled)

3. (Previously Presented) The method of claim 1, further comprising supplementing, by the protection agent, the web content with indicators regarding a vulnerability of one or more links within the web content.

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p. 256

4. (Previously Presented) The method of claim 1, wherein an analysis to identify a malware threat within the web content includes one or more of a URL (Uniform Resource Locator) analysis, an IP (Internet Protocol) analysis, an image analysis, and a script/HTML analysis.

5. (Previously Presented) The method of claim 1, further comprising determining, by the protection agent, whether a request for the web content from the web browser application is a first request.

6. (Previously Presented) The method of claim 1, further comprising performing one or more of pre-process data decryption, de-chunking and decompressing.

7. (Previously Presented) The method of claim 1, wherein a protocol-level analysis is utilized to identify the malware threat within the web content.

8. (Canceled)

9. (Previously Presented) The method of claim 4, further comprising performing cloud verification of the web content, wherein cloud verification determines one or more malware vulnerabilities based on an aggregation of the analyses.

10. (Previously Presented) The method of claim 1, further comprising allocating memory for caching the web content.

11. (Currently Amended) A content analysis and malware prevention system comprising:

at least one processor; and

memory encoding computer executable instructions that, when executed by the at least one processor, perform a method comprising:

intercepting a request from a web browser;

determining whether the request is associated with known malicious content;

when the request is associated with known malicious content, blocking, by a protection agent, the request; and

when the request is not associated with known malicious content:

sending the request to one or more web servers;

receiving web content from one or more web servers;

identifying a malware threat within the web content;

in response to identifying the malware threat, modifying the web content ~~based on the identified malware threat within the web content~~, wherein modifying the web content comprises modifying the web ~~content as HTML within the web content~~ at protocol level to remove the malware threat from the web content;

assembling a modified version of the web content; and

providing the assembled web content to a web browser application on the remote computer for rendering and display.

12. (Canceled)

13. (Previously Presented) The system of claim 11, wherein the method further comprises supplementing the web content with indicators regarding a vulnerability of one or more links within the web content.

14. (Previously Presented) The system of claim 11, wherein the method further comprises identifying the malware threat within the web content by performing one or more of a URL (Uniform Resource Locator) analysis, an IP (Internet Protocol) analysis, an image analysis, and a script/HTML analysis.

15. (Previously Presented) The system of claim 11, wherein the method further comprises determining whether a request for the web content from the web browser application is a first request.

16. (Previously Presented) The system of claim 11, wherein the method further comprises performing one or more of pre-process data decryption, de-chunking, and decompressing.

17. (Previously Presented) The system of claim 11, wherein the method further comprises identifying the malware threat utilizing a protocol-level analysis.

18-19. (Canceled)

20. (Previously Presented) The system of claim 11, wherein the method further comprises caching the web content in allocated memory.

21. (Previously Presented) The method of claim 1, wherein the malware threat comprises a Uniform Resource Locator (URL).

22. (Previously Presented) The system of claim 11, wherein the method further comprises determining if a malware threat comprises a Uniform Resource Locator (URL).

23. (Previously Presented) The method of claim 1, wherein sending the request to one or more web servers comprises iteratively sending a plurality of requests to the one or more web servers.

24. (Previously Presented) The method of claim 1, further comprising processing the web content prior to identifying the malware threat within the web content.

25. (Previously Presented) The system of claim 11, wherein sending the request to one or more web servers comprises iteratively sending a plurality of requests to the one or more web servers.

REMARKS/ARGUMENTS

This Amendment and the following remarks are intended to fully respond to the non-final Office Action dated January 21, 2016, hereinafter "Office Action." In that Office Action, claims 1, 3-7, 9-11, 13-17, and 20-25 were examined and all claims were rejected. Claims 1, 3-7, 9-11, 13-17, and 20-25 were rejected under 35 U.S.C. § 103(a) as being unpatentable over "Abstracting Application-Level Web Security" to Scott et al. (hereinafter "Scott") in view of Hallak (U.S. Pat. No. 8,464,318; hereinafter "Hallak").

Reconsideration of these rejections, as they might apply to the original and amended claims in view of these remarks, is respectfully requested. In this Amendment, claims 1 and 11 have been amended and no claims have been canceled or added. Therefore, claims 1, 3-7, 9-11, 13-17, and 20-25 remain present for examination.

Claim Rejections Under § 103:

Claims 1, 3-7, 9-11, 13-17, and 20-25 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Scott in view of Hallak. Applicants respectfully traverse the § 103 rejection because the Office Action has not established a *prima facie* case of obviousness. To establish a *prima facie* case of obviousness under 35 U.S.C. § 103(a), the references must teach or suggest all of the claimed limitations to one of ordinary skill in the art at the time the invention was made. M.P.E.P §§ 2142, 2143.03; *In re Royka*, 490 F.2d 981, 985 (C.C.P.A. 1974); *In re Wilson*, 424 F.2d 1382, 1385 (C.C.P.A. 1970). Applicants traverse the rejection because the references fail to teach or suggest all of the recited limitations of the claims.

The present application generally discloses protection module for analyzing threats by intercepting all web content prior to providing the web content to a browser. The protection module may include a protection agent, which caches web content requested by a browser, analyzes to determine if a malware threat exists in the content, upon determining a malware threat exists, modifies the retrieved web content at the protocol level, and provides a clean or sanitized version of the web content free of malware, to the browser. The protection module may also include an analysis engine, which looks at each request and assesses whether the

request is the first request in a session, and if the request is the first request, a determination is made as to whether the request is associated with known, malicious content, and if so, the request is blocked. In certain aspects, the analysis engine makes the determination, at least in part, by comparing the URL of the request to a black list of URLs.

In contrast, Scott discloses a structuring technique which helps *designers* abstract security policies from large web applications. The systems disclosed therein include a security gateway that determines whether the URL for each request matches a list of "safe" URLs stored in the system's database. If the URL does not match any of those specified in the security policy, then the request is not propagated to the web-server and an error page is returned to the user. By forbidding all URLs that do not match those explicitly stored in the database threats utilizing obscure, non-standard URL encoding techniques to circumvent the security gateway may be prevented. As illustrated in Figure 4, reproduced below, Scott teaches that the security policy may include transforming the web request. Upon applying the transformations to the request, the request is validated and, once validated, transmitted to a server.

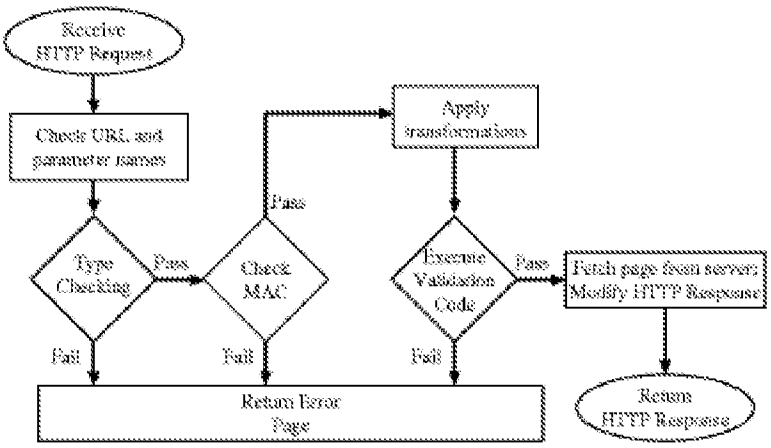


Figure 4: The tasks performed by the security gateway

Finally, Scott teaches that the security gateway processes received HTTP responses. "The security gateway processes HTTP responses returned from the web-server: JavaScript validation code (generated by the SPDL compiler) is inserted into HTML forms (see Section 3.4.1), MaxLength attributes on form elements are set according to the SPDL specification and, finally,

message authentication codes are generated for form fields and URL parameters (see Section 3.4.2) if required." *Scott*, pp. 401-402.

Turning now to the claims, Scott fails to teach or suggest at least "in response to identifying the malware threat, modifying, by the protection agent, the web content, wherein modifying the web content comprises modifying the web content at protocol level to remove the malware threat from the web content," as recited in independent claim 1. The Office Action seems to allege that this feature is taught using a combination of Scott's HTMLEncode transformation and the process flow described in Figure 4. Applicants respectfully disagree. As an initial matter, Applicants note that none of Scott's disclosed transformations are performed in response to identifying a malware threat. Instead, the transformations are applied based upon a defined security policy.

Additionally, Applicants note that, as described in Figure 4, a security gateway performs transformations on HTTP requests, not on received web content. Next, while the last operation of Figure 4 alludes to modifying the HTTP response, these disclosed modifications are not based upon the HTMLEncode transformation relied upon by the Office Action. Instead, Scott teaches that the modification consists of inserting JavaScript Validation code into an HTML form. Merely inserting JavaScript Validation code into an HTML form does not teach "modifying the web content at protocol level to remove the malware threat from the web content." To be sure, Scott is silent with respect to teaching removal of any malware threats from web content. For at least the foregoing reasons, independent claim 1 is allowable over Scott.

Hallak fails to compensate for Scott's deficiencies. Hallak is directed to methods for securing a web client against malicious web attacks. The methods disclosed by Hallak are performed by a secure gateway deployed between a web client and a web server. According to Hallak, HTTP requests are forwarded to web servers after determining that the URL is allowed according to stored attributes of the URL, and according to the target application. *See* Hallak at col. 6, lines 8-25. More specifically, such requests are allowed and ultimately forwarded along to web servers only upon making the determination that a client had previously visited the page indicated by the URL, or that target application isn't protected by the gateway. According to that method, only once the gateway decides to allow the request, the request is a session formed with

a web server, and the request is forwarded by the gateway to the web server. *Id.* at col. 6, lines 20-24. Hallak, however, fails to teach or suggest at least "in response to identifying the malware threat, modifying, by the protection agent, the web content, wherein modifying the web content comprises modifying the web content at protocol level to remove the malware threat from the web content," as recited in independent claim 1. Thus, claim 1 is allowable over the combination of Scott and Hallak.

For at least similar reasons, independent claim 11 is also allowable. Claim 11 recites, *inter alia*, "in response to identifying the malware threat, modifying the web content, wherein modifying the web content comprises modifying the web at protocol level to remove the malware threat from the web content." Thus, claim 11 is allowable for at least similar reasons as discussed with respect to independent claim 1.

For at least the foregoing reasons, independent claims 1 and 11 are allowable over the combination of Scott and Hallak. All other claims, i.e. claims 3-7, 9-10, 13-17, and 20-25, depend from one of allowable claims 1 or 11 and, thus, are also allowable. Applicants respectfully request that the Examiner issue a Notice of Allowance for claims 1, 3-7, 9-11, 13-17, and 20-25.

CONCLUSION

This Amendment fully responds to the Office Action mailed on January 21, 2016. Still, that Office Action may contain arguments and rejections that are not directly addressed by this Amendment due to the fact that they are rendered moot in light of the preceding arguments in favor of patentability. Hence, failure of this Amendment to directly address an argument raised in the Office Action should not be taken as an indication that the Applicants believe the argument has merit. Furthermore, the claims of the present application may include other elements, not discussed in this Amendment, which are not shown, taught, or otherwise suggested by the references of record. Accordingly, the preceding arguments in favor of patentability are advanced without prejudice to other bases of patentability.

This Amendment is filed concurrently with a Petition for Extension of Time. It is believed that no further fees are due with this Response. However, the Commissioner is hereby authorized to charge any deficiencies or credit any overpayment with respect to this patent application to deposit account number 13-2725.

In light of the above remarks and amendments, it is believed that the application is now in condition for allowance and such action is respectfully requested. Should any additional issues need to be resolved, the Examiner is requested to telephone the undersigned to attempt to resolve those issues.

Respectfully submitted,

Dated: July 21, 2016

/Andrew T. Pouzeshi/

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P.O. Box 2903
Minneapolis, MN 55402-0903
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23552
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PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)

Docket Number (Optional): 04584.0005USU1

Application Number: 13/633,956

Filed: October 3, 2012

For: PROACTIVE BROWSER CONTENT ANALYSIS

Art Unit: 2495

Examiner: WILLIAMS, JEFFERY L.

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above-identified application.

The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):

		Fee	Small Entity Fee	Micro Entity Fee	
☐	One month (37 CFR 1.17(a)(1))	$200	$100	$50	$
☐	Two months (37 CFR 1.17(a)(2))	$600	$300	$150	$
☑	Three months (37 CFR 1.17(a)(3))	$1,400	$700	$350	$ 1,400.00
☐	Four months (37 CFR 1.17(a)(4))	$2,200	$1,100	$550	$
☐	Five months (37 CFR 1.17(a)(5))	$3,000	$1,500	$750	$

☐ Applicant asserts small entity status. See 37 CFR 1.27.

☐ Applicant certifies micro entity status. See 37 CFR 1.29.
Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.

☐ A check in the amount of the fee is enclosed.

☑ Payment by credit card. Form PTO-2038 is attached.

☐ The Director has already been authorized to charge fees in this application to a Deposit Account.

☑ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 132725.

☑ Payment made via EFS-Web.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

I am the

☐ applicant/inventor.

☐ assignee of record of the entire interest. See 37 CFR 3.71. 37 CFR 3.73(b) statement is enclosed (Form PTO/SB/96).

☑ attorney or agent of record. Registration number 67672.

☐ attorney or agent acting under 37 CFR 1.34. Registration number _____.

/Andrew T. Pouzeshi/ — Signature

July 21, 2016 — Date

Andrew T. Pouzeshi — Typed or printed name

303.357.1639 — Telephone Number

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.

☐ * Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.136(a). The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 6 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal

Application Number:	13633956
Filing Date:	03-Oct-2012
Title of Invention:	PROACTIVE BROWSER CONTENT ANALYSIS
First Named Inventor/Applicant Name:	Joe Jaroch
Filer:	Andrew T. Pouzeshi/Jacquelyn Slate
Attorney Docket Number:	04584.0005USU1

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension - 3 months with $0 paid	1253	1	1400	1400
Miscellaneous:				
			Total in USD ($)	**1400**

Electronic Acknowledgement Receipt

EFS ID:	26422652
Application Number:	13633956
International Application Number:	
Confirmation Number:	1029
Title of Invention:	PROACTIVE BROWSER CONTENT ANALYSIS
First Named Inventor/Applicant Name:	Joe Jaroch
Customer Number:	23552
Filer:	Andrew T. Pouzeshi/Jacquelyn Slate
Filer Authorized By:	Andrew T. Pouzeshi
Attorney Docket Number:	04584.0005USU1
Receipt Date:	21-JUL-2016
Filing Date:	03-OCT-2012
Time Stamp:	18:32:52
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$1400
RAM confirmation Number	8203
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		2016-07-21-RespNFOA-of-012116-04584-0005USU1.PDF	123927 160ca41c6046f743526f8fd804b4e3952b976bb4	yes	10
	Multipart Description/PDF files in .zip description				
	Document Description		**Start**	**End**	
	Amendment/Req. Reconsideration-After Non-Final Reject		1	1	
	Claims		2	5	
	Applicant Arguments/Remarks Made in an Amendment		6	10	
Warnings:					
Information:					
2	Extension of Time	2016-07-21-EOT-04584-0005USU1.PDF	194524 197b493ddeb850a27274e702c8b0fa778530a765	no	2
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	30920 e0e36ceecdde789bc30469b7e412b4712cee52fa	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	349371		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 13/633,956	Filing Date 10/03/2012	☐ To be Mailed

ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT	07/21/2016	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0	X $80 =	0
	Independent (37 CFR 1.16(h))	* 2	Minus	***3	= 0	X $420 =	0
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
						TOTAL ADD'L FEE	0

AMENDMENT		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
						TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
KIM DOWNING

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/633,956	10/03/2012	Joe Jaroch	04584.0005USU1	1029

23552 7590 11/01/2016

MERCHANT & GOULD P.C.
P.O. BOX 2903
MINNEAPOLIS, MN 55402-0903

EXAMINER	
WILLIAMS, JEFFERY L	

ART UNIT	PAPER NUMBER
2495	

NOTIFICATION DATE	DELIVERY MODE
11/01/2016	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USPTO23552@merchantgould.com

Office Action Summary	Application No. 13/633,956	Applicant(s) JAROCH ET AL.	
	Examiner JEFFERY WILLIAMS	Art Unit 2495	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 7/21/16.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5)☒ Claim(s) 1, 3 – 7, 9 – 11, 13 – 17, and 20 – 25 is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) 1, 3 – 7, 9 – 11, 13 – 17, and 20 – 25 is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

Claims 1, 3 – 7, 9 – 11, 13 – 17, and 20 – 25 are pending.

Any references to applicant's specification are made by way of applicant's U.S. pre-grant printed patent publication.

This action is in response to the communication filed on 7/21/16.

All objections and rejections not set forth below have been withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 3 – 7, 9 – 11, 13 – 17, and 20 – 25 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Scott et al. (Scott), "Abstracting Application-Level Web Security" in view of Hallak, US 8,464,318 B1.

Regarding claim 1, Scott discloses:

intercepting, by a protection agent, a request from a web browser (e.g. Scott; fig. 4:"Receive HTTP Request"; sect. 3.4,par. 1)*;*

determining, by the protection agent, whether the request is associated with known malicious content (e.g. Scott; sect. 3.4,par. 1)*;*

when the request is associated with known malicious content, blocking, by the protection agent, the request (e.g. Scott; sect. 3.4,par. 1 – if the request is malformed, it is not propagated to the web server)*;*

and when the request is not associated with known malicious content: sending, by the protection agent, the request to one or more web servers (e.g. Scott; sect. 3.4,par. 1 – if the request is proper, it is propagated to the web server)*;*

receiving, at the protection agent on a remote computer, web content from one or more web servers (e.g. Scott, fig. 4; sect. 3, par. 2; sect. 3.4.1). Herein, a browser and web server each provide web content from a server to an executing security gateway.

identifying, by the protection agent, a malware threat within the web content (e.g. Scott, fig. 4, Abstract; sect. 2). Herein, the security gateway operates to identify malware within the web content.

in response to identifying malware threat, modifying, by the protection agent, the web content, wherein modifying the web content comprises modifying the web content at protocol level to remove the malware threat from the web content; assembling, by the protection agent, a modified version of the web content (e.g. Scott, fig. 4: validation, transformation, modified response)*;*

and providing, by the protection agent, the assembled web content to a web browser application … for rendering and display (e.g. Scott, fig. 4: return HTTP request).

Scott discloses a system utilizing a secured gateway for protecting web applications from malicious attacks, such as XSS attacks and other web attacks (e.g. Scott, Abstract; sect. 2). However, Scott does not explicitly state that the browser application is "on the remote computer", i.e. that the browser and the gateway (i.e. "protection agent") are on the same computer.

Hallak also discloses a system utilizing a secured gateway for protecting web applications from malicious attacks, such as XSS attacks and other web attacks (e.g. Hallak, Abstract; 12:10-22). Furthermore, Hallak discloses that the browser application is "on the remote computer", i.e. that the browser and the gateway (i.e. "protection agent") are on the same computer (e.g. Hallak, fig. 2a; fig. 2g).

It would have been obvious to one of ordinary skill in the art to art to recognize that the secured gateway can be located on any of a server, a physically separate device, or a client (i.e. "remote computer"), as is taught by Hallak. This would have been obvious because one of skill in the art would have been motivated by the teachings that either arrangement is useful for protecting a web application (e.g. Hallak, 3:13-38).

Regarding claim 3, the combination enables:

further comprising supplementing, by the protection agent, the web content with indicators regarding a vulnerability of one or more links within the web content (e.g. Scott, sect. 3.4, par. 2 – error message; sect. 3.1, par. 2 – HTTP response annotated with MACs).

Regarding claim 4, the combination enables*:*

wherein an analysis to identify a malware threat within the web content includes one or more of URL (Uniform Resource Locator) analysis, an IP (Internet Protocol) analysis, an image analysis, and a script/HTML analysis (e.g. Scott, pg. 401 – analysis of headers, html encoding, cookies, scripting, URLs, etc.).

Regarding claim 5, the combination enables*:*

determining , by the protection agent, whether a request for the web content from the web browser application is a first request (e.g. Scott, sect. 3.4.2 – replays are detected, i.e. determining whether a “first request” was received).

Regarding claim 6, the combination enables*:*

further comprising performing one or more of pre-process data decryption, de-chunking and decompressing (e.g. Scott, sect. 3.2).

Regarding claim 7, the combination enables*:*

wherein a protocol-level analysis is utilized to identify the malware threat within the web content (e.g. Scott, sect. 2 – application level).

Regarding claim 9, the combination enables*:*

further comprising performing cloud verification of the web content, wherein cloud verification determines one or more malware vulnerabilities based on an aggregation of one or more of the analysis (e.g. Scott, fig. 1; abstract – the verifications are performed within the web, i.e. “cloud”).

Regarding claim 10, the combination enables*:*

further comprising allocating memory for caching of web content (e.g. Scott, fig. 4; sect. 3.4 – memory is allocated within the security gateway to analyze the content).

Regarding claim 21, the combination enables*:*

wherein the malware threat comprises a Uniform Resource Locator (URL) (e.g. Scott, pg. 401 – analysis of headers, html encoding, cookies, scripting, URLs, etc.).

Regarding claim 23, the combination does not explicitly disclose the retrieval of web content by the “iterative” sending of requests, however, the examiner notes that it was well known in the art for web content to be fetched from a web server through the use of a plurality of iterative requests and responses.

Regarding claim 24, the combination enables*:*

processing the web content prior to identifying the malware threat within the web content (e.g. Scott, fig. 4, Abstract; sect. 2). Herein, the security gateway processes the content to identify malware within the web content.

Regarding claims 11, 13 – 17, 19, 20, 22, and 25, they are system claims essentially corresponding to the above method claims and they are rejected, at least, for the same reasons. Furthermore, the combination enables a "protection agent and processor", "security center", and a "browser engine" (e.g. Scott, fig. 1, 4; Hallak, fig. 2g).

Furthermore, regarding claim 11, the combination enables:

… wherein modifying the web content comprises modifying the web content as HTML within the web content (e.g. Scott, fig. 4; pg. 401, col. 1). Herein, the web content is transformed with HTML encodings.

Response to Arguments

Applicant's arguments filed 7/21/16 have been fully considered but they are not persuasive.

Applicant argues or alleges essentially that:

…

… As an initial matter, Applicants note that none of Scott's disclosed transformations are performed in response to identifying a malware threat. Instead, the transformations are applied based upon a defined security policy.

…

(Remarks, pg. 8)

Examiner respectfully responds:

The examiner respectfully notes that the applicant's characterization is mistaken. Specifically, the security policy of the prior art clearly addresses malware threats, and the prior art transformations are clearly applied when a malware threat is identified within data.

Applicant argues or alleges essentially that:

…

… Additionally, Applicants note that, as described in Figure 4, a security gateway performs transformations on HTTP requests, not on received web content. ...

…

… Merely inserting JavaScript Validation code into an HTML form does not teach "modifying the web content at protocol level to remove the malware threat from the web content." To be sure, Scott is silent with respect to teaching removal of any malware

threats from web content. For at least the foregoing reasons, independent claim 1 is allowable over Scott.

…

(Remarks, pg. 8)

Examiner respectfully responds:

The examiner respectfully disagrees, at least, for the reason that Scott clearly discloses that the web content or response is transformed by HTML encodings (e.g. Scott, fig. 4; pg. 401, col. 1).

The balance of applicant's arguments are essentially based upon the unpersuasive assertions and arguments already noted of record, and are found unpersuasive, at least, for the same reasons of record.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFERY WILLIAMS whose telephone number is (571)272-7965. The examiner can normally be reached on 9:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Farid Homayounmerhr can be reached on 571-272-3739. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JEFFERY WILLIAMS/
Primary Examiner, Art Unit 2495

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13633956	JAROCH, JOE
	Examiner	Art Unit
	JEFFERY WILLIAMS	2437

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	07/15/2013	03/05/2014	10/20/2014	06/06/2015	01/12/2016	10/26/2016			
	1	✓	✓	✓	✓	✓	✓			
	2	✓	✓	-	-	-	-			
	3	✓	✓	✓	✓	✓	✓			
	4	✓	✓	✓	✓	✓	✓			
	5	✓	✓	✓	✓	✓	✓			
	6	✓	✓	✓	✓	✓	✓			
	7	✓	✓	✓	✓	✓	✓			
	8	✓	-	-	-	-	-			
	9	✓	✓	✓	✓	✓	✓			
	10	✓	✓	✓	✓	✓	✓			
	11	✓	✓	✓	✓	✓	✓			
	12	✓	✓	-	-	-	-			
	13	✓	✓	✓	✓	✓	✓			
	14	✓	✓	✓	✓	✓	✓			
	15	✓	✓	✓	✓	✓	✓			
	16	✓	✓	✓	✓	✓	✓			
	17	✓	✓	✓	✓	✓	✓			
	18	✓	-	-	-	-	-			
	19	✓	✓	-	-	-	-			
	20	✓	✓	✓	✓	✓	✓			
	21		✓	✓	✓	✓	✓			
	22		✓	✓	✓	✓	✓			
	23			✓	✓	✓	✓			
	24			✓	✓	✓	✓			
	25			✓	✓	✓	✓			

Doc code: RCEX
Doc description: Request for Continued Examination (RCE)

PTO/SB/30EFS (07-14)
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REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL
(Submitted Only via EFS-Web)

Application Number	13633956	Filing Date	2012-10-03	Docket Number (if applicable)	04584.0005USU1	Art Unit	2495
First Named Inventor	Jaroch et al.			Examiner Name	Williams, Jeffery L.		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, to any international application that does not comply with the requirements of 35 U.S.C. 371, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV.

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

- ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____
- ☐ Other _____

☒ Enclosed

- ☒ Amendment/Reply
- ☐ Information Disclosure Statement (IDS)
- ☐ Affidavit(s)/ Declaration(s)
- ☐ Other _____

MISCELLANEOUS

☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____ (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

☐ Other _____

FEES

The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.

☒ The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to Deposit Account No 132725

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

☒ Patent Practitioner Signature

Applicant Signature

PTO/SB/30EFS (07-14)
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Signature of Registered U.S. Patent Practitioner			
Signature	/Andrew T. Pouzeshi/	Date (YYYY-MM-DD)	2017-05-01
Name	Andrew T. Pouzeshi	Registration Number	67672

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

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The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PTO/AIA/22 (03-13)
Approved for use through 7/31/2016. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)

Docket Number (Optional): 04584.0005USU1

Application Number: 13/633,956

Filed: October 3, 2012

For: PROACTIVE BROWSER CONTENT ANALYSIS

Art Unit: 2495

Examiner: Williams, Jeffery L.

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above-identified application.

The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):

	Fee	Small Entity Fee	Micro Entity Fee	
☐ One month (37 CFR 1.17(a)(1))	$200	$100	$50	$
☐ Two months (37 CFR 1.17(a)(2))	$600	$300	$150	$
☑ Three months (37 CFR 1.17(a)(3))	$1,400	$700	$350	$ 1,400.00
☐ Four months (37 CFR 1.17(a)(4))	$2,200	$1,100	$550	$
☐ Five months (37 CFR 1.17(a)(5))	$3,000	$1,500	$750	$

☐ Applicant asserts small entity status. See 37 CFR 1.27.

☐ Applicant certifies micro entity status. See 37 CFR 1.29.
Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.

☐ A check in the amount of the fee is enclosed.

☑ Payment by credit card. Form PTO-2038 is attached.

☐ The Director has already been authorized to charge fees in this application to a Deposit Account.

☑ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 132725.

☑ Payment made via EFS-Web.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

I am the

☐ applicant.

☑ attorney or agent of record. Registration number 67672.

☐ attorney or agent acting under 37 CFR 1.34. Registration number _____.

/Andrew T. Pouzeshi/ — Signature

May 1, 2017 — Date

Andrew T. Pouzeshi — Typed or printed name

303.357.1639 — Telephone Number

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.

☑ * Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.136(a). The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 6 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
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9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Acknowledgement Receipt

EFS ID:	29084383
Application Number:	13633956
International Application Number:	
Confirmation Number:	1029
Title of Invention:	PROACTIVE BROWSER CONTENT ANALYSIS
First Named Inventor/Applicant Name:	Joe Jaroch
Customer Number:	23552
Filer:	Andrew T. Pouzeshi/Jacquelyn Slate
Filer Authorized By:	Andrew T. Pouzeshi
Attorney Docket Number:	04584.0005USU1
Receipt Date:	01-MAY-2017
Filing Date:	03-OCT-2012
Time Stamp:	18:49:59
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		2017-05-01-RespFOA-of-110116-04584-0005USU1.PDF	125841 f641d2bef0f426497e536c0064dca2546e2f0877	yes	11

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Amendment Submitted/Entered with Filing of CPA/RCE	1	1
	Claims	2	6
	Applicant Arguments/Remarks Made in an Amendment	7	11

Warnings:					
Information:					
2	Request for Continued Examination (RCE)	2017-05-01-RCE-04584-0005USU1.PDF	1349868 533311295ff105d1f1763cbb70081ac553615d92	no	3
Warnings:					
Information:					
3	Extension of Time	2017-05-01-EOT-04584-0005USU1.PDF	165716 d82c2f90e6e877e491aa8a84e1ccfd98f2434116	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	1641425		

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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PATENT
Conf. No. 1029

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Jaroch et al.	Examiner:	Williams, Jeffery L.
Serial No.:	13/633,956	Group Art Unit:	2495
Filed:	October 3, 2012	Docket No.:	04584.0005USU1
Title:	PROACTIVE BROWSER CONTENT ANALYSIS		

AMENDMENT & RESPONSE TO FINAL OFFICE ACTION

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Commissioner:

In response to the Final Office Action mailed November 1, 2016, please amend the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims that begins on page 2 of this paper.

Remarks/Arguments begin on page 7 of this paper.

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (Currently Amended) A content analysis and malware prevention method comprising:

intercepting, by a protection agent, a request from a web browser;

determining, by the protection agent, whether the request is associated with known malicious content;

when the request is associated with known malicious content, blocking, by the protection agent, the request; and

when the request is not associated with known malicious content:

sending, by the protection agent, the request to one or more web servers;

receiving, at the protection agent on a remote computer, web content from the one or more web servers;

identifying, by the protection agent, a malware threat within the web content;

in response to identifying the malware threat, modifying, by the protection agent, the web content, wherein modifying the web content comprises modifying the web content at protocol level to remove the malware threat from the web content;

assembling, by the protection agent, a modified version of the web content, wherein the modified version of the web content does not comprise the malware threat; and

providing, by the protection agent, the ~~assembled~~ modified version of the web content to the web browser application on the remote computer for rendering and display.

2. (Canceled)

3. (Previously Presented) The method of claim 1, further comprising supplementing, by the protection agent, the web content with indicators regarding a vulnerability of one or more links within the web content.

4. (Previously Presented) The method of claim 1, wherein an analysis to identify a malware threat within the web content includes one or more of a URL (Uniform Resource Locator) analysis, an IP (Internet Protocol) analysis, an image analysis, and a script/HTML analysis.

5. (Previously Presented) The method of claim 1, further comprising determining, by the protection agent, whether a request for the web content from the web browser application is a first request.

6. (Previously Presented) The method of claim 1, further comprising performing one or more of pre-process data decryption, de-chunking and decompressing.

7. (Previously Presented) The method of claim 1, wherein a protocol-level analysis is utilized to identify the malware threat within the web content.

8. (Canceled)

9. (Previously Presented) The method of claim 4, further comprising performing cloud verification of the web content, wherein cloud verification determines one or more malware vulnerabilities based on an aggregation of the analyses.

10. (Previously Presented) The method of claim 1, further comprising allocating memory for caching the web content.

11. (Currently Amended) A content analysis and malware prevention system comprising:

at least one processor; and

memory encoding computer executable instructions that, when executed by the at least one processor, perform a method comprising:

intercepting a request from a web browser;

determining whether the request is associated with known malicious content;

when the request is associated with known malicious content, blocking, by a protection agent, the request; and

when the request is not associated with known malicious content:

sending the request to one or more web servers;

receiving web content from one or more web servers;

identifying a malware threat within the web content;

in response to identifying the malware threat, modifying the web content, wherein modifying the web content comprises modifying the web at protocol level to remove the malware threat from the web content;

assembling a modified version of the web content, wherein the modified version of the web content does not comprise the malware threat; and

providing the ~~assembled~~ modified version of the web content to a web browser application on the remote computer for rendering and display.

12. (Canceled)

13. (Previously Presented) The system of claim 11, wherein the method further comprises supplementing the web content with indicators regarding a vulnerability of one or more links within the web content.

14. (Previously Presented) The system of claim 11, wherein the method further comprises identifying the malware threat within the web content by performing one or more of a URL (Uniform Resource Locator) analysis, an IP (Internet Protocol) analysis, an image analysis, and a script/HTML analysis.

15. (Previously Presented) The system of claim 11, wherein the method further comprises determining whether a request for the web content from the web browser application is a first request.

16. (Previously Presented) The system of claim 11, wherein the method further comprises performing one or more of pre-process data decryption, de-chunking, and decompressing.

17. (Previously Presented) The system of claim 11, wherein the method further comprises identifying the malware threat utilizing a protocol-level analysis.

18-19. (Canceled)

20. (Previously Presented) The system of claim 11, wherein the method further comprises caching the web content in allocated memory.

21. (Previously Presented) The method of claim 1, wherein the malware threat comprises a Uniform Resource Locator (URL).

22. (Previously Presented) The system of claim 11, wherein the method further comprises determining if a malware threat comprises a Uniform Resource Locator (URL).

23. (Previously Presented) The method of claim 1, wherein sending the request to one or more web servers comprises iteratively sending a plurality of requests to the one or more web servers.

24. (Previously Presented) The method of claim 1, further comprising processing the web content prior to identifying the malware threat within the web content.

Forcepoint 1003
p. 297

25. (Previously Presented) The system of claim 11, wherein sending the request to one or more web servers comprises iteratively sending a plurality of requests to the one or more web servers.

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REMARKS/ARGUMENTS

This Amendment and the following remarks are intended to fully respond to the final Office Action dated November 1, 2016, hereinafter "Office Action." In that Office Action, claims 1, 3-7, 9-11, 13-17, and 20-25 were examined and all claims were rejected. Claims 1, 3-7, 9-11, 13-17, and 20- 25 were rejected under 35 U.S.C. § 103(a) as being unpatentable over "Abstracting Application-Level Web Security" to Scott et al. (hereinafter "Scott") in view of Hallak et al. (U.S. Pat. No. 8,464,318; hereinafter "Hallak").

Reconsideration of these rejections, as they might apply to the original and amended claims in view of these remarks, is respectfully requested. In this Amendment, claims 1 and 11 have been amended and no claims have been canceled or added. Therefore, claims 1, 3-7, 9-11, 13-17, and 20-25 remain present for examination.

Claim Rejections Under § 103:

Claims 1, 3-7, 9-11, 13-17, and 20- 25 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Scott in view of Hallak. Applicants respectfully traverse the § 103 rejection because the Office Action has not established a *prima facie* case of obviousness. To establish a *prima facie* case of obviousness under 35 U.S.C. § 103(a), the references must teach or suggest all of the claimed limitations to one of ordinary skill in the art at the time the invention was made. M.P.E.P §§ 2142, 2143.03; *In re Royka*, 490 F.2d 981, 985 (C.C.P.A. 1974); *In re Wilson*, 424 F.2d 1382, 1385 (C.C.P.A. 1970). Further, under *KSR Int'l Co. v. Teleflex, Inc.*, there "must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." 127 S. Ct. 1727, 1741 (2007). Applicants traverse the rejection because the references fail to teach or suggest all of the recited limitations of the claims.

The present application generally discloses a protection module for analyzing threats by intercepting web content prior to providing the web content to a browser. The protection module may include a protection agent, which caches web content requested by a browser, analyzes the web content to determine if a malware threat exists, upon determining a malware threat exists,

modifies the retrieved web content at the protocol level, and provides a clean or sanitized version of the web content free of malware, to the browser.

Scott discloses a structuring technique that helps abstract security policies for large web applications. The systems disclosed includes a security gateway that determines whether the URL for each request matches a list of "safe" URLs stored in the system's database. If the URL does not match any of those specified in the security policy, then the request is not propagated to the web-server and an error page is returned to the user. By forbidding all URLs that do not match those explicitly stored in the database threats utilizing obscure, non-standard URL encoding techniques to circumvent the security gateway may be prevented.

As illustrated in Figure 4, reproduced below, Scott teaches that the security policy may include transforming the web request. Upon applying the transformations to the request, the request is validated and, once validated, transmitted to a server.

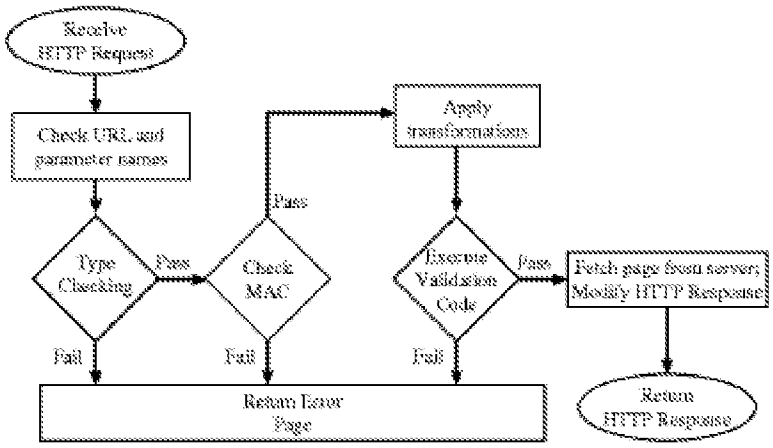


Figure 4: The tasks performed by the security gateway

Scott specifically teaches that the transformations are applied to user input. Scott teaches, "[t]he transformation rules of an SPDL specification allow a programmer to specify various transformations on user-input. The kind of transformations which may be specified are ,pass data from all fields on form f through an HTML-encoding function, or 'escape all single and double quotes in text submitted via this URL parameter'." Scott, Section 3.1.

Turning now to the claims, Scott fails to teach or suggest at least "in response to identifying the malware threat, modifying the web content, wherein modifying the web content comprises modifying the web at protocol level to remove the malware threat from the web content," as recited in independent claim 1. The Office Action relies upon Scott's Figure 4 to reject this feature. However, Figure 4 merely includes an apply transformation step and does not specify that the transformation are applied to web content. Instead, in Section 3.1 Scott specifically teaches that the transformation are applied to user input, not web content. Scott is addressing a problem where malicious users are able to attack e-commerce websites and purchase items for less than their sale value. The attack is performed by providing modified input to the e-commerce site. To be sure, Scott's focus is on the input received from the user, not the content of the web page itself. As such, contrary to the assertions of the Office Action, Scott does not teach "modifying the web content comprises modifying the web at protocol level to remove the malware threat from the web content," as recited in independent claim 1.

Furthermore, because the web content is not modified, Scott cannot teach or suggest "assembling, by the protection agent, a modified version of the web content, wherein the modified version of the web content does not comprise the malware threat," as recited in independent claim 1. As noted above, Scott transforms user input, not web content. Thus, there is no need to assemble a modified version of the web content because the web content does not change. For at least this additional reason, independent claim 1 is allowable over Scott.

Hallak fails to compensate for Scott's deficiencies. Hallak is directed to methods for securing a web client against malicious web attacks. The methods disclosed by Hallak are performed by a secure gateway deployed between a web client and a web server. According to Hallak, HTTP requests are forwarded to web servers after determining that the URL is allowed according to stored attributes of the URL, and according to the target application. *See* Hallak at col. 6, lines 8-25. More specifically, such requests are allowed and ultimately forwarded along to web servers only upon making the determination that a client had previously visited the page indicated by the URL, or that target application isn't protected by the gateway. According to that method, only once the gateway decides to allow the request, the request is a session formed with a web server, and the request is forwarded by the gateway to the web server. *Id.* at col. 6, lines

20-24. Hallak, however, fails to teach or suggest at least "in response to identifying the malware threat, modifying, by the protection agent, the web content, wherein modifying the web content comprises modifying the web content at protocol level to remove the malware threat from the web content" and "assembling, by the protection agent, a modified version of the web content, wherein the modified version of the web content does not comprise the malware threat," as recited in independent claim 1. Thus, claim 1 is allowable over the combination of Scott and Hallak.

For at least similar reasons, independent claim 11 is also allowable over the combination of references. Claim 11 recites, *inter alia*, "in response to identifying the malware threat, modifying, by the protection agent, the web content, wherein modifying the web content comprises modifying the web content at protocol level to remove the malware threat from the web content" and "assembling, by the protection agent, a modified version of the web content, wherein the modified version of the web content does not comprise the malware threat." Thus, claim 11 is allowable for at least similar reasons as discussed with respect to independent claim 1.

For at least the foregoing reasons, independent claims 1 and 11 are allowable over the combination of Scott and Hallak. All other claims, i.e. claims 3-7, 9-10, 13-17, and 20-25, depend from one of allowable claims 1 or 11 and, thus, are also allowable. Applicants respectfully request that the Examiner issue a Notice of Allowance for claims 1, 3-7, 9-11, 13-17, and 20-25.

CONCLUSION

This Amendment fully responds to the Office Action mailed on November 1, 2016. Still, that Office Action may contain arguments and rejections that are not directly addressed by this Amendment due to the fact that they are rendered moot in light of the preceding arguments in favor of patentability. Hence, failure of this Amendment to directly address an argument raised in the Office Action should not be taken as an indication that the Applicants believe the argument has merit. Furthermore, the claims of the present application may include other elements, not discussed in this Amendment, which are not shown, taught, or otherwise suggested by the references of record. Accordingly, the preceding arguments in favor of patentability are advanced without prejudice to other bases of patentability.

This Amendment is filed concurrently with a Petition for Extension of Time and a Request for Continued Examination. It is believed that no further fees are due with this Response. However, the Commissioner is hereby authorized to charge any deficiencies or credit any overpayment with respect to this patent application to deposit account number 13-2725.

In light of the above remarks and amendments, it is believed that the application is now in condition for allowance and such action is respectfully requested. Should any additional issues need to be resolved, the Examiner is requested to telephone the undersigned to attempt to resolve those issues.

Respectfully submitted,

Dated: May 1, 2017

/Andrew T. Pouzeshi/

Andrew T. Pouzeshi, Reg. No. 67,672
Merchant & Gould P.C.
P.O. Box 2903
Minneapolis, MN 55402-0903
(303) 357-1639

23552
PATENT TRADEMARK OFFICE

Electronic Patent Application Fee Transmittal

Application Number:	13633956
Filing Date:	03-Oct-2012
Title of Invention:	PROACTIVE BROWSER CONTENT ANALYSIS
First Named Inventor/Applicant Name:	Joe Jaroch
Filer:	Andrew T. Pouzeshi/Jacquelyn Slate
Attorney Docket Number:	04584.0005USU1

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension - 3 months with $0 paid	1253	1	1400	1400
Miscellaneous:				
RCE- 2ND AND SUBSEQUENT REQUEST	1820	1	1700	1700
		Total in USD ($)		**3100**

Electronic Acknowledgement Receipt

EFS ID:	29084656
Application Number:	13633956
International Application Number:	
Confirmation Number:	1029
Title of Invention:	PROACTIVE BROWSER CONTENT ANALYSIS
First Named Inventor/Applicant Name:	Joe Jaroch
Customer Number:	23552
Filer:	Andrew T. Pouzeshi/Jacquelyn Slate
Filer Authorized By:	Andrew T. Pouzeshi
Attorney Docket Number:	04584.0005USU1
Receipt Date:	01-MAY-2017
Filing Date:	03-OCT-2012
Time Stamp:	19:09:10
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$3100
RAM confirmation Number	050217INTEFSW19110300
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Fee Worksheet (SB06)	fee-info.pdf	32631 8de5eef3cc02c3204f6bd1dfad8bcee59acce68d	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	32631		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

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If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (09-11)
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 13/633,956	Filing Date 10/03/2012	☐ To be Mailed

ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT **05/01/2017**

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0	X $80 =	0
Independent (37 CFR 1.16(h))	* 2	Minus	***3	= 0	X $420 =	0
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	0

AMENDMENT

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
GAIL WOOTEN

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/633,956	10/03/2012	Joe Jaroch	04584.0005USU1	1029

23552 7590 05/19/2017

MERCHANT & GOULD P.C.
P.O. BOX 2903
MINNEAPOLIS, MN 55402-0903

EXAMINER	
WILLIAMS, JEFFERY L	

ART UNIT	PAPER NUMBER
2495	

NOTIFICATION DATE	DELIVERY MODE
05/19/2017	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USPTO23552@merchantgould.com

Office Action Summary	Application No. 13/633,956	Applicant(s) JAROCH ET AL.	
	Examiner JEFFERY WILLIAMS	Art Unit 2495	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *5/1/17*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5)☒ Claim(s) *1, 3 – 7, 9 – 11, 13 – 17, and 20 – 25* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *1, 3 – 7, 9 – 11, 13 – 17, and 20 – 25* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

Claims 1, 3 – 7, 9 – 11, 13 – 17, and 20 – 25 are pending.

Any references to applicant's specification are made by way of applicant's U.S. pre-grant printed patent publication.

This action is in response to the communication filed on 5/1/17.

All objections and rejections not set forth below have been withdrawn.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/1/17 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 3 – 7, 9 – 11, 13 – 17, and 20 – 25 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Scott et al. (Scott), "Abstracting Application-Level Web Security" in view of Hallak, US 8,464,318 B1.

Regarding claim 1, Scott discloses:

intercepting, by a protection agent, a request from a web browser (e.g. Scott; fig. 4:"Receive HTTP Request"; sect. 3.4,par. 1)*;*

determining, by the protection agent, whether the request is associated with known malicious content (e.g. Scott; sect. 3.4,par. 1)*;*

when the request is associated with known malicious content, blocking, by the protection agent, the request (e.g. Scott; sect. 3.4,par. 1 – if the request is malformed, it is not propagated to the web server)*;*

and when the request is not associated with known malicious content: sending, by the protection agent, the request to one or more web servers (e.g. Scott; sect. 3.4,par. 1 – if the request is proper, it is propagated to the web server)*;*

receiving, at the protection agent on a remote computer, web content from one or more web servers (e.g. Scott, fig. 4; sect. 3, par. 2; sect. 3.4.1). Herein, a browser and web server each provide web content from a server to an executing security gateway.

identifying, by the protection agent, a malware threat within the web content (e.g. Scott, fig. 4, Abstract; sect. 2). Herein, the security gateway operates to identify malware within the web content.

in response to identifying malware threat, modifying, by the protection agent, the web content, wherein modifying the web content comprises modifying the web content at protocol level to remove the malware threat from the web content; assembling, by the protection agent, a modified version of the web content, wherein the modified version of the web content does not comprise the malware threat (e.g. Scott, fig. 4: validation, transformation, modified response)*;*

and providing, by the protection agent, the modified version of the web content to a web browser application … for rendering and display (e.g. Scott, fig. 4: return HTTP request)*.*

Scott discloses a system utilizing a secured gateway for protecting web applications from malicious attacks, such as XSS attacks and other web attacks (e.g. Scott, Abstract; sect. 2). However, Scott does not explicitly state that the browser

application is "on the remote computer", i.e. that the browser and the gateway (i.e. "protection agent") are on the same computer.

Hallak also discloses a system utilizing a secured gateway for protecting web applications from malicious attacks, such as XSS attacks and other web attacks (e.g. Hallak, Abstract; 12:10-22). Furthermore, Hallak discloses that the browser application is "on the remote computer", i.e. that the browser and the gateway (i.e. "protection agent") are on the same computer (e.g. Hallak, fig. 2a; fig. 2g).

It would have been obvious to one of ordinary skill in the art to art to recognize that the secured gateway can be located on any of a server, a physically separate device, or a client (i.e. "remote computer"), as is taught by Hallak. This would have been obvious because one of skill in the art would have been motivated by the teachings that either arrangement is useful for protecting a web application (e.g. Hallak, 3:13-38).

Regarding claim 3, the combination enables*:*

further comprising supplementing, by the protection agent, the web content with indicators regarding a vulnerability of one or more links within the web content (e.g. Scott, sect. 3.4, par. 2 – error message; sect. 3.1, par. 2 – HTTP response annotated with MACs).

Regarding claim 4, the combination enables*:*

wherein an analysis to identify a malware threat within the web content includes one or more of URL (Uniform Resource Locator) analysis, an IP (Internet Protocol) analysis, an image analysis, and a script/HTML analysis (e.g. Scott, pg. 401 – analysis of headers, html encoding, cookies, scripting, URLs, etc.).

Regarding claim 5, the combination enables*:*

determining , by the protection agent, whether a request for the web content from the web browser application is a first request (e.g. Scott, sect. 3.4.2 – replays are detected, i.e. determining whether a "first request" was received).

Regarding claim 6, the combination enables*:*

further comprising performing one or more of pre-process data decryption, de-chunking and decompressing (e.g. Scott, sect. 3.2).

Regarding claim 7, the combination enables*:*

wherein a protocol-level analysis is utilized to identify the malware threat within the web content (e.g. Scott, sect. 2 – application level).

Regarding claim 9, the combination enables*:*

further comprising performing cloud verification of the web content, wherein cloud verification determines one or more malware vulnerabilities based on an aggregation of

one or more of the analysis (e.g. Scott, fig. 1; abstract – the verifications are performed within the web, i.e. "cloud").

Regarding claim 10, the combination enables*:*

further comprising allocating memory for caching of web content (e.g. Scott, fig. 4; sect. 3.4 – memory is allocated within the security gateway to analyze the content).

Regarding claim 21, the combination enables*:*

wherein the malware threat comprises a Uniform Resource Locator (URL) (e.g. Scott, pg. 401 – analysis of headers, html encoding, cookies, scripting, URLs, etc.).

Regarding claim 23, the combination does not explicitly disclose the retrieval of web content by the "iterative" sending of requests, however, the examiner notes that it was well known in the art for web content to be fetched from a web server through the use of a plurality of iterative requests and responses.

Regarding claim 24, the combination enables*:*

processing the web content prior to identifying the malware threat within the web content (e.g. Scott, fig. 4, Abstract; sect. 2). Herein, the security gateway processes the content to identify malware within the web content.

Regarding claims 11, 13 – 17, 19, 20, 22, and 25, they are system claims essentially corresponding to the above method claims and they are rejected, at least, for the same reasons. Furthermore, the combination enables a "protection agent and processor", "security center", and a "browser engine" (e.g. Scott, fig. 1, 4; Hallak, fig. 2g).

Furthermore, regarding claim 11, the combination enables:

… wherein modifying the web content comprises modifying the web content as HTML within the web content (e.g. Scott, fig. 4; pg. 401, col. 1). Herein, the web content is transformed with HTML encodings.

Response to Arguments

Applicant's arguments filed 5/1/17 have been fully considered but they are not persuasive.

Applicant argues or alleges essentially that:

…

… Instead, in Section 3.1 Scott specifically teaches that the transformation are applied to user input, not web content. … To be sure, Scott's focus is on the input received from the user, not the content of the web page itself. As such, contrary to the assertions of the Office Action, Scott does not teach "modifying the web content

comprises modifying the web at protocol level to remove the malware threat from the web content," as recited in independent claim 1.

Furthermore, because the web content is not modified, Scott cannot teach or suggest "assembling, by the protection agent, a modified version of the web content, wherein the modified version of the web content does not comprise the malware threat," as recited in independent claim 1. As noted above, Scott transforms user input, not web content. …

(Remarks, pg. 8 - 10)

Examiner respectfully responds:

The examiner respectfully disagrees, at least, because any Internet (i.e. Web) communication (i.e. "content") clearly falls within the scope of "web content". Thus, even in consideration of the applicant's own interpretation of the prior art, essentially that the modified information is merely "user input", the examiner notes, that such data, or content is clearly "web content".

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFERY WILLIAMS whose telephone number is (571)272-7965. The examiner can normally be reached on 9:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Farid Homayounmerhr can be reached on 571-272-3739. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JEFFERY WILLIAMS/
Primary Examiner, Art Unit 2495

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13633956	JAROCH, JOE
	Examiner	**Art Unit**
	JEFFERY WILLIAMS	2437

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	07/15/2013	03/05/2014	10/20/2014	06/06/2015	01/12/2016	10/26/2016	05/15/2017		
	1	✓	✓	✓	✓	✓	✓	✓		
	2	✓	✓	-	-	-	-	-		
	3	✓	✓	✓	✓	✓	✓	✓		
	4	✓	✓	✓	✓	✓	✓	✓		
	5	✓	✓	✓	✓	✓	✓	✓		
	6	✓	✓	✓	✓	✓	✓	✓		
	7	✓	✓	✓	✓	✓	✓	✓		
	8	✓	-	-	-	-	-	-		
	9	✓	✓	✓	✓	✓	✓	✓		
	10	✓	✓	✓	✓	✓	✓	✓		
	11	✓	✓	✓	✓	✓	✓	✓		
	12	✓	✓	-	-	-	-	-		
	13	✓	✓	✓	✓	✓	✓	✓		
	14	✓	✓	✓	✓	✓	✓	✓		
	15	✓	✓	✓	✓	✓	✓	✓		
	16	✓	✓	✓	✓	✓	✓	✓		
	17	✓	✓	✓	✓	✓	✓	✓		
	18	✓	-	-	-	-	-	-		
	19	✓	✓	-	-	-	-	-		
	20	✓	✓	✓	✓	✓	✓	✓		
	21		✓	✓	✓	✓	✓	✓		
	22		✓	✓	✓	✓	✓	✓		
	23			✓	✓	✓	✓	✓		
	24			✓	✓	✓	✓	✓		
	25			✓	✓	✓	✓	✓		

PATENT
Conf. No. 1029

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Jaroch et al.	Examiner:	Williams, Jeffery L.
Serial No.:	13/633,956	Group Art Unit:	2495
Filed:	October 3, 2012	Docket No.:	04584.0005USU1
Title:	PROACTIVE BROWSER CONTENT ANALYSIS		

AMENDMENT & RESPONSE TO NON-FINAL OFFICE ACTION

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Commissioner:

In response to the Non-Final Office Action mailed May 19, 2017, please amend the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims that begins on page 2 of this paper.

Remarks/Arguments begin on page 7 of this paper.

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (Currently Amended) A content analysis and malware prevention method comprising:

intercepting, by a protection agent, a request from a web browser;

determining, by the protection agent, whether the request is associated with known malicious content;

when the request is associated with known malicious content, blocking, by the protection agent, the request; and

when the request is not associated with known malicious content:

sending, by the protection agent, the request to one or more web servers;

receiving, at the protection agent on a remote computer, web content from the one or more web servers, wherein web content comprises data for assembling a web page;

identifying, by the protection agent, a malware threat within the web content;

in response to identifying the malware threat, modifying, by the protection agent, the web content, wherein modifying the web content comprises modifying the web content at protocol level to remove the malware threat from the web content;

assembling, by the protection agent, a modified version of the web ~~content~~ page, wherein the modified version of the web ~~content~~ page does not comprise the malware threat; and

providing, by the protection agent, the modified version of the web ~~content~~ page to the web browser application on the remote computer for rendering and display.

2. (Canceled)

3. (Previously Presented) The method of claim 1, further comprising supplementing, by the protection agent, the web content with indicators regarding a vulnerability of one or more links within the web content.

4. (Previously Presented) The method of claim 1, wherein an analysis to identify a malware threat within the web content includes one or more of a URL (Uniform Resource Locator) analysis, an IP (Internet Protocol) analysis, an image analysis, and a script/HTML analysis.

5. (Previously Presented) The method of claim 1, further comprising determining, by the protection agent, whether a request for the web content from the web browser application is a first request.

6. (Previously Presented) The method of claim 1, further comprising performing one or more of pre-process data decryption, de-chunking and decompressing.

7. (Previously Presented) The method of claim 1, wherein a protocol-level analysis is utilized to identify the malware threat within the web content.

8. (Canceled)

9. (Previously Presented) The method of claim 4, further comprising performing cloud verification of the web content, wherein cloud verification determines one or more malware vulnerabilities based on an aggregation of the analyses.

10. (Previously Presented) The method of claim 1, further comprising allocating memory for caching the web content.

11. (Currently Amended) A content analysis and malware prevention system comprising:

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at least one processor; and

memory encoding computer executable instructions that, when executed by the at least one processor, perform a method comprising:

intercepting a request from a web browser;

determining whether the request is associated with known malicious content;

when the request is associated with known malicious content, blocking, by a protection agent, the request; and

when the request is not associated with known malicious content:

sending the request to one or more web servers;

receiving web content from one or more web servers, wherein web content comprises data for assembling a web page;

identifying a malware threat within the web content;

in response to identifying the malware threat, modifying the web content, wherein modifying the web content comprises modifying the web at protocol level to remove the malware threat from the web content;

assembling a modified version of the web ~~content~~ page, wherein the modified version of the web ~~content~~ page does not comprise the malware threat; and

providing the modified version of the web ~~content~~ page to a web browser application on the remote computer for rendering and display.

12. (Canceled)

13. (Previously Presented) The system of claim 11, wherein the method further comprises supplementing the web content with indicators regarding a vulnerability of one or more links within the web content.

14. (Previously Presented) The system of claim 11, wherein the method further comprises identifying the malware threat within the web content by performing one or more of a

URL (Uniform Resource Locator) analysis, an IP (Internet Protocol) analysis, an image analysis, and a script/HTML analysis.

15. (Previously Presented) The system of claim 11, wherein the method further comprises determining whether a request for the web content from the web browser application is a first request.

16. (Previously Presented) The system of claim 11, wherein the method further comprises performing one or more of pre-process data decryption, de-chunking, and decompressing.

17. (Previously Presented) The system of claim 11, wherein the method further comprises identifying the malware threat utilizing a protocol-level analysis.

18-19. (Canceled)

20. (Previously Presented) The system of claim 11, wherein the method further comprises caching the web content in allocated memory.

21. (Previously Presented) The method of claim 1, wherein the malware threat comprises a Uniform Resource Locator (URL).

22. (Previously Presented) The system of claim 11, wherein the method further comprises determining if a malware threat comprises a Uniform Resource Locator (URL).

23. (Previously Presented) The method of claim 1, wherein sending the request to one or more web servers comprises iteratively sending a plurality of requests to the one or more web servers.

24. (Previously Presented) The method of claim 1, further comprising processing the web content prior to identifying the malware threat within the web content.

25. (Previously Presented) The system of claim 11, wherein sending the request to one or more web servers comprises iteratively sending a plurality of requests to the one or more web servers.

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REMARKS/ARGUMENTS

This Amendment and the following remarks are intended to fully respond to the non-final Office Action dated May 19, 2017, hereinafter "Office Action." In that Office Action, claims 1, 3-7, 9-11, 13-17, and 20-25 were examined and all claims were rejected. Claims 1, 3-7, 9-11, 13-17, and 20-25 were rejected under 35 U.S.C. § 103(a) as being unpatentable over "Abstracting Application-Level Web Security" to Scott et al. (hereinafter "Scott") in view of Hallak (U.S. Pat. No. 8,464,318; hereinafter "Hallak").

Reconsideration of these rejections, as they might apply to the original and amended claims in view of these remarks, is respectfully requested. In this Amendment, claims 1 and 11 have been amended and no claims have been canceled or added. Therefore, claims 1, 3-7, 9-11, 13-17, and 20-25 remain present for examination.

Claim Rejections Under § 103:

Claims 1, 3-7, 9-11, 13-17, and 20-25 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Scott in view of Hallak. Applicants respectfully traverse the § 103 rejection because the Office Action has not established a *prima facie* case of obviousness. To establish a *prima facie* case of obviousness under 35 U.S.C. § 103(a), the references must teach or suggest all of the claimed limitations to one of ordinary skill in the art at the time the invention was made. M.P.E.P §§ 2142, 2143.03; *In re Royka*, 490 F.2d 981, 985 (C.C.P.A. 1974); *In re Wilson*, 424 F.2d 1382, 1385 (C.C.P.A. 1970). Applicants traverse the rejection because the references fail to teach or suggest all of the recited limitations of the claims.

The present application generally discloses a protection module for analyzing threats by intercepting web content prior to providing the web content to a browser. The protection module may include a protection agent, which caches web content received from one or more web servers, analyzes the web content to determine if a malware threat exists, upon determining a malware threat exists, modifies the retrieved web content at the protocol level, and provides a clean or sanitized version of the web content. The modified web content may then be used to

assemble a modified version of the web page that was originally received from the one or more web servers. The modified web version of the web page may then be provided to the browser.

Scott discloses a structuring technique that helps abstract security policies for large web applications. As illustrated in Figure 4, reproduced below, Scott teaches that the security policy may include transforming the web request. Upon applying the transformations to the request, the request is validated and, once validated, transmitted to a server.

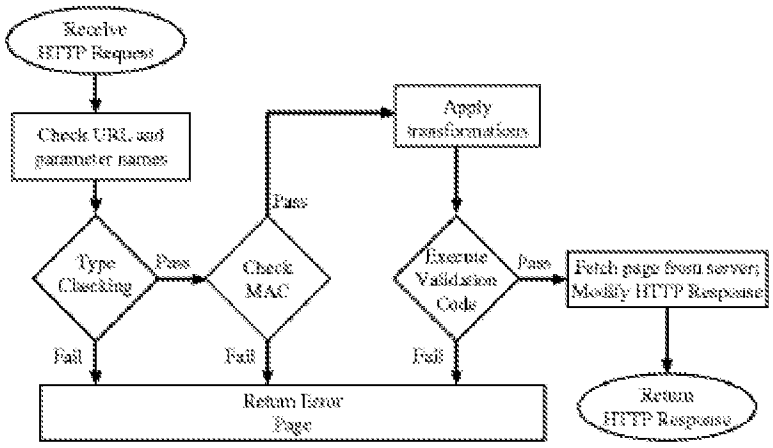


Figure 4: The tasks performed by the security gateway

Scott specifically teaches that the transformations are applied to user input. Scott teaches, "[t]he transformation rules of an SPDL specification allow a programmer to specify various transformations on user-input. The kind of transformations which may be specified are, pass data from all fields on form f through an HTML-encoding function, or 'escape all single and double quotes in text submitted via this URL parameter'." Scott, Section 3.1. As is clear from the diagram above, Scott teaches checking a HTTP request prior issuing a request for data from a web server. The transformations applied are applied to the *request* for data, not the requested data.

Turning now to the claims, Scott fails to teach or suggest at least "receiving web content from one or more web servers, wherein web content comprises data for assembling a web page" and "in response to identifying the malware threat, modifying, by the protection agent, the web content, wherein modifying the web content comprises modifying the web content at protocol

level to remove the malware threat from the web content." As noted above, Scott teaches modifying a HTTP request, not web content received from a web server. In rejecting the claim, the Office Action equates user input with web content. See Office Action, p. 3. Applicants respectfully disagree. The recited web content is content that is received from a remote server. In order to clarify the distinction between web content and Scott's user input, claim 1 has been amended to specify that "web content comprises data for assembling a web page." On the other hand, Scott's user input relates to a request for content, not receipt of the content.

Even if Scott's user input could properly be equated to the recited web content, which it cannot, Scott still fails to teach or suggest at least "in response to identifying the malware threat, modifying, by the protection agent, the web content, wherein modifying the web content comprises modifying the web content at protocol level to remove the malware threat from the web content." Again, Scott teaches modifying user input. The user input relates to a request for web content (i.e., the received HTTP request in Scott's Figure 4). The received request is modified prior to sending the request to a server. Contrary to Scott's teachings, claim 1 recites a process in which web content from a web server is modified. The web content is received in response to a request for the web content, specifically, the operation "sending, by the protection agent, the request to one or more web servers" recited in claim 1. Scott's modification of a request cannot teach modifying web content received in response to a request. To be sure, Scott's focus is on the request – there is no teaching of modifying content received in response to the request. For at least the foregoing reasons, Scott fails to teach or suggest at least the above identified features of independent claim 1.

Furthermore, because of the deficiencies described above, Scott also cannot teach or suggest at least "assembling, by the protection agent, a modified version of the web page, wherein the modified version of the web page does not comprise the malware threat," as recited in claim 1. Scott teaches the application of transforms to a received HTTP request. At best, Scott teaches the creation of modified HTTP requests. On the other hand, aspects of claim 1 relate to constructing a modified web page using the modified web content. Scott provides no teaching related to the construction of a modified web page.

Hallak fails to compensate for Scott's deficiencies. Hallak is directed to methods for securing a web client against malicious web attacks. The methods disclosed by Hallak are performed by a secure gateway deployed between a web client and a web server. According to Hallak, HTTP requests are forwarded to web servers after determining that the URL is allowed according to stored attributes of the URL, and according to the target application. *See* Hallak at col. 6, lines 8-25. More specifically, such requests are allowed and ultimately forwarded along to web servers only upon making the determination that a client had previously visited the page indicated by the URL, or that target application isn't protected by the gateway. According to that method, only once the gateway decides to allow the request, the request is a session formed with a web server, and the request is forwarded by the gateway to the web server. *Id.* at col. 6, lines 20-24. Hallak, however, fails to teach or suggest at least "receiving web content from one or more web servers, wherein web content comprises data for assembling a web page," "in response to identifying the malware threat, modifying, by the protection agent, the web content, wherein modifying the web content comprises modifying the web content at protocol level to remove the malware threat from the web content," and "assembling, by the protection agent, a modified version of the web page, wherein the modified version of the web page does not comprise the malware threat," as recited in independent claim 1. Thus, claim 1 is allowable over the combination of Scott and Hallak.

For at least similar reasons, independent claim 11 is also allowable over the combination of references. Claim 11 recites, *inter alia*, "receiving web content from one or more web servers, wherein web content comprises data for assembling a web page" and "in response to identifying the malware threat, modifying, by the protection agent, the web content, wherein modifying the web content comprises modifying the web content at protocol level to remove the malware threat from the web content" and "assembling a modified version of the web page, wherein the modified version of the web page does not comprise the malware threat." Thus, claim 11 is allowable for at least similar reasons as discussed with respect to independent claim 1.

For at least the foregoing reasons, independent claims 1 and 11 are allowable over the combination of Scott and Hallak. All other claims, i.e. claims 3-7, 9-10, 13-17, and 20-25, depend from one of allowable claims 1 or 11 and, thus, are also allowable. Applicants

respectfully request that the Examiner issue a Notice of Allowance for claims 1, 3-7, 9-11, 13-17, and 20-25.

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CONCLUSION

This Amendment fully responds to the Office Action mailed on May 19, 2017. Still, that Office Action may contain arguments and rejections that are not directly addressed by this Amendment due to the fact that they are rendered moot in light of the preceding arguments in favor of patentability. Hence, failure of this Amendment to directly address an argument raised in the Office Action should not be taken as an indication that the Applicants believe the argument has merit. Furthermore, the claims of the present application may include other elements, not discussed in this Amendment, which are not shown, taught, or otherwise suggested by the references of record. Accordingly, the preceding arguments in favor of patentability are advanced without prejudice to other bases of patentability.

It is believed that no further fees are due with this Response. However, the Commissioner is hereby authorized to charge any deficiencies or credit any overpayment with respect to this patent application to deposit account number 13-2725.

In light of the above remarks and amendments, it is believed that the application is now in condition for allowance and such action is respectfully requested. Should any additional issues need to be resolved, the Examiner is requested to telephone the undersigned to attempt to resolve those issues.

Respectfully submitted,

Dated: August 21, 2017

/Andrew T. Pouzeshi/

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23552
PATENT TRADEMARK OFFICE

Electronic Acknowledgement Receipt

EFS ID:	30139731
Application Number:	13633956
International Application Number:	
Confirmation Number:	1029
Title of Invention:	PROACTIVE BROWSER CONTENT ANALYSIS
First Named Inventor/Applicant Name:	Joe Jaroch
Customer Number:	23552
Filer:	Andrew T. Pouzeshi/Jacquelyn Slate
Filer Authorized By:	Andrew T. Pouzeshi
Attorney Docket Number:	04584.0005USU1
Receipt Date:	21-AUG-2017
Filing Date:	03-OCT-2012
Time Stamp:	17:34:50
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		2017-08-21-RespNFOA-of-051917-04584-0005USU1.PDF	126798 299b1f30de686a06713faf0b5feb5a2fa2f1bf80	yes	12

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Amendment/Req. Reconsideration-After Non-Final Reject	1	1
	Claims	2	6
	Applicant Arguments/Remarks Made in an Amendment	7	12
Warnings:			
Information:			
	Total Files Size (in bytes):	126798	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (09-11)
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 13/633,956	Filing Date 10/03/2012	☐ To be Mailed

ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

	(Column 1)	(Column 2)		
FOR	NUMBER FILED	NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

		(Column 1)		(Column 2)	(Column 3)		
	08/21/2017	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
AMENDMENT	Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0	X $80 =	0
	Independent (37 CFR 1.16(h))	* 2	Minus	***3	= 0	X $420 =	0
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
						TOTAL ADD'L FEE	**0**

		(Column 1)		(Column 2)	(Column 3)		
		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
AMENDMENT	Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
						TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
William Phillips

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/633,956	10/03/2012	Joe Jaroch	04584.0005USU1	1029

23552 7590 10/06/2017

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MINNEAPOLIS, MN 55402-0903

EXAMINER	
WILLIAMS, JEFFERY L	

ART UNIT	PAPER NUMBER
2495	

NOTIFICATION DATE	DELIVERY MODE
10/06/2017	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USPTO23552@merchantgould.com

Office Action Summary	Application No. 13/633,956	Applicant(s) JAROCH ET AL.	
	Examiner JEFFERY WILLIAMS	Art Unit 2495	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *8/21/17*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5)☒ Claim(s) *1, 3 – 7, 9 – 11, 13 – 17, and 20 – 25* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *1, 3 – 7, 9 – 11, 13 – 17, and 20 – 25* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

Claims 1, 3 – 7, 9 – 11, 13 – 17, and 20 – 25 are pending.

Any references to applicant's specification are made by way of applicant's U.S. pre-grant printed patent publication.

This action is in response to the communication filed on 8/21/17.

All objections and rejections not set forth below have been withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 3 – 7, 9 – 11, 13 – 17, and 20 – 25 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Scott et al. (Scott), "Abstracting Application-Level Web Security" in view of Hallak, US 8,464,318 B1.

Regarding claim 1, Scott discloses:

intercepting, by a protection agent, a request from a web browser (e.g. Scott; fig. 4:"Receive HTTP Request"; sect. 3.4,par. 1)*;*

determining, by the protection agent, whether the request is associated with known malicious content (e.g. Scott; sect. 3.4,par. 1)*;*

when the request is associated with known malicious content, blocking, by the protection agent, the request (e.g. Scott; sect. 3.4,par. 1 – if the request is malformed, it is not propagated to the web server)*;*

and when the request is not associated with known malicious content: sending, by the protection agent, the request to one or more web servers (e.g. Scott; sect. 3.4,par. 1 – if the request is proper, it is propagated to the web server)*;*

receiving, at the protection agent on a remote computer, web content from one or more web servers, wherein web content comprises data for assembling a web page (e.g. Scott, fig. 4; sect. 3, par. 2; sect. 3.4.1). Herein, a browser and web server each provide web content from a server to an executing security gateway.

identifying, by the protection agent, a malware threat within the web content (e.g. Scott, fig. 4, Abstract; sect. 2). Herein, the security gateway operates to identify malware within the web content.

in response to identifying malware threat, modifying, by the protection agent, the web content, wherein modifying the web content comprises modifying the web content at protocol level to remove the malware threat from the web content; assembling, by the protection agent, a modified version of the web page, wherein the modified version of

the web page does not comprise the malware threat (e.g. Scott, fig. 4: validation, transformation, modified response)*;*

and providing, by the protection agent, the modified version of the web content to a web browser application … for rendering and display (e.g. Scott, fig. 4: return HTTP request).

Scott discloses a system utilizing a secured gateway for protecting web applications from malicious attacks, such as XSS attacks and other web attacks (e.g. Scott, Abstract; sect. 2). However, Scott does not explicitly state that the browser application is "on the remote computer", i.e. that the browser and the gateway (i.e. "protection agent") are on the same computer.

Hallak also discloses a system utilizing a secured gateway for protecting web applications from malicious attacks, such as XSS attacks and other web attacks (e.g. Hallak, Abstract; 12:10-22). Furthermore, Hallak discloses that the browser application is "on the remote computer", i.e. that the browser and the gateway (i.e. "protection agent") are on the same computer (e.g. Hallak, fig. 2a; fig. 2g).

It would have been obvious to one of ordinary skill in the art to art to recognize that the secured gateway can be located on any of a server, a physically separate device, or a client (i.e. "remote computer"), as is taught by Hallak. This would have been obvious because one of skill in the art would have been motivated by the teachings that either arrangement is useful for protecting a web application (e.g. Hallak, 3:13-38).

Regarding claim 3, the combination enables*:*

further comprising supplementing, by the protection agent, the web content with indicators regarding a vulnerability of one or more links within the web content (e.g. Scott, sect. 3.4, par. 2 – error message; sect. 3.1, par. 2 – HTTP response annotated with MACs).

Regarding claim 4, the combination enables*:*

wherein an analysis to identify a malware threat within the web content includes one or more of URL (Uniform Resource Locator) analysis, an IP (Internet Protocol) analysis, an image analysis, and a script/HTML analysis (e.g. Scott, pg. 401 – analysis of headers, html encoding, cookies, scripting, URLs, etc.).

Regarding claim 5, the combination enables*:*

determining , by the protection agent, whether a request for the web content from the web browser application is a first request (e.g. Scott, sect. 3.4.2 – replays are detected, i.e. determining whether a “first request” was received).

Regarding claim 6, the combination enables*:*

further comprising performing one or more of pre-process data decryption, de-chunking and decompressing (e.g. Scott, sect. 3.2).

Regarding claim 7, the combination enables*:*

wherein a protocol-level analysis is utilized to identify the malware threat within the web content (e.g. Scott, sect. 2 – application level).

Regarding claim 9, the combination enables*:*

further comprising performing cloud verification of the web content, wherein cloud verification determines one or more malware vulnerabilities based on an aggregation of one or more of the analysis (e.g. Scott, fig. 1; abstract – the verifications are performed within the web, i.e. “cloud”).

Regarding claim 10, the combination enables*:*

further comprising allocating memory for caching of web content (e.g. Scott, fig. 4; sect. 3.4 – memory is allocated within the security gateway to analyze the content).

Regarding claim 21, the combination enables*:*

wherein the malware threat comprises a Uniform Resource Locator (URL) (e.g. Scott, pg. 401 – analysis of headers, html encoding, cookies, scripting, URLs, etc.).

Regarding claim 23, the combination does not explicitly disclose the retrieval of web content by the “iterative” sending of requests, however, the examiner notes that it was well known in the art for web content to be fetched from a web server through the use of a plurality of iterative requests and responses.

Regarding claim 24, the combination enables*:*

processing the web content prior to identifying the malware threat within the web content (e.g. Scott, fig. 4, Abstract; sect. 2). Herein, the security gateway processes the content to identify malware within the web content.

Regarding claims 11, 13 – 17, 19, 20, 22, and 25, they are system claims essentially corresponding to the above method claims and they are rejected, at least, for the same reasons. Furthermore, the combination enables a "protection agent and processor", "security center", and a "browser engine" (e.g. Scott, fig. 1, 4; Hallak, fig. 2g).

Furthermore, regarding claim 11, the combination enables:

… wherein modifying the web content comprises modifying the web content as HTML within the web content (e.g. Scott, fig. 4; pg. 401, col. 1). Herein, the web content is transformed with HTML encodings.

Response to Arguments

Applicant's arguments filed 8/21/17 have been fully considered but they are not persuasive.

Applicant argues or alleges essentially that:

…

Turning now to the claims, Scott fails to teach or suggest at least "receiving web content from one or more web servers, wherein web content comprises data for assembling a web page" and "in response to identifying the malware threat, modifying, by the protection agent, the web content, wherein modifying the web content comprises modifying the web content at protocol.

…

… As noted above, Scott teaches modifying a HTTP request, not web content received from a web server.

…

(Remarks, pg. 8, 9)

Examiner respectfully responds:

The examiner respectfully disagrees. Scott clearly teaches a modified HTTP response, said response comprising a requested web page (e.g. Scott, fig. 4).

Applicant argues or alleges essentially that:

…

… Scott still fails to teach or suggest at least "in response to identifying the malware threat, modifying, by the protection agent, the web content, wherein modifying

the web content comprises modifying the web content at protocol level to remove the malware threat from the web content."

…

… To be sure, Scott's focus is on the request - there is no teaching of modifying content received in response to the request. …

…

Hallak fails to compensate for Scott's deficiencies. …

…

(Remarks, pg. 9, 10)

Examiner respectfully responds:

The examiner respectfully disagrees, at least, for the reason that the applicant's argument is based upon the mistaken premise that Scott fails to teach modifying content of an HTTP response.

Furthermore, in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFERY WILLIAMS whose telephone number is (571)272-7965. The examiner can normally be reached on 9:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Farid Homayounmerhr can be reached on 571-272-3739. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JEFFERY WILLIAMS/
Primary Examiner, Art Unit 2495

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13633956	JAROCH, JOE
	Examiner	**Art Unit**
	JEFFERY WILLIAMS	2437

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	07/15/2013	03/05/2014	10/20/2014	06/06/2015	01/12/2016	10/26/2016	05/15/2017	10/02/2017	
	1	✓	✓	✓	✓	✓	✓	✓	✓	
	2	✓	✓	-	-	-	-	-	-	
	3	✓	✓	✓	✓	✓	✓	✓	✓	
	4	✓	✓	✓	✓	✓	✓	✓	✓	
	5	✓	✓	✓	✓	✓	✓	✓	✓	
	6	✓	✓	✓	✓	✓	✓	✓	✓	
	7	✓	✓	✓	✓	✓	✓	✓	✓	
	8	✓	-	-	-	-	-	-	-	
	9	✓	✓	✓	✓	✓	✓	✓	✓	
	10	✓	✓	✓	✓	✓	✓	✓	✓	
	11	✓	✓	✓	✓	✓	✓	✓	✓	
	12	✓	✓	-	-	-	-	-	-	
	13	✓	✓	✓	✓	✓	✓	✓	✓	
	14	✓	✓	✓	✓	✓	✓	✓	✓	
	15	✓	✓	✓	✓	✓	✓	✓	✓	
	16	✓	✓	✓	✓	✓	✓	✓	✓	
	17	✓	✓	✓	✓	✓	✓	✓	✓	
	18	✓	-	-	-	-	-	-	-	
	19	✓	✓	-	-	-	-	-	-	
	20	✓	✓	✓	✓	✓	✓	✓	✓	
	21		✓	✓	✓	✓	✓	✓	✓	
	22		✓	✓	✓	✓	✓	✓	✓	
	23			✓	✓	✓	✓	✓	✓	
	24			✓	✓	✓	✓	✓	✓	
	25			✓	✓	✓	✓	✓	✓	

PTO/SB/30EFS (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL
(Submitted Only via EFS-Web)

Application Number	13633956	Filing Date	2012-10-03	Docket Number (if applicable)	04584.0005USU1	Art Unit	2495
First Named Inventor	Joe Jaroch			Examiner Name	WILLIAMS, JEFFERY L.		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

- ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____
- ☐ Other _____

☒ Enclosed

- ☒ Amendment/Reply
- ☐ Information Disclosure Statement (IDS)
- ☐ Affidavit(s)/ Declaration(s)
- ☐ Other _____

MISCELLANEOUS

☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____ (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

☐ Other _____

FEES

The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.

☒ The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to Deposit Account No 132725

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

X Patent Practitioner Signature

Applicant Signature

PTO/SB/30EFS (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Signature of Registered U.S. Patent Practitioner			
Signature	/Andrew T. Pouzeshi/	Date (YYYY-MM-DD)	2018-03-06
Name	Andrew T. Pouzeshi	Registration Number	67672

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PTO/SB/22 (03-13)
Approved for use through 3/31/2013. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)

Docket Number (Optional): 04584.0005USU1

Application Number: 13/633,956

Filed: October 3, 2012

For: PROACTIVE BROWSER CONTENT ANALYSIS

Art Unit: 2495

Examiner: WILLIAMS, JEFFERY L.

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above-identified application.

The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):

	Fee	Small Entity Fee	Micro Entity Fee	
☐ One month (37 CFR 1.17(a)(1))	$200	$100	$50	$
☑ Two months (37 CFR 1.17(a)(2))	$600	$300	$150	$ 600.00
☐ Three months (37 CFR 1.17(a)(3))	$1,400	$700	$350	$
☐ Four months (37 CFR 1.17(a)(4))	$2,200	$1,100	$550	$
☐ Five months (37 CFR 1.17(a)(5))	$3,000	$1,500	$750	$

☐ Applicant asserts small entity status. See 37 CFR 1.27.

☐ Applicant certifies micro entity status. See 37 CFR 1.29.
Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.

☐ A check in the amount of the fee is enclosed.

☑ Payment by credit card. Form PTO-2038 is attached.

☐ The Director has already been authorized to charge fees in this application to a Deposit Account.

☑ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 132725.

☑ Payment made via EFS-Web.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

I am the

☐ applicant/inventor.

☐ assignee of record of the entire interest. See 37 CFR 3.71. 37 CFR 3.73(b) statement is enclosed (Form PTO/SB/96).

☑ attorney or agent of record. Registration number 67672.

☐ attorney or agent acting under 37 CFR 1.34. Registration number _____.

/Andrew T. Pouzeshi/ — Signature

March 6, 2018 — Date

Andrew T. Pouzeshi — Typed or printed name

303.357.1639 — Telephone Number

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.

☐ * Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.136(a). The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 6 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal

Application Number:	13633956
Filing Date:	03-Oct-2012
Title of Invention:	PROACTIVE BROWSER CONTENT ANALYSIS
First Named Inventor/Applicant Name:	Joe Jaroch
Filer:	Andrew T. Pouzeshi/Jacquelyn Slate
Attorney Docket Number:	04584.0005USU1

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension - 2 months with $0 paid	1252	1	600	600
Miscellaneous:				
RCE- 2ND AND SUBSEQUENT REQUEST	1820	1	1900	1900
		Total in USD ($)		**2500**

Electronic Acknowledgement Receipt

EFS ID:	31978365
Application Number:	13633956
International Application Number:	
Confirmation Number:	1029
Title of Invention:	PROACTIVE BROWSER CONTENT ANALYSIS
First Named Inventor/Applicant Name:	Joe Jaroch
Customer Number:	23552
Filer:	Andrew T. Pouzeshi/Jacquelyn Slate
Filer Authorized By:	Andrew T. Pouzeshi
Attorney Docket Number:	04584.0005USU1
Receipt Date:	06-MAR-2018
Filing Date:	03-OCT-2012
Time Stamp:	22:09:28
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$2500
RAM confirmation Number	030718INTEFSW22104900
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		2018-03-06-RespFOA-04584-0005USU1.PDF	709425 34f635aae458b99b933bb4d7002d3013e6c07e66	yes	17

Multipart Description/PDF files in .zip description

Document Description	Start	End
Amendment Submitted/Entered with Filing of CPA/RCE	1	1
Claims	2	6
Drawings-only black and white line drawings	7	7
Applicant Arguments/Remarks Made in an Amendment	8	15
Drawings-only black and white line drawings	16	17

Warnings:

Information:

2	Request for Continued Examination (RCE)	2018-03-06-RCE-04584-0005USU1.PDF	705444 a030076ee69d7df6666347b221b298352b535bef	no	3

Warnings:

Information:

3	Extension of Time	2018-03-06-EOT-04584-0005USU1.PDF	194116 1ca6884b807d60746b2c348770d21b0c58b9a4fa	no	2

Warnings:

Information:

4	Fee Worksheet (SB06)	fee-info.pdf	32670 2d18daeceaf881316b11c5602f37602a40b785a1	no	2

Warnings:

Information:

Total Files Size (in bytes):	1641655

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PATENT
Conf. No. 1029

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Jaroch et al.	Examiner:	WILLIAMS, JEFFERY L.
Serial No.:	13/633,956	Group Art Unit:	2495
Filed:	October 3, 2012	Docket No.:	04584.0005USU1
Title:	PROACTIVE BROWSER CONTENT ANALYSIS		

AMENDMENT & RESPONSE TO FINAL OFFICE ACTION

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Commissioner:

In response to the Final Office Action mailed October 6, 2017, please amend the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims that begins on page 2 of this paper.

Amendments to the Drawings begin on page 6 of this paper and include both an attached replacement sheet and an annotated sheet showing changes in the Appendix.

Remarks/Arguments begin on page 8 of this paper.

Appendix including amended drawing figures is attached following page 15 of this paper.

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p. 359

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (Currently Amended) A content analysis and malware prevention method comprising:

intercepting, by a protection agent, a request from a web browser;

determining, by the protection agent, whether the request is associated with known malicious content;

when the request is associated with known malicious content, blocking, by the protection agent, the request; and

when the request is not associated with known malicious content:

sending, by the protection agent, the request to one or more web servers;

receiving, at the protection agent on a remote computer, web content from the one or more web servers, wherein web content comprises data for assembling a web page, and wherein the web content is received in response to the request;

identifying, by the protection agent, a malware threat within the web content;

in response to identifying the malware threat, modifying, by the protection agent, the web content, wherein modifying the web content comprises modifying the web content at protocol level to remove the malware threat from the web content;

assembling, by the protection agent, a modified version of the web page, wherein the modified web page is assembled using the modified web content, and wherein the modified version of the web page does not comprise the malware threat; and

providing, by the protection agent, the modified version of the web page to the web browser application on the remote computer for rendering and display.

2. (Canceled)

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p. 360

3. (Previously Presented) The method of claim 1, further comprising supplementing, by the protection agent, the web content with indicators regarding a vulnerability of one or more links within the web content.

4. (Previously Presented) The method of claim 1, wherein an analysis to identify a malware threat within the web content includes one or more of a URL (Uniform Resource Locator) analysis, an IP (Internet Protocol) analysis, an image analysis, and a script/HTML analysis.

5. (Previously Presented) The method of claim 1, further comprising determining, by the protection agent, whether a request for the web content from the web browser application is a first request.

6. (Previously Presented) The method of claim 1, further comprising performing one or more of pre-process data decryption, de-chunking and decompressing.

7. (Previously Presented) The method of claim 1, wherein a protocol-level analysis is utilized to identify the malware threat within the web content.

8. (Canceled)

9. (Previously Presented) The method of claim 4, further comprising performing cloud verification of the web content, wherein cloud verification determines one or more malware vulnerabilities based on an aggregation of the analyses.

10. (Previously Presented) The method of claim 1, further comprising allocating memory for caching the web content.

11. (Currently Amended) A content analysis and malware prevention system comprising:

at least one processor; and

memory encoding computer executable instructions that, when executed by the at least one processor, perform a method comprising:

intercepting a request from a web browser;

determining whether the request is associated with known malicious content;

when the request is associated with known malicious content, blocking, by a protection agent, the request; and

when the request is not associated with known malicious content:

sending the request to one or more web servers;

receiving web content from one or more web servers, wherein web content comprises data for assembling a web page;

identifying a malware threat within the web content;

in response to identifying the malware threat, modifying the web content, wherein modifying the web content comprises modifying the web at protocol level to remove the malware threat from the web content;

assembling a modified version of the web page, wherein the modified web page is assembled using the modified web content, and wherein the modified version of the web page does not comprise the malware threat; and

providing the modified version of the web page to a web browser application on the remote computer for rendering and display.

12. (Canceled)

13. (Previously Presented) The system of claim 11, wherein the method further comprises supplementing the web content with indicators regarding a vulnerability of one or more links within the web content.

14. (Previously Presented) The system of claim 11, wherein the method further comprises identifying the malware threat within the web content by performing one or more of a

URL (Uniform Resource Locator) analysis, an IP (Internet Protocol) analysis, an image analysis, and a script/HTML analysis.

15. (Previously Presented) The system of claim 11, wherein the method further comprises determining whether a request for the web content from the web browser application is a first request.

16. (Previously Presented) The system of claim 11, wherein the method further comprises performing one or more of pre-process data decryption, de-chunking, and decompressing.

17. (Previously Presented) The system of claim 11, wherein the method further comprises identifying the malware threat utilizing a protocol-level analysis.

18-19. (Canceled)

20. (Previously Presented) The system of claim 11, wherein the method further comprises caching the web content in allocated memory.

21. (Previously Presented) The method of claim 1, wherein the malware threat comprises a Uniform Resource Locator (URL).

22. (Previously Presented) The system of claim 11, wherein the method further comprises determining if a malware threat comprises a Uniform Resource Locator (URL).

23. (Previously Presented) The method of claim 1, wherein sending the request to one or more web servers comprises iteratively sending a plurality of requests to the one or more web servers.

24. (Previously Presented) The method of claim 1, further comprising processing the web content prior to identifying the malware threat within the web content.

25. (Previously Presented) The system of claim 11, wherein sending the request to one or more web servers comprises iteratively sending a plurality of requests to the one or more web servers.

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Amendments to the Drawings:

Please amend FIG. 2 as indicated by the replacement sheets attached herein as the Appendix. A marked up Figure 2 is also submitter herewith outlining the amendments.

REMARKS/ARGUMENTS

This Amendment and the following remarks are intended to fully respond to the final Office Action dated October 6, 2017, hereinafter "Office Action." In that Office Action, claims 1, 3-7, 9-11, 13-17, and 20-25 were examined and all claims were rejected. Claims 1, 3-7, 9-11, 13-17, and 20-25 were rejected under 35 U.S.C. § 103(a) as being unpatentable over "Abstracting Application-Level Web Security" to Scott et al. (hereinafter "Scott") in view of Hallak (U.S. Pat. No. 8,464,318; hereinafter "Hallak").

Reconsideration of these rejections, as they might apply to the original and amended claims in view of these remarks, is respectfully requested. In this Amendment, claims 1 and 11 have been amended, and no claims have been canceled or added. Therefore, claims 1, 3-7, 9-11, 13-17, and 20-25 remain present for examination.

Amendments to Drawings:

Figure 2 was updated to correct a typographical error. No new matter was added. Applicants respectfully request that the Examiner enter the amended Figure 2.

Claim Rejections Under § 103:

Claims 1, 3-7, 9-11, 13-17, and 20-25 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Scott in view of Hallak. Applicants respectfully traverse the § 103 rejection because the Office Action has not established a *prima facie* case of obviousness. To establish a *prima facie* case of obviousness under 35 U.S.C. § 103(a), the references must teach or suggest all of the claimed limitations to one of ordinary skill in the art at the time the invention was made. M.P.E.P §§ 2142, 2143.03; *In re Royka*, 490 F.2d 981, 985 (C.C.P.A. 1974); *In re Wilson*, 424 F.2d 1382, 1385 (C.C.P.A. 1970). Further, under *KSR Int'l Co. v. Teleflex, Inc.*, there "must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." 127 S. Ct. 1727, 1741 (2007). Applicants traverse the rejection because the references fail to teach or suggest all of the recited limitations of the claims.

The present application generally discloses a protection module for analyzing threats by intercepting web content prior to providing the web content to a browser. The protection module

may include a protection agent, which caches web content received from one or more web servers, analyzes the web content to determine if a malware threat exists, upon determining a malware threat exists, modifies the retrieved web content at the protocol level, and provides a clean or sanitized version of the web content. The modified web content may then be used to assemble a modified version of the web page that was originally received from the one or more web servers. The modified web version of the web page may then be provided to the browser.

Scott teaches that the security policy may include transforming the web request. Upon applying the transformations to the request, the request is validated and, once validated, transmitted to a server, as shown in Figure 4 of Scott reproduced below.

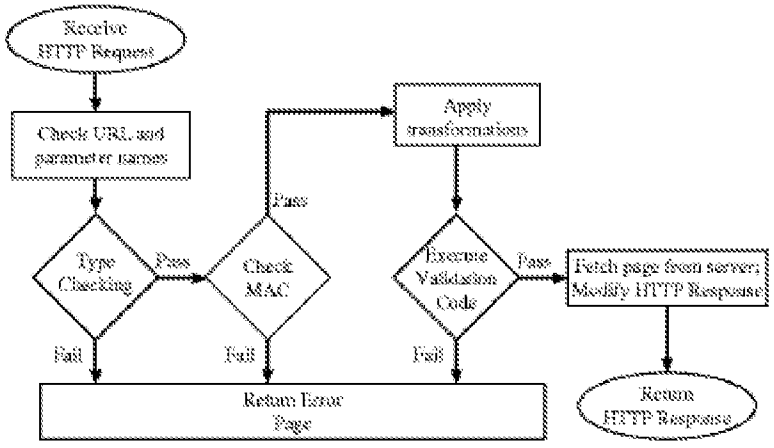


Figure 4: The tasks performed by the security gateway

As is clearly shown in Figure 4, Scott teaches validating HTTP requests, such as an HTTP POST or HTTP GET request. Indeed, Scott specifically mentions such request types.

> Once we are sure that the HTTP message contains a valid combination of cookies and GET/POST parameters, type and length constraints are checked. If any violations occur at this stage then a descriptive error message is returned to the client. The security gateway then checks that the message authentication code is valid.

Scott, Section 3.4.

Scott then teaches that the HTTP request may be transformed according to a security policy.

> Next the transformations specified in the security policy are applied. Transformations are total functions on strings well written transformation code should not generate exceptions. However, if a badly written transformation function does generate a run-time exception then the process is aborted and an error message is returned to the client. Finally all validation expressions are evaluated. If all of the validation expressions evaluate to true then the **HTTP request** is forwarded to the web-server and the page is fetched.

Scott, Section 3.4.

Scott does not teach modification of any content received in response to the request.

Turning now to the claims, Scott fails to teach or suggest at least "receiving, at the protection agent on a remote computer, web content from the one or more web servers, wherein web content comprises data for assembling a web page, and wherein the web content is received in response to the request," "in response to identifying the malware threat, modifying, by the protection agent, the web content, wherein modifying the web content comprises modifying the web content at protocol level to remove the malware threat from the web content," and "assembling, by the protection agent, a modified version of the web page, wherein the modified web page is assembled using the modified web content, and wherein the modified version of the web page does not comprise the malware threat," as recited in independent claim 1. As noted above, Scott is concerned with ensuring that HTTP requests conform to a particular security policy. An HTTP request is a request for an action or content in accordance with the HTTP protocol. Examples of HTTP requests include the GET and POST commands. Claim 1 has been amended to clarify that these modifications are performed on content received in response to a request. Applicants respectfully submit that Scott is silent with respect to actions performed after an HTTP request has been transformed.

To be sure, claim 1 recites "receiving, at the protection agent on a remote computer, web content from the one or more web servers, wherein web content comprises data for assembling a web page, and wherein the web content is received in response to the request." Scott's Figure 4 teaches a process in which an HTTP request is transformed, e.g., transforming a GET or POST command. Once the request is translated, Scott prepares an HTTP response. The HTTP response is then modified to insert JavaScript code used to perform validation checks on a client

machine. *See* Scott, Section 3.4.1. Here, even though Scott is modifying an HTTP response, Scott's modification is only provided to insert validation code into the response. The content of the response is not modified. Indeed, Scott is in control of the HTTP response and, as such, trusts that the response does not include malicious code. The modified response is then sent to the client machine. Claim 1, however, recites actions performed by such a client machine, which did not prepare the response and treats the response as potentially malicious. As is clear from Figure 4, this is outside the scope of Scott's teachings.

Because the response receiver is outside of Scott's teaching, Scott also fails to teach or suggest at least "in response to identifying the malware threat, modifying, by the protection agent, the web content, wherein modifying the web content comprises modifying the web content at protocol level to remove the malware threat from the web content." As noted above, Scott's security gateway constructs the HTTP response. As such, the response if known to be trusted. As such, there is no instance in which Scott would modify the response "in response to identifying a malware threat." To be sure, if a malware threat was present in the response, Scott's security gateway would be the source of the response. Scott would not perform such actions because claim 1 is directed towards actions that are performed by a device receiving a response, not a device that generated the response, as in the case of Scott's security gateway.

Finally, there is no teaching whatsoever with respect to "assembling, by the protection agent, a modified version of the web page, wherein the modified web page is assembled using the modified web content, and wherein the modified version of the web page does not comprise the malware threat." Indeed, all Scott's gateway server does is provide the response. Scott inserts validation checks into the response that may be run by a client device, but these validation responses are not used by the client device to assemble a modified version of a web page. As such, Scott fails to teach or suggest at least the above identified elements of claim 1.

Hallak fails to compensate for Scott's deficiencies. Hallak is directed to methods for securing a web client against malicious web attacks. According to Hallak, HTTP requests are forwarded to web servers after determining that the URL is allowed according to stored attributes of the URL, and according to the target application. *See* Hallak at col. 6, lines 8-25. More specifically, such requests are allowed and ultimately forwarded along to web servers only upon

making the determination that a client had previously visited the page indicated by the URL, or that target application isn't protected by the gateway. According to that method, only once the gateway decides to allow the request, the request is formed with a web server, and the request is forwarded by the gateway to the web server. *Id.* at col. 6, lines 20-24. Hallak, however, fails to teach or suggest at least "receiving, at the protection agent on a remote computer, web content from the one or more web servers, wherein web content comprises data for assembling a web page, and wherein the web content is received in response to the request," "in response to identifying the malware threat, modifying, by the protection agent, the web content, wherein modifying the web content comprises modifying the web content at protocol level to remove the malware threat from the web content," and "assembling, by the protection agent, a modified version of the web page, wherein the modified web page is assembled using the modified web content, and wherein the modified version of the web page does not comprise the malware threat," as recited in independent claim 1. Thus, claim 1 is allowable over the combination of Scott and Hallak.

For at least similar reasons, independent claim 11 is also allowable over the combination of references. Claim 11 recites, *inter alia*, "receiving web content from one or more web servers, wherein web content comprises data for assembling a web page" and "in response to identifying the malware threat, modifying, by the protection agent, the web content, wherein modifying the web content comprises modifying the web content at protocol level to remove the malware threat from the web content," "assembling a modified version of the web page, wherein the modified version of the web page does not comprise the malware threat," and "assembling a modified version of the web page, wherein the modified web page is assembled using the modified web content, and wherein the modified version of the web page does not comprise the malware threat." Thus, claim 11 is allowable for at least similar reasons as discussed with respect to independent claim 1.

For at least the foregoing reasons, independent claims 1 and 11 are allowable over the combination of Scott and Hallak. All other claims, i.e. claims 3-7, 9-10, 13-17, and 20-25, depend from one of allowable claims 1 or 11 and, thus, are also allowable. Applicants

respectfully request that the Examiner issue a Notice of Allowance for claims 1, 3-7, 9-11, 13-17, and 20-25.

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CONCLUSION

This Amendment fully responds to the Office Action mailed on October 6, 2017. Still, that Office Action may contain arguments and rejections that are not directly addressed by this Amendment due to the fact that they are rendered moot in light of the preceding arguments in favor of patentability. Hence, failure of this Amendment to directly address an argument raised in the Office Action should not be taken as an indication that the Applicants believe the argument has merit. Furthermore, the claims of the present application may include other elements, not discussed in this Amendment, which are not shown, taught, or otherwise suggested by the references of record. Accordingly, the preceding arguments in favor of patentability are advanced without prejudice to other bases of patentability.

This Amendment is filed concurrently with a Petition for Extension of Time and Request for Continued Examination. It is believed that no further fees are due with this Response. However, the Commissioner is hereby authorized to charge any deficiencies or credit any overpayment with respect to this patent application to deposit account number 13-2725.

In light of the above remarks and amendments, it is believed that the application is now in condition for allowance and such action is respectfully requested. Should any additional issues need to be resolved, the Examiner is requested to telephone the undersigned to attempt to resolve those issues.

Respectfully submitted,

Dated: March 6, 2018

/Andrew T. Pouzeshi/

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P.O. Box 2903
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23552
PATENT TRADEMARK OFFICE

APPENDIX

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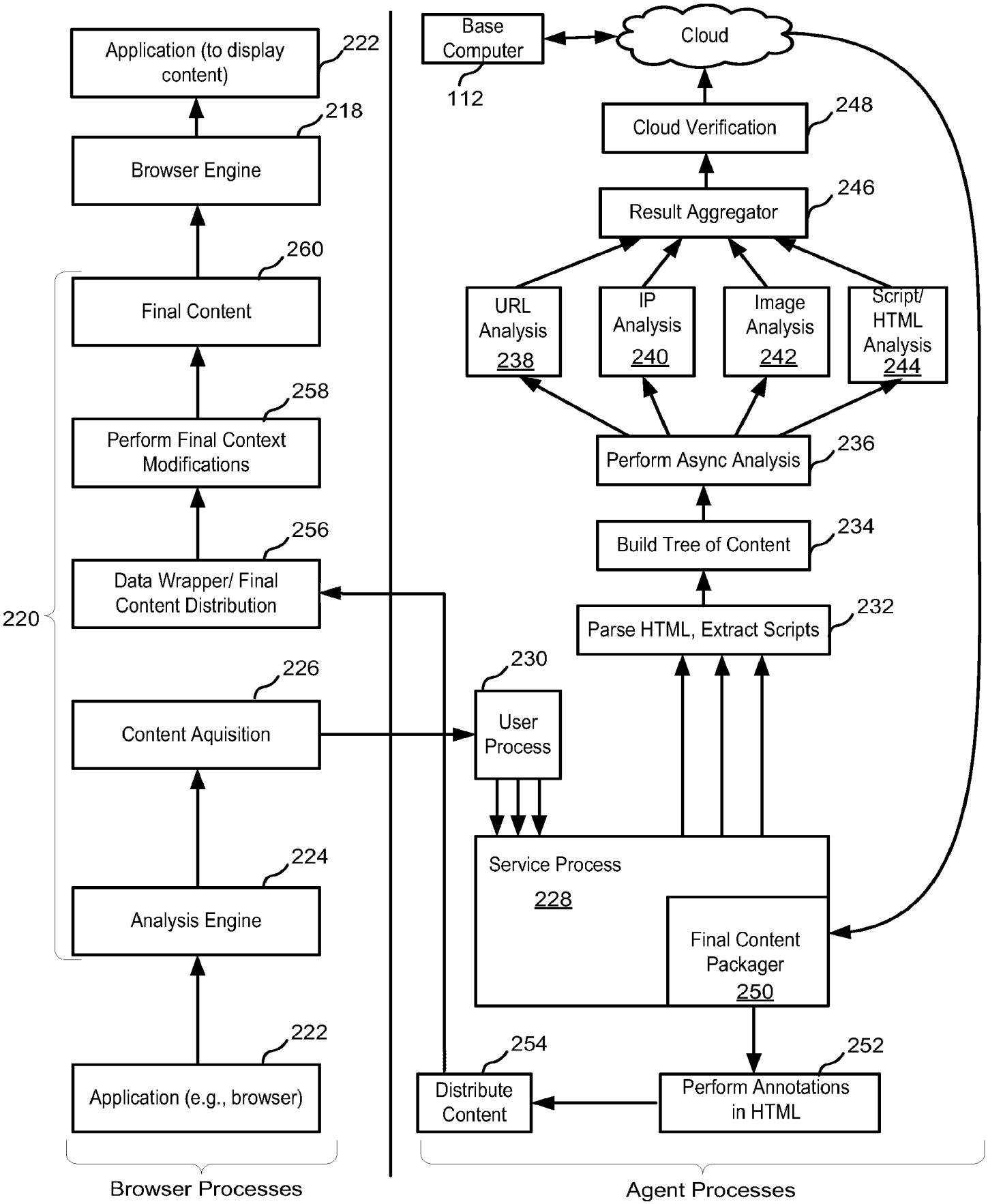

Application (to display content)
222
Browser Engine
218
Final Content
260
Perform Final Context Modifications
258
Data Wrapper/ Final Content Distribution
256
220
Content Aquisition
226
Analysis Engine
224
Application (e.g., browser)
222
Browser Processes
Base Computer
112
Cloud
Cloud Verification
248
Result Aggregator
246
URL Analysis 238
IP Analysis 240
Image Analysis 242
Script/ HTML Analysis 244
Perform Async Analysis
236
Build Tree of Content
234
Parse HTML, Extract Scripts
232
User Process
230
Service Process
228
Final Content Packager
250
Distribute Content
254
Perform Annotations in HTML
252
Agent Processes

FIG. 2

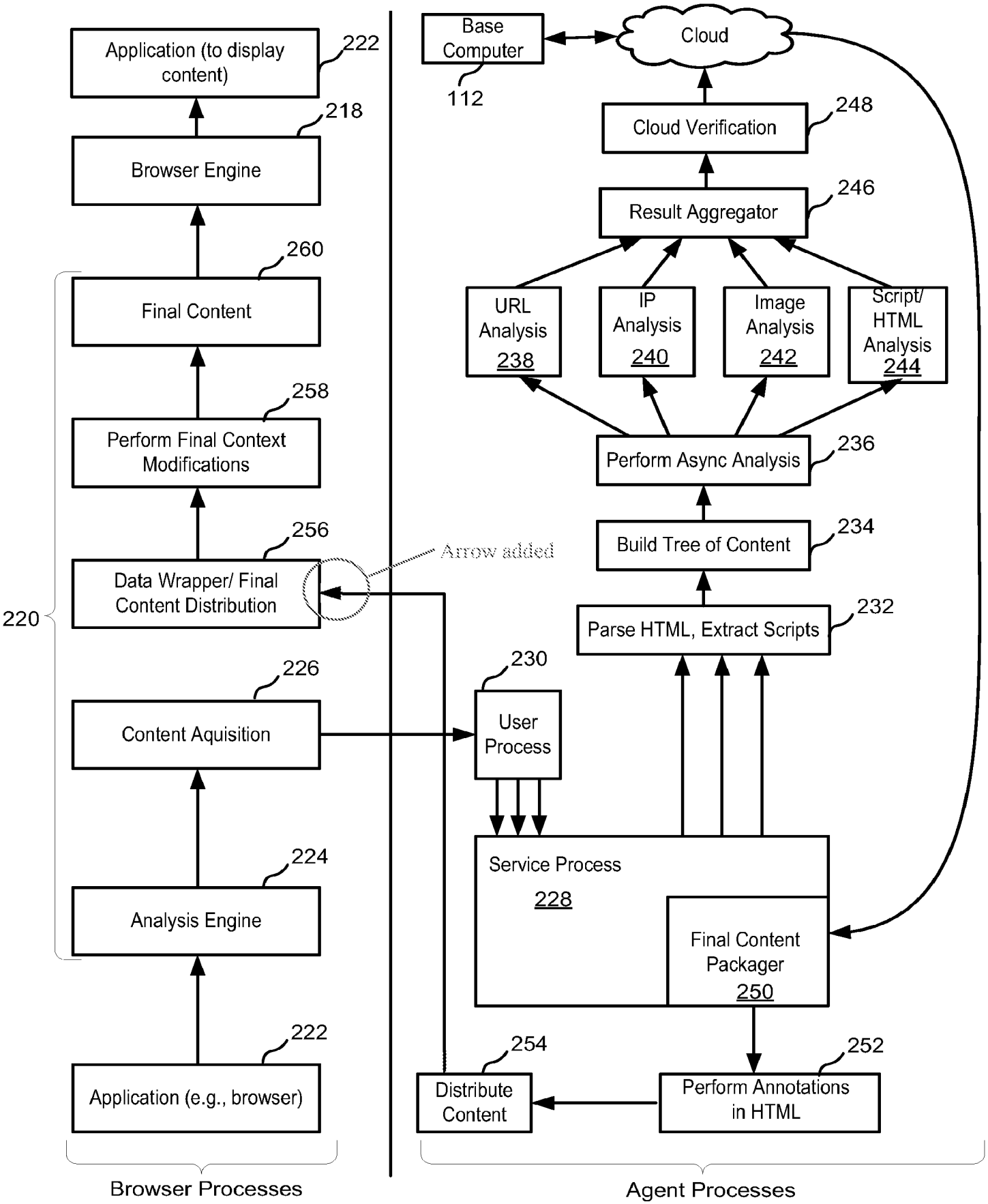

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Application (e.g., browser)
222
Browser Processes
Arrow added
Base Computer
112
Cloud
Cloud Verification
248
Result Aggregator
246
URL Analysis 238
IP Analysis 240
Image Analysis 242
Script/ HTML Analysis 244
Perform Async Analysis
236
Build Tree of Content
234
Parse HTML, Extract Scripts
232
User Process
230
Service Process
228
Final Content Packager
250
Distribute Content
254
Perform Annotations in HTML
252
Agent Processes

FIG. 2

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 13/633,956	Filing Date 10/03/2012	☐ To be Mailed

ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT 03/06/2018	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0	X $100 =	0
Independent (37 CFR 1.16(h))	* 2	Minus	***3	= 0	X $460 =	0
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	0

AMENDMENT	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
Frederick Briscoe

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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NOTICE OF ALLOWANCE AND FEE(S) DUE

23552 7590 03/28/2018

MERCHANT & GOULD P.C.
P.O. BOX 2903
MINNEAPOLIS, MN 55402-0903

EXAMINER
WILLIAMS, JEFFERY L

ART UNIT	PAPER NUMBER
2495	

DATE MAILED: 03/28/2018

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/633,956	10/03/2012	Joe Jaroch	04584.0005USU1	1029

TITLE OF INVENTION: PROACTIVE BROWSER CONTENT ANALYSIS

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$1000	$0	$0	$1000	06/28/2018

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

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Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

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Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/633,956	10/03/2012	Joe Jaroch	04584.0005USU1	1029

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nonprovisional	UNDISCOUNTED	$1000	$0	$0	$1000	06/28/2018

EXAMINER	ART UNIT	CLASS-SUBCLASS
WILLIAMS, JEFFERY L	2495	726-023000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
- ❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.
1 _____
2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. The following fee(s) are submitted:
- ❑ Issue Fee
- ❑ Publication Fee (No small entity discount permitted)
- ❑ Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**
- ❑ A check is enclosed.
- ❑ Payment by credit card. Form PTO-2038 is attached.
- ❑ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)
- ❑ Applicant certifying micro entity status. See 37 CFR 1.29
  NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
- ❑ Applicant asserting small entity status. See 37 CFR 1.27
  NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
- ❑ Applicant changing to regular undiscounted fee status.
  NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

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PTOL-85 Part B (10-13) Approved for use through 10/31/2013. OMB 0651-0033 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

UNITED STATES PATENT AND TRADEMARK OFFICE

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United States Patent and Trademark Office
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MINNEAPOLIS, MN 55402-0903

EXAMINER	
WILLIAMS, JEFFERY L	

ART UNIT	PAPER NUMBER
2495	

DATE MAILED: 03/28/2018

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 13/633,956	Applicant(s) JAROCH ET AL.	
	Examiner JEFFERY WILLIAMS	Art Unit 2495	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *3/6/18*.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on_____.
2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
3. ☒ The allowed claim(s) is/are *1,3-7,9-11,13-17,20-25*. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   Certified copies:

   a) ☐ All b) ☐ Some *c) ☐ None of the:
   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
5. ☐ Examiner's Amendment/Comment
6. ☐ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/JEFFERY WILLIAMS/
Primary Examiner, Art Unit 2495

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13633956	JAROCH, JOE
	Examiner	Art Unit
	JEFFERY WILLIAMS	2437

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

SEARCH NOTES		
Search Notes	Date	Examiner
713, 726, 380: limited classification search	7/15/2013	jw
East search: uspat, uspgpub, epo, jpo, derwent	7/15/2013	jw
npl search: ibmtdb	7/15/2013	jw
Inventor name search: PALM	7/15/2013	jw
updated search of the above	3/5/2014	jw

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
all	all	3/18/2018	jw

	/JEFFERY WILLIAMS/ Primary Examiner.Art Unit 2495

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13633956	JAROCH, JOE
	Examiner	Art Unit
	JEFFERY WILLIAMS	2437

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☒ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	07/15/2013	03/05/2014	10/20/2014	06/06/2015	01/12/2016	10/26/2016	05/15/2017	10/02/2017	03/18/2018
	1	✓	✓	✓	✓	✓	✓	✓	✓	=
	2	✓	✓	-	-	-	-	-	-	-
	3	✓	✓	✓	✓	✓	✓	✓	✓	=
	4	✓	✓	✓	✓	✓	✓	✓	✓	=
	5	✓	✓	✓	✓	✓	✓	✓	✓	=
	6	✓	✓	✓	✓	✓	✓	✓	✓	=
	7	✓	✓	✓	✓	✓	✓	✓	✓	=
	8	✓	-	-	-	-	-	-	-	-
	9	✓	✓	✓	✓	✓	✓	✓	✓	=
	10	✓	✓	✓	✓	✓	✓	✓	✓	=
	11	✓	✓	✓	✓	✓	✓	✓	✓	=
	12	✓	✓	-	-	-	-	-	-	-
	13	✓	✓	✓	✓	✓	✓	✓	✓	=
	14	✓	✓	✓	✓	✓	✓	✓	✓	=
	15	✓	✓	✓	✓	✓	✓	✓	✓	=
	16	✓	✓	✓	✓	✓	✓	✓	✓	=
	17	✓	✓	✓	✓	✓	✓	✓	✓	=
	18	✓	-	-	-	-	-	-	-	-
	19	✓	✓	-	-	-	-	-	-	-
	20	✓	✓	✓	✓	✓	✓	✓	✓	=
	21		✓	✓	✓	✓	✓	✓	✓	=
	22		✓	✓	✓	✓	✓	✓	✓	=
	23			✓	✓	✓	✓	✓	✓	=
	24			✓	✓	✓	✓	✓	✓	=
	25			✓	✓	✓	✓	✓	✓	=

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13633956	JAROCH ET AL.
	Examiner	**Art Unit**
	JEFFERY WILLIAMS	2495

CPC						
Symbol					**Type**	**Version**
G06F		21	/	566	F	2013-01-01
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CPC Combination Sets							
Symbol					**Type**	**Set**	**Ranking**	**Version**
			/					
			/					

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	20	
/JEFFERY WILLIAMS/ Primary Examiner.Art Unit 2495	03/18/2018	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13633956	JAROCH ET AL.
	Examiner	**Art Unit**
	JEFFERY WILLIAMS	2495

US ORIGINAL CLASSIFICATION		INTERNATIONAL CLASSIFICATION										
CLASS	SUBCLASS	CLAIMED					NON-CLAIMED					
		H	0	4	L	29 / 06 (2006.01.01)						
CROSS REFERENCE(S)												
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)											

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	20	
/JEFFERY WILLIAMS/ Primary Examiner.Art Unit 2495	03/18/2018	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13633956	JAROCH ET AL.
	Examiner	**Art Unit**
	JEFFERY WILLIAMS	2495

☒ **Claims renumbered in the same order as presented by applicant** ☐ **CPA** ☐ **T.D.** ☐ **R.1.47**

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	1	14	17												
	2		18												
2	3		19												
3	4	15	20												
4	5	16	21												
5	6	17	22												
6	7	18	23												
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7	9	20	25												
8	10														
9	11														
	12														
10	13														
11	14														
12	15														
13	16														

NONE (Assistant Examiner)	(Date)	**Total Claims Allowed:** 20	
/JEFFERY WILLIAMS/ Primary Examiner.Art Unit 2495 (Primary Examiner)	03/18/2018 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 1

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

23552 7590 03/28/2018
MERCHANT & GOULD P.C.
P.O. BOX 2903
MINNEAPOLIS, MN 55402-0903

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/633,956	10/03/2012	Joe Jaroch	04584.0005USU1	1029

TITLE OF INVENTION: PROACTIVE BROWSER CONTENT ANALYSIS

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$1000	$0	$0	$1000	06/28/2018

EXAMINER	ART UNIT	CLASS-SUBCLASS
WILLIAMS, JEFFERY L	2495	726-023000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 Merchant & Gould P.C.
2
3

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE: WEBROOT INC.

(B) RESIDENCE: (CITY and STATE OR COUNTRY): Broomfield, CO

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:
- ☒ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**
- ☐ A check is enclosed.
- ☒ Payment by credit card. Form PTO-2038 is attached.
- ☒ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number 132725 (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)
- ☐ Applicant certifying micro entity status. See 37 CFR 1.29
  NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
- ☐ Applicant asserting small entity status. See 37 CFR 1.27
  NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
- ☐ Applicant changing to regular undiscounted fee status.
  NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature /Andrew T. Pouzeshi/ Date June 19, 2018

Typed or printed name Andrew T. Pouzeshi Registration No. 67,672

Forcepoint 1003
p. 387

PATENT
Conf. No. 1029

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Jaroch et al.	Examiner:	WILLIAMS, JEFFERY L.
Serial No.:	13/633,956	Group Art Unit:	2495
Filed:	October 3, 2012	Docket No.:	04584.0005USU1
Title:	PROACTIVE BROWSER CONTENT ANALYSIS		

COMMENTS ON EXAMINER STATEMENT

Mail Stop – ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Washington, D.C. 20231

Dear Commissioner:

Applicant acknowledges the allowance of claims 1, 3-7, 9-11, 13-17, and 20-25 in the subject application by the Examiner with appreciation. Although the Examiner did not issue a Statement of Reasons for Allowance, Applicant agrees with statements made by the Examiner during the prosecution of the present application to the extent that the claims of the present invention are patentable over the references in the record. However, Applicant does not necessarily acquiesce or agree in any manner as to comments made by the Examiner regarding what the prior art does or does not teach. In addition, Applicant respectfully traverses statements made by the Examiner to the extent that any comment is intended or has the effect of limiting a claim scope, explicitly or implicitly, by not reciting verbatim the respective claim language, or is intended or has the effect of limiting a claim scope by stating or implying that all the reasons for patentability are in any way fully enumerated.

Further reasons for allowance are described and set forth in the Applicant's Specification. As the Examiner's statements are not exhaustive, such statements do not establish an estoppel against Applicant seeking and obtaining allowance of additional, broader claims in a continuation application, which Applicant reserves the right to file.

It is believed that no further fees are due with this Response. However, the Commissioner is hereby authorized to charge any deficiencies or credit any overpayment with respect to this patent application to deposit account number 13-2725.

Respectfully submitted,

Date: June 19, 2018

Andrew T. Pouzeshi

Andrew T. Pouzeshi, Reg. No. 67,672
Merchant & Gould P.C.
P.O. Box 2903
Minneapolis, MN 55402-0903
(303) 357-1639

23552
PATENT TRADEMARK OFFICE

Forcepoint 1003
p. 389

Electronic Patent Application Fee Transmittal

Application Number:	13633956
Filing Date:	03-Oct-2012
Title of Invention:	PROACTIVE BROWSER CONTENT ANALYSIS
First Named Inventor/Applicant Name:	Joe Jaroch
Filer:	Andrew T. Pouzeshi/Jacquelyn Slate
Attorney Docket Number:	04584.0005USU1

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
UTILITY APPL ISSUE FEE	1501	1	1000	1000

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**1000**

Electronic Acknowledgement Receipt

EFS ID:	32940671
Application Number:	13633956
International Application Number:	
Confirmation Number:	1029
Title of Invention:	PROACTIVE BROWSER CONTENT ANALYSIS
First Named Inventor/Applicant Name:	Joe Jaroch
Customer Number:	23552
Filer:	Andrew T. Pouzeshi/Jacquelyn Slate
Filer Authorized By:	Andrew T. Pouzeshi
Attorney Docket Number:	04584.0005USU1
Receipt Date:	19-JUN-2018
Filing Date:	03-OCT-2012
Time Stamp:	16:18:55
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$1000
RAM confirmation Number	062018INTEFSW16202101
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	2018-06-19-IssueFee-04584-0005USU1.PDF	138595 e2400b2daac4eeed4ee4452b5e2aff4b920ec85a	no	1
Warnings:					
Information:					
2	Post Allowance Communication - Incoming	2018-06-19-Comments-04584-0005USU1.PDF	70700 e6d65a2b2d25891f3815400feb72527c59e0e313	no	2
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	30396 9f780f6b49ac990861e468b55e90f90aa0a540b3	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	239691		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/633,956	07/17/2018	10025928	04584.0005USU1	1029

23552 7590 06/27/2018

MERCHANT & GOULD P.C.
P.O. BOX 2903
MINNEAPOLIS, MN 55402-0903

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):

Joe Jaroch, Elk Grove Village, IL;
WEBROOT INC., Broomfield, CO
Harry Murphey McCloy III, Longmont, CO;
Robert Edward Adams, Sunnyvale, CA;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.

AO 120 (Rev. 08/10)

TO:	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court WESTERN DISTRICT OF TEXAS on the following

☐ Trademarks or ☑ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
6:22-cv-00342	3/31/2022	WESTERN DISTRICT OF TEXAS

PLAINTIFF	DEFENDANT
WEBROOT, INC. and OPEN TEXT, INC.	FORCEPOINT LLC

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	8,726,389	5/13/2014	Webroot, Inc.
2	8,438,386	5/7/2013	Webroot, Inc.
3	10,599,844	3/24/2020	Webroot, Inc.
4	9,413,721	8/9/2016	Webroot, Inc.
5	10,025,928	7/17/2018	Webroot, Inc.

In the above---entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1		
2		
3		
4		
5		

In the above---entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE

Copy 1---Upon initiation of action, mail this copy to Director Copy 3---Upon termination of action, mail this copy to Director
Copy 2---Upon filing document adding patent(s), mail this copy to Director Copy 4---Case file copy

Power of Attorney to Transact Business with the United States Patent and Trademark Office

I hereby revoke all previous Powers of Attorney given in the application(s) identified in the attached Transmittal for Power of Attorney to One or More Registered Practitioners ("Transmittal Form").

I hereby appoint practitioners associated with the following Customer Number associated with Sprinkle IP Law Group, PC :

109422

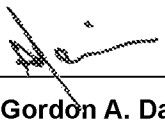
as my/our attorney(s) or agent(s) and to transact all business before the United States Patent and Trademark Office (USPTO) in connection with any and all patents and patent applications that are assigned to **Webroot Inc.** (the "assignee's patents/patent applications") in which they shall appear, any and all assignee's patents/patent applications associated with the above-referenced customer number, and any and all patents and patent applications referenced in the attached Transmittal Form.

Please recognize or change the correspondence address for the patents and patent applications referenced in the attached Transmittal Form to the address associated with the above-referenced customer number.

The undersigned is:

- ☐ Inventor or Joint Inventor
- ☒ Assignee or Person to Whom the Inventor is Under an Obligation to Assign
  *the undersigned has authority to act on behalf of the Assignee or Person to Whom the Inventor is Under an Obligation to Assign.
- ☐ Legal Representative of a Deceased or Legally Incapacitated Inventor
- ☐ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is currently being filed in this document)

The Transmittal Form may be completed and executed by one of the practitioners associated with the above-referenced customer number.

SIGNATURE OF APPLICANT			
Signature:		**Date:**	January 29, 2020
Name:	**Gordon A. Davies**		
Title:	Director		
Company:	**Webroot Inc.**		
I am authorized to act on behalf of the assignee.			

Electronic Acknowledgement Receipt

EFS ID:	45384310
Application Number:	13633956
International Application Number:	
Confirmation Number:	1029
Title of Invention:	PROACTIVE BROWSER CONTENT ANALYSIS
First Named Inventor/Applicant Name:	Joe Jaroch
Customer Number:	23552
Filer:	John L. Adair/Shenise Ramdeen
Filer Authorized By:	John L. Adair
Attorney Docket Number:	04584.0005USU1
Receipt Date:	04-APR-2022
Filing Date:	03-OCT-2012
Time Stamp:	11:02:30
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Assignee showing of ownership per 37 CFR 3.73	OPEN7520-1_POATrans04-04-22.pdf	28269 d82363daff5deb51eea95ad392c64c54ba52854a	no	2

Warnings:

Information:					
2	Power of Attorney	WEBROOT_POA.pdf	126961 50ab3093648a7505d565f42a50de6af35361bd49	no	1
Warnings:					
Information:					
			Total Files Size (in bytes):	155230	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

TRANSMITTAL FOR POWER OF ATTORNEY FOR ONE OR MORE REGISTERED PRACTITIONERS

Patent No./Application No.:	**13/633,956**
Issue Date/Filing Date:	**October 3, 2012**
First Named Inventor:	**Joe Jaroch**
Title:	**PROACTIVE BROWSER CONTENT ANALYSIS**
Assignee:	**Webroot, Inc.**

Statement Under 37 C.F.R. § 3.73

Assignee is:

1. ☒ Assignee of the entire right, title and interest in the above-referenced patent/patent application;

2. ☐ Assignee of less than the entire right, title and interest in the above-referenced patent/patent application:

☐ The extent (by percentage) of its ownership interest is _____%; or

☐ There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. ☐ Assignee of an undivided interest in the entirety of the above-referenced patent/patent application (a complete assignment by one or more of the joint inventors was made). The other parties, including inventor, who together own the entire right, title and interest are:

Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. ☐ Recipient, via court proceeding or the like (e.g., bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is/are attached.

The interest identified in option 1, 2 or 3 above as evidenced by either:

A. ☐ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

or

B. ☐ A chain of title from the inventor(s) of the patent/patent application identified above, to the current assignee;

1. From: Joe Jaroch To: Webroot, Inc.

   The document was recorded in the United States Patent and Trademark Office at Reel 029067, Frame 0845, or for which a copy thereof is attached hereto.

2. From: Harry Murphey McCloy, III and Robert Edward Adams To: Webroot, Inc.

   The document was recorded in the United States Patent and Trademark Office at Reel 034009, Frame 0378, or for which a copy thereof is attached hereto.

☐ Additional documents in the chain of title are listed on the supplemental sheet(s).

☒ Documentary evidence of chain of title from the original owner to the assignee was, or concurrently is being submitted for recordation pursuant to 37 CFR 3.11 [NOTE: A separate copy (i.e., a true copy the original assignment document(s)) must be/have been submitted to the Assignment Division to record the assignment in the records of the USPTO]

The undersigned (whose title/registration number is supplied below) is authorized to act on behalf of assignee.

Signature:	/John L. Adair/	**Date:** March 31, 2022
Name:	John L. Adair	**Telephone: 512-637-9220**
Title or Registration No.	48,828	

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/633,956	10/03/2012	Joe Jaroch	04584.0005USU1

CONFIRMATION NO. 1029

POA ACCEPTANCE LETTER

109422
Sprinkle IP Law Group/OPEN
1301 W. 25th Street, Suite 400
Austin, TX 78705

OC00000013300427 2

Date Mailed: 04/08/2022

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 04/04/2022.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/mmasfaw/

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/633,956	10/03/2012	Joe Jaroch	04584.0005USU1

CONFIRMATION NO. 1029

POWER OF ATTORNEY NOTICE

23552
MERCHANT & GOULD P.C.
P.O. BOX 2903
MINNEAPOLIS, MN 55402-0903

OC000000133004249

Date Mailed: 04/08/2022

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 04/04/2022.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/mmasfaw/