Apple Inc. (Petitioner)
v.
SpaceTime3D, Inc. (Patent Owner)

Petitioner's Demonstratives

Case No. IPR2023-00343 and IPR2023-00344
U.S. Patent Nos. 9,304,654 and 9,696,868
Before Hon. Hubert C. Lorin, David C. McKone, and Sheila F. McShane
Administrative Patent Judges

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

APPLE 1034
Apple v. SpaceTime3D, Inc.
IPR2023-00343

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DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

The ’868 & ’654 Patents

US009304654B2

(12) **United States Patent**
Bakhash

(10) **Patent No.: US 9,304,654 B2**
(45) **Date of Patent: *Apr. 5, 2016**

(54) **SYSTEM AND METHOD FOR DISPLAYING A TIMELINE ASSOCIATED WITH A PLURALITY OF APPLICATIONS**

(71) Applicant: **Ezra Eddie Bakhash**, New York, NY (US)

(72) Inventor: **Ezra Eddie Bakhash**, New York, NY (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 84 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **14/503,142**

(22) Filed: **Sep. 30, 2014**

(65) **Prior Publication Data**

US 2015/0128059 A1 May 7, 2015

Related U.S. Application Data

(63) Continuation of application No. 12/751,879, filed on Mar. 31, 2010, now Pat. No. 8,881,048, which is a continuation of application No. 11/531,676, filed on Sep. 13, 2006, now Pat. No. 7,735,018.

(60) Provisional application No. 60/717,019, filed on Sep. 13, 2005.

(51) **Int. Cl.**

G06F 3/0482	(2013.01)
G06F 3/0481	(2013.01)
G06F 3/048	(2013.01)
G06F 17/30	(2006.01)
G06T 15/20	(2011.01)
G11B 27/34	(2006.01)
G06F 3/0484	(2013.01)

(52) **U.S. Cl.**

CPC ***G06F 3/04815*** (2013.01); ***G06F 3/0482*** (2013.01); ***G06F 3/04817*** (2013.01); ***G06F 3/04845*** (2013.01); ***G06F 17/30572*** (2013.01); ***G06F 17/30864*** (2013.01); ***G06F 17/30873*** (2013.01); ***G06T 15/20*** (2013.01); ***G11B 27/34*** (2013.01)

(58) **Field of Classification Search**

CPC G06F 3/0481; G06F 3/04815; G06F 3/04817; G06F 3/0482; G06F 3/0483; G06F 3/04845; G06F 17/30864; G06F 17/30873; G06F 17/30572; G06T 15/04; G06T 15/20; G11B 27/34

USPC 715/782, 781, 764, 788, 766, 767

See application file for complete search history.

(56) **References Cited**

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5,428,735	A *	6/1995	Kahl et al.	715/839
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6,499,029	B1 *	12/2002	Kurapati et al.	707/750
6,577,330	B1 *	6/2003	Tsuda et al.	715/782

(Continued)

Primary Examiner — Ting Lee
(74) *Attorney, Agent, or Firm* — Fitzsimmons IP Law

(57) **ABSTRACT**

Methods and systems are provided for providing an improved three-dimensional graphical user interface. In one embodiment, the method generally comprises: receiving an input from an end user, and capturing computing output from at least one computer source in response to the received end-user input. The computing output can be presented as two or more objects within a three-dimensional virtual space displayed to the end user. In one embodiment, the method further comprises generating a timeline that includes an icon for each object presented within the virtual space. In another embodiment, the method further comprises providing a database for storing and categorizing data regarding each object presented within the virtual space.

19 Claims, 30 Drawing Sheets

654 IPR: APPLE1001, cover.

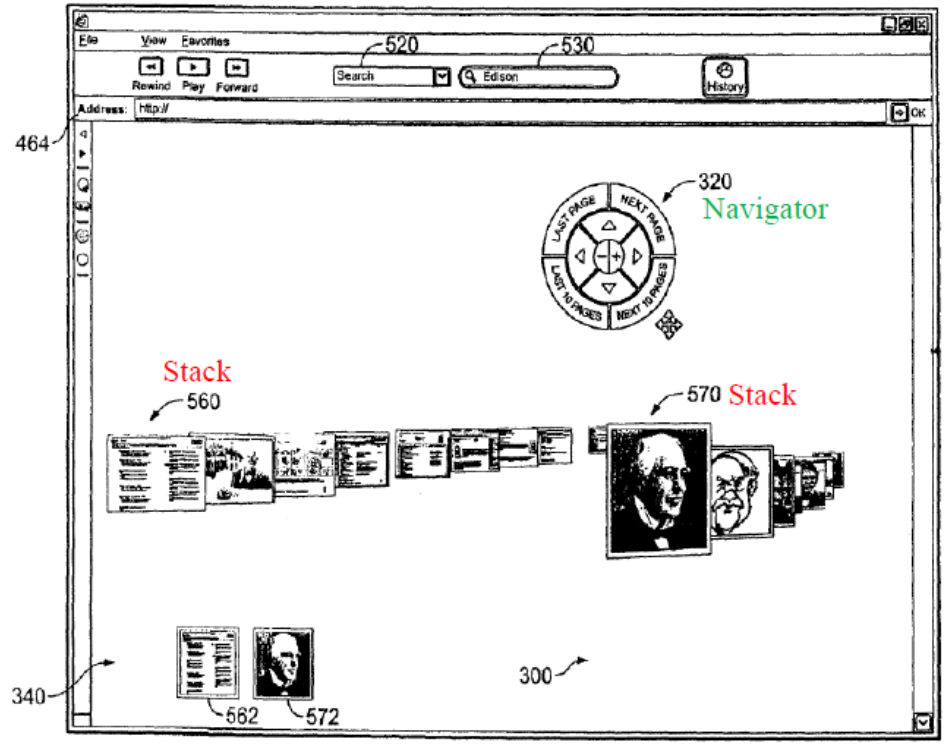

FIG. 16A

868 IPR: APPLE1001 (’868 pat.), FIG. 16A; Petition (Pet.,) 8.
654 IPR: APPLE1001 (’654 pat.), FIG. 16A; Petition (Pet.,) 9.

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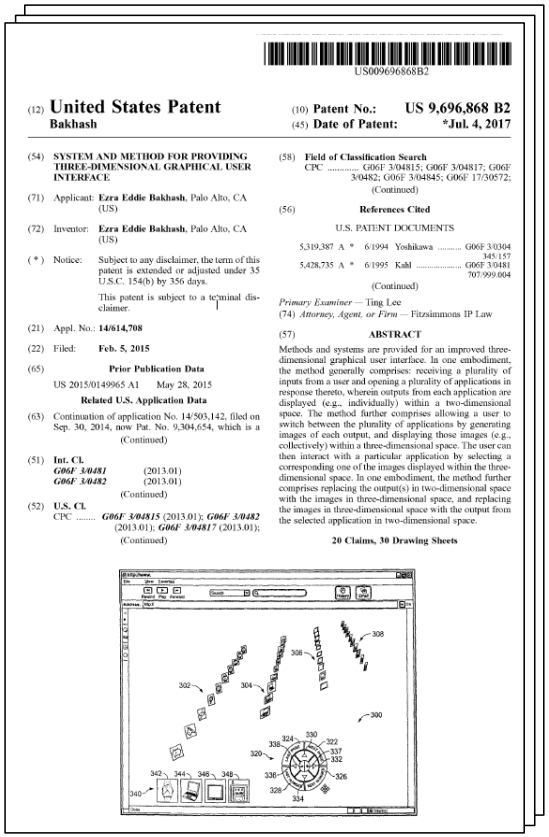
The ’868 & ’654 Patents



US009696868B2

(12) **United States Patent**
Bakhash

(10) **Patent No.: US 9,696,868 B2**
(45) **Date of Patent: *Jul. 4, 2017**

(54) **SYSTEM AND METHOD FOR PROVIDING THREE-DIMENSIONAL GRAPHICAL USER INTERFACE**

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(72) Inventor: **Ezra Eddie Bakhash**, Palo Alto, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 356 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **14/614,708**

(22) Filed: **Feb. 5, 2015**

(65) **Prior Publication Data**

US 2015/0149965 A1 May 28, 2015

Related U.S. Application Data

(63) Continuation of application No. 14/503,142, filed on Sep. 30, 2014, now Pat. No. 9,304,654, which is a (Continued)

(51) **Int. Cl.**
G06F 3/0481 (2013.01)
G06F 3/0482 (2013.01)
(Continued)

(52) **U.S. Cl.**
CPC ***G06F 3/04815*** (2013.01); ***G06F 3/0482*** (2013.01); ***G06F 3/04817*** (2013.01);
(Continued)

(58) **Field of Classification Search**
CPC G06F 3/04815; G06F 3/04817; G06F 3/0482; G06F 3/04845; G06F 17/30572;
(Continued)

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,319,387 A * 6/1994 Yoshikawa G06F 3/0304 345/157
5,428,735 A * 6/1995 Kahl G06F 3/0481 707/999.004

(Continued)

Primary Examiner — Ting Lee
(74) *Attorney, Agent, or Firm* — Fitzsimmons IP Law

(57) **ABSTRACT**

Methods and systems are provided for an improved three-dimensional graphical user interface. In one embodiment, the method generally comprises: receiving a plurality of inputs from a user and opening a plurality of applications in response thereto, wherein outputs from each application are displayed (e.g., individually) within a two-dimensional space. The method further comprises allowing a user to switch between the plurality of applications by generating images of each output, and displaying those images (e.g., collectively) within a three-dimensional space. The user can then interact with a particular application by selecting a corresponding one of the images displayed within the three-dimensional space. In one embodiment, the method further comprises replacing the output(s) in two-dimensional space with the images in three-dimensional space, and replacing the images in three-dimensional space with the output from the selected application in two-dimensional space.

20 Claims, 30 Drawing Sheets

868 IPR: APPLE1001, cover.

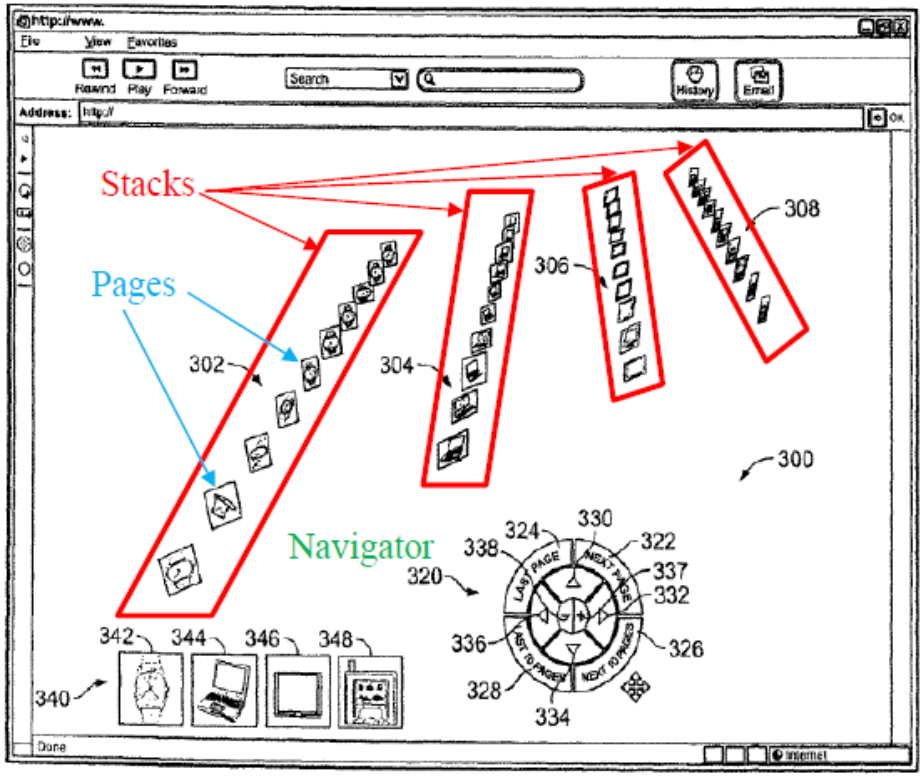

FIG. 9

868 IPR: APPLE1001, FIG. 9; Petition (Pet.,) 7.
654 IPR: APPLE1001, FIG. 9; Petition (Pet.,) 7.

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The ’868 & ’654 Patents

In one embodiment, the method further comprises generating a timeline that includes an icon for each object presented within the virtual space, wherein the icons are organized in linear chronological order according to when the objects were presented within the virtual space and displaying the timeline within the virtual space. In another

868 IPR: APPLE1001, 3:11-24; Petition (Pet.,) 7.
654 IPR: APPLE1001, 3:5-17; Petition (Pet.,) 9.

When the viewpoint of the end user within a virtual space has caused the webpage to be drawn in skew, there will often be a distortion in shape of the normal distribution toward one side or the other. In such a case, the 3D GUI system utilizes the Bind to the HUD feature whereby clicking an icon or bottom (analogous to the minimize in windows operating system environment) triggers a change to the viewpoint of the end user within the virtual space so that the webpage is directly in an end user’s visual field, thereby making it easier to interact with. In one embodiment, this is accomplished by

...

ment). As such, an end user can toggle or switch between 2D and 3D for any selectively captured computing output and information (webpages, applications, documents, desktops or anything that can be visualized on a computer) that was drawn within a 3D virtual space at will by using this technique.

868 IPR: APPLE1001, 22:7-30; Pet., 8.
654 IPR: APPLE1001, 21:34-56; Pet., 9-10.

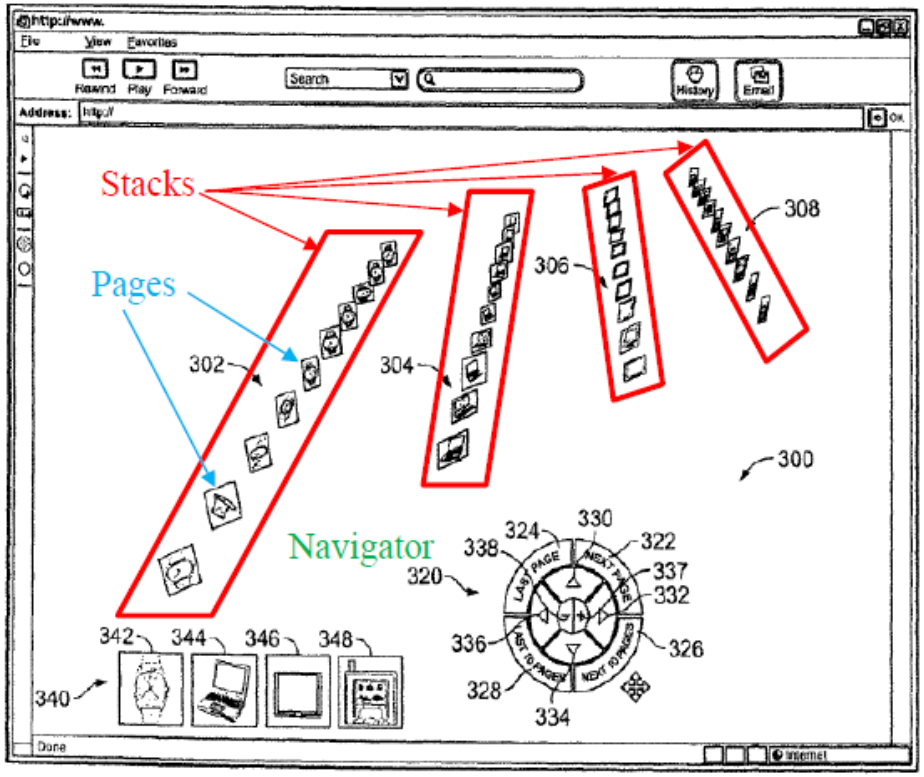

FIG. 9

868 IPR: APPLE1001, FIG. 9; Pet., 7.
654 IPR: APPLE1001, FIG. 9; Pet., 7.

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’868 (and ’654) Claim 1

1. A method for using a two-dimensional (2D) space to selectively interact with a plurality of applications open on a device and a three-dimensional (3D) immersive space to switch between said plurality of application, said device having a fixed resolution display, comprising:

receiving a plurality of inputs from a user, said plurality of inputs comprising at least first, second, and third inputs;

opening said plurality of applications in response to said plurality of inputs, said plurality of applications comprising at least first, second, and third applications, wherein for each one of said plurality of applications (i) an object is generated having application-specific data, (ii) said object is displayed in said 2D space on said fixed resolution display, and (iii) said user is allowed to modify at least a portion of said application-specific data by interacting with said object;

allowing a user to switch between said plurality of application, comprising;

generating at least a plurality of images, said plurality of images comprising at least first, second, and third images, wherein said first image is an image of at least a portion of a first object generated by said first application and having first application-specific data, said second image is an image of at least a portion of a second object generated by said second application and having second application-specific data, and said third image is an image of at least a portion of a third object generated by said third application and having third application-specific data;

replacing all objects corresponding to said plurality of applications that are visible in said 2D space with said plurality of images, said plurality of images being displayed in said 3D immersive space and in an order based on a last time that said user one of (i) opened said first application and interacted with said first object, (ii) opened said second application and interacted with said second object, and (iii) opened said third application and interacted with said third object, wherein a first one in said order is displayed in a foreground of said 3D immersive space, a second one in said order is displayed in a background of said 3D immersive space behind at least said first one in said order, and a third one in said order is displayed in said background of said 3D immersive space behind at least said second one in said order;

allowing said user to move said plurality of images, wherein (i) movement of one of said plurality of images results in movement of all of said plurality of images, and (ii) continued movement in one direction of one of said plurality of images results in a perception to said user that said one of said plurality of images is moved off of said fixed resolution display; and

allowing said user to delete at least one of said plurality of images from said 3D immersive space, wherein deletion of said second one in said order results in said third one in said order being moved to a location in said 3D immersive space where said second one in said order was located prior to said deletion; and

allowing said user to interact with one of said first, second, and third applications, comprising:

receiving a selection from said user of one of said plurality of images corresponding to one of said plurality of applications;

replacing said plurality of images within said 3D immersive space with one of said first, second, and third objects corresponding to said one of said plurality of applications within said 2D space in response to said selection;

receiving at least one interaction by said user with said one of said first, second, and third objects within said 2D space; and

modifying said one of said first, second, and third application-specific data in response to said at least one interaction.

868 IPR: APPLE1001, 38:40-39:51.

The ’654 patent additionally recites a “timeline.” (654 IPR: APPLE1001, 37:44-38:55)

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Disputed Limitations

1. A method for using a two-dimensional (2D) space to selectively interact with a plurality of applications open on a device and a three-dimensional (3D) immersive space to switch between said plurality of application, said device having a fixed resolution display, comprising:

receiving a plurality of inputs from a user, said plurality of inputs comprising at least first, second, and third inputs;

opening said plurality of applications in response to said plurality of inputs, said plurality of applications comprising at least first, second, and third applications, wherein for each one of said plurality of applications (i) an object is generated having application-specific data, (ii) said object is displayed in said 2D space on said fixed resolution display, and (iii) said user is allowed to modify at least a portion of said application-specific data by interacting with said object;

allowing a user to switch between said plurality of application, comprising;

generating at least a plurality of images, said plurality of images comprising at least first, second, and third images, wherein said first image is an image of at least a portion of a first object generated by said first application and having first application-specific data, said second image is an image of at least a portion of a second object generated by said second application and having second application-specific data, and said third image is an image of at least a portion of a third object generated by said third application and having third application-specific data;

replacing all objects corresponding to said plurality of applications that are visible in said 2D space with said plurality of images, said plurality of images being displayed in said 3D immersive space and in an order based on a last time that said user one of (i) opened said first application and interacted with said first object, (ii) opened said second application and interacted with said second object, and (iii) opened said third application and interacted with said third object, wherein a first one in said order is displayed in a foreground of said 3D immersive space, a second one in said order is displayed in a background of said 3D immersive space behind at least said first one in said order, and a third one in said order is displayed in said background of said 3D immersive space behind at least said second one in said order;

allowing said user to move said plurality of images, wherein (i) movement of one of said plurality of images results in movement of all of said plurality of images, and (ii) continued movement in one direction of one of said plurality of images results in a perception to said user that said one of said plurality of images is moved off of said fixed resolution display; and

allowing said user to delete at least one of said plurality of images from said 3D immersive space, wherein deletion of said second one in said order results in said third one in said order being moved to a location in said 3D immersive space where said second one in said order was located prior to said deletion; and

allowing said user to interact with one of said first, second, and third applications, comprising:

receiving a selection from said user of one of said plurality of images corresponding to one of said plurality of applications;

replacing said plurality of images within said 3D immersive space with one of said first, second, and third objects corresponding to said one of said plurality of applications within said 2D space in response to said selection;

receiving at least one interaction by said user with said one of said first, second, and third objects within said 2D space; and

modifying said one of said first, second, and third application-specific data in response to said at least one interaction.

868 IPR: APPLE1001, 38:40-39:51.

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Overview of Anthony and Hanggie

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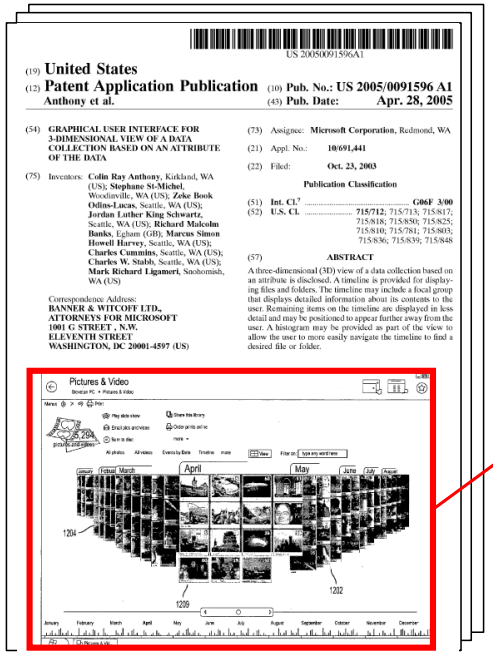
Anthony

APPLE1007



US 20050091596A1

(19) **United States**

(12) **Patent Application Publication**

Anthony et al.

(10) **Pub. No.: US 2005/0091596 A1**

(43) **Pub. Date: Apr. 28, 2005**

(54) **GRAPHICAL USER INTERFACE FOR 3-DIMENSIONAL VIEW OF A DATA COLLECTION BASED ON AN ATTRIBUTE OF THE DATA**

(75) Inventors: **Colin Ray Anthony**, Kirkland, WA (US); **Stephane St-Michel**, Woodinville, WA (US); **Zeke Book Odins-Lucas**, Seattle, WA (US); **Jordan Luther King Schwartz**, Seattle, WA (US); **Richard Malcolm Banks**, Egham (GB); **Marcus Simon Howell Harvey**, Seattle, WA (US); **Charles Cummins**, Seattle, WA (US); **Charles W. Stubb**, Seattle, WA (US); **Mark Richard Ligamori**, Snohomish, WA (US)

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(73) Assignee: **Microsoft Corporation**, Redmond, WA

(21) Appl. No.: **10/691,441**

(22) Filed: **Oct. 23, 2003**

Publication Classification

(51) **Int. Cl.**[7] **G06F 3/00**

(52) **U.S. Cl.** **715/712**; 715/713; 715/817; 715/818; 715/850; 715/825; 715/810; 715/781; 715/803; 715/836; 715/839; 715/848

(57) **ABSTRACT**

A three-dimensional (3D) view of a data collection based on an attribute is disclosed. A timeline is provided for displaying files and folders. The timeline may include a focal group that displays detailed information about its contents to the user. Remaining items on the timeline are displayed in less detail and may be positioned to appear further away from the user. A histogram may be provided as part of the view to allow the user to more easily navigate the timeline to find a desired file or folder.

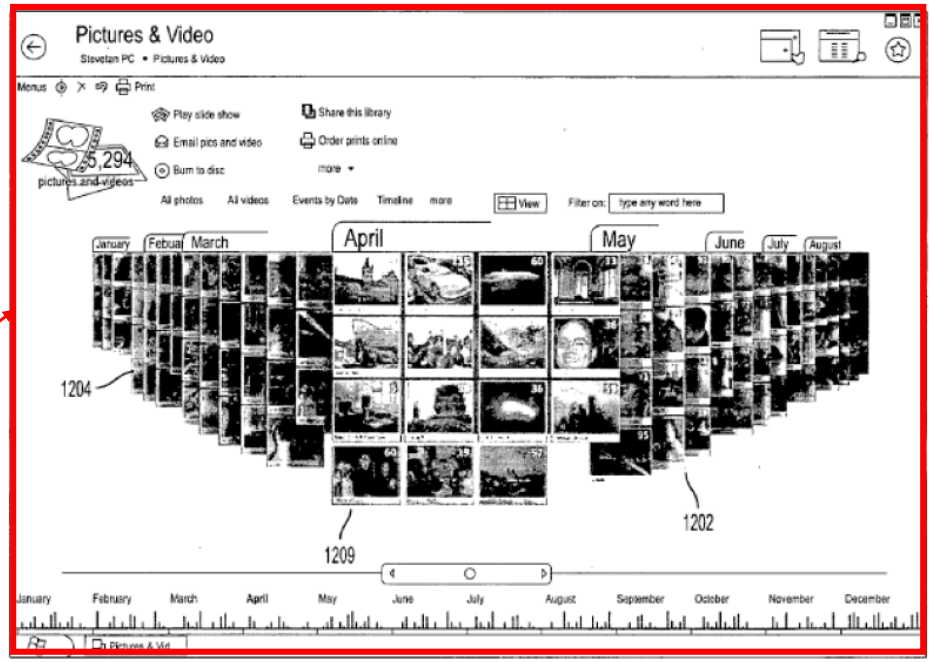

FIG. 4

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Anthony

APPLE1007.

Anthony Discloses a Timeline that Displays Items in a 3D space

[0042] Generally, all items stored in an operating system have certain properties (e.g. a time attribute) ascribed to them. The term "item" is herein defined as a visual representation of a file, folder, virtual folder, or any other data object that may be stored in an operating system and/or file system, for example, icons, thumbnails, and the like. The

868 IPR: APPLE1007, FIG. 4, ¶[42]; Pet., 10-11.
654 IPR: APPLE1007, FIG. 4, ¶[42]; Pet., 11-12.

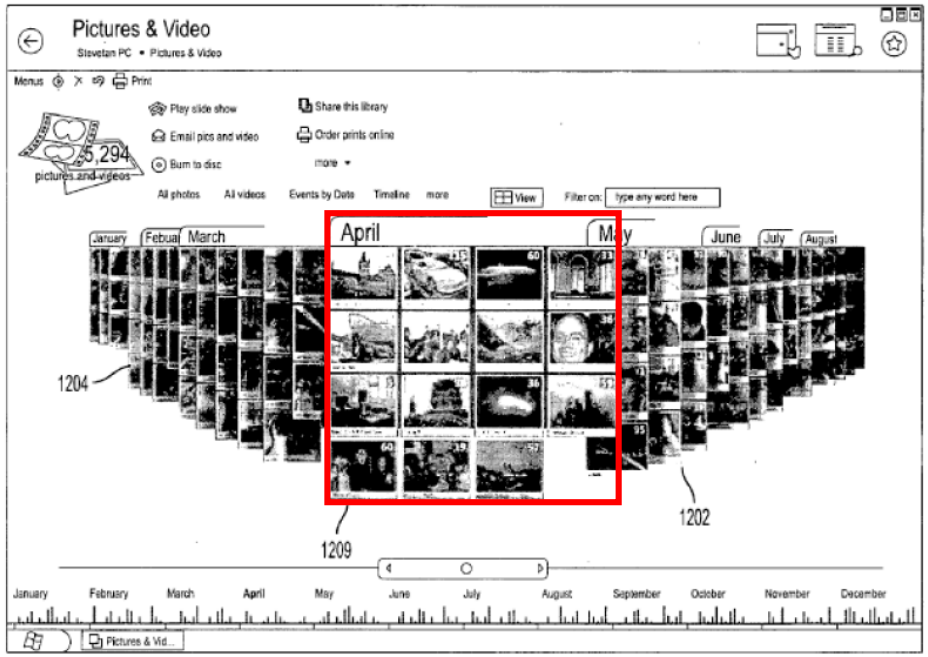

FIG. 4

868 IPR: APPLE1007, FIG. 4; Pet., 10-11.
654 IPR: APPLE1007, FIG. 4; Pet., 11-12.

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Anthony

APPLE1007.

Anthony's items are arranged in a chronological order (e.g., according to date of creation or date of edit)

Attributes or properties of items include attributes or properties of the files, folders, or virtual folders, etc., that they represent and may further include aspects of the visual representation itself. For example, item properties may include, but are not limited to, name, file size, date of creation, modified date, author, title, read-only, archived, hidden, personal, type, and the like. Any item property may be used as an ordering attribute according to various aspects of the present invention. As used herein, the term "ordering attribute" refers to the attribute around which data is primarily sorted or organized at a given time. For example, a user may wish to group items by item type, or author, or some other attribute. In one embodiment of the present invention, the ordering attribute may be based on time, thus arranging the items chronologically, e.g., by using a date of creation or date of edit attribute as the ordering attribute. Items may be grouped in chronological order in a logical timeline in such a way as to allow a user to easily navigate and locate items.

868 IPR: APPLE1007, ¶[42]; Pet., 10-11.
654 IPR: APPLE1007, ¶[42]; Pet., 11-12.

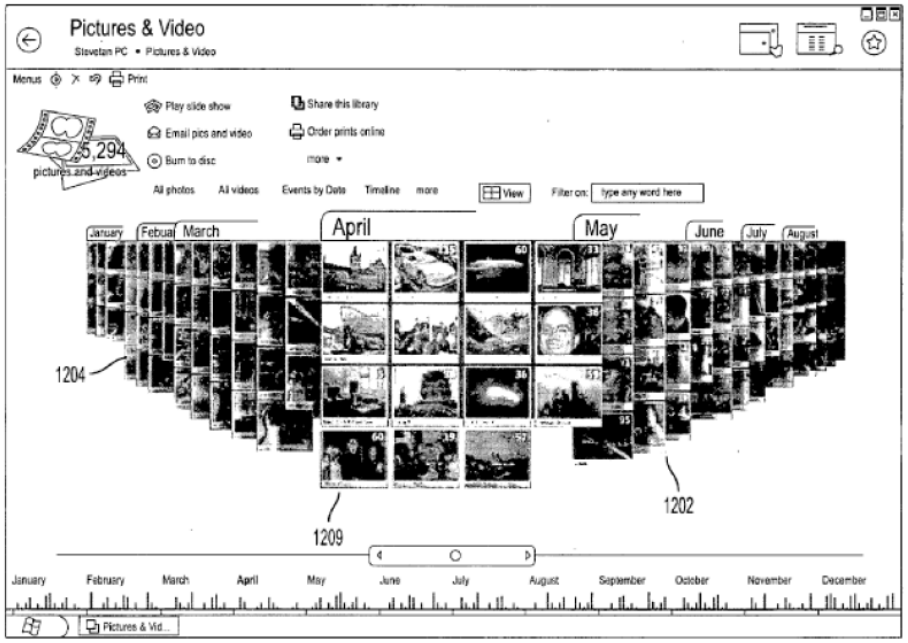

FIG. 4

868 IPR: APPLE1007, FIG. 4; Pet., 10-11.
654 IPR: APPLE1007, FIG. 4; Pet., 11-12.

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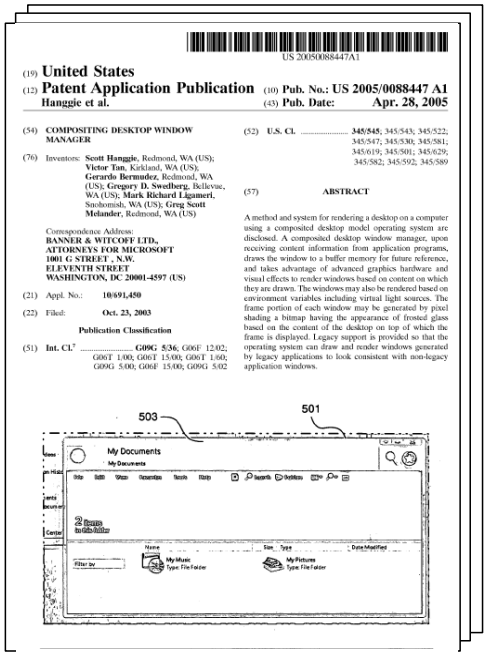
Hanggie

APPLE1006.



US 20050088447A1

(19) **United States**
(12) **Patent Application Publication**
Hanggie et al.
(10) **Pub. No.: US 2005/0088447 A1**
(43) **Pub. Date: Apr. 28, 2005**

(54) **COMPOSITING DESKTOP WINDOW MANAGER**

(76) Inventors: **Scott Hanggie**, Redmond, WA (US); **Victor Tan**, Kirkland, WA (US); **Gerardo Bermudez**, Redmond, WA (US); **Gregory D. Swedberg**, Bellevue, WA (US); **Mark Richard Ligameri**, Snohomish, WA (US); **Greg Scott Melander**, Redmond, WA (US)

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(21) Appl. No.: **10/691,450**

(22) Filed: **Oct. 23, 2003**

Publication Classification

(51) **Int. Cl.**[7] **G09G 5/36**; G06F 12/02; G06T 1/00; G06T 15/00; G06T 1/60; G09G 5/00; G06F 15/00; G09G 5/02

(52) **U.S. Cl.** **345/545**; 345/543; 345/522; 345/547; 345/530; 345/581; 345/619; 345/501; 345/629; 345/582; 345/592; 345/589

(57) **ABSTRACT**

A method and system for rendering a desktop on a computer using a composited desktop model operating system are disclosed. A composited desktop window manager, upon receiving content information from application programs, draws the window to a buffer memory for future reference, and takes advantage of advanced graphics hardware and visual effects to render windows based on content on which they are drawn. The windows may also be rendered based on environment variables including virtual light sources. The frame portion of each window may be generated by pixel shading a bitmap having the appearance of frosted glass based on the content of the desktop on top of which the frame is displayed. Legacy support is provided so that the operating system can draw and render windows generated by legacy applications to look consistent with non-legacy application windows.

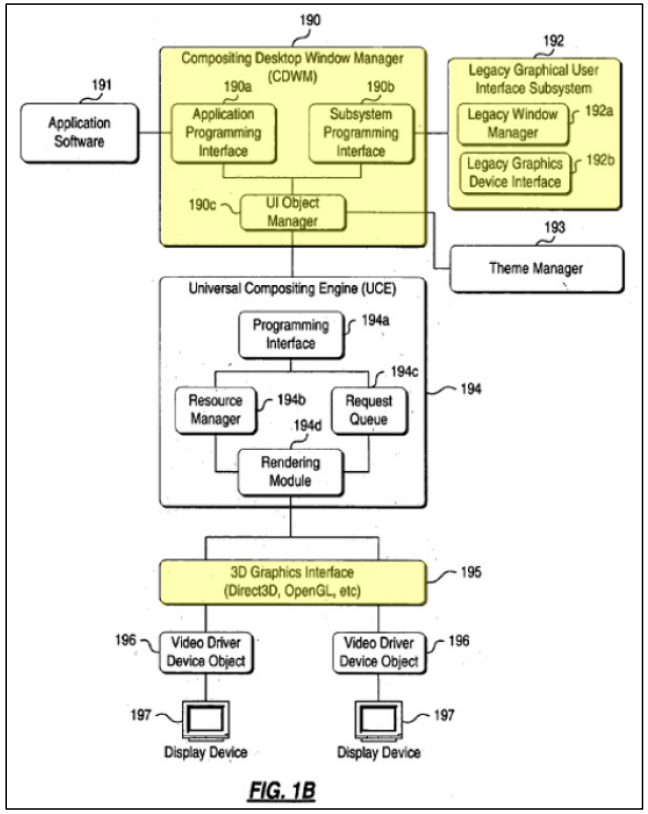

FIG. 1B

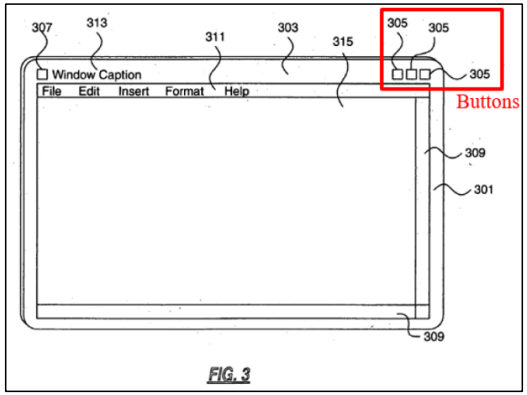

FIG. 3

868 IPR: APPLE1006, FIGS. 1B, 3; Pet., 10-11. 654 IPR: APPLE1006, FIGS. 1B, 3; Pet., 11-12.

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DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Hanggie

APPLE1006.

A user can switch between the CDWM (3D) and legacy DWM (2D) modes

[0092] By providing legacy support, the operating system in which the CDWM and legacy DWM are integrated inherently has the capability to render the desktop using the invalidation DWM (legacy DWM **192***a*) or the compositing DWM (CDWM **190**). That is, the invalidation model DWM is supported by the operating system in addition to the composition model in order to provide legacy support. Thus, in systems that do not have the video hardware necessary to efficiently perform the processor intensive calculations required for desktop compositing (e.g., in systems with low video memory, or with no 3D acceleration hardware) the CDWM and/or the operating system may allow a user to select whether the compositing or legacy drawing mode should be used. The selection may be made automatically or manually. For example, the selection may be made via manual user control, in accordance with the drawing mode defined by an activated visual style (theme) selected by the user. The selection may alternatively or also be based on power-conservation conditions. For example, when a portable device is disconnected from an AC power source and switches to battery power, the operating system may enforce legacy drawing mode because it is the video graphics processing unit (GPU) is less active and thus consumes less power.

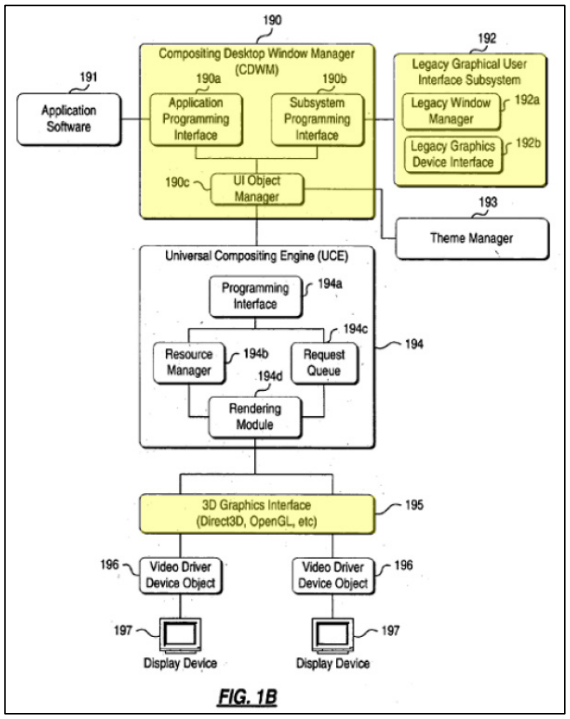


FIG. 1B

868 IPR: APPLE1006, FIG. 1B, ¶[92], Pet., 14-22. 654 IPR: APPLE1006, FIG. 1B, ¶[92],; Pet., 16-22.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

ISSUE 1

The Anthony-Hanggie or Hanggie-Anthony Combination (HAC)

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

A POSITA Would Have Combined Anthony and Hanggie

868 IPR: APPLE1003, ¶¶[59]-[75], Pet., 22-34. 654 IPR: APPLE1003, ¶¶[60]-[80], Pet., 23-35.

ANTHONY

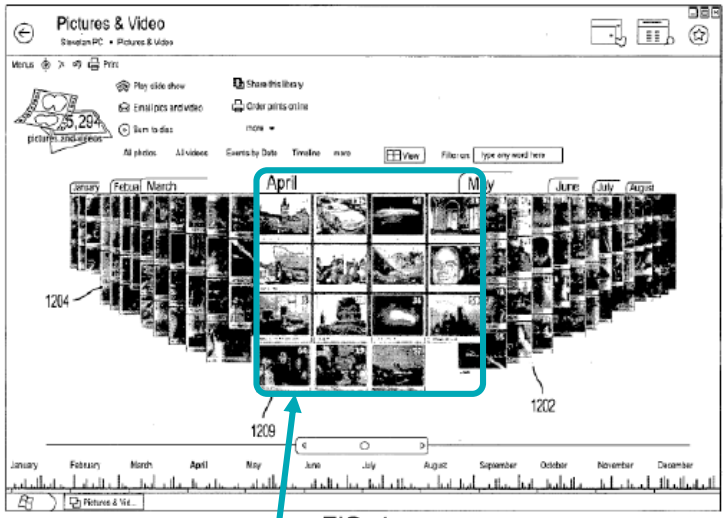


FIG. 4

APPLE1007, FIG. 4.

HANGGIE

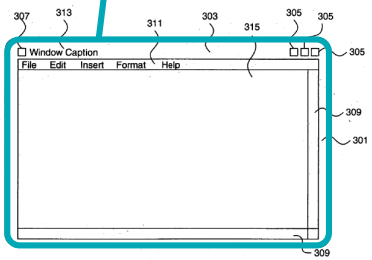
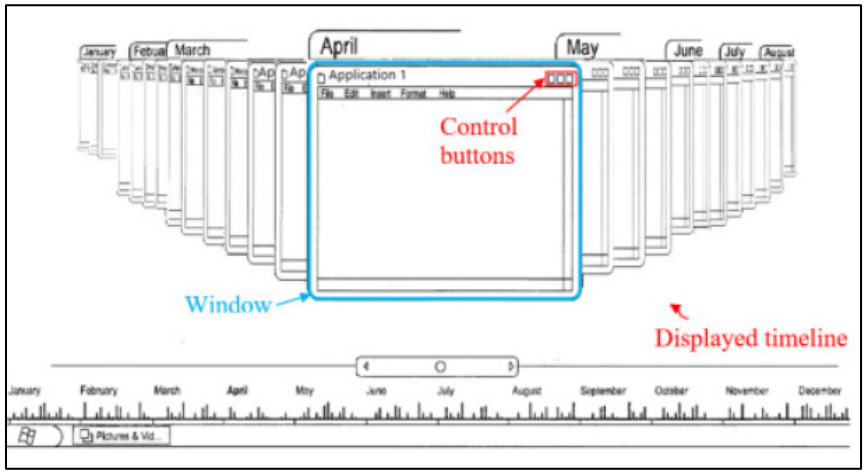


FIG. 3

APPLE1006, FIG. 3.

COMBINATION

COMBINATION FIGURE PROVIDED BY DR. FUCHS



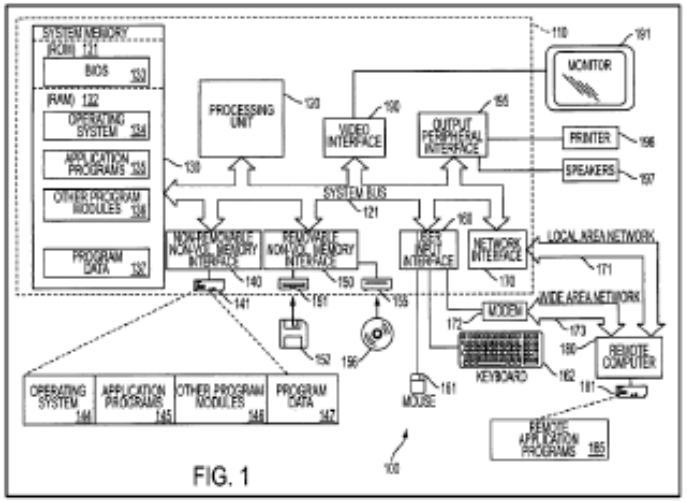
868 IPR: APPLE1003, p39.
654 IPR: APPLE1003, p38.

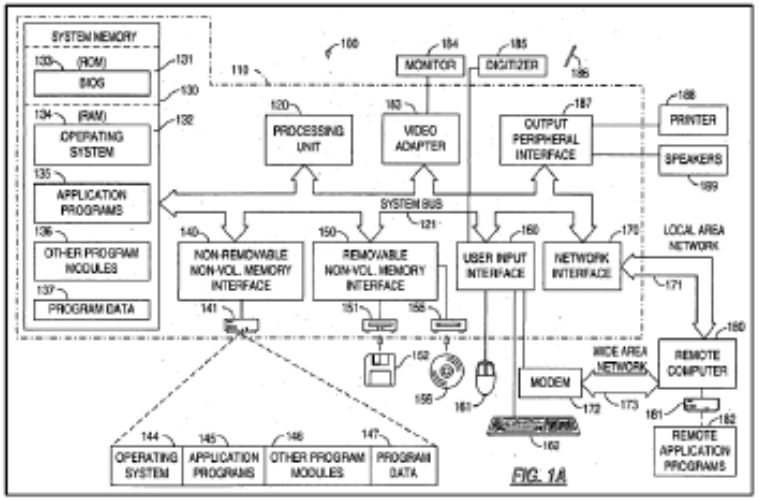
DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

A POSITA Would Have Combined Anthony and Hanggie

868 IPR: APPLE1003, ¶¶[64]-[65], Pet., 27-29. 654 IPR: APPLE1003, ¶¶[71]-[72], Pet., 28-30.

Anthony and Hanggie have similar systems





APPLE1007 (Anthony), FIG. 1 (left); APPLE1006 (Hanggie), FIG. 1A (right).

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

A POSITA Would Have Combined Anthony and Hanggie

868 IPR: APPLE1003, ¶¶[64]-[65], Pet., 27-29. 654 IPR: APPLE1003, ¶¶[71]-[72], Pet., 28-30.

Anthony and Hanggie have overlapping inventorship

(19) **United States**
(12) **Patent Application Publicati**
Hanggie et al.

(54) **COMPOSITING DESKTOP WINDOW MANAGER**

(76) Inventors: **Scott Hanggie**, Redmond, WA (US); **Victor Tan**, Kirkland, WA (US); **Gerardo Bermudez**, Redmond, WA (US); **Gregory D. Swedberg**, Bellevue, WA (US); **Mark Richard Ligameri**, Snohomish, WA (US); **Greg Scott Melander**, Redmond, WA (US)

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WASHINGTON, DC 20001-4597 (US)

(21) Appl. No.: **10/691,450**

(22) Filed: **Oct. 23, 2003**

(19) **United States**
(12) **Patent Application Publica**
Anthony et al.

(54) **GRAPHICAL USER INTERFACE FOR 3-DIMENSIONAL VIEW OF A DATA COLLECTION BASED ON AN ATTRIBUTE OF THE DATA**

(75) Inventors: **Colin Ray Anthony**, Kirkland, WA (US); **Stephane St-Michel**, Woodinville, WA (US); **Zeke Book Odins-Lucas**, Seattle, WA (US); **Jordan Luther King Schwartz**, Seattle, WA (US); **Richard Malcolm Banks**, Egham (GB); **Marcus Simon Howell Harvey**, Seattle, WA (US); **Charles Cummins**, Seattle, WA (US); **Charles W. Stabb**, Seattle, WA (US); **Mark Richard Ligameri**, Snohomish, WA (US)

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WASHINGTON, DC 20001-4597 (US)

APPLE1006, cover (left); APPLE1007, cover (right).

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

A POSITA Would Have Combined Anthony and Hanggie

868 IPR: APPLE1003, ¶¶[67]-[73], Pet., 22-34. 654 IPR: APPLE1003, ¶¶[74]-[80], Pet., 23-35.

HAC would allow a user to view application windows in a 3D timeline.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent of: Ezra Eddie Bakhash
U.S. Patent No.: 9,696,868 Attorney Docket No.: 50095-0110IP1
Issue Date: July 4, 2017
Appl. Serial No.: 14/614,708
Filing Date: February 5, 2015
Title: SYSTEM AND METHOD FOR PROVIDING THREE-DIMENSIONAL GRAPHICAL USER INTERFACE

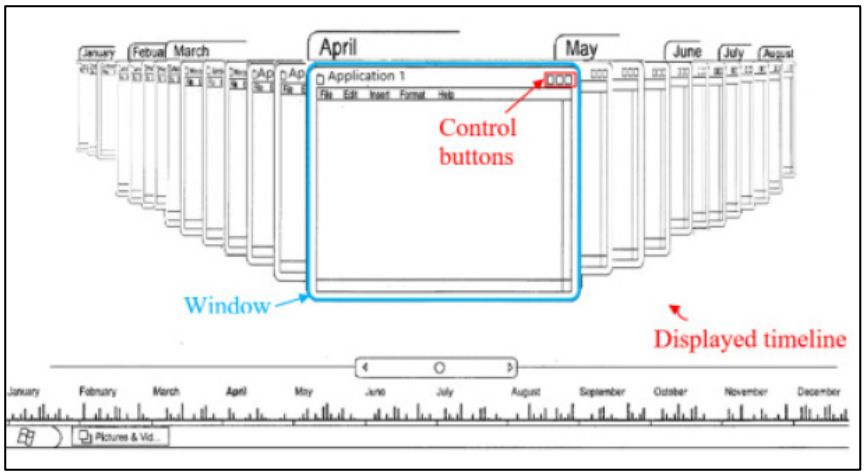
DECLARATION OF DR. HENRY FUCHS

I declare that all statements made herein on my own knowledge are true and

be arranged in a stacked order, Hanggie does not explicitly describe how the stacked order of windows can be can be arranged in a user-friendly manner to facilitate user interaction. APPLE1006, ¶¶[0039], [0003]. Anthony provides such details and discloses that a chronological order of the windows and that items such as files and folders "may be based on time, thus arranging the items chronologically, e.g., by using a date of creation or date of edit attribute as the ordering attribute." APPLE1007, ¶[0042].

1 APPLE 1003

868 IPR: APPLE1003 (Fuchs Dec.) ¶67.
654 IPR: APPLE1003 (Fuchs Dec.) ¶74.



868 IPR: APPLE1003 (Fuchs Dec.), p44.
654 IPR: APPLE1003 (Fuchs Dec.), p45.

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

A POSITA Would Have Combined Anthony and Hanggie

868 IPR: APPLE1003, ¶[59], Pet., 22-34. 654 IPR: APPLE1003, ¶[60], Pet., 23-35.

HAC would allow a user to switch between 2D and 3D modes.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent of: Ezra Eddie Bakhash
U.S. Patent No.: 9,696,868 Attorney Docket No.: 50095-0110IP1
Issue Date: July 4, 2017
Appl. Serial No.: 14/614,708
Filing Date: February 5, 2015
Title: SYSTEM AND METHOD FOR PROVIDING THREE-DIMENSIONAL GRAPHICAL USER INTERFACE

DECLARATION OF DR. HENRY FUCHS

59. It would have been obvious for a POSITA to combine the teachings of Anthony and Hanggie to (1) to implement one or more windows corresponding to one or more applications as displayed focal group windows in Anthony's timeline, (2) implement a control selection through which a user can switch between 2D and 3D viewing of application windows, and (3) implement control buttons 305 on the windows that would allow a user to restore, maximize, minimize, or close the windows. As explained by Hanggie, a control selection allows a user to select the

1 APPLE 1003

868 IPR: APPLE1003 (Fuchs Dec.) ¶59.
654 IPR: APPLE1003 (Fuchs Dec.) ¶60.

[0092] By providing legacy support, the operating system in which the CDWM and legacy DWM are integrated inherently has the capability to render the desktop using the invalidation DWM (legacy DWM **192***a*) or the compositing DWM (CDWM **190**). That is, the invalidation model DWM is supported by the operating system in addition to the composition model in order to provide legacy support. Thus, in systems that do not have the video hardware necessary to efficiently perform the processor intensive calculations required for desktop compositing (e.g., in systems with low video memory, or with no 3D acceleration hardware) the CDWM and/or the operating system may allow a user to select whether the compositing or legacy drawing mode should be used. The selection may be made automatically or manually. For example, the selection may be made via manual user control, in accordance with the drawing mode defined by an activated visual style (theme) selected by the user. The selection may alternatively or also be based on power-conservation conditions. For example, when a portable device is disconnected from an AC power source and switches to battery power, the operating system may enforce legacy drawing mode because it is the video graphics processing unit (GPU) is less active and thus consumes less power.

APPLE1006 (Hanggie), ¶[92].

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

A POSITA Would Have Combined Anthony and Hanggie

868 IPR: APPLE1003, ¶[59], Pet., 22-34. 654 IPR: APPLE1003, ¶[60], Pet., 23-35.

HAC would allow a user to switch between 2D and 3D modes.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent of: Ezra Eddie Bakhash
U.S. Patent No.: 9,696,868 Attorney Docket No.: 50095-0110IP1
Issue Date: July 4, 2017
Appl. Serial No.: 14/614,708
Filing Date: February 5, 2015
Title: SYSTEM AND METHOD FOR PROVIDING THREE-DIMENSIONAL GRAPHICAL USER INTERFACE

DECLARATION OF DR. HENRY FUCHS

windows. As explained by Hanggie, a control selection allows a user to select the operating mode that may be more suitable for the existing operating conditions of the device. For example, a user may want to operate in the 2D mode when battery power is low, or operate in 3D mode when the battery of the device is full. APPLE1006, ¶[0092].

1 APPLE 1003

868 IPR: APPLE1003 (Fuchs Dec.) ¶59.
654 IPR: APPLE1003 (Fuchs Dec.) ¶60.

[0092] By providing legacy support, the operating system in which the CDWM and legacy DWM are integrated inherently has the capability to render the desktop using the invalidation DWM (legacy DWM **192***a*) or the compositing DWM (CDWM **190**). That is, the invalidation model DWM is supported by the operating system in addition to the composition model in order to provide legacy support. Thus, in systems that do not have the video hardware necessary to efficiently perform the processor intensive calculations required for desktop compositing (e.g., in systems with low video memory, or with no 3D acceleration hardware) the CDWM and/or the operating system may allow a user to select whether the compositing or legacy drawing mode should be used. The selection may be made automatically or manually. For example, the selection may be made via manual user control, in accordance with the drawing mode defined by an activated visual style (theme) selected by the user. The selection may alternatively or also be based on power-conservation conditions. For example, when a portable device is disconnected from an AC power source and switches to battery power, the operating system may enforce legacy drawing mode because it is the video graphics processing unit (GPU) is less active and thus consumes less power.

APPLE1006 (Hanggie), ¶[92].

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

PO's Arguments do not Negate Obviousness

PO attempts to import power limitations into the claims

PO Response (POR)

Filed: October 19, 2023

Filed: October 19, 2023

Filed: October 19, 2023

Not only is there no motivation to combine, but Hanggie actually teaches away from the claimed invention in that the '868 Patent provides for a different solution to reduce power, *i.e.*, display images of open applications in 3D space.

APPLE INC. and
GOOGLE LLC,

Petitioner,

v.

SPACETIME3D, INC.
Patent Owner

Case IPR2023-00344[1]
U.S. Patent No. 9,696,868

PATENT OWNER'S RESPONSE
TO PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NO. 9,696,868

[1] Google LLC, which filed a petition in IPR2023-00578, has been joined as a petitioner in this proceeding.

868 IPR: POR, 49.
654 IPR: POR, 53.

Petitioner Reply (Pet. Rep.)

Yet again, PO's arguments find no support in the '868 patent. The '868 claims do not recite that the system has reduced power when images are displayed in 3D. Thus, any attempt to distinguish the '868 patent claims from HAC based on power cannot be sustained. Indeed, the word "power" is not recited a single time in the '868 patent. Consequently, the '868 patent does not describe the purported solution PO alleges the claims provide. APPLE1033, ¶[45].

868 IPR: Pet. Rep., 20.
654 IPR: Pet. Rep., 21-22.

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

PO's Arguments do not Negate Obviousness

PO's alleged disadvantages do not take away from the advantages of the combination.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

SPACETIME3D, INC.,
Patent Owner

IPR2023-00343
Patent 9,304,654

PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE

APPLE1006, ¶[0092]; APPLE1033, ¶[43]. The Federal Circuit has held that "a given course of action often has simultaneous advantages and disadvantages, and this does not necessarily obviate motivation to combine." *Allied Erecting & Dismantling Co. v. Genesis Attachments*, LLC, 825 F.3d 1373, 1381 (Fed. Cir. 2016). Indeed, "obviousness 'does not require that the motivation be the best option, only that it be a suitable option from which the prior art did not teach away.'" *Bayer Pharma AG v. Watson Labs., Inc.*, 874 F.3d 1316, 1328 (Fed. Cir. 2017).

868 IPR: Pet. Rep., 20.
654 IPR: Pet. Rep., 21.

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Issue 2

HAC Renders Obvious the “replacing …” Feature

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

The “replacing …” feature

The ’868 Patent

replacing said plurality of images within said 3D immersive space with one of said first, second, and third objects corresponding to said one of said plurality of applications within said 2D space in response to said selection;

APPLE1001 (’868 pat.), 39:3-19.

The ’654 Patent

replacing said plurality of images within said three-dimensional space with one of said first, second, and third objects corresponding to said one of said plurality of applications within a two-dimensional space in response to said first interaction;

APPLE1001 (’654 pat.), 38:25-29.

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

PO's remarks are disconnected from the claim language

Filed: October 19, 2023

Filed: October 19, 2023

Filed: October 19, 2023

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC. and GOOGLE LLC,

Petitioner,

v.

SPACETIME3D, INC.

Patent Owner

Case IPR2023-00344[1]

U.S. Patent No. 9,696,868

PATENT OWNER'S RESPONSE TO PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 9,696,868

[1] Google LLC, which filed a petition in IPR2023-00578, has been joined as a petitioner in this proceeding.

The claims, however, do not merely require going from 3D to 2D space but "replacing" *a plurality of images* in 3D space with *an active application* in 2D space, where the images include *both objects and application-specific data*. In contradistinction, Hanggie does not generate images but displays active applications in 3D space. In fact, this is why the window shown in Figure 3 of

868 IPR: POR (Patent Owner Response), p40.
654 IPR: POR, p45.

Even if there was motivation to combine, it would not have resulted in "replacing" a plurality of images with an active application as claimed, as Hanggie does not generate any images, and therefore there are no images in 3D space to

868 IPR: POR, p43.
654 IPR: POR, p48.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

PO's remarks are disconnected from the claim language

Filed: October 19, 2023

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC. and GOOGLE LLC,

Petitioner,

v.

SPACETIME3D, INC.

Patent Owner

Case IPR2023-00344[1]

U.S. Patent No. 9,696,868

PATENT OWNER'S RESPONSE TO PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 9,696,868

[1] Google LLC, which filed a petition in IPR2023-00578, has been joined as a petitioner in this proceeding.

EX2016 at [114]. This is why the claimed invention switches from (inactive) images of applications in 3D space to an (active) application in 2D space (*i.e.*, to allow the user to interact with the object and modify the application-specific data. *Id.* ***By definition,*** *because the user can interact with the control buttons* ***on the window,*** *the window (object) is not an image as required by the claims* ***of the '868 Patent****. Id.*

868 IPR: POR, p45-46.
654 IPR: POR, p49-50.

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

PO's alleged distinctions are unsupported by the patents

868 and 654 Patents

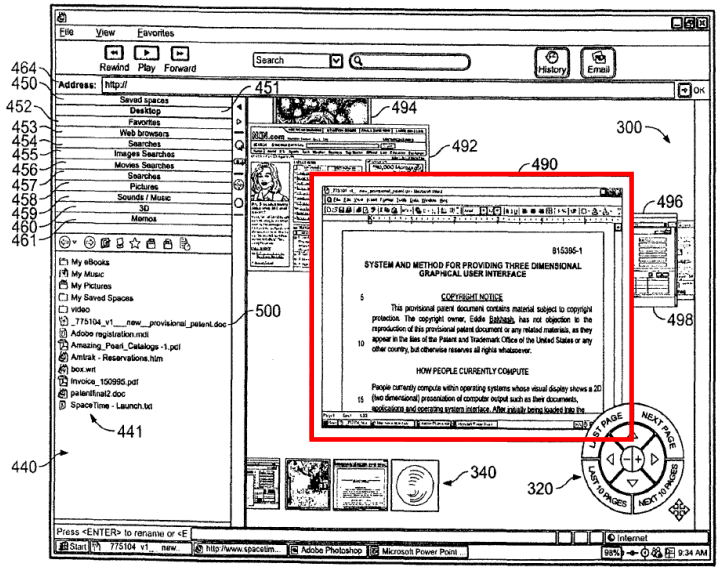


FIG. 13A

868 IPR: APPLE1001, FIG. 13A Pet. Rep., 4-5.
654 IPR: APPLE1001, FIG. 13A; Pet. Rep., 4-5.

their computer or the web. Through programmatic access or helper applications (e.g., represented by interactive icons within the 3D space), the 3D GUI allows the user to locate data, applications, files created by applications, desktop windows, HTML pages, and 3D applications, and it facilitates or invites the graphical output of these files and programs in their interactive 3D spaces. In general, the present invention displays graphics from the user's 2D finite desktop in 3D infinite space while retaining the functionality of the 2D programs and documents. Users will be able to use these files and applications, without restrictions, within 3D spaces.

868 IPR: APPLE1001, 5:48-60; Pet. Rep., 3.
654 IPR: APPLE1001, 5:37-47; Pet. Rep., 3.

to the virtual space **300**. Furthermore, once the file, document, application or desktop is added to the virtual space **300**, it is fully interactive and functional and appears no different from, or close to, the original way the program functions when it was not in the 3-D Cartesian space **300**.

868 IPR: APPLE1001, 21:29-43; Pet. Rep., 4.
654 IPR: APPLE1001, 20:66-21:3; Pet. Rep., 4.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Claim Construction: “image”

PO’s Sur-reply (POSR) introduced PO’s construction of “image”

Petitioner	PO (Sur-Reply)	EX1029
Plain meaning—“a reproduction or imitation of the form of a person or thing;” “a tangible or visible representation;” “a vivid or graphical representation or description.” 868 IPR: Pet. Rep., 7-8; APPLE1029, 578. 654 IPR: Pet. Rep., 8; APPLE1029, 578.	Plain meaning—“an optical counterpart of an object produced by … an electronic device.” PO did not offer any construction of “image” in the POPR or POR. 868 IPR: POSR, 13-14; APPLE1029. 654 IPR: POSR, 14-15; APPLE1029.	**¹im·age** \ˈi-mij\ *n* [ME, fr. OF, short for *imagene*, fr. L *imagin-, imago;* perh. akin to L *imitari* to imitate] (13c) **1** : a reproduction or imitation of the form of a person or thing; *esp* : an imitation in solid form : STATUE **2 a** : the optical counterpart of an object produced by an optical device (as a lens or mirror) or an electronic device **b** : a likeness of an object produced on a photographic material **3 a** : exact likeness : SEMBLANCE ⟨God created man in his own 868 IPR: APPLE1029, 578. 654 IPR: APPLE1029, 578.

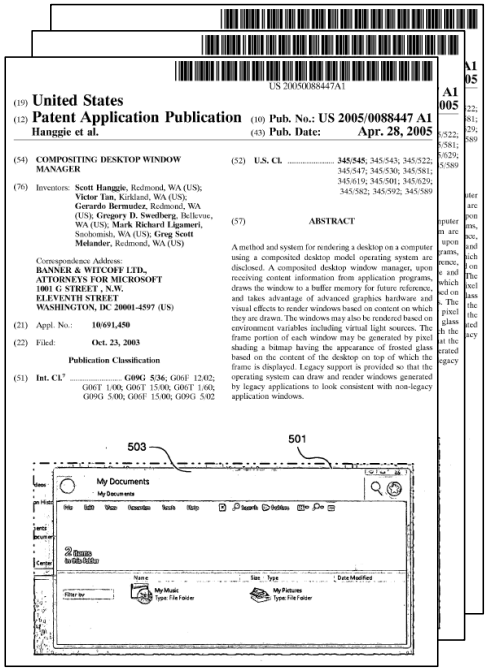
FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

HAC still renders "image" obvious

The Prior Art renders the claims obvious even if PO's belated construction of "image" is considered

HANGGIE



US 20050088447A1

(19) **United States**
(12) **Patent Application Publication**
Hanggie et al.

(10) **Pub. No.: US 2005/0088447 A1**
(43) **Pub. Date: Apr. 28, 2005**

(54) **COMPOSITING DESKTOP WINDOW MANAGER**

(76) Inventors: **Scott Hanggie**, Redmond, WA (US); **Victor Tan**, Kirkland, WA (US); **Gerardo Bermudez**, Redmond, WA (US); **Gregory D. Swedberg**, Bellevue, WA (US); **Mark Richard Ligameri**, Snohomish, WA (US); **Greg Scott Melander**, Redmond, WA (US)

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WASHINGTON, DC 20001-4597 (US)

(21) Appl. No.: **10/691,450**

(22) Filed: **Oct. 23, 2003**

Publication Classification

(51) **Int. Cl.**[7] **G09G 5/36**; G06F 12/02; G06T 1/00; G06T 15/00; G06T 1/60; G09G 5/00; G06F 15/00; G09G 5/02

(52) **U.S. Cl.** **345/545**; 345/543; 345/522; 345/547; 345/530; 345/581; 345/619; 345/501; 345/629; 345/582; 345/592; 345/589

(57) **ABSTRACT**

A method and system for rendering a desktop on a computer using a composited desktop model operating system are disclosed. A composited desktop window manager, upon receiving content information from application programs, draws the window to a buffer memory for future reference, and takes advantage of advanced graphics hardware and visual effects to render windows based on content on which they are drawn. The windows may also be rendered based on environment variables including virtual light sources. The frame portion of each window may be generated by pixel shading a bitmap having the appearance of frosted glass based on the content of the desktop on top of which the frame is displayed. Legacy support is provided so that the operating system can draw and render windows generated by legacy applications to look consistent with non-legacy application windows.

content object per window; an application can dynamically create and attach to a window (as well as detach and destroy) any number of content objects via the CDWM API, further described below. A content object consists of a raster surface

868 IPR: APPLE1006, ¶[50]; Pet. Rep., 19.
654 IPR: APPLE1006, ¶[50]; Pet. Rep., 20.

an application program. An example would be where an application program provides the scroll bar elements as custom child content objects so that they manifest an appearance and behavior peculiar to the application program. Moreover, an application may elect to remove or reposition one or more of the stock frame elements using the CDWM API. An application need not be limited to a single primary content area, a restriction prevalent in the prior art.

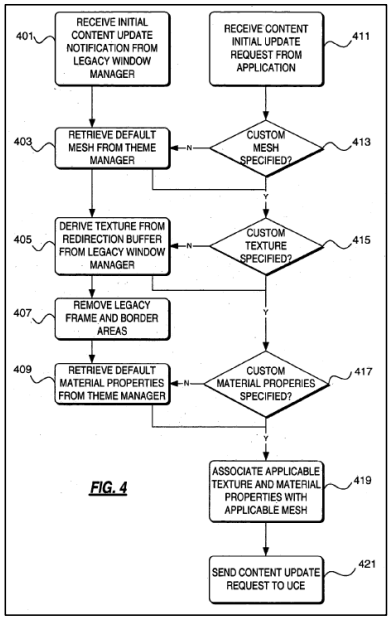
868 IPR: APPLE1006, ¶[58]; Pet. Rep., 18.
654 IPR: APPLE1006, ¶[58]; Pet. Rep., 20.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

HAC still renders "image" obvious

Hanggie's windows (images) in CDWM (3D) correspond to windows (objects) in legacy mode (2D)

HANGGIE



868 IPR: APPLE1006, FIG. 4; Pet. Rep., 18-19.
654 IPR: APPLE1006, FIG. 4; Pet. Rep., 20.

[0088] In step **401**, the CDWM receives an initial update notification for the primary window content from the legacy window manager As a result of a legacy application calling legacy APIs **192***b* to draw a window on the desktop according to the invalidation model for which the application was designed. For example, Microsoft® Word® XP may call the legacy APIs so that the legacy DWM **192***a* draws text input by the user. In step **403** the CDWM retrieves the content's default mesh from the theme manager. In step **405** the extents. In step **409**, the CDWM retrieves default material properties for the content. The resources and parameters required to render the legacy content have now been collected.

[0089] In step **411** the CDWM receives information from an application program requiring the rendering of a content object associated with a window. The content may optionally be accompanied by a custom mesh, custom texture, and/or custom material properties. A custom mesh may be

868 IPR: APPLE1006, ¶¶[88]-[89]; Pet. Rep., 18-19.
654 IPR: APPLE1006, ¶¶[88]-[89]; Pet. Rep., 20.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

PO Mischaracterizes Hanggie

POR

Filed: October 19, 2023

Filed: October 19, 2023

Filed: October 19, 2023

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC. and
GOOGLE LLC,

Petitioner

occur in one space. EX2016 at [91]. By way of example, in Microsoft Windows®, everything occurs on a single desktop GUI. The same is true for Anthony and Hanggie, where everything occurs on a single 3D GUI. There is no switching from one space to another. These GUIs are generally designed for

PATENT OWNER'S RESPONSE
TO PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NO. 9,696,868

[1] Google LLC, which filed a petition in IPR2023-00578, has been joined as a petitioner in this proceeding.

868 IPR: POR, p33.
654 IPR: POR, p38.

HANGGIE

[0092] By providing legacy support, the operating system in which the CDWM and legacy DWM are integrated inherently has the capability to render the desktop using the invalidation DWM (legacy DWM **192***a*) or the compositing DWM (CDWM **190**). That is, the invalidation model DWM is supported by the operating system in addition to the composition model in order to provide legacy support. Thus, in systems that do not have the video hardware necessary to efficiently perform the processor intensive calculations required for desktop compositing (e.g., in systems with low video memory, or with no 3D acceleration hardware) the CDWM and/or the operating system may allow a user to select whether the compositing or legacy drawing mode should be used. The selection may be made automatically or manually. For example, the selection may be made via manual user control, in accordance with the drawing mode defined by an activated visual style (theme) selected by the user. The selection may alternatively or also be based on power-conservation conditions. For example, when a portable device is disconnected from an AC power source and switches to battery power, the operating system may enforce legacy drawing mode because it is the video graphics processing unit (GPU) is less active and thus consumes less power.

868 IPR: APPLE1006, ¶[92]; Pet. Rep., 10.
654 IPR: APPLE1006, ¶[92]; Pet. Rep., 10-11.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

31

Issue 3

HAC Renders Obvious the “ordering” Feature

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

The “ordering …” feature

The ’868 Patent

replacing all objects corresponding to said plurality of applications that are visible in said 2D space with said plurality of images, said plurality of images being displayed in said 3D immersive space and in an order based on a last time that said user one of (i) opened said first application and interacted with said first object, (ii) opened said second application and interacted with said second object, and (iii) opened said third application and interacted with said third object, wherein a first one in said order is displayed in a foreground of said 3D immersive space, a second one in said order is displayed in a background of said 3D immersive space behind at least said first one in said order, and a third one in said order is displayed in said background of said 3D immersive space behind at least said second one in said order;

APPLE1001 (’868 pat.), 39:3-19.

The ’654 Patent

displaying said plurality of images in a three-dimensional space on said display device in an order based on a last time that said user one of (i) opened said first application and interacted with said first object, (ii) opened said second application and interacted with said second object, and (iii) opened said third application and interacted with said third object, such that a first one in said order is displayed in a foreground of said three-dimensional space, a second one in said order is displayed in a background of said three-dimensional space, behind at least said first one in said order, and a third one in said order is displayed in a background of said three-dimensional space, behind at least said second one in said order; and

APPLE1001 (’654 pat.), 38:5-18.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

HAC renders the "ordering" obvious

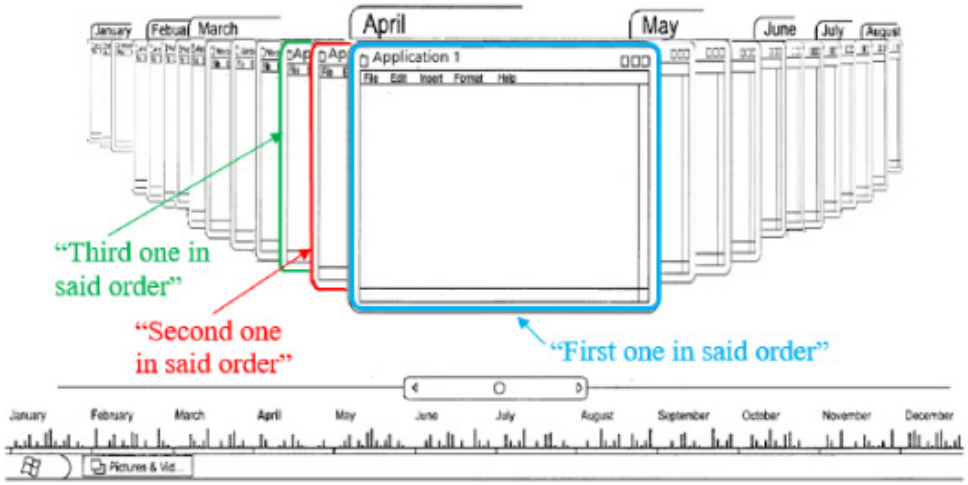
In HAC, application windows are arranged chronologically (e.g., date of creation or edit)

Anthony

Attributes or properties of items include attributes or properties of the files, folders, or virtual folders, etc., that they represent and may further include aspects of the visual representation itself. For example, item properties may include, but are not limited to, name, file size, date of creation, modified date, author, title, read-only, archived, hidden, personal, type, and the like. Any item property may be used as an ordering attribute according to various aspects of the present invention. As used herein, the term "ordering attribute" refers to the attribute around which data is primarily sorted or organized at a given time. For example, a user may wish to group items by item type, or author, or some other attribute. In one embodiment of the present invention, the ordering attribute may be based on time, thus arranging the items chronologically, e.g., by using a date of creation or date of edit attribute as the ordering attribute. Items may be grouped in chronological order in a logical timeline in such a way as to allow a user to easily navigate and locate items.

868 IPR: APPLE1006, FIG. 4; Pet. Rep., 18-19.
654 IPR: APPLE1006, FIG. 4; Pet. Rep., 20.

Combination Figure



868 IPR: APPLE1003 (Fuchs Dec.), p68.
654 IPR: APPLE1003 (Fuchs Dec.), p66.

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

HAC renders the "ordering" obvious

PO's incoherent argument is contradicted by its expert

POR

interaction with a specific application. Thus, ***the claimed invention orders images in 3D space based on the most recently used applications—not the most recently used documents or files***.

868 IPR: POR, p13.
654 IPR: POR, p14.

Pet. Rep.

With respect to the first argument (even if considered), PO fails to explain how a user's interaction with an application file or window (e.g., Excel or Word window) generated by an application (e.g., Microsoft® Excel or Microsoft® Word) is ***not*** an interaction with the application itself. Indeed, a POSITA would have

868 IPR: Pet. Rep, p12.
654 IPR: Pet. Rep, p13.

Dr. Schaefer Deposition Transcript

Q. I guess we don't even have to have the icon. But if a user wants to interact with an application, then they open an application, does it typically open in an application window?

...

A. I would say that's typical, but it doesn't have to necessarily. It can depend on the application.

868 IPR: APPLE1031, 67:22-68:3; Pet. Rep., 12-13.
654 IPR: APPLE1031, 67:22-68:3; Pet. Rep., 13-14.

...

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Claim Construction: "based on"

PO's Sur-reply (POSR) introduced PO's construction of "based on" for the first time in the proceedings

Patent(s)	Petitioner	PO Resp.	PO Sur-Reply
"based on a last time that said user one of (i) opened said first application ***and*** interacted with said first object, (ii) opened said second application ***and*** interacted with said second object, and (iii) opened said third application ***and*** interacted with said third object,"	No construction necessary; plain meaning.	"the claimed invention orders images in 3D space ***based on the most recently used applications"***; "terms [other than 2D space and 3D space] should be given their plain and ordinary meaning"	"based on a last time that said user (i) opened said first application ***or*** interacted with said first object, (ii) opened said second application ***or*** interacted with said second object, and (iii) opened said third application ***or*** interacted with said third object,"
868 IPR: APPLE1001, 39:7-12. 654 IPR: APPLE1001, 38:6-11.	868 IPR: Pet., 9. 654 IPR: Pet., 10-11.	868 IPR: POR, 13, 19. 654 IPR: POR, 14, 21.	868 IPR: POSR, 6-7. 654 IPR: POSR, 6-7.

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

HAC renders the "ordering" obvious

PO's incoherent argument is contradicted by its expert

Dr. Schaefer Deposition Transcript

Q. And what does the computer do in response to the selection of say Microsoft Excel icon?

...

A. of them. In general, it'll cause the application to be loaded in the memory and being executed. There's probably a number of steps in between.

Q. How is the application loaded in the memory?

...

A. I mean, again, it's going to depend, I think, but in general you'll take the executable file, or at least pieces of the executable file, and store them in

Q. And this executable file that the computer takes, this is an executable file that is associated with the Excel application that the user just selected; is that correct?

A. Typically there's usually some executable file, but there may be other executable code.

868 IPR: APPLE1031, 63:27-64: 20; Pet. Rep., 12-13.
654 IPR: APPLE1031, 63:27-64: 20; Pet. Rep., 13-14.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

HAC renders the "ordering" obvious

Applications listed in a taskbar don't represent all open applications

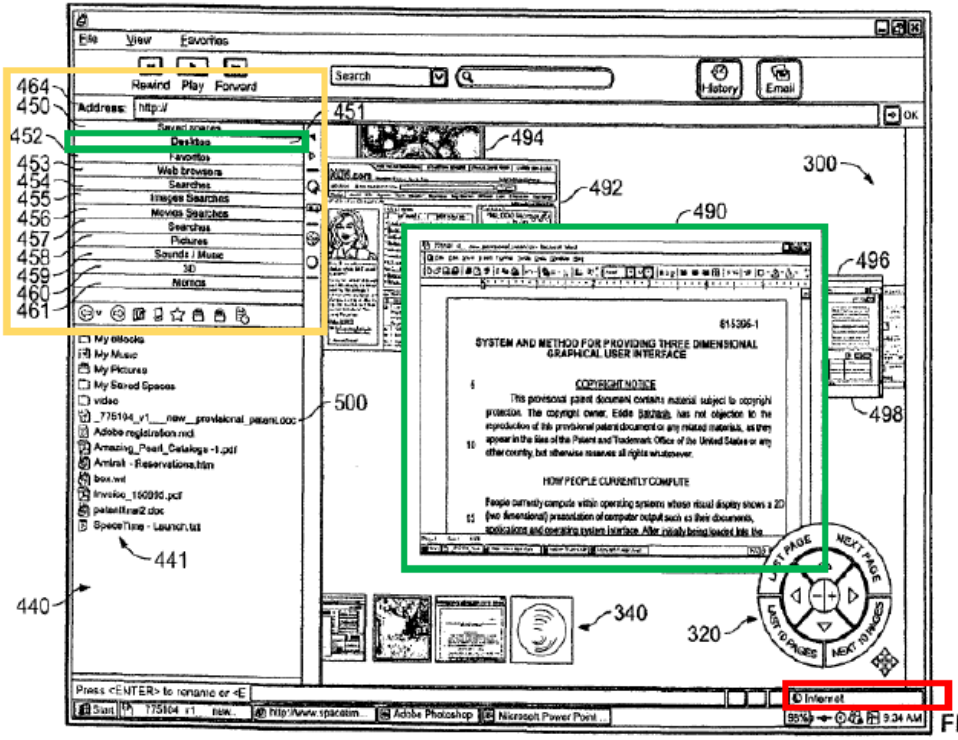


FIG. 13A

868 IPR: APPLE1001, FIG. 13A; Pet. Rep., 16.
654 IPR: APPLE1001, FIG. 13A; Pet. Rep., 17.

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Issue 4

HAC Renders ’868 Claim 13 Obvious

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Claim 13 ('868 Patent)

13. The system of claim **12**, further comprising the step of receiving a request from said user to switch from said 2D space to said 3D space, wherein said step of replacing said object in said 2D space with said plurality of images further comprises replacing said object in said 2D space with said plurality of images in response to receiving said request to switch from said 2D space to said 3D space.

APPLE1001 ('868 pat.) 42:4-10.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

HAC teaches "switching"

868 IPR: Pet., 44-47; Pet. Rep., 24-27.

Hanggie discloses switching between 2D and 3D modes and creating images in 3D space to replace objects in 2D space

[0092] By providing legacy support, the operating system in which the CDWM and legacy DWM are integrated inherently has the capability to render the desktop using the invalidation DWM (legacy DWM **192***a*) or the compositing DWM (CDWM **190**). That is, the invalidation model DWM is supported by the operating system in addition to the composition model in order to provide legacy support. Thus, in systems that do not have the video hardware necessary to efficiently perform the processor intensive calculations required for desktop compositing (e.g., in systems with low video memory, or with no 3D acceleration hardware) the CDWM and/or the operating system may allow a user to select whether the compositing or legacy drawing mode should be used. The selection may be made automatically or manually. For example, the selection may be made via manual user control, in accordance with the drawing mode defined by an activated visual style (theme) selected by the user. The selection may alternatively or also be based on power-conservation conditions. For example, when a portable device is disconnected from an AC power source and switches to battery power, the operating system may enforce legacy drawing mode because it is the video graphics processing unit (GPU) is less active and thus consumes less power.

APPLE1006 (Hanggie), ¶[92].

[0057] In order to draw the window in 3D, the CDWM may define the window anatomy using various components, include a base content object and one or more child content objects. The base content object defines the window frame, or border, and consists of a base geometry, base extent, base material properties and base content margins. The base and child content objects may each be entirely defined and managed by the system or in the case of custom content elements, may be managed by the application. Content objects are discussed in more detail below.

APPLE1006 (Hanggie), ¶[57].

[0065] The CDWM may render the base portion of the application window **301** as a three-dimensional (3D) object. A 3D mesh primitive may be used to define the window object's shape (base geometry), a primary diffuse texture may be mapped to the 3D geometry of the mesh, and optional material properties which may include lighting, shading, refraction, blur and other special effect parameters and resources, including ancillary textures, applied during the rendering process. Ancillary textures may be used as

APPLE1006 (Hanggie), ¶[65].

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

HAC teaches "switching"

Dr. Fuchs correctly notes that claim 13 recites receiving a request to switch, but does not require switching the entire 2D space to 3D space

13. The system of claim **12**, further comprising the step of receiving a request from said user to switch from said 2D space to said 3D space, wherein said step of replacing said object in said 2D space with said plurality of images further comprises replacing said object in said 2D space with said plurality of images in response to receiving said request to switch from said 2D space to said 3D space.

APPLE1001 ('868 pat.) 42:4-10.

A. Okay. My reading of this is that the claim states that there's a "step of receiving a request from the user to switch" [as read], and that, in reaction to that step, an object in the 2D space is replaced with a plurality of images.

But I don't see the requirement that the entire switching needs to be done. That's certainly one possibility, but it's not a requirement. It just says "a request from the user to switch" [as read], and then there's a replacement of the said object in the 2D space with a plurality of images.

But there's no requirement here to switch the entire 2D space to the 3D space.

EX2020, 59:4-17; POSR, 24-25.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

HAC teaches "switching"

Dr. Fuchs explains that HAC renders obvious claim 13

59. It would have been obvious for a POSITA to combine the teachings of Anthony and Hanggie to (1) to implement one or more windows corresponding to one or more applications as displayed focal group windows in Anthony's timeline, (2) implement a control selection through which a user can switch between 2D and 3D viewing of application windows, and (3) implement control buttons 305 on the windows that would allow a user to restore, maximize, minimize, or close the windows. As explained by Hanggie, a control selection allows a user to select the

868 IPR: APPLE1003 (Fuchs Dec.) ¶59.

used." APPLE1006, ¶[0092]. Through its selection capability, Hanggie explicitly discloses that a user can request the CDWM mode (3D) mode or the legacy drawing mode (2D).

56. It would have been obvious to a POSITA that when the HAC system is displaying one or more objects in 2D space in the legacy drawing mode, and the user selects the CDWM mode to be used, the HAC system "***receiv[es] a request from said user to switch from said 2D space to said 3D space***" at least because the legacy drawing mode displays windows in 2D space and the CDWM mode displays images in 3D immersive space. A POSITA would have also understood that in response to receiving this request, the HAC system would have then generated corresponding windows (images) in 3D space and ***replace*** the windows ("***said objects***") ***in 2D space with*** corresponding windows ("***the plurality of images***") in 3D space, as explained in the Petition. Pet., 44-49.

868: APPLE1033, ¶¶[55]-[56]; Pet. Resp. 25-26.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Issue 5

Dr. Schaefer Does Not Qualify as a POSITA

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Definition of a POSITA

PO's expert does not satisfy the experience required for a POSITA.

> A person of ordinary skill in the art relating to the subject matter of the '868 Patent as of September 13, 2005 ("POSITA") would have had at least a Bachelor's degree in electrical engineering, computer science, or a similar discipline, and at least two years of experience in the field working with 2D and 3D graphical user interfaces. APPLE1003, ¶¶[31]-[32]. Superior education could compensate for a deficiency in work experience, and vice-versa. *Id.*

868 IPR: APPLE1003, ¶[31]; Pet., 9.
654 IPR: APPLE1003, ¶[31]; Pet., 10.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Dr. Schaefer Cannot Opine as to a POSITA's Knowledge

PO's expert does not satisfy the experience required for a POSITA.

[3] During his deposition, Dr. Schaefer explained that as of the Critical Date, he had three working engagements of a few months each. APPLE-1031, 14:22-19:6. His work experience did not amount to two years. *Id.* Thus, as of the Critical Date, Dr. Schaefer did not satisfy the required experience of a POSITA, as defined by the parties and the Board (bachelors plus 2 years work experience, or equivalent). Institution Decision, 20; POR 19. Accordingly, Dr. Schaefer is not qualified to opine on what a POSITA would have known or understood. To the extent PO maintains that Dr. Schaefer is a POSITA, his *ipse dixit* statements repeating the POR statements provide little evidentiary value.

868 IPR: Pet. Rep., 7; 654 IPR: Pet. Rep., 7.

Q. How long was your employment with SensAble Technologies?

A. I don't remember. I think I was there maybe three months, maybe it was four. I don't really remember.

Q. Was it full time or part time?

A. During the time that I was there, I was full time, but it was just going to be for a short time period, because I was still working on my Ph.D.

Q. How long was your employment with MAC3?

A. MAC3 I think was two or three months. I remember it snowed in Boston at the time, and I thought it was one of the coldest places on earth.

APPLE1031 (Schaefer Deposition Transcript), 17:22-18:8.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Issue 6

PO's Secondary Considerations Evidence Lacks Nexus

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Secondary Considerations

Patent Owner Already Conceded That Its 2007 Product Did Not Practice the '868 and '654 Patent's Claims

Case 2:22-cv-00049-RWS Document 40 Filed 07/19/22 Page 1 of 32 PageID #: 495

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

SPACETIME3D, INC.

Plaintiff,

v.

LG ELECTRONICS INC., and LG ELECTRONICS U.S.A., INC.,

Defendants.

Civil Action No. 2:22-CV-49-RWS

JURY TRIAL DEMANDED

PLAINTIFF SPACETIME3D, INC.'S OPPOSITION TO DEFENDANTS' MOTION TO DISMISS

APPLE1032 (Def. Motion to Dismiss).

a browser that "includes patented technology"). Consistent with SpaceTime's position that it has not made or sold "patented articles" for the asserted patents, Paragraph 34 actually alleged that "SpaceTime3D released a public beta version of a browser using its published, **patent-pending** technology on June 4, 2007." Compl., ¶ 34 (emphasis added). Further, the patent to which the "patent-pending" referred was not one of the three patents-in-suit but their parent patent, the '018 patent, which is not asserted in the case. *Id.*; *see* Mot. 16 (LG acknowledging that '018 patent is not asserted in this case). The Court should not countenance LG's misrepresentation of the

868 IPR: APPLE1032, 17, 10; Pet. Rep., 28.
654 IPR: APPLE1032, 17, 10; Pet. Rep., 26-27.

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Secondary Considerations

Unexplained Licenses Alone Are Insufficient

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

SPACETIME3D, INC.,
Patent Owner

IPR2023-00343
Patent 9,304,654

PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE

654 IPR: Pet. Rep.

The licenses are no more credible or persuasive. Merely "alleging the existence of a number of licenses" does not prove nexus. *In re Antor Media Corp.*, 689 F.3d 1282, 1293-94 (Fed. Cir. 2012). And Patent Owner's cursory reference to "the nature of the licenses," (PO_Resp. 70), falls flat given the utter lack of any supporting explanation or analysis. Because Patent Owner has not even tried to prove nexus, "the existence of licenses is of little significance." *Iron Grip Barbell Co. v. USA Sports, Inc.*, 392 F.3d 1317, 1324 (Fed. Cir. 2004).

654 IPR: Pet. Rep., 27.
868 IPR: Pet. Rep., 28-29.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE