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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
62/079,512	11/13/2014		130	30361-28149/US		

CONFIRMATION NO. 5728

758
FENWICK & WEST LLP
SILICON VALLEY CENTER
801 CALIFORNIA STREET
MOUNTAIN VIEW, CA 94041

FILING RECEIPT



Date Mailed: 12/01/2014

Receipt is acknowledged of this provisional patent application. It will not be examined for patentability and will become abandoned not later than twelve months after its filing date. 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)

Michael Molinet, Palo Alto, CA;
Maria Madalina Seghete, Palo Alto, CA;
Alexander John Austin, Menlo Park, CA;
Dmitri Gaskin, Mountain View, CA;

Applicant(s)

Pawprint Labs, Inc., Menlo Park, CA

Power of Attorney:

Rajiv Patel--39327

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: 11/28/2014

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 62/079,512**

Projected Publication Date: None, application is not eligible for pre-grant publication

Non-Publication Request: No

Early Publication Request: No

**** SMALL ENTITY ****

Title

Deeplink Installation

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

page 1 of 3

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

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as 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 Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

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SelectUSA

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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	30361-28149/US
		Application Number	
Title of Invention	Deeplink Installation		
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.)
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Inventor Information:

Inventor 1					Remove	
Legal Name						
Prefix	Given Name	Middle Name	Family Name	Suffix		
	Michael		Molinet			
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service						
City	Palo Alto	State/Province	CA	Country of Residence i	US	
Mailing Address of Inventor:						
Address 1		Pawprint Labs, Inc.				
Address 2		1007 Florence Lane, Apt 4				
City	Menlo Park		State/Province	CA		
Postal Code	94025		Country i	US		
Inventor 2					Remove	
Legal Name						
Prefix	Given Name	Middle Name	Family Name	Suffix		
	Maria	Madalina	Seghete			
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service						
City	Palo Alto	State/Province	CA	Country of Residence i	US	
Mailing Address of Inventor:						
Address 1		Pawprint Labs, Inc.				
Address 2		1007 Florence Lane, Apt 4				
City	Menlo Park		State/Province	CA		
Postal Code	94025		Country i	US		
Inventor 3					Remove	
Legal Name						
Prefix	Given Name	Middle Name	Family Name	Suffix		
	Alexander	John	Austin			
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service						

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	30361-28149/US	
		Application Number		
Title of Invention	Deeplink Installation			

City	Menlo Park	State/Province	CA	Country of Residence i	US
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Mailing Address of Inventor:

Address 1	Pawprint Labs, Inc.				
Address 2	1007 Florence Lane, Apt 4				
City	Menlo Park	State/Province	CA		
Postal Code	94025	Country i	US		

Inventor 4	Remove
Legal Name	

Prefix	Given Name	Middle Name	Family Name	Suffix
	Dmitri		Gaskin	

Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service

City	Mountain View	State/Province	CA	Country of Residence i	US
------	---------------	----------------	----	------------------------	----

Mailing Address of Inventor:

Address 1	Pawprint Labs, Inc.				
Address 2	1007 Florence Lane, Apt 4				
City	Menlo Park	State/Province	CA		
Postal Code	94025	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	00758		
Email Address	ptoc@fenwick.com	Add Email	Remove Email

Application Information:

Title of the Invention	Deeplink Installation		
Attorney Docket Number	30361-28149/US	Small Entity Status Claimed	☒
Application Type	Provisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)		Suggested Figure for Publication (if any)	

Filing By Reference :

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	30361-28149/US
		Application Number	
Title of Invention	Deeplink Installation		

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.

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	00758		

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		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the Add button.			Add

Foreign Priority Information:

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	30361-28149/US
		Application Number	
Title of Invention	Deeplink Installation		

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) 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.			Add

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
--

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	30361-28149/US
		Application Number	
Title of Invention	Deeplink Installation		

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			Remove
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	Pawprint Labs, Inc.		
Mailing Address Information:			
Address 1	1007 Florence Lane, Apt 4		
Address 2			
City	Menlo Park	State/Province	CA
Country ⁱ	US	Postal Code	94025
Phone Number		Fax Number	

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	30361-28149/US
		Application Number	
Title of Invention	Deeplink Installation		
Email Address			
Additional Applicant Data may be generated within this form by selecting the Add button.			Add

Assignee Information including Non-Applicant Assignee 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.

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.				
				Remove
If the Assignee or Non-Applicant Assignee is an Organization check here.				☐
Prefix	Given Name	Middle Name	Family Name	Suffix
Mailing Address Information For Assignee including Non-Applicant Assignee:				
Address 1				
Address 2				
City		State/Province		
Country i		Postal Code		
Phone Number		Fax Number		
Email Address				
Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button.				Add

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	/Rajiv P. Patel/		Date (YYYY-MM-DD)	2014-11-13
First Name	Rajiv P.	Last Name	Patel	Registration Number
				39327
Additional Signature may be generated within this form by selecting the Add button.				Add

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	30361-28149/US
		Application Number	
Title of Invention	Deeplink Installation		

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.

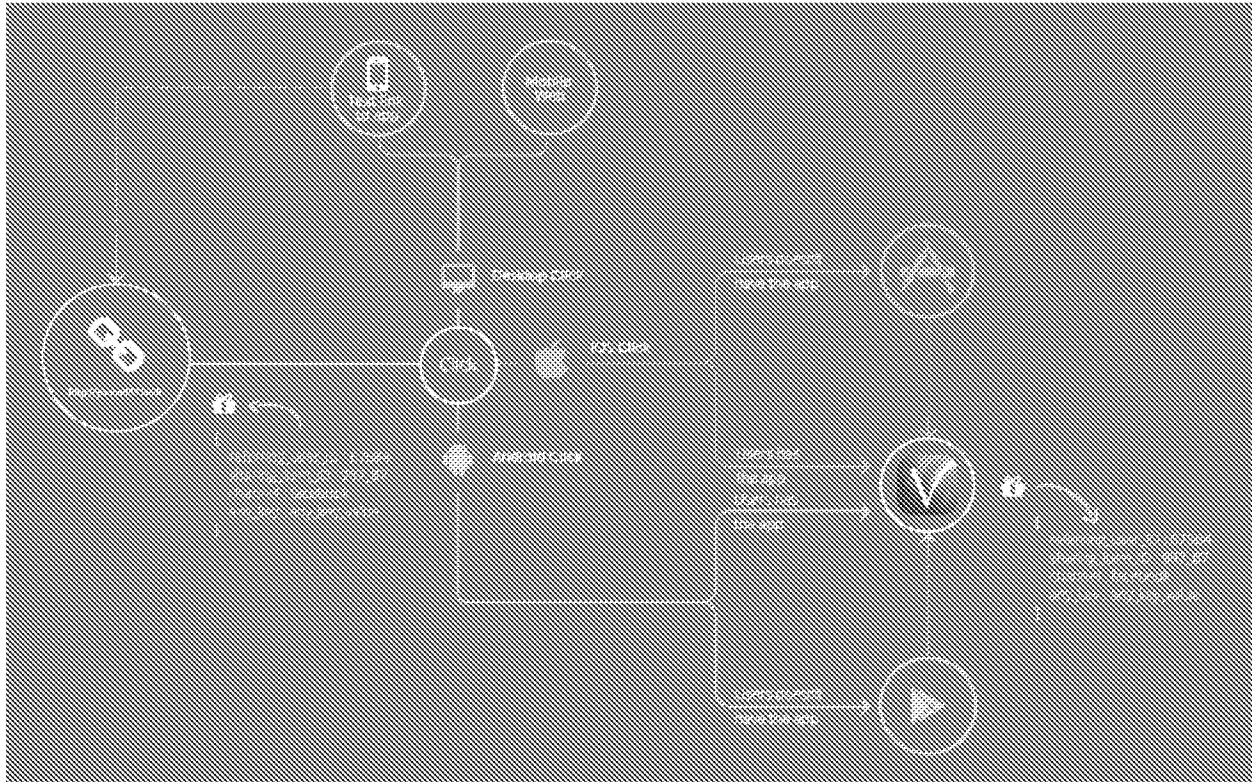
The information provided by you in this form will be subject to the following routine uses:

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.

DEEPLINK INSTALLATION

DETAILED DESCRIPTION

When a user installs, on a computing device (e.g., smartphone, tablet, laptop, etc.) a mobile app through the Apple App Store or Google Play Store, it is impossible to know from where the user came before installing the app. This functionality is a valuable building block for mobile referral/invite programs, content-sharing programs, and install analytics. We propose “install deeplinks”, a method of getting past this barrier. On top of that, we build a universal deeplinking service, which can choose whether to route the user to a direct deeplink or an install deeplink.



Regardless of where the link gets created, all links behave the same way. Any dictionary of data can be bundled with them. In addition, one can make sure to specify the channel the link was created or shared in, to allow to later look at a funnel by channel in a dashboard.

Links can be created in the following ways:

- In the SDK - every time a user clicks share or invite, a link gets created. The share event is considered to be unique, meaning every time a user clicks share or invite a new link gets created.
- With the Web SDK – links can be created on the fly on a web page that work through install of the mobile app. Build a cross-platform referral program using mobile and web together!
- In a public API - for example if there is a list of users with unique data for each user (for example, a username), the system allows to use an API to create a unique link for each user automatically
- On a dashboard – the system allows for creation of custom links manually that can be customized, shared and tracked on social media

A link can be white labeled. In addition, a customer or selection of a specific link URL is permitted through the system. So for example VANGO can create a link like <http://vng.io/20off>.

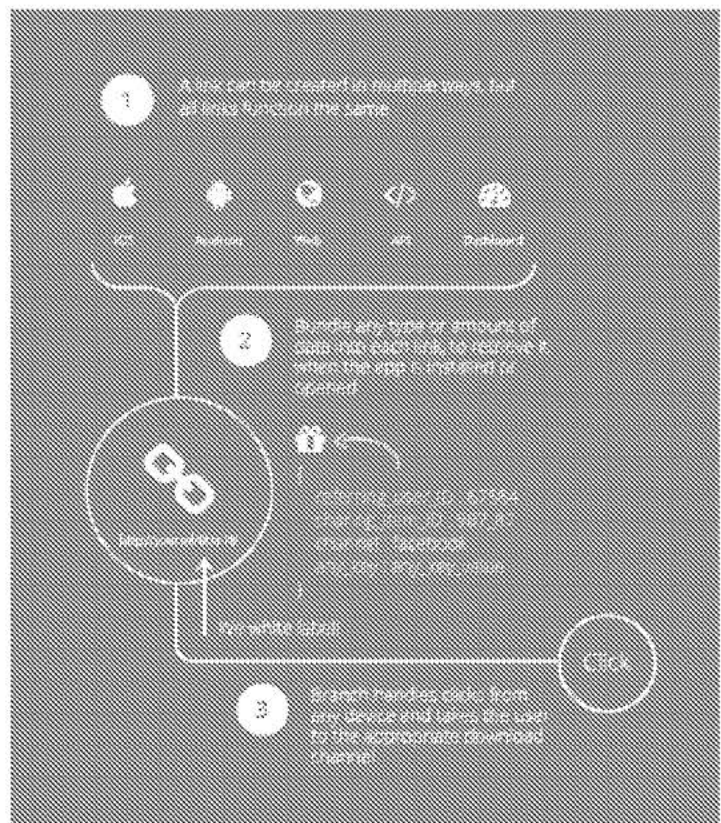
2. Bundling data with the link

The system is configured to bundle any data with a link. From referring user IDs, to channel, to the place in the app where the link was shared, to the content to direct the user to, or the amount of credits you want to award them. The system is configured to bundle hundreds of pieces of data, while remaining operational. The amount of data does not affect the size of the link. It is stored all securely and anonymously on system servers and made available right after a user has installed it.

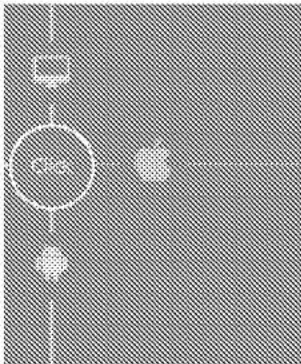
Use detailed tagging system to specify the feature that the links will be used by, or the channel in which they'll be shared, or even the stage of the user when they shared the link. The data can be cut and sliced on link clicks to install and open a dashboard by all of these parameters.

3. Customizing the endpoints

A link is created, the system allow to completely specify the endpoints on each platform. There are defaults setup for each, as further described below, but all of these can be overridden by



custom endpoints. For example, the system allows to insert the key “\$ios_url” into the data packet, with the http url to take the user to on iOS. Or, send them to a custom desktop page with “\$desktop_url”. Of course, “\$android_url” works as well. The possibilities are endless.



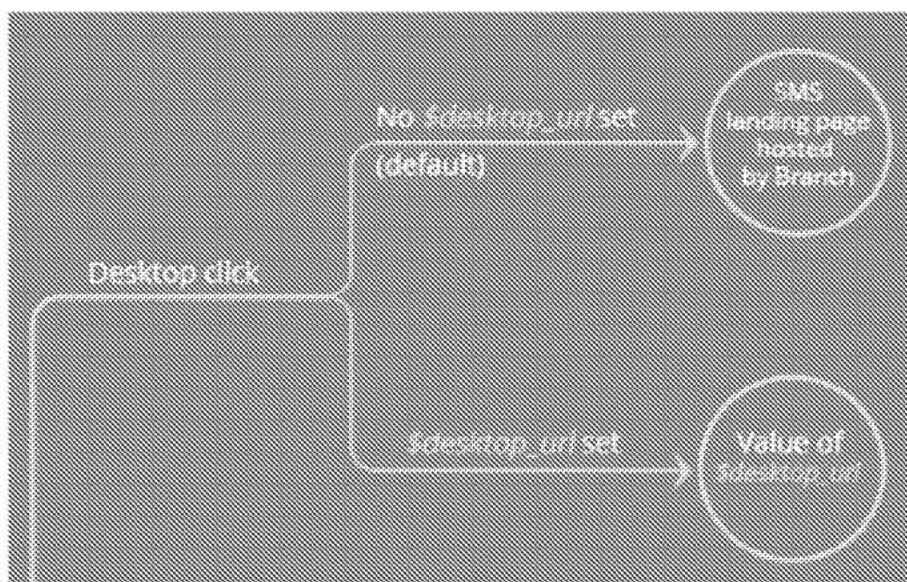
4. Clicking and detecting the platform

Our smart links detect the platform a user clicks from and takes them to the appropriate content. There is no need to separate links for iOS, Android or Desktop. The system is configured to receive information as to where the user needs to go and the system maps the routing, ensuring that users convert at the highest possible level.

5. Desktop click

When a user clicks on a desktop, by default, the system directs them to a page that allows them to text themselves the app (we can help you improve the design of it). This can be overridden with a provided desktop website by specifying the “\$desktop_url” key when creating the link.

If there is an option to text themselves the app, the system can still use a universal app banner on the web page that basically shows up a text-me-the-app banner on your mobile pages, or use the smsLink() function on the Web SDK with your own HTML widget. If the user was routed to that Web SDK-enabled site from one of the system links, the system remembers that referring link data and continues the flow through the app banner or SMS call.

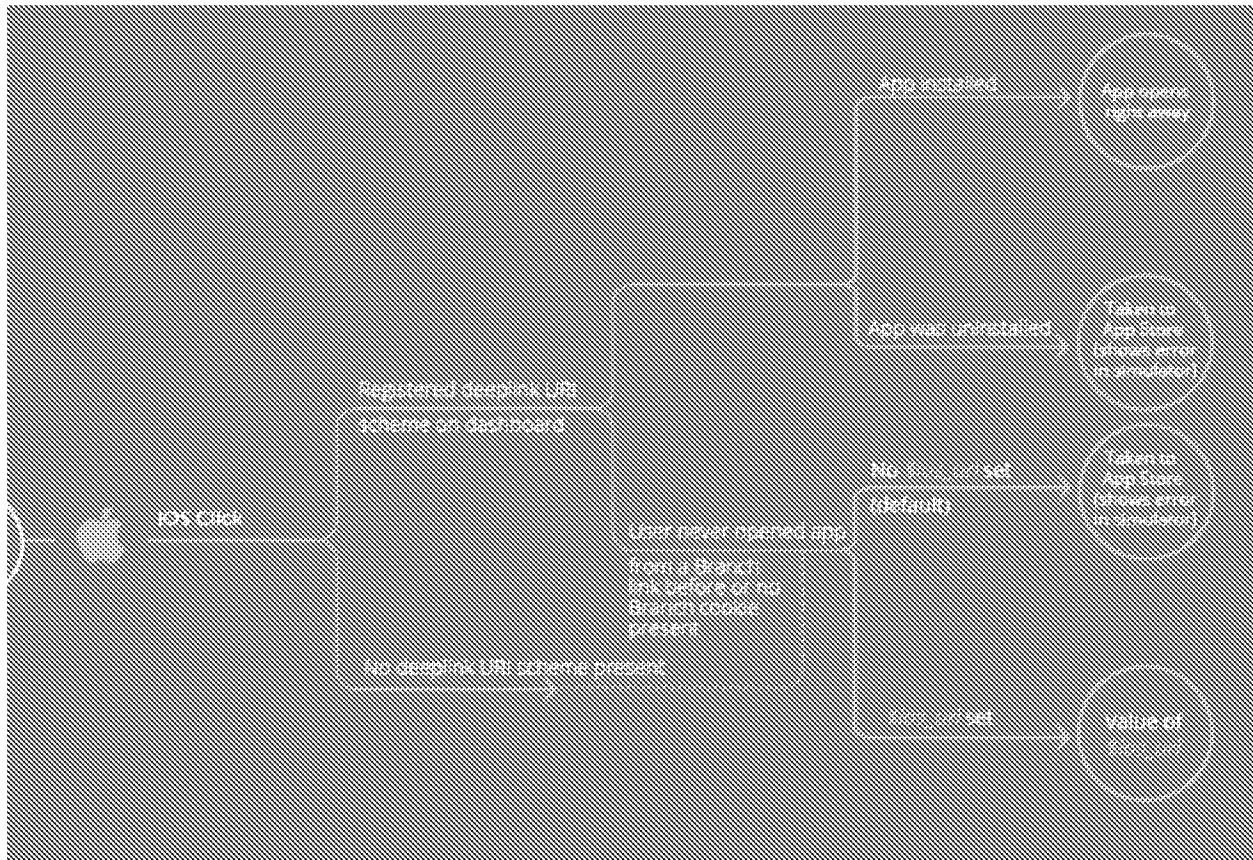


6. iOS or Android clicks

If a user clicks on a mobile device, our links detect whether or not the user has the app installed and we either (i) automatically open the app, or (ii) take them to the app store if they don't. If the user has the app, the system uses a standard URI scheme to take them to the appropriate content. If they don't, the system makes sure the link parameters are available after install.

Regarding a determination of whether the app is installed, the system cookies the user the first time they click one of the links, and remembers if they continued to install the app. If a user clicks the link, and they don't have the system provided cookie or they never went on to install after clicking our link, the system sends them to the app store. While rare, it is possible that an existing user clicks a link and the system has never seen them before, in which case they'd get taken to the app store the first time they see a Branch link and then directly to the app every time after that. The system makes this choice because there is currently no way to test if the app is installed without showing an error in the case when the app is not installed. It is believed that the majority of the users clicking on our links will be users who don't have the app installed, and therefore the system optimizes for the majority case, and not show an error.

This 'has-the-app/does-not-have-the-app' logic is entirely overridden if you decide to use the "\$ios_url" or "\$android_url" key when creating the link. The system passes the link parameter to your endpoint, so that if you use the Web SDK with the smart banner, the system passes the link through to the app.



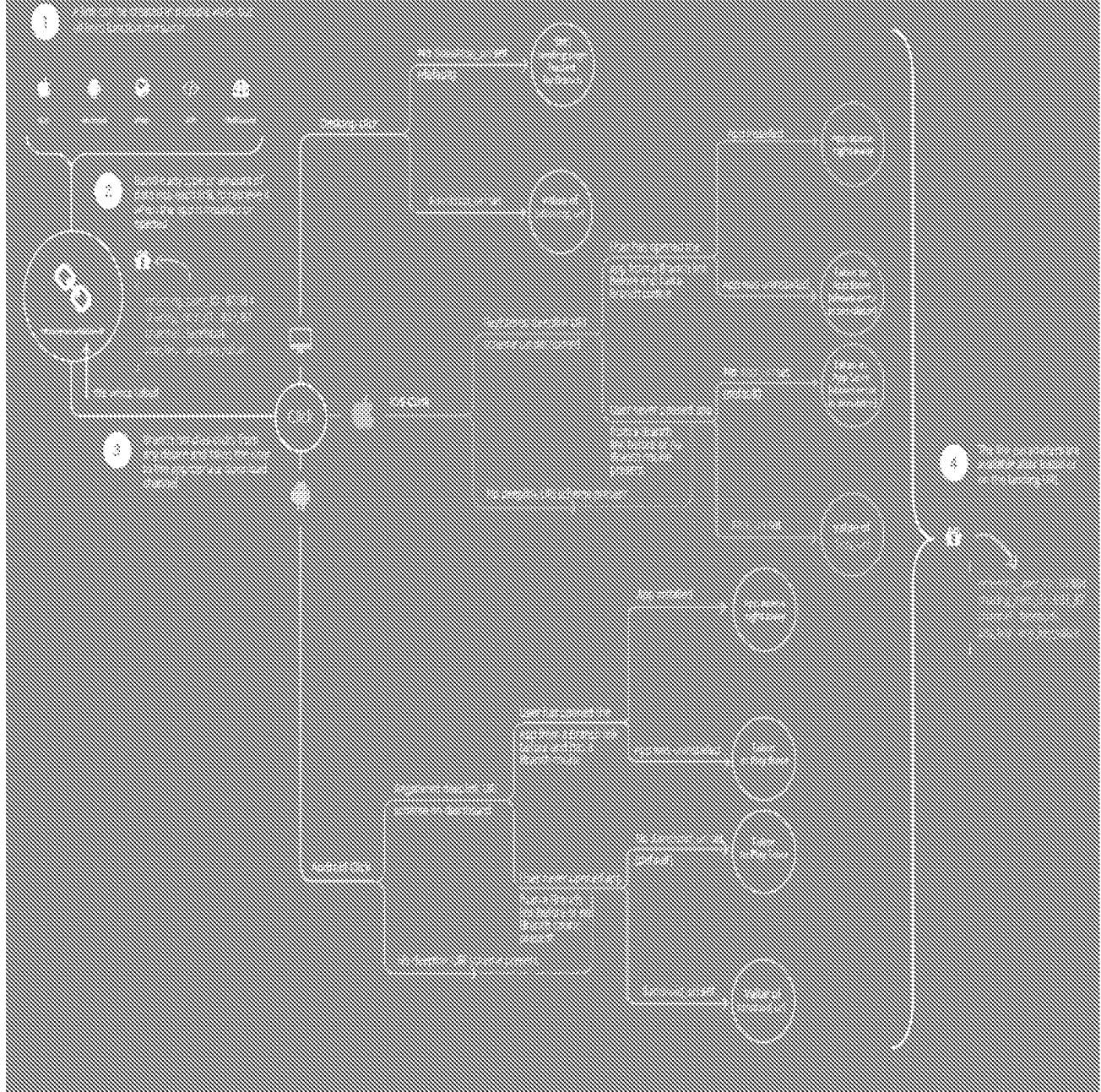
7. Getting the parameters after install or open

Once the user has installed or opened the app, the session parameters to get the data that was bundled with the link that user came from is requested. This is an asynchronous call on initialization, since there is no way to pass the URL data through without first checking with the Branch servers.

Below is the whole diagram of how our links work, from start to finish. For every possible scenario, the system makes sure that ultimately the data received was bundled with the link right when the app is opened so 100% of the time you take the user to the right spot in the app.

HOW BRANCH DEEP LINKS WORK

Passing any data through install



ADDITIONAL FIGURES

Diagrams:

Fig. 1. Creating a link.

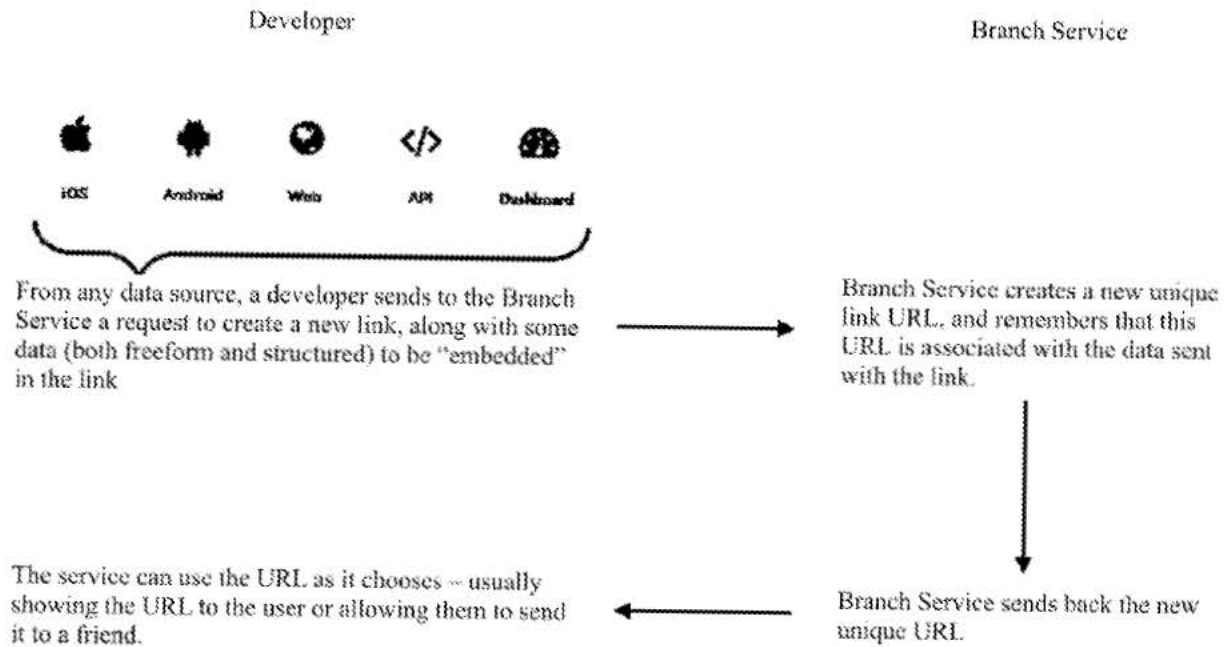


Fig. 2. Link redirection on mobile platform decision tree.

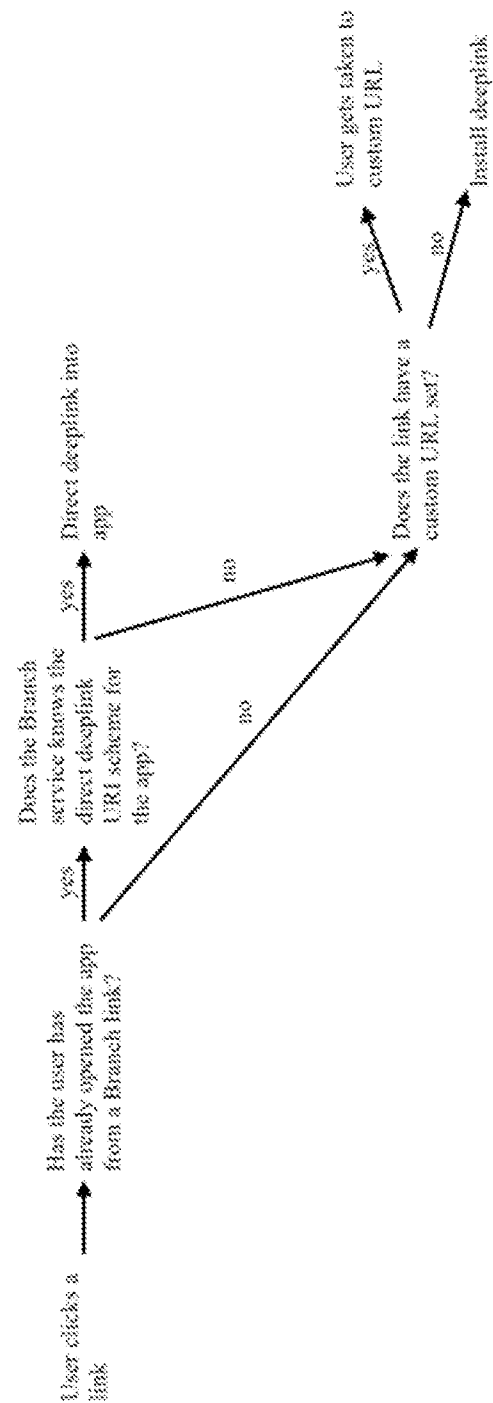
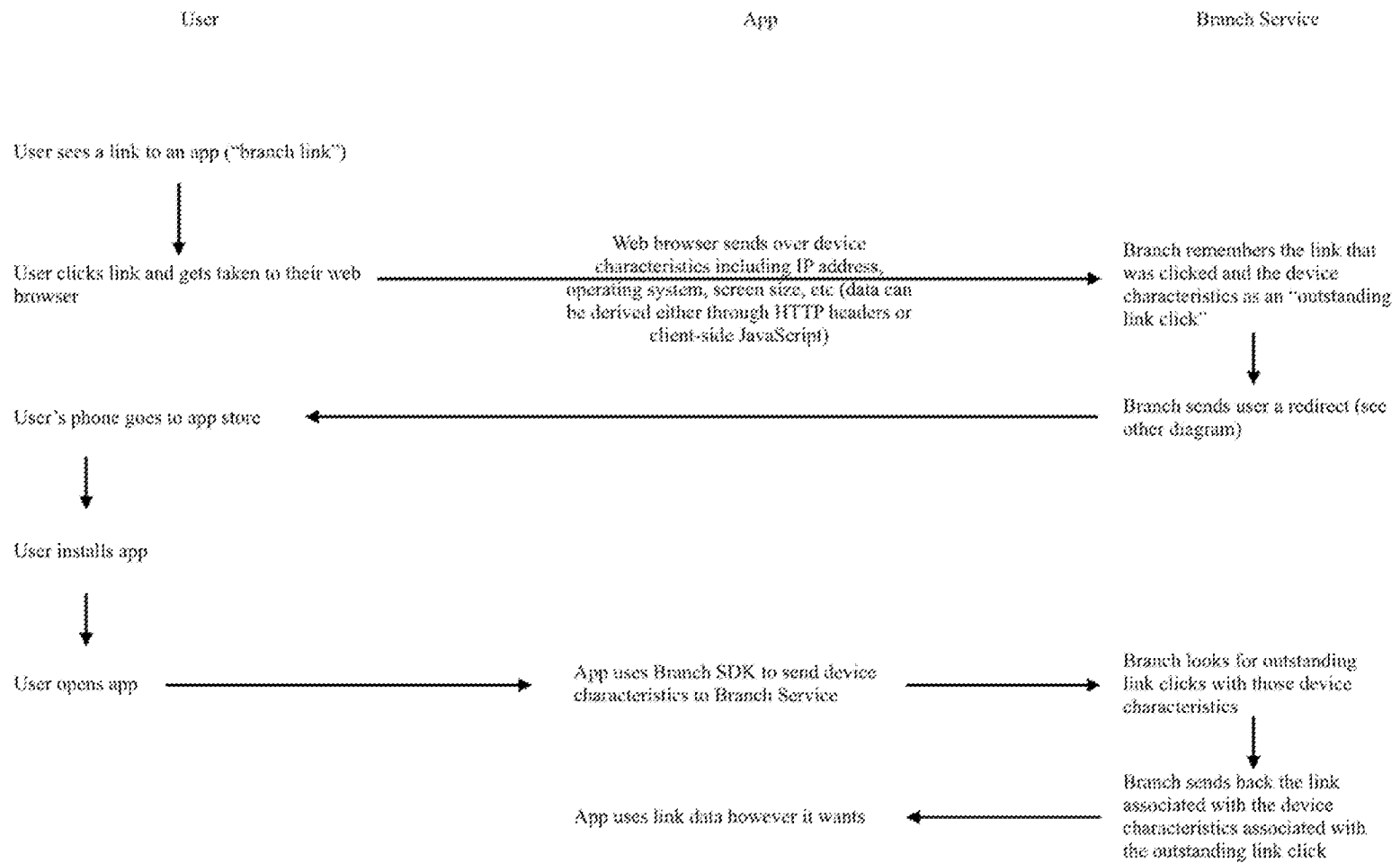


Fig. 3. How “install deeplinks” work.



ADDITIONAL DETAILED DESCRIPTION OF ADDITIONAL FIGURES

Fig. 1

To begin the process, a developer must create a link. Links can be created in the at least the following ways:

- With a native SDK (e.g. iOS/Android/Web) - Usually upon user intent, the developer can choose to generate a link.
- Via the HTTP API - developers create links directly with the the Branch Service instead of going through an SDK.
- Through a dashboard - our analytics dashboard, for example, provides users with the capability of generating links.

As part of generating the link, the developer chooses data to be embedded with the link. The data is stored in a key/value format, and may have any arbitrary keys and values. Additionally, developers may use certain preset keys that affect the behavior of the link, including the redirection behavior and how the link appears when posted to social media.

Upon sending that data to the Branch Service, the Branch Service associates that data with a unique URL which it then transmits back to the developer. The developer is free to use that URL as they choose.

At a later point in time, when a user clicks a link, the Branch Service will return the link data to the developer.

Fig. 2

When a user clicks the link on a mobile platform, the Branch Service uses either an “install deeplink” or “direct deeplink” to route the user to the appropriate location.

Note: “direct deeplink” is existed functionality provided by the iOS and Android operating systems wherein an app can register itself on the user’s phone as a handler for a certain URI scheme (a link starting with “myapp://”), and when the user is directed to a link starting with the URI scheme (e.g. “myapp://open”), the app which registered the URI scheme is opened, and the app is informed of any data associated with the link that send the user to it. However, if the user is taken to a URI scheme for which their is no registered handler (i.e. the user is taken to the URI scheme for an app, but doesn’t have that app installed), the operating system displays an error.

Given the limitations of direct deeplinks, the Branch Service is careful to only redirect the user to a direct deeplink when it is fairly sure that the user has the app installed corresponding to the direct deeplink. In other cases, the Branch service will use an install deeplink.

Specifically, the Branch Service chooses to direct the user to a direct deeplink if the user has opened the app from a Branch Deeplink before, and the app developer has informed the Branch Service of their deeplink URI scheme. It is still possible for a direct deeplink to fail, specifically when the user has uninstalled an app previously opened from a Branch link. In order to get around this, there is a small amount of code that causes the link to still behave as an install deeplink. However, in this case, there is a degraded user experience, as the user is still shown the operating system error.

If the Branch Service chooses to use an install deeplink, it will first check the link data for a number of specific keys (which key it checks depends on which platform the user is opening the link from), and if there is a value for the key in the link's key/value data set, the user is redirected to the value of that key (often a URL). Otherwise, the Branch Service to proceed with an install deeplink as detailed below:

Fig. 3

When the user clicks the link, the user's browser will send certain browser characteristics to the server, including IP address (as part of the TCP connection), operating system/operating system version (through the User-Agent HTTP header). Other device characteristics, such as screen size, can be determined by running a small amount of JavaScript on the user's browser.

The Branch Service stores these characteristics, along with the link that was clicked on, as an "outstanding link click". The user then is directed to the App Store and left to install the intended app at their will.

Once the user opens the app, the app includes a small piece of code ('the SDK') to call the Branch Service. Given that the SDK is running natively on the device, and not in an interpreted environment (as JavaScript is), the SDK has access to a broad range of device characteristics. As such, when an app with the SDK embedded starts, the SDK gathers these characteristics and sends them to the Branch Service.

The Branch Service then looks for any outstanding link clicks with matching device characteristics. If there is an outstanding link click matching the device characteristics sent by the SDK, the Branch Service sends back to the SDK the link data associated with the link click.

Thus, by combining install deeplinks and direct links, we are able to effectively inform the developer of the links from which their users came in every scenario.

Claimable features include, but are not limited to, the following:

- install deeplinks: service to store device characteristics + data and redirect user; SDK to send device characteristics; service to match device characteristics and send back stored data
- universal link: routing to determine whether to send user to direct deeplink or install deeplink

Electronic Patent Application Fee Transmittal				
Application Number:				
Filing Date:				
Title of Invention:		Deeplink Installation		
First Named Inventor/Applicant Name:		Michael Molinet		
Filer:		Rajiv P. Patel/Alyona Eidingen		
Attorney Docket Number:		30361-28149/US		
Filed as Small Entity				
Provisional Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Provisional Application Filing Fee	2005	1	130	130
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:				
Total in USD (\$)				130

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First Named Inventor/Applicant Name:	Michael Molinet
Customer Number:	758
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Application Type:	Provisional

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Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$ 130
RAM confirmation Number	9248
Deposit Account	192555
Authorized User	

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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Application Data Sheet	28149_ADS.pdf	1561126	no	8
			ea0ec1ba3cc341c1adf5bf00d36435f9acd9400b		

Warnings:

Information:

2	Specification	28149_Specification.pdf	1183081	no	12
			253a8da65d8127000b4f6d968d27ba430cf884c		

Warnings:

Information:

3	Fee Worksheet (SB06)	fee-info.pdf	29359	no	2
			bb50a9602eb8dee12672b68fb0b791b7115611f7		

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