

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

PEER GLOBAL INC.,
Patent Owner.

Case No. IPR2026-00436
U.S. Patent No. 11,137,878

DECLARATION OF DR. BENJAMIN B. BEDERSON, PH.D.

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LIST OF EXHIBITS

Exhibit	Description
EX1001	U.S. Patent No. 11,137,878 to Tran
EX1002	Prosecution History of U.S. Patent No. 11,137,878
EX1003	RESERVED
EX1004	CV of Ben Bederson, Ph.D.
EX1005	U.S. Patent Appl. Pub. No. 2014/0282114 to Walkin et al. (“ <i>Walkin</i> ”)
EX1006	U.S. Patent Appl. Pub. No. 2012/0044173 to Homma et al. (“ <i>Homma</i> ”)
EX1007	U.S. Patent Appl. Pub. No. 2010/0257059 to Fujioka et al. (“ <i>Fujioka</i> ”)
EX1008	U.S. Patent Appl. Pub. No. 2014/0344754 to Lai et al. (“ <i>Lai</i> ”)
EX1009	U.S. Patent Appl. Pub. No. 2015/0355813 to Hughes et al. (“ <i>Hughes</i> ”)
EX1010	U.S. Patent Appl. Pub. No. 2012/0306748 to Fleizach et al. (“ <i>Fleizach</i> ”)
EX1011	U.S. Patent No. 5,657,049 to Ludolph et al. (“ <i>Ludolph</i> ”)
EX1012	Brad A. Myers, <i>Window Interfaces: A Taxonomy of Window Manager User Interfaces</i> , IEEE Comput. Graphics & Appls., Vol. 8, No. 5 (Sep. 1988), pp. 65-84, https://doi.org/10.1109/38.7762 .
EX1013	Macintosh Hunman Interface Guidelines, November 1992.
EX1014	Benjamin B. Bederson & James D. Hollan, <i>Pad++: A Zooming Graphical Interface for Exploring Alternate Interface Physics</i> , in UIST '94: Proceedings of the 7th Annual ACM Symposium on User Interface Software and Technology (Nov. 2-4, 1994), pp. 17-26, https://doi.org/10.1145/192426.192435 .
EX1015	Benjamin B. Bederson, <i>PhotoMesa: A Zoomable Image Browser</i>

	<i>Using Quantum Treemaps and Bubblemaps</i> , in <i>UIST '01: Proceedings of the 14th Annual ACM Symposium on User Interface Software and Technology</i> (Nov. 11-14, 2001), pp. 71-80, https://doi.org/10.1145/502348.502359 .
EX1016	Amy K. Karlson, Benjamin B. Bederson & John SanGiovanni, <i>AppLens and LaunchTile: Two Designs for One-Handed Thumb Use on Small Devices</i> , in <i>CHI '05: Proceedings of the SIGCHI Conference on Human Factors in Computing Systems</i> (Apr. 2-7, 2005), pp. 201-210, https://doi.org/10.1145/1054972.1055001 .
EX1017	U.S. Patent Appl. Pub. No. 2010/0100849 A1 to Fram (" <i>Fram</i> ")

I. INTRODUCTION

1. I have been retained by Apple Inc. (“Petitioner”) as an independent expert consultant in this proceeding before the Patent Trial and Appeal Board of the United States Patent and Trademark Office.

2. I am over 18 years of age and, if I am called upon to do so, I would be willing and able to testify as to the matters set forth herein.

3. My compensation is in no way contingent on the nature of my findings, the presentation of my findings in testimony, or the outcome of any related proceeding.

4. I understand that this proceeding involves U.S. Patent No. 11,137,878 (“the ’878 patent,” EX1001). The application for the ’878 patent was filed August 7, 2020, as U.S. Patent Application No. 16/988,413. EX1001, codes (21), (22).

5. I have been asked by Petitioner to provide my opinion on whether the claims of the ’878 patent would have been obvious to a person of ordinary skill in the art (sometimes referred to as a “POSITA” or “ordinary artisan”) at the time of the earliest claimed priority date of the ’878 patent. In performing my analysis, I have been asked to assume that the priority date is May 10, 2016, the filing date of U.S. Provisional Patent Application No. 62/334,318, to which the ’878 patent claims priority. EX1001, code (60). My opinions are set forth below.

6. Throughout this declaration, I refer to specific pages, figures, or line numbers of various exhibits. These citations are illustrative and are not intended to suggest that they are the only support for the propositions for which they are cited.

II. SUMMARY OF OPINIONS

7. This declaration considers claims 1-18 of the '878 patent. Below, I set forth the opinions I have formed, the conclusions I have reached, and the bases for these opinions and conclusions. I believe the statements contained in this declaration to be true and correct to the best of my knowledge.

8. Based on my experience and knowledge of the art at the time of the earliest claimed priority date of May 10, 2016, it is my opinion that claims 1-18 of the '878 patent would have been obvious based on the asserted grounds discussed below. A person of ordinary skill in the art would have found it obvious to combine the prior art references I cite and would have been motivated to do so before the priority date.

III. QUALIFICATIONS AND BACKGROUND

9. I believe that I am well qualified to serve as a technical expert in this matter based upon my qualifications, discussed in detail below. My educational background, career history, publications, and other relevant qualifications provided

here are only a summary. A copy of my curriculum vitae is included as Exhibit 1004.

10. I received a Bachelor of Science degree in Computer Science with a minor in Electrical Engineering from Rensselaer Polytechnic Institute (“RPI”) in 1986. I received a Master of Science degree and a Ph.D. in Computer Science from New York University (“NYU”) in 1989 and 1992, respectively. Since 1998, I have been a Professor of Computer Science at the University of Maryland (“UMD” or “Maryland”), where I have had joint appointments at the Institute for Advanced Computer Studies and the College of Information Studies (Maryland’s “iSchool”) and am currently Professor Emeritus. I was also Associate Provost of Learning Initiatives and Executive Director of the Teaching and Learning Transformation Center from 2014 to 2018. I am a member and previous director of the Human-Computer Interaction Lab (“HCIL”), the oldest and one of the best-known Human-Computer Interaction research groups in the country.

11. I am also co-founder and co-director of the International Children’s Digital Library (“ICDL”), a web site launched in 2002 that provides the world’s largest collection of freely-available online children’s books from around the world with an interface aimed to make it easy for children and adults to search and read children’s books online. I was also co-founder and Chief Scientist of Zumobi, Inc.,

a Seattle-based startup that is a publisher of content applications and advertising platforms for smartphones, from 2006 to 2014. I was also co-founder and prior Chief Technology Officer of Hazel Analytics, a data analytics company whose product sends alerts in warranted circumstances. In addition, I have for more than 25 years consulted for numerous companies in the area of user interfaces, including EPAM, Logitech, Microsoft, the Palo Alto Research Center, Sony, Lockheed Martin, and NASA Goddard Space Flight Center.

12. For more than 30 years, I have studied, designed, and worked in the field of computer science and human-computer interaction, including graphical user interfaces. My experience includes 30 years of teaching and research, with research interests in human-computer interaction and the software and technology underlying today's interactive computing systems. This includes the design and implementation of user interfaces and software applications using a wide range of technologies, including web servers and websites, databases, embedded systems, and mobile devices, such as smartphones and PDAs. I have combined my hardware and software skills throughout my career in Human-Computer Interface research, building various interactive electrical and mechanical systems that couple with software to provide an innovative user experience.

13. At UMD, my research has been in the area of Human-Computer Interaction (“HCI”), a field that relates to the development and understanding of computing systems to serve users’ needs. Researchers in this field are focused on making universally usable, useful, efficient, and appealing systems to support people in their wide range of activities. My approach is to balance the development of innovative technology that serves people’s practical needs. Example systems that I have built following this approach include Pad++ (1994 software for zoomable user interfaces), KidPad (1997 software to support children collaboratively writing stories), PadPrints (1998 software to graphically show interactive web browsing histories), PhotoMesa (2001 software for end users to browse personal photos), Pocket PhotoMesa (2004 software for browsing of personal photos on a mobile device), DateLens (2002 software for end users to use their mobile devices to efficiently access their calendar information), LaunchTile (2005 “home screen” software for mobile devices to allow users to navigate apps in a zoomable environment), SpaceTree (2001 software for end users to efficiently browse very large hierarchies), ICDL (as described above), and StoryKit (2009 iPhone app for children to create stories).

14. The 1994 Pad++ system I built included a zoomable directory browser that allowed users to smoothly zoom into a graphical view of a directory using

color to indicate file type and loading the contents of the files directly into the squares representing each file. A paper I wrote from that time (EX1014)¹ included a screenshot of that directory browser:

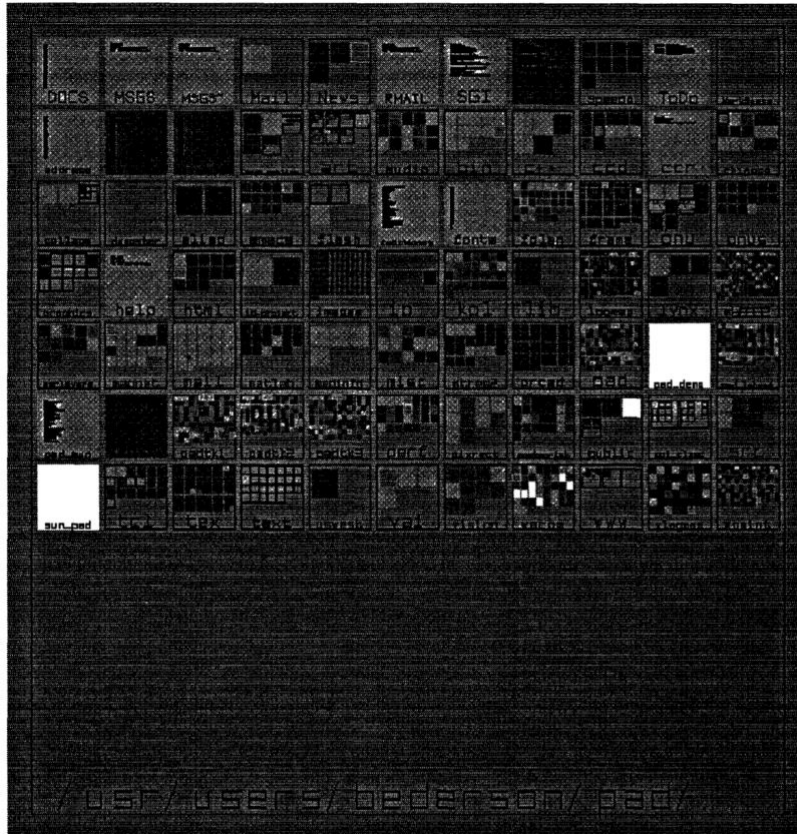


Figure 4: Directory browser snapshot

EX1014, Fig. 4.

¹ Benjamin B. Bederson & James D. Hollan, *Pad++: A Zooming Graphical Interface for Exploring Alternate Interface Physics*, in *UIST '94: Proceedings of the 7th Annual ACM Symposium on User Interface Software and Technology* (Nov. 2-4, 1994), pp. 17-26, <https://doi.org/10.1145/192426.192435>.

15. Starting in 2001 and continuing for several years, I worked on photo management systems. I wrote a paper (EX1015)² in 2001 describing PhotoMesa, a zoomable image browser I designed and built using a novel 2D layout algorithm I called “quantum treemaps” to position the images on the screen in a way that attempted to fill the screen while keeping groups of related images together. As indicated in the color version of the figure from that paper below, PhotoMesa could display many hundreds of images at a time by showing small thumbnails, and then showing larger previews of the image when the mouse hovered over a small thumbnail, and by allowing a user to zoom in to see a high resolution version of the images.

² Benjamin B. Bederson, *PhotoMesa: A Zoomable Image Browser Using Quantum Treemaps and Bubblemaps*, in *UIST '01: Proceedings of the 14th Annual ACM Symposium on User Interface Software and Technology* (Nov. 11-14, 2001), pp. 71-80, <https://doi.org/10.1145/502348.502359>.

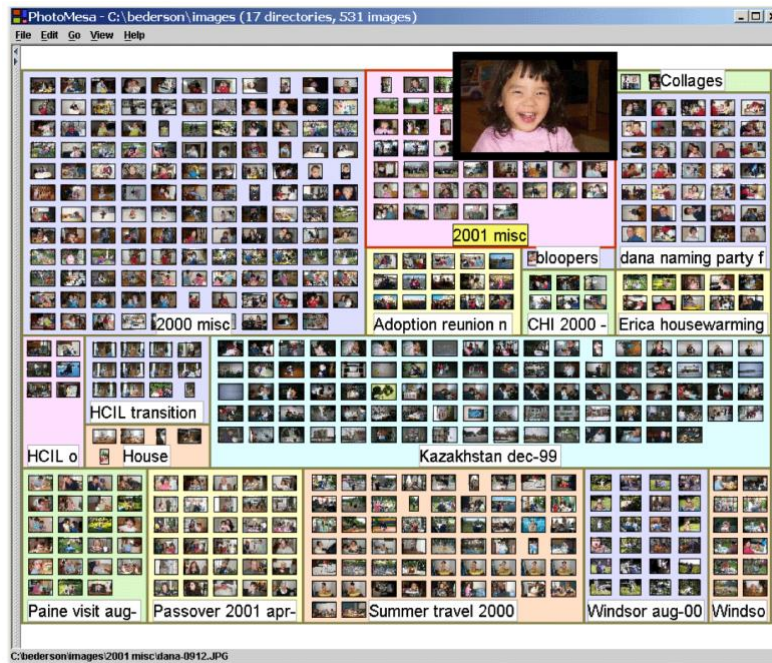


Figure 1: Screen snapshot of PhotoMesa with over 500 images in 17 groups.

EX015, Fig. 1.

16. In 2004-2005, I wrote software called LaunchTile, which included a “reticle” displayed as an orange square that could be moved around the interface to select and activate items including launching applications. LaunchTile, described in a 2005 paper (EX1016),³ allowed zooming and scrolling of multiple applications

³ Amy K. Karlson, Benjamin B. Bederson & John SanGiovanni, *AppLens and LaunchTile: Two Designs for One-Handed Thumb Use on Small Devices*, in CHI '05: Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (Apr. 2-7, 2005), pp. 201-210, <https://doi.org/10.1145/1054972.1055001>.

on a handheld touch-screen PDA. The interfaces offered a grid of applications that could be zoomed and scrolled. The applications included email, voicemail, and text messages.



Figure 1. AppLens Zoom Levels: (a) Notification, (b) Full, (c, d) Context.

EX1016, Fig. 1.

17. Building on the work of LaunchTile and AppLens, I co-founded Zumobi, Inc. where I was responsible for investigating new software platforms and developing new graphical user interface designs that provided efficient and engaging interfaces to permit end users to access a wide range of content on a variety of touchscreen mobile platforms (including iPhone and Android-based devices.)

18. My work has been published extensively in more than 160 technical publications, and I have given about 100 invited talks, including 9 keynote lectures. I have won a number of awards, including the Janet Fabri Memorial Award for Outstanding Doctoral Dissertation for my Ph.D. work in robotics and computer vision, as well as the Brian Shackel Award for “outstanding contribution with international impact in the field of HCI” in 2007, and the Social Impact Award in 2010 from Association for Computing Machinery’s (“ACM”) Special Interest Group on Computer Human Interaction (“SIGCHI”). ACM is the primary international professional community of computer scientists, and SIGCHI is the primary international professional HCI community. I have been honored by both professional organizations. I am an “ACM Distinguished Scientist,” which “recognizes those ACM members with at least 15 years of professional experience and 5 years of continuous Professional Membership who have achieved significant accomplishments or have made a significant impact on the computing field.” I am a member of the “CHI Academy,” which is described as follows: “The CHI Academy is an honorary group of individuals who have made substantial contributions to the field of human-computer interaction. These are the principal leaders of the field, whose efforts have shaped the disciplines and/or industry, and led the research and/or innovation in human-computer interaction.” The criteria for

election to the CHI Academy are: (1) cumulative contributions to the field; (2) impact on the field through development of new research directions and/or innovations; and (3) influence on the work of others. I have received two “Test of Time” awards from IEEE InfoVis for my 2001 and 2002 work on visualizing hierarchies, including those containing digital photos.⁴

19. I have appeared on radio shows numerous times to discuss issues relating to user interface design and people’s use and frustration with common technologies, web sites, and mobile devices. My work has been discussed, and I have been quoted by mainstream media around the world over 120 times, including by the NEW YORK TIMES, the WALL STREET JOURNAL, the WASHINGTON POST, NEWSWEEK, the SEATTLE POST-INTELLIGENCER, the INDEPENDENT, LE MONDE, NPR’s All Things Considered, NEW SCIENTIST MAGAZINE, and MIT’s TECHNOLOGY REVIEW.

20. I have designed, programmed, and publicly deployed dozens of user-facing software products that have cumulatively had millions of users. I am the coinventor of 14 U.S. patents and 20 U.S. patent applications.

⁴ <https://ieevis.org/year/2021/info/awards/test-of-time-awards;>
[https://ieevis.org/year/2022/info/awards/test-of-time-awards.](https://ieevis.org/year/2022/info/awards/test-of-time-awards)

IV. MATERIALS CONSIDERED

21. In forming my opinions, I read and considered the '878 patent and its prosecution history, the other exhibits listed in the Exhibit List at the beginning of this declaration, and any other materials referenced herein.

22. I have also relied on my education, experience, research, training, and knowledge in the relevant art and my understanding of legal principles described in this declaration.

23. All of the opinions contained in this declaration are based on the documents I reviewed and my knowledge and professional judgment. My opinions have also been guided by my understanding of how a person of ordinary skill in the art would have understood the claims of the '878 patent at the time of the earliest claimed priority date.

24. I reserve the right to supplement and amend any of my opinions in this declaration based on documents, testimony, and other information that becomes available to me after the date of this declaration.

V. LEGAL STANDARDS

25. In forming my opinions and considering the subject matter of the '878 patent and its claims in light of the prior art, I am relying on certain legal principles

that counsel in this case explained to me. My understanding of these concepts is summarized below.

26. I understand that the claims define the invention. I also understand that an unpatentability analysis is a two-step process. First, the claims of the patent are construed to determine their meaning and scope. Second, after the claims are construed, the content of the prior art is compared to the construed claims.

27. I understand that there are two ways in which prior art may render a patent claim unpatentable. First, I have been informed that the prior art can “anticipate” a claim. Second, I have been informed that the prior art can render a claim “obvious” to a person of ordinary skill in the art. I understand that a claim is patentable if it was not anticipated and would not have been obvious by the prior art at the effective filing date of the patent.

A. Level of Ordinary Skill

28. I have been informed that patentability must be analyzed from the perspective of “one of ordinary skill in the art” (a “POSITA”) in the same field as the patent-in-suit at the time of the invention. I understand that several factors are considered in assessing the level of ordinary skill in the art, including (1) the types of problems encountered in the art; (2) the prior-art solutions to those problems;

(3) the rapidity with which innovations are made; (4) the sophistication of the technology; and (5) the education level of active workers in the field.

29. I have been instructed to assume that a person of ordinary skill in the art is not a specific real individual, but rather a hypothetical individual having the qualities reflected by the factors discussed above. A person of ordinary skill in the art is assumed to be person of ordinary creativity familiar with the prior art as of the priority date of the patent at issue.

B. Claim Construction

30. I understand that the United States Patent and Trademark Office interprets claim terms in an *inter partes* review proceeding under the same claim construction standard that is used in a United States federal court. I understand that under this standard, the meaning of claim terms is considered from the viewpoint of one of ordinary skill in the art at the time of the alleged invention.

31. I have been informed that claim terms are generally given their ordinary and customary meaning as understood by one of ordinary skill in the art in light of the specification and the prosecution history pertaining to the patent. I understand, however, that claim terms are generally not limited by the embodiments described in the specification.

32. I understand that in addition to the claims, specification, and prosecution history, other “extrinsic” evidence may be considered to ascertain the meaning of claim terms, including textbooks, encyclopedias, articles, and dictionaries. I have been informed that this other evidence is often less significant and less reliable than the claims, specification, and prosecution history.

C. Obviousness Under 35 U.S.C. § 103

33. I understand that a patent claim is invalid as obvious if the claimed invention would have been obvious to a person of ordinary skill in the art at the time the claimed invention was made. This means that even if all of the elements of the claim cannot be found in a single prior-art reference that would anticipate the claim, a person of ordinary skill in the field who knew about all the prior art would have come up with the claimed invention. I understand that in an obviousness determination, the person of ordinary skill in the art is presumed to have knowledge of all prior art. I understand that whether a claim is obvious is based upon the determination of several factual issues.

34. I have been informed that, in an obviousness analysis, prior art must be analogous to the patent being considered. I have been informed that a prior-art reference is considered to be analogous, or in the same field of art, if the reference is either (1) in the same field of endeavor as the challenged patent, regardless of

the problems the challenged patent and the prior art address; or (2) reasonably pertinent to the particular problem being solved by the challenged patent.

35. In considering obviousness, I understand that one must determine the scope and content of the prior art. I also understand that one must determine what differences, if any, existed between the claimed invention and the prior art.

36. I understand that a patent claim composed of several elements is not proved obvious merely by demonstrating that each of its elements was independently known in the prior art. In evaluating whether such a claim would have been obvious, one may consider whether a reason has been identified that would have prompted a person of ordinary skill in the art to combine the elements or concepts from the prior art in the same way as in the claimed invention. There is no single way to define the line between true inventiveness on the one hand (which is patentable) and the application of common sense and ordinary skill to solve a problem on the other hand (which is not patentable). For example, market forces or other design incentives may be what produced a change, rather than true inventiveness.

37. I also understand that, while there is no requirement that the prior art contains an express suggestion to combine known elements to achieve the claimed invention, and while a suggestion to combine known elements to achieve the

claimed invention may come from the prior art as a whole or individually and may consider the inferences and creative steps a person of ordinary skill in the art would employ, as filtered through the knowledge of one skilled in the art, obviousness grounds cannot be sustained by mere conclusory statements and must include some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. Moreover, I understand that a proper obviousness analysis requires a determination of whether a person of ordinary skill in the art would have a “reasonable expectation of success”—but not “absolute predictability” of success—in achieving the claimed invention by combining prior-art references.

38. I understand that one may consider whether (1) the change was merely the predictable result of using prior-art elements according to their known functions, or whether it was the result of true inventiveness; (2) there is some teaching or suggestion in the prior art to make the modification or combination of elements claimed in the patent; (3) the innovation applies a known technique that had been used to improve a similar device or method in a similar way; (4) the claimed invention would have been obvious to try, meaning that the claimed innovation was one of a relatively small number of possible approaches to the problem with a reasonable expectation of success by those skilled in the art; (5) the

invention merely substituted one known element for another known element in order to obtain predictable results; (6) the invention merely applies a known technique to a known device, method, or product to yield predictable results; or (7) known work in the field may have prompted variations of use of the same inventions in the same or different fields due to market forces or design incentives that would have been predictable to a person of ordinary skill in the art.

39. I understand that one must be careful not to determine obviousness using the benefit of hindsight; many true inventions might seem obvious after the fact. I understand that the determination should be based on the position of a person of ordinary skill in the field at the time the claimed invention was made and should not consider what is known today or what is learned from the teaching of the patent.

D. Secondary Considerations of Nonobviousness

40. I understand that certain secondary considerations may be considered in evaluating obviousness to prevent hindsight bias. These secondary considerations include commercial success of products that practice the patent, a long-felt but unmet need for the patented technology, failure by others to solve the problem addressed by the patent, initial skepticism by others in the industry, industry recognition and praise of the patented products, efforts by others to copy

the patented technology, unexpected results or properties of the invention, and licensing of the invention. I am not presently aware of any secondary considerations that would apply here.

41. I have been informed that these secondary considerations of nonobviousness must be balanced against the strength of the prima facie case of obviousness. Where the invention represents no more than the predictable use of prior-art elements according to their established functions, secondary considerations are inadequate to establish nonobviousness.

42. I have also been informed that the patentee must establish a nexus between any secondary-consideration factors and the claimed invention. Where a secondary-consideration factor results from something other than what is both claimed and novel in the patent, there is no nexus to the merits of the claimed invention.

43. I have been informed that, for example, the nexus requirement as it applies to the evidence of commercial success requires that the patentee must show that the sales of a product that allegedly practices the claimed invention must be a direct result of the unique characteristics of the claimed invention, as opposed to other economic and commercial factors that are unrelated to the patented invention. I understand that this means if the commercial success is due to an

element that existed in the prior art or that is not claimed by the patent, then no nexus exists.

44. I have been further informed that, for example, the nexus requirement as it applies to the long-felt need element must likewise be supported by evidence. Where the differences between the prior art and the claimed invention are minimal, it cannot be said that any long-felt need was met by the patented invention or that the patent solved any technological problems that were unaddressed by others.

45. I have been informed that evidence of industry praise must also show a nexus with the claimed invention, and that self-serving statements by the patentee regarding the merits of the claimed invention are generally not given weight.

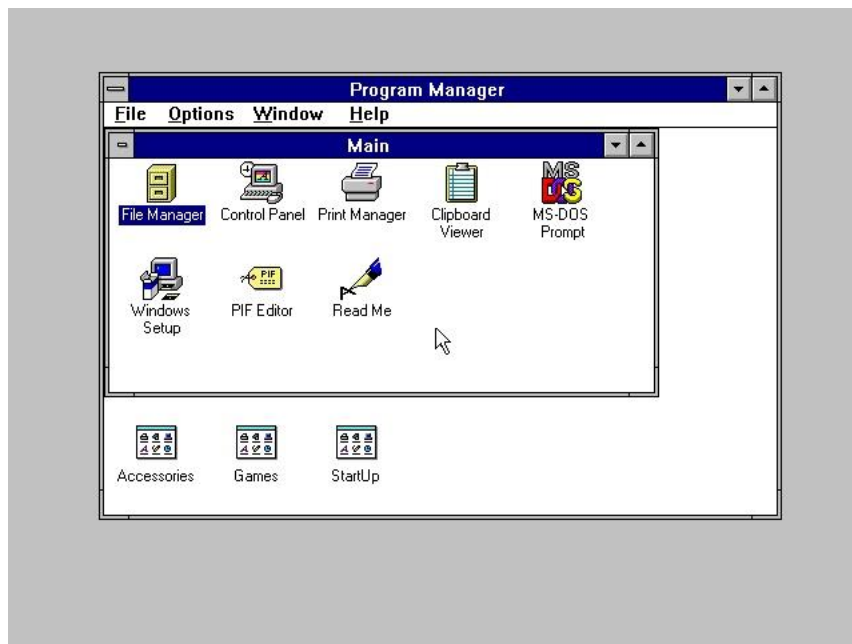
VI. TECHNOLOGY OVERVIEW

46. To explain some of the knowledge that a POSITA would have to support the element-by-element obviousness analysis of the claims to follow, I present an overview of some of the relevant state of the art existing as of the time of the alleged invention relating to graphical user interfaces (GUIs) and selectable icons.

47. In computing, whether mobile or desktop, a user interface is the boundary where interactions between humans and computers occur. GUIs offer visual interfaces on display screens that are designed for simplicity and ease of

learning. A common and well-known example of a GUI uses the “desktop metaphor,” where files and applications of the computer system are represented as graphical icons on a virtual desktop shown on the computer screen, and where the user interacts with those icons using a pointing device such as a mouse cursor.

Windows 3.1, released by Microsoft in 1992,⁵ was one example of such a GUI:



Screenshot of Microsoft Windows 3.1 taken by Benjamin B. Bederson on March 28, 2023, using an emulator running in VMWare Fusion.

48. One of the main goals of GUIs was to make the user interface more intuitive and easy to learn by implementing concepts that are analogues to the real

⁵ <https://www.computerhistory.org/tdih/april/6/>

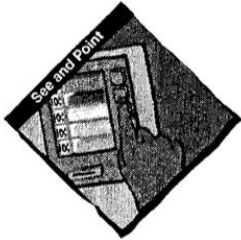
world – dragging an icon to move across the computer screen “desktop,” for example, resembles the act of moving an object in the real world that a user is already familiar with.

49. To interact with a particular graphical element such as an icon, a user must indicate which element they are interacting with. That happens through a process called “selection” where a person uses a mouse, touch screen or other input device to visually identify the element. The input device used is typically a pointing device so the user can directly indicate the item in question by pointing directly at the item on the screen either directly through touch or with the use of a cursor controlled by another input device.

50. For example, Apple’s *Macintosh Human Interface Guidelines* (EX1013) from 1992⁶ described this interaction in detail in a section on “Selecting.” EX1013, 286-289. It describes how a graphical element (such as an icon) can be selected by clicking on it. It further explains that the selection is not limited to clicking and that there can be a wide range of interactions to select items and that Apple implements a particular set of those interactions. EX1013, 286-289.

⁶ 1992. *Macintosh human interface guidelines*. Addison-Wesley Publishing Company, USA. ISBN 0-201-62216-5.

Selecting

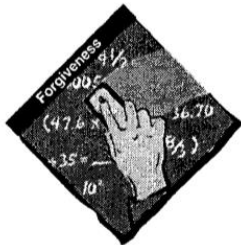


Before performing an operation on an object, the user must select it, usually by clicking it, to distinguish it from other objects. Selecting the object to be operated on before identifying the operation itself is a fundamental characteristic of the Macintosh human interface. The pattern is usually something like this:

1. The user selects an object (a noun, a thing to be operated on).
2. The user chooses an operation (a verb, the thing to be done).

This is often called the "noun-verb paradigm."

There is always a visual clue to show that something has been selected. For example, text and icons in a black-and-white environment usually appear in inverse video when selected. In color environments, icons appear darker and text is highlighted with the color the user set in the Color control panel. In some situations, other forms of highlighting may be more appropriate. The important thing is that there should always be immediate feedback, so the user knows that the click had an effect.



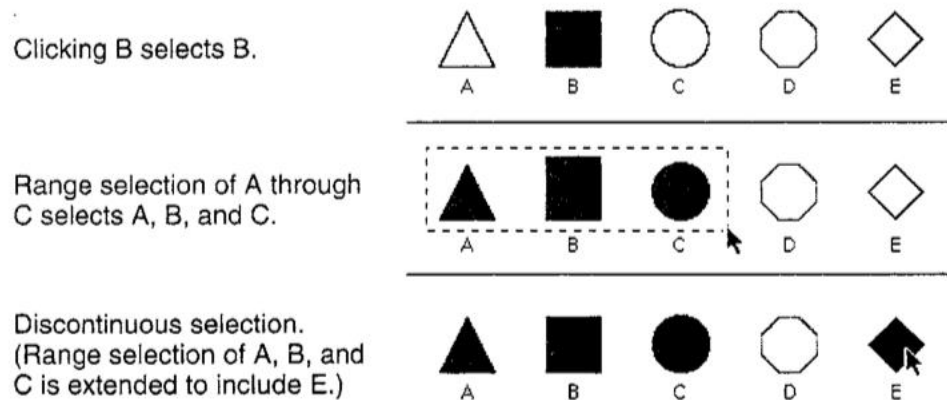
Selecting an object never alters the object itself. Making a selection shouldn't commit the user to anything; there should never be a penalty for making an incorrect selection. The user can undo any selection by making any other selection or clicking outside the selection.

How something is selected depends on what it is. Although there are many ways to select objects, the selection methods fall into easily recognizable groups. Users get used to selecting objects in certain ways, and applications that use these methods are easier to learn. Some of these methods apply to every type of application, and some to only particular types of applications.

Selection Methods

This section describes various selection techniques: selection by clicking, selection by dragging, extending a selection, and discontinuous selection. Figure 10-15 shows some of the methods.

Figure 10-15 Selection techniques



EX1013, 288.

Selection by Clicking

The most straightforward method of selecting an object is by clicking it once. Icons and most other things that can be selected are selected in this way. The user positions the pointer over the desired object, then presses and releases the mouse button.

EX1013, 289.

Selection by Dragging

The user selects a range of objects by dragging through them. Although the exact meaning of the selection depends on the type of application, the procedure is always the same:

1. The user positions the pointer at one corner of the range and presses the mouse button. This position is called the **anchor point** of the range.
2. Without releasing the mouse button, the user moves the pointer in any direction. As the pointer is moved, visual feedback indicates the objects that would be selected if the mouse button were released. For text and arrays, the selected area is continuously highlighted. For graphics, a dotted rectangle expands or contracts to show the range that will be selected. If appropriate, the view should scroll to allow extending the selection beyond one window.
3. When visual feedback shows the desired range, the user releases the mouse button. The point at which the button is released is called the **active end** of the range.

EX1013, 289.

51. This kind of selection has been ubiquitous in GUIs for decades since at least the 1970s when Xerox PARC broadly introduced the GUI through their office machines such as the Xerox Alto. Icon selection was more broadly available when Apple introduced the Macintosh in 1984 and then when Microsoft introduced Windows 3.1 in 1992. These and many other commercial GUIs using input devices

to select icons are summarized in a 1988 paper (EX1012)⁷ describing Window Manager User Interfaces. I have also used many of these systems myself and know from my own experience that they supported such icon selection. *See generally* EX1012.

VII. THE '878 PATENT

A. Overview

52. The '878 patent relates to graphical user interfaces (GUIs) and processes for accessing and manipulating GUI content. EX1001, 17:39-44. Figures 3B-3H illustrate “a plurality of exemplary user interface 113 ‘screen shots’”—each characterized by one or more “icons” and an icon selection tool called a “selection ring.” EX1001, 14:60-63, 17:39-44, 18:11-52, 19:4-54, 22:19-29, Figs. 3B-3H. As shown in Figures 3D-3F, a user “has selected the selection ring 152” “caus[ing] presentation” of icons 162, 164, and 166. EX1001, 18:16-19, 18:28-30, Figs. 3D-3F. Once presented, the selection ring may be “manipulated and positioned above” any one of the icons, resulting in presentation of a “selection ring siren,” or

⁷ Brad A. Myers, *Window Interfaces: A Taxonomy of Window Manager User Interfaces*, IEEE Comput. Graphics & Appls., Vol. 8, No. 5 (Sep. 1988), pp. 65-84, <https://doi.org/10.1109/38.7762>.

information box, for the icon. EX1001, 18:20-52. Annotated Figure 3D illustrates the **selection ring 152** “manipulated and positioned above” **icon 162**, and the resulting **selection ring siren 160**, which indicates that **icon 162** corresponds to “a time travel feature interface” the user can launch by selecting the icon. EX1001, 18:40-43, Fig. 3D.

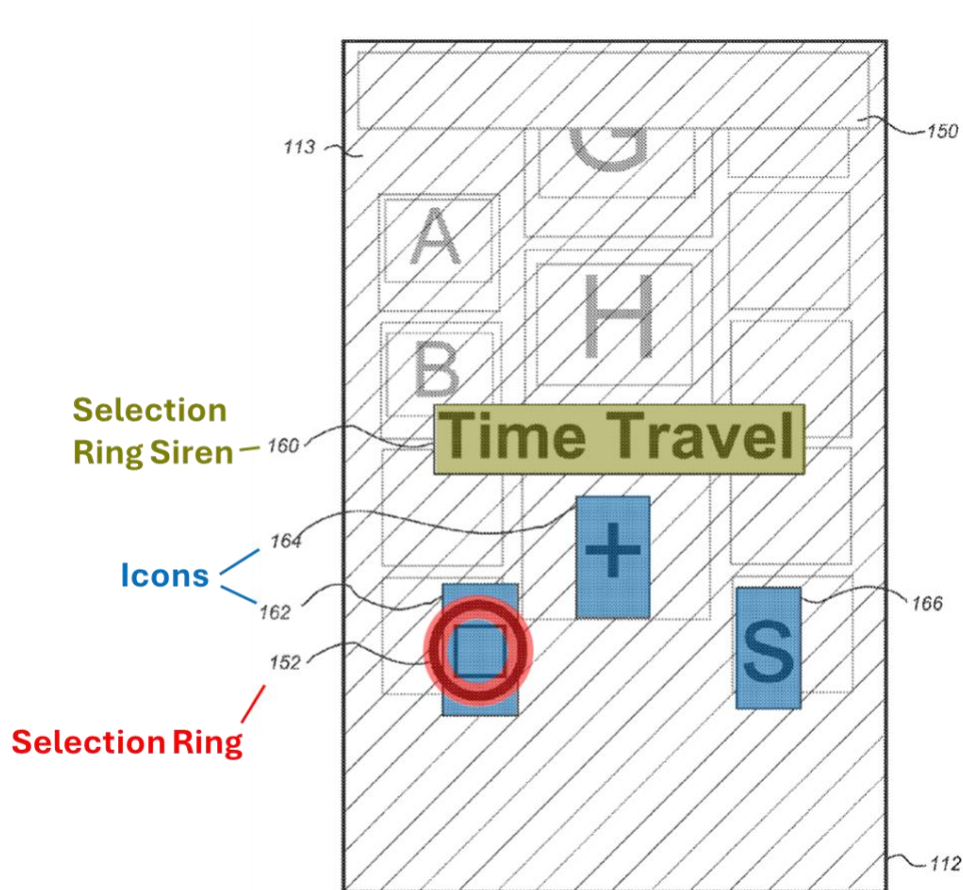


FIG. 3D

EX1001, Fig. 3D (annotated).

53. Figure 3G below is a screenshot of the display after the user selects icon 162 in the first user interface to enter the “time travel feature interface,” thus launching a second user interface. EX1001, 18:40-43, 18:53-54, 19:4-26, Fig. 3G.

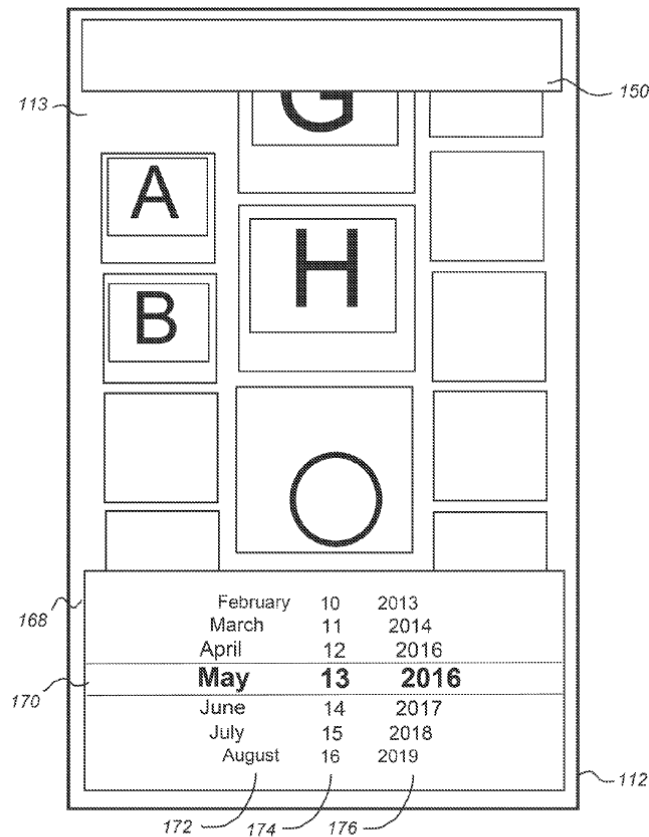


FIG. 3G

EX1001, Fig. 3G.

B. Prosecution History

54. During prosecution of the '878 patent, the Examiner twice rejected the claims over the prior art before the claims were allowed. EX1002, 118-136, 163-183. In the first, non-final rejection, the Examiner rejected the initial prosecution

claims as obvious over the 2009 version of “Windows 7 for Dummies,” authored by Andy Rathbone (“Rathbone”), in view of a webpage describing “CircleSpin Cursors” created by sixλxis (“sixλxis”). EX1002, 118-136. After considering Applicant’s responsive claim amendments and arguments (EX1002, 149-160), the Examiner issued a final Office Action rejecting the proposed claims as obvious over (i) Rathbone and sixλxis, and (ii) Rathbone, sixλxis, and a webpage describing a TouchMouse Pointer (“TouchMouse”). EX1002, 163-183.

55. After the Examiner finally rejected the prosecution claims, the Applicant filed a response after final action with numerous amendments and arguments. EX1002, 194-210. The Examiner found that the Applicant’s response raised new issues and that U.S. Publication No. 2008/0163119 (“Kim”) appeared to anticipate and, in combination with other references, render obvious the then-pending independent claims. EX1002, 213, 217. The Applicant then filed a request for continued examination, incorporating several claim amendments that had been initially raised in the response after final action. *Compare* EX1002, pgs. 221-243, *with* EX1002, 194-210. The Applicant amended the claims, including requiring that user manipulation of the selection ring does not “alter[] a location of the plurality of icons within” the user interface, and that receiving a selection of an

icon is based on “user manipulation” of the selection ring. EX1002, 230-234, 240-242.

56. The Examiner did not consider or have any of *Walkin*, *Homma*, or *Fujioka* during the prosecution of the '878 patent. *See generally* EX1002.

VIII. LEVEL OF ORDINARY SKILL IN THE ART

57. In my opinion, a person of ordinary skill in the art in the field of the '878 patent would have had a bachelor's degree in computer science, computer engineering, or a similar field, and two to three years of experience in designing graphical user interfaces. Additional relevant work experience can compensate for less education, and vice versa. I am and was at least a POSITA as of the earliest claimed priority date.

IX. CLAIM CONSTRUCTION

58. As I discuss above regarding applicable legal standards, I understand that, in this proceeding, the claims are construed according to their ordinary and customary meaning, in light of the specification and prosecution history, as understood by a person of ordinary skill in the art at the time of the invention. I understand that this is the same claim construction approach used in district court litigation.

59. I have been instructed that the “intrinsic record” includes the ’878 patent itself, including the claims, description, and figures (EX1001), and the ’878 patent’s prosecution history—i.e., the record of proceedings at the U.S. Patent and Trademark Office (“USPTO” or “Patent Office”) concerning the patent (EX1002). I understand that, like the claims and written description, the prosecution history provides evidence to a person of ordinary skill in the art of how the inventor intended his patent to be understood, and how the USPTO understood the patent. I understand that the inventor is permitted to apply a special definition to the terms or to limit the scope of claim terms in his patent claims, which may differ from the terms’ plain and ordinary meaning. That special definition or limitation on scope may be provided in the patent’s written description, the patent’s prosecution history, or both. As noted above, I understand that claim terms are generally not limited by the embodiments described in the specification.

60. I understand that claim interpretation may also be informed by “extrinsic evidence” (that is, evidence outside of the patent record itself). I have been informed that extrinsic evidence may include dictionaries, technical treatises, and other materials evidencing the meaning of a claim term and the understanding held by a person of ordinary skill in the art in the relevant time period. As noted

above, I understand such extrinsic evidence is often less significant and less reliable than the patent's claims, specification, and prosecution history.

61. In my opinion, none of the claim terms in the '878 patent require an express construction for the purpose of review by the Patent Office, and each term should be given its plain and ordinary meaning as it would have been understood by a person of ordinary skill in the art at the earliest priority date of the '878 patent.

X. THE PRIOR ART

62. As explained below, it is my opinion that claims 1-18 of the '878 patent would have been obvious over combinations of *Walkin*, *Homma*, and/or *Fujioka*.

A. *Walkin* (EX1005)

63. *Walkin* is titled "Interactive Elements with Labels in a User Interface." *Walkin*, Title. *Walkin* was filed on December 5, 2013, as Application No. 14/098,342 and published on September 18, 2014. *Walkin*, codes (21), (22), (43). I have been told that *Walkin* qualifies as prior art because it is a printed publication that was published before the earliest effective filing date of the '878 patent.

64. *Walkin* discloses GUI systems and related processes for viewing, accessing, and manipulating information and content. *Walkin*, Abstract, ¶¶55, 57, 64-71, Figs. 5M-5N, 5P-5Q, 6B. As in the '878 patent, *Walkin*'s GUI (including, e.g., an interface for a “socialized dash”) includes “one or more interactive elements” (icons) and an icon selection tool called a “control bauble,” which are displayed over other information in the GUI. *Walkin*, ¶¶57, 65-66, 68-69. Figures 5M-5Q “illustrate example user interfaces with interactive elements.” *Walkin*, ¶9, Figs. 5M-5Q.

65. *Walkin*'s “control bauble” is presented within the GUI and can be selected by a user to cause “**interactive elements** ([e.g.,] **icons 558, 560**, and **562**) . . . [to] appear in the socialized dash.” *Walkin*, ¶¶66, 68, Figs. 5M-5N. Annotated Figures 5M and 5N below, respectively, illustrate the appearance of the GUI before (Figure 5M) and after (Figure 5N) a user selects the **control bauble 556**, thus causing the **icons 558, 560**, and **562** to appear. *Walkin*, ¶¶66, 68, Figs. 5M-5N.

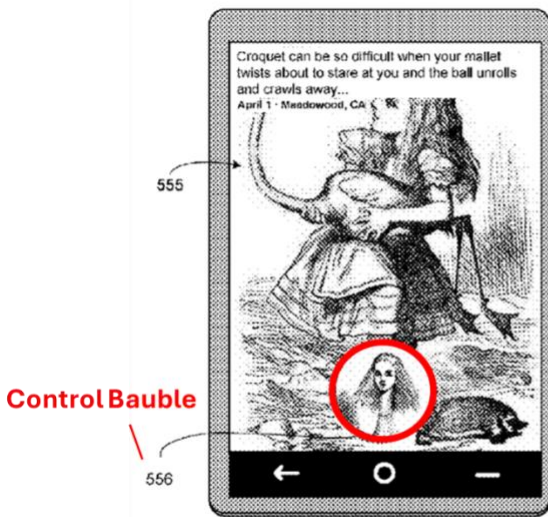


FIG. 5M

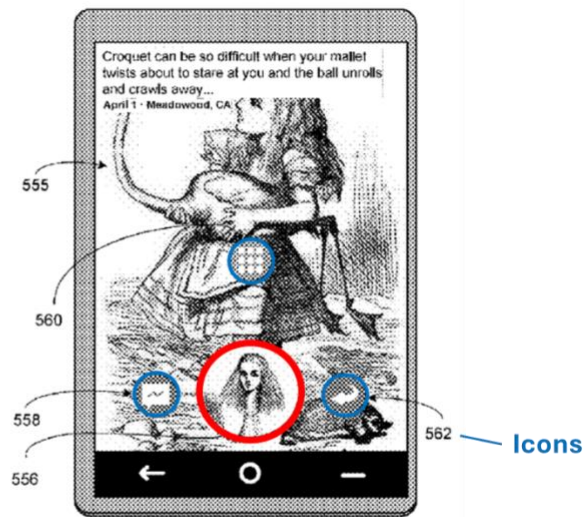


FIG. 5N

Walkin, Figs. 5M-5N (annotated).

66. *Walkin*'s icons may also be associated with "labels" containing information regarding the icon. *Walkin*, ¶¶4, 68, 71. For example, icon 560 is associated with label 561 ("Apps") "indicating that icon 560 is associated with an application launcher and that selection [of] icon 560 opens the application launcher interface." *Walkin*, ¶68, Fig. 5P.

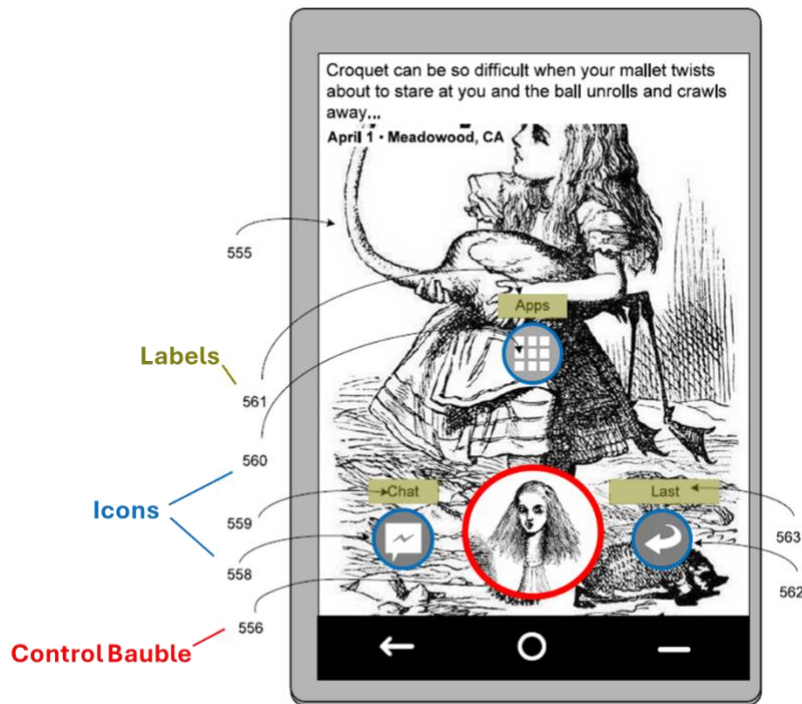


FIG. 5P

Walkin, Fig. 5P (annotated).

67. Once the icons are presented, “the user may then drag **control bauble 556** onto a particular interactive element (e.g., onto **icon 560**, as shown in Figure 5P) in order to select it.” *Walkin*, ¶69, Figs. 5P-5Q. Annotated Figure 5P below illustrates a **dragging gesture** for placing the **control bauble** onto **icon 560**.

Walkin, ¶69, Fig. 5P.

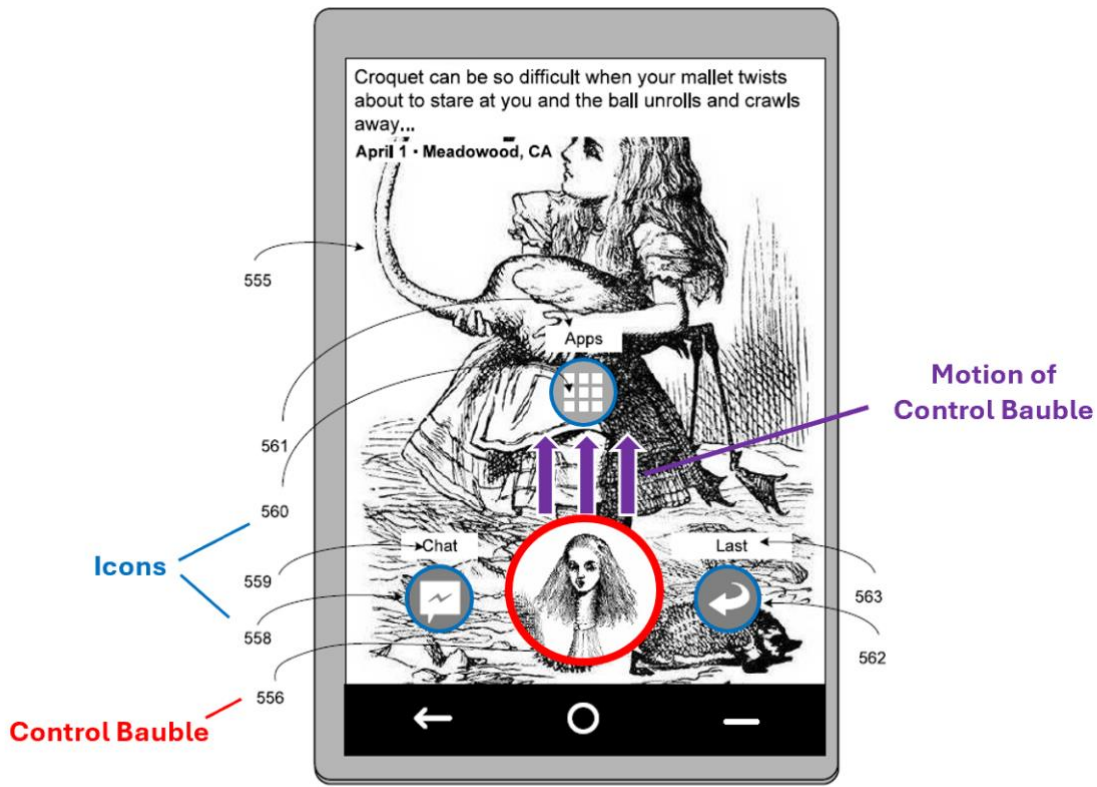


FIG. 5P

Walkin, Fig. 5P (annotated), 5Q.

68. As in the '878 patent, selecting an icon within the GUI causes the user interface to transition from a first interface to a second interface. For example, selecting the “Apps” icon 560 causes a second interface to “move into view,” e.g., by “overlay[ing]” the second interface “on top of” the first interface. *Walkin*, ¶¶60, 68. The second interface can be, for example, a “launch screen offering the user various application options for selecting and launching.” *Walkin*, ¶¶60, 68. Figure 6B summarizes *Walkin*’s process for transitioning between the first and second user interfaces using the interactive elements. *Walkin*, ¶71, Fig. 6B.

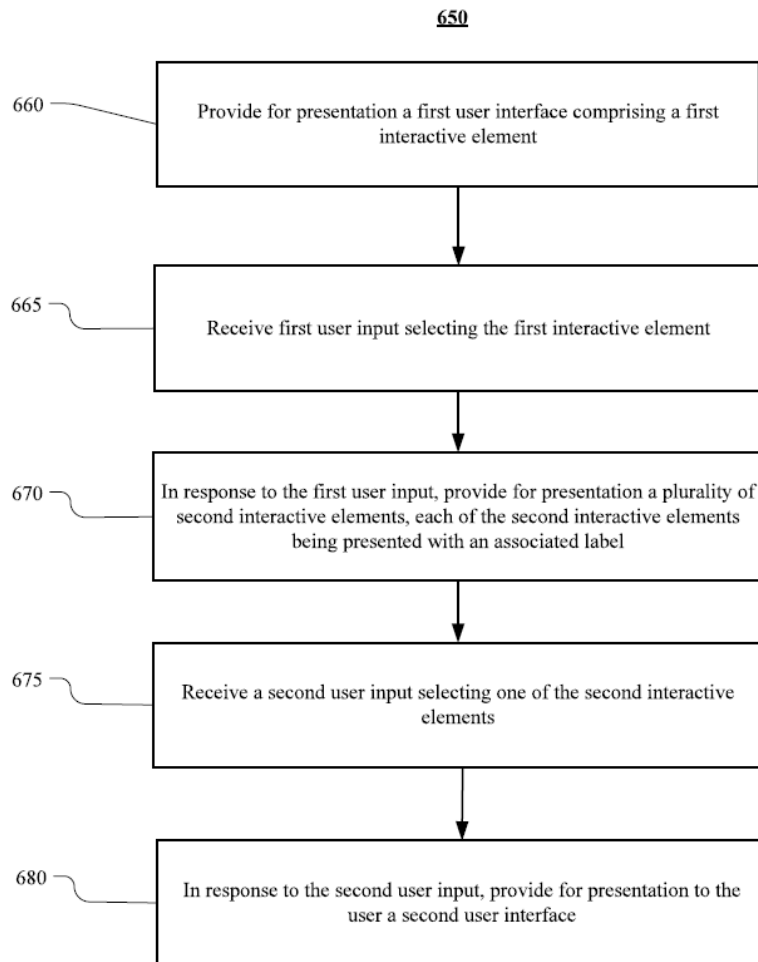


FIG. 6B

Walkin, Fig. 6B.

69. At step 665, the user selects the first interactive element, such as the control bauble. *Walkin*, ¶71, Fig. 6B; *see also Walkin*, ¶65. At step 670, in response to receiving the first user input selecting the first interactive element (control bauble), the system presents a plurality of “second interactive elements” (e.g., icons). *Walkin*, ¶71, Fig. 6B; *see also Walkin*, ¶66. At step 675, the system

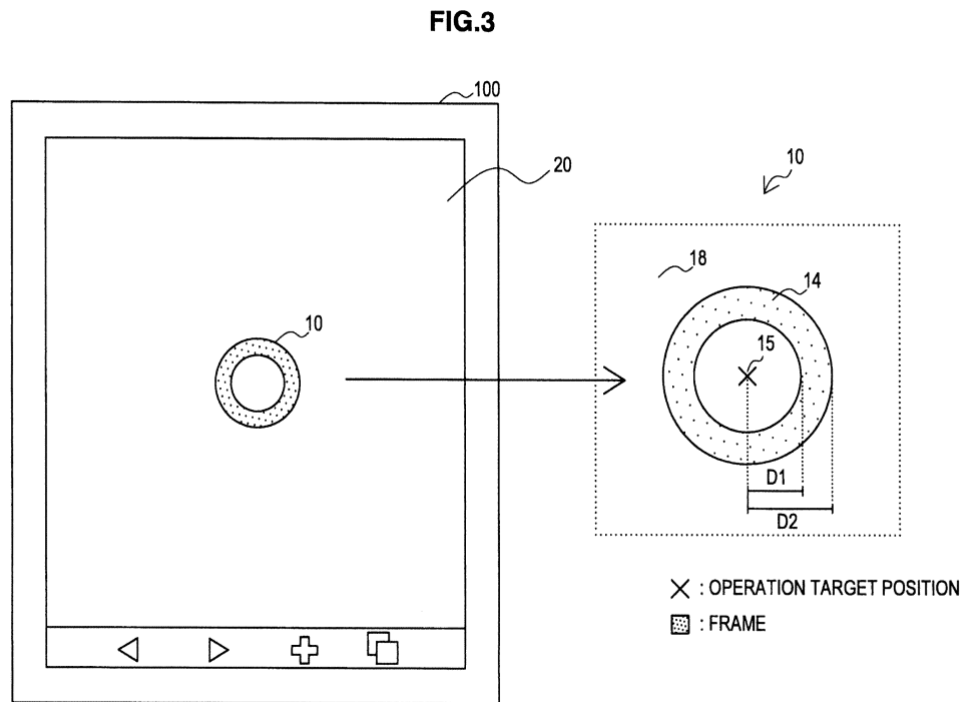
receives a “second user input selecting one of the second interactive elements” (e.g., user manipulation of the control bauble to select an icon), and at step 680, in response to the second user input (e.g., the user’s selection of an icon using the control bauble), the first user interface transitions to a second user interface.

Walkin, ¶71, Fig. 6B.

B. *Homma* (EX1006)

70. *Homma* is titled “Information Processing Device, Computer Program Product, and Display Control Method.” *Homma*, Title. *Homma* was filed on August 4, 2011, as Application No. 13/197,824, and published on February 23, 2012. *Homma*, codes (21), (22), (43). I have been told that *Homma* qualifies as prior art because it is a printed publication that was published before the earliest effective filing date of the ’878 patent.

71. *Homma* discloses GUI elements and selection tools of various shapes and sizes, including a cursor rendered as a ring-shaped frame with different inner and outer circumferences. *Homma*, ¶¶103-104, 130, 172. Figure 3 illustrates the ring-shaped cursor 10. *Homma*, ¶¶103-104, Fig. 3.

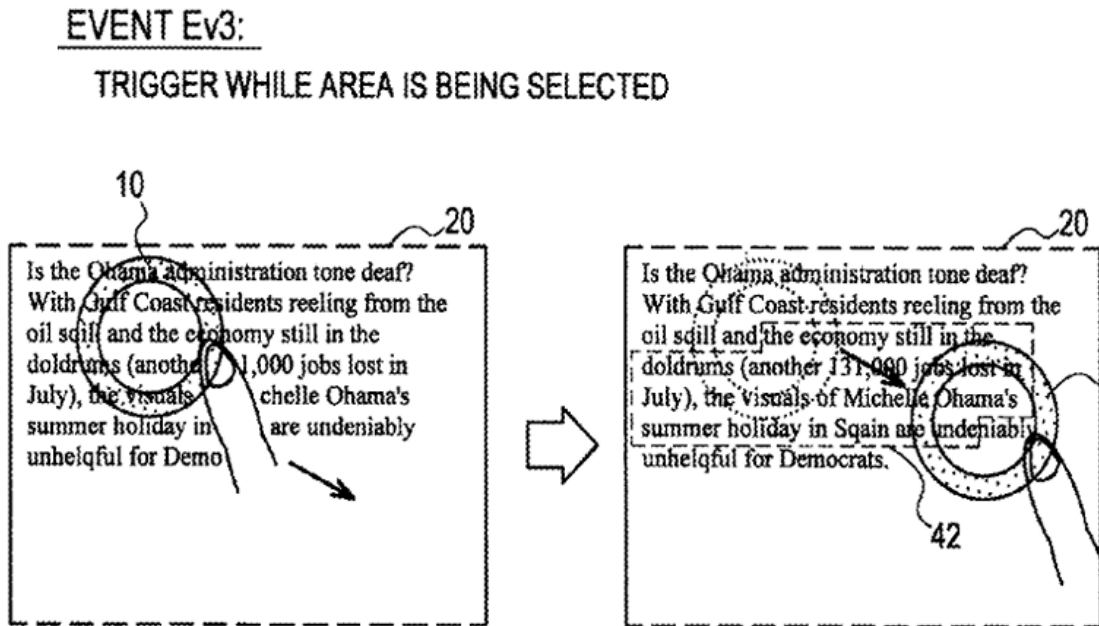


Homma, Fig. 3. *Homma* discloses that the frame 14 of cursor 10 may be “semi-transparent so that an object on the screen that overlaps the frame 14 is visible.”

Homma, ¶104, Fig. 3; *see also Homma*, Figs. 8C, 9B, 10. *Homma*’s ring-shaped cursor allows the user to see the user interface behind the cursor, affording the user improved clarity and control over the precise position of the cursor’s target.

Homma, ¶¶104, 130, 172; *see also Homma* Figs. 8C, 9B, 10.

FIG.8C



Homma, Fig. 8C (excerpted).

C. *Fujioka* (EX1007)

72. *Fujioka* is titled “Apparatus, System and Method for an Icon Driven Tile Bar in a Graphical User Interface.” *Fujioka*, Title. *Fujioka* was filed on March 24, 2010, as Application No. 12/730,500 and published on October 7, 2010. *Fujioka*, codes (21), (22), (43). I have been told that *Fujioka* qualifies as prior art because it is a printed publication that was published before the earliest effective filing date of the '878 patent.

73. *Fujioka* relates to “a graphical user interface (GUI) for a computing system.” *Fujioka*, ¶3. The computing system includes a processor, “at least one memory device,” “a display device,” and “any input/output device capable of conveying user movements and/or commands” to “allow the user to effectuate movement of a cursor . . . within [the] GUI.” *Fujioka*, ¶31. The cursor “movement” caused by the input “may be reflected on the display device.” *Fujioka*, ¶31.

74. Figures 6-8 of *Fujioka* illustrate exemplary GUIs. *Fujioka*, Figs. 6-8. Each GUI includes a “tile bar” containing “numerous icons,” each of which “may be selected, in whole or in part, by the user.” *Fujioka*, ¶¶32-36, 39, Figs. 6-8. “[T]he icons on the tile bar may represent, for example, applications, windows, documents, tasks, utilities, files, [and] links,” and “may be linked to the items represented, such as to enable launch of the item from the tile bar, such as by shortcut linking or the like.” *Fujioka*, ¶34.

75. *Fujioka* further describes a process through which a user can preview the contents of a folder or icon within the GUI without opening or launching it. For example, *Fujioka* explains that “placement of the cursor over an icon in the tile bar may provide for a previewing, or monitoring, feature for those items represented by the icon.” *Fujioka*, ¶35. The preview may present “linked locations or remote applications” associated with the icon (*Fujioka*, ¶35) or “include content previews”

that “show the content,” such as files, associated with the icon (*Fujioka*, ¶¶34, 36).

Figure 6 below depicts an exemplary preview presented to a user upon placement of the cursor over the “folder” icon in the tile bar. *Fujioka*, ¶36, Fig. 6.

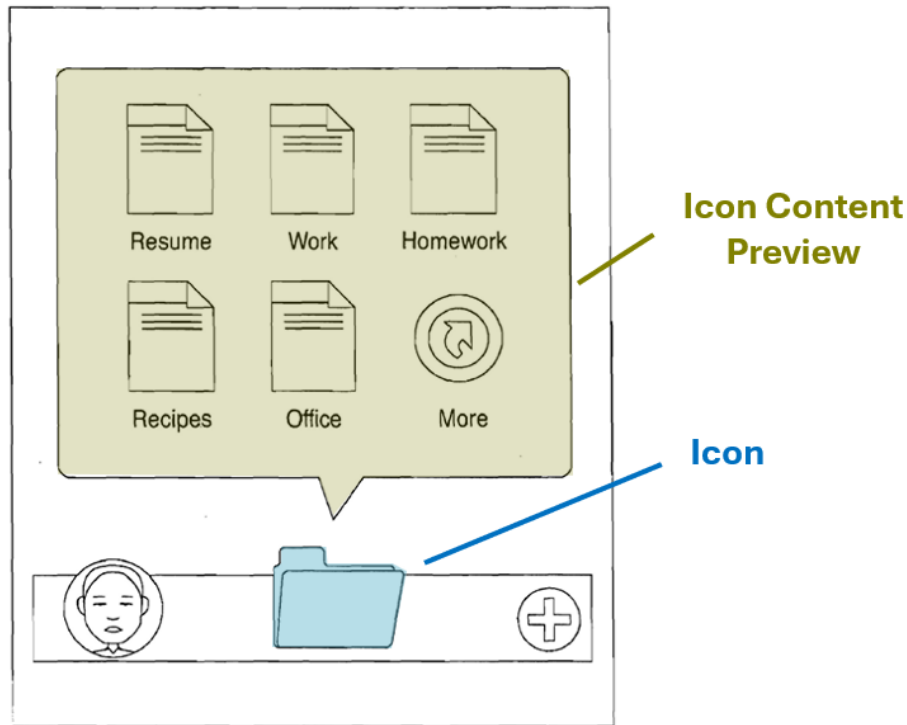


FIG. 6

Fujioka, Fig. 6 (annotated).

76. *Fujioka* further explains that its preview functionality is beneficial because it prevents the need to “launch” an icon to see its contents, which “generally takes unwanted time, in part because processing must be performed in order to ‘launch’ the icon into the item to which it is to be exploded, and such a

launch necessitates execution of computing code associated with the application, file or new window.” *Fujioka*, ¶¶8, 35-36.

XI. GROUND 1: CLAIMS 1, 2, 5-8, 11-13, AND 17-18 ARE UNPATENTABLE OVER *WALKIN* AND *HOMMA*

A. Independent Claim 8

77. There are three independent claims in the ’878 patent—claims 1, 8, and 13. These claims have extensive overlap in claim elements. Claim 1 is directed to “[a] method,” claim 8 is directed to “[a]n interactive user interface control system,” and claim 13 is directed to “[a] non-transitory computer readable medium that stores computer instructions that, when executed by at least one processor, cause the at least one processor to perform operations.” For example, all three claims recite receiving “a user manipulation” of the position of the selection ring in the first graphical user interface; “a selection of an icon from the plurality of icons based on a position of the selection ring in the first graphical user interface relative to the icon in response to the user manipulation”; and transition to, or displaying or presenting, “a second graphical user interface” based on or in response to “the selected icon.”

78. Claim 8 encompasses most elements of independent claims 1 and 13, as well as additional claim limitations. I therefore begin my analysis with claim 8,

and in my analyses of claims 1 and 13, I refer back to my analysis of claim 8, where appropriate.

1. [8preamble]: “An interactive user interface control system, comprising:”

79. *Walkin* discloses [8preamble]. For example, it discloses a “client system” for implementing and controlling “first” and “second” “user interface[s]” having a plurality of “interactive elements.” *Walkin*, ¶¶4, 15, 20, 71, Fig. 6B. The client system “may be a mobile electronic or computing device . . . such as a Smartphone, tablet computer, or laptop computer.” *Walkin*, ¶20. Figures 5M-5P illustrate an embodiment of the client system having “example user interfaces with interactive elements.” *Walkin*, ¶¶9, 65-68, Figs. 5M-5P.

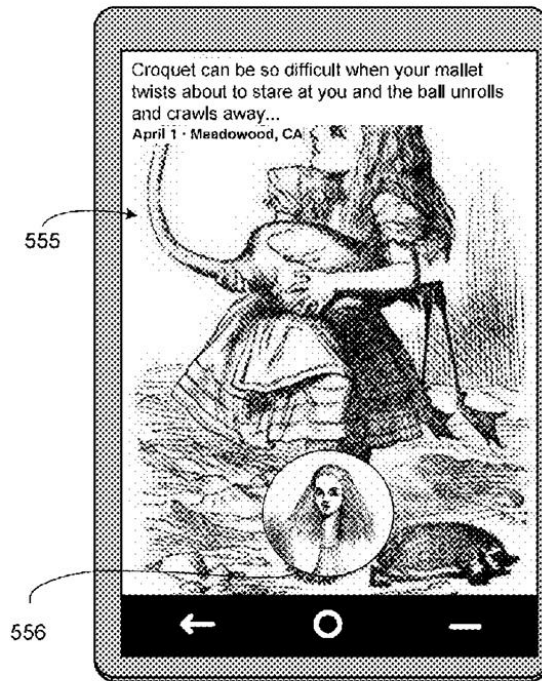


FIG. 5M

Walkin, Fig. 5M.

2. [8a]: “a display device;”

80. *Walkin* discloses [8a].

81. For example, *Walkin*’s client system (e.g., a smartphone) “include[s] a touchscreen capable of receiving touch input” and displaying user interfaces.

Walkin, ¶¶4, 21-22, 52, 65. Figure 5M illustrates a user interface “occup[ying] the entire or nearly the entire display area (e.g., the screen of an electronic device).”

Walkin, ¶52, Fig. 5M; see also *Walkin*, ¶65 (describing “displayable region 555”).

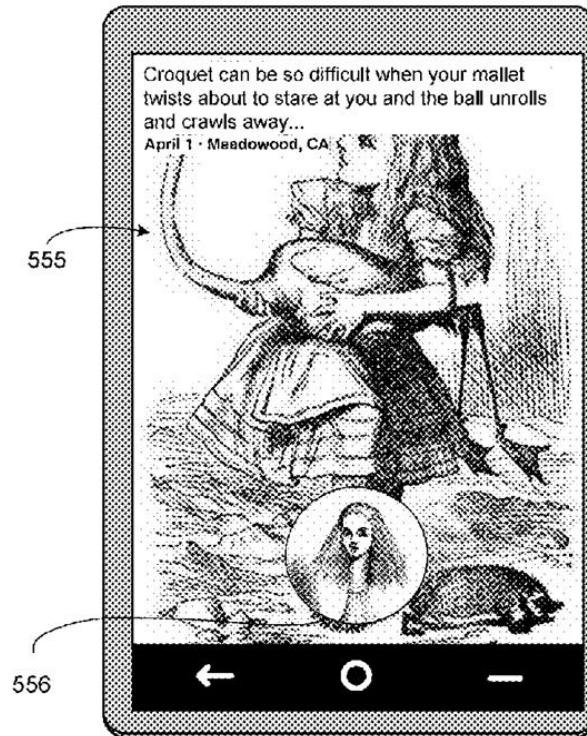


FIG. 5M

Walkin, Fig. 5M.

82. This is consistent with the '878 patent, which similarly describes “a user interface 13 such as a display” whereby “[t]he user interface 13 may include a touch screen capable of receiving input from a user that touches the screen.” EX1001, 8:65-9:1.

3. [8b]: “a memory that stores computer instructions; and”

83. *Walkin* discloses [8b].

84. For example, *Walkin*'s client system (e.g., a smartphone) comprises "memory 704 includ[ing] main memory for storing instructions for processor 702 to execute." *Walkin*, ¶¶20, 74-76. For the client system "to execute instructions, processor 702 may retrieve (or fetch) the instructions from an internal register, an internal cache, memory 704, or storage 706; decode and execute them; and then write one or more results to an internal register, an internal cache, memory 704, or storage 706." *Walkin*, ¶75; *see also Walkin*, ¶76 (describing embodiments where "processor 702 executes only instructions in one or more internal registers or internal caches or in memory 704 (as opposed to storage 706 or elsewhere)"). Figure 7 below illustrates a client system (computer system) including memory 704 for storing instructions for performing the "methods" and "functionality described" with respect to Figures 5M-5P. *Walkin*, ¶¶72, 74-76, Fig. 7.

700

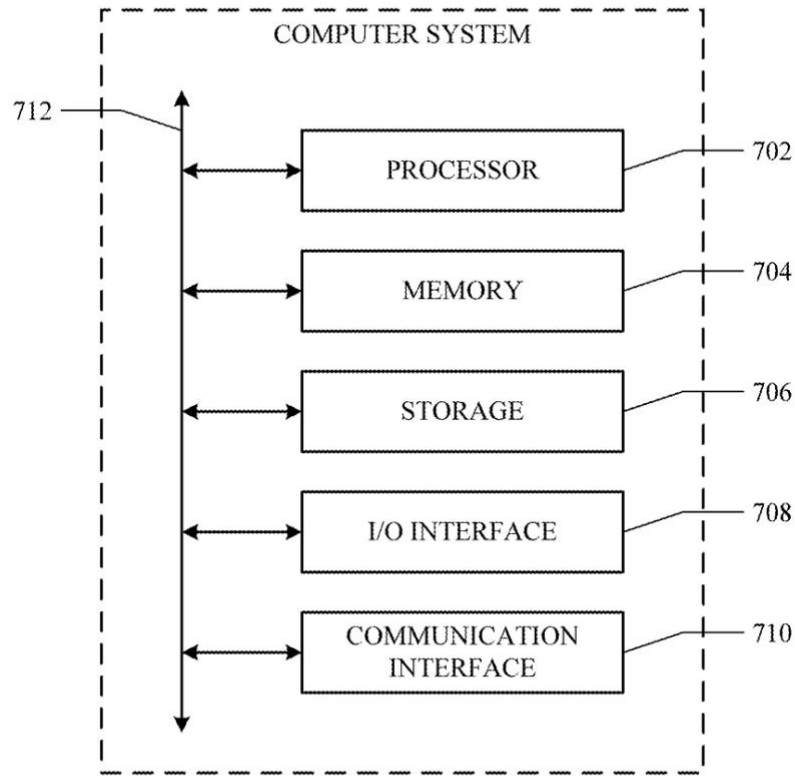


FIG. 7

Walkin, Fig. 7.

4. [8c]: “at least one processor that executes computer instructions to:”

85. *Walkin* discloses [8c].

86. For example, *Walkin*’s client system “includes a processor 702” “for executing instructions, such as those making up a computer program” stored in memory 704. *Walkin*, ¶¶74-76. The processor “may retrieve (or fetch) the

instructions from an internal register, an internal cache, memory 704, or storage 706; decode and execute them; and then write one or more results to an internal register, an internal cache, memory 704, or storage 706.” *Walkin*, ¶75.

Figure 7 below illustrates a client system (computer system) including processor 702 for executing instructions that perform the “methods” and “functionality described” with respect to Figures 5M-5P, and claim elements [8d]-[8i] below.

Walkin, ¶¶72, 74-76, Fig. 7.

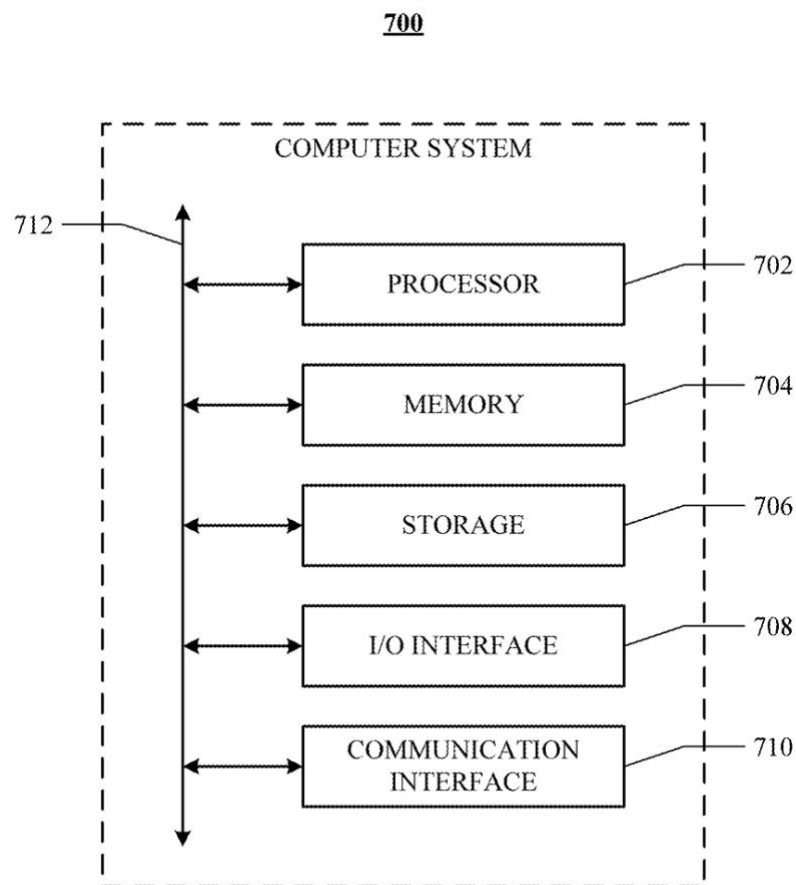


FIG. 7

Walkin, Fig. 7.

5. [8d]: “present, on the display device, the selection ring to a user in a first graphical user interface;”

87. Below I explain why [8d] is obvious over *Walkin* in view of *Homma*.

88. *Walkin* discloses presenting, on its display device, a selection tool (“control bauble”) in a first graphical user interface (e.g., a “socialized dashboard” or “socialized dash”). *Walkin*, ¶65, Fig. 5M. For example, *Walkin* discloses “an interactive element in the form of a control bauble” that is displayed over other information in the dash. *Walkin*, ¶65. The **control bauble 556** is a **selection tool** that a **user moves to select** an **interactive element** (e.g., icon). *Walkin*, ¶69 (“[F]or example, if the user placed their finger onto control bauble 556 to cause icons 558, 560, and 562 to appear, the user may then drag control bauble 556 onto a particular interactive element (e.g., onto icon 560, as shown in FIG. 5P) in order to select it.”), Fig. 5P. The socialized dash may be “a home or default screen” of the computing device. *Walkin*, ¶65. Figure 5M below illustrates the “socialized dash” and “**control bauble 556**” presented on the “displayable region 555.” *Walkin*, ¶65, Fig. 5M.

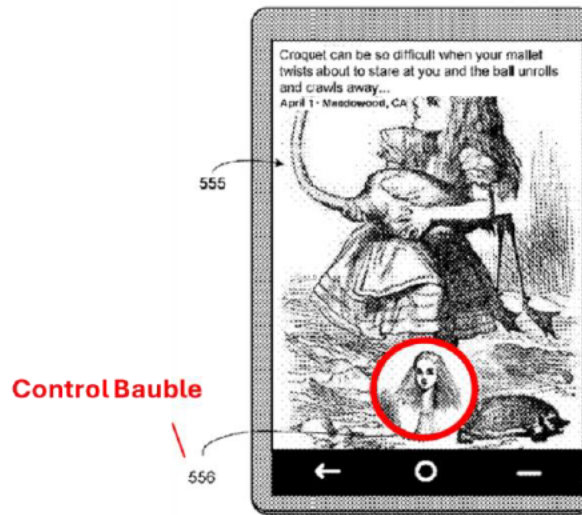
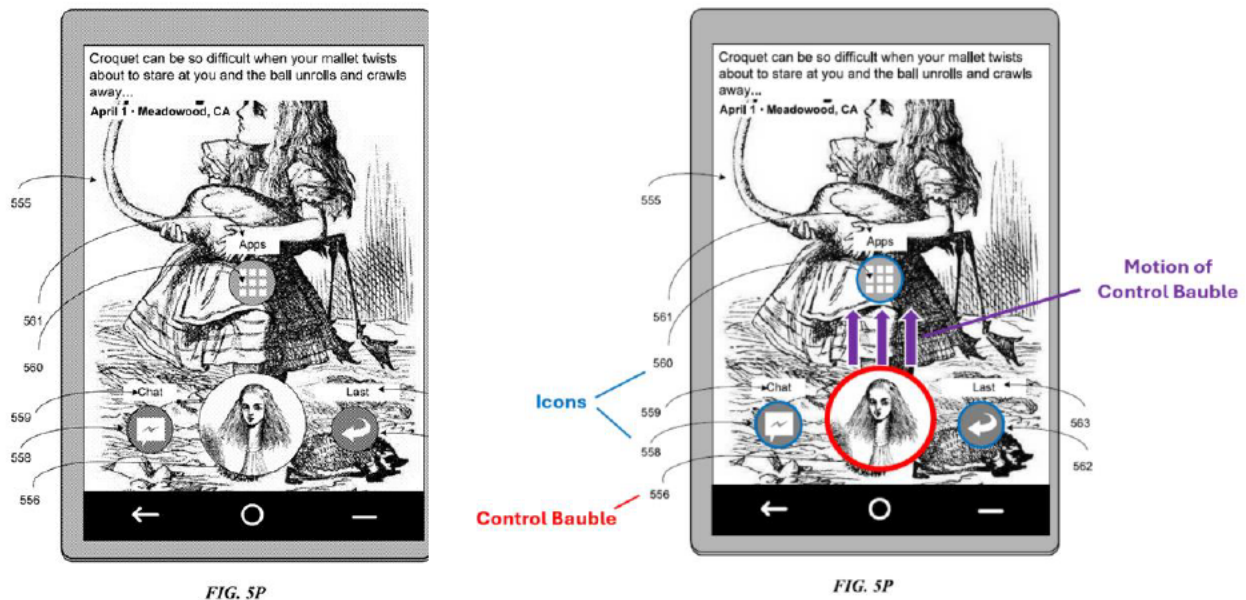


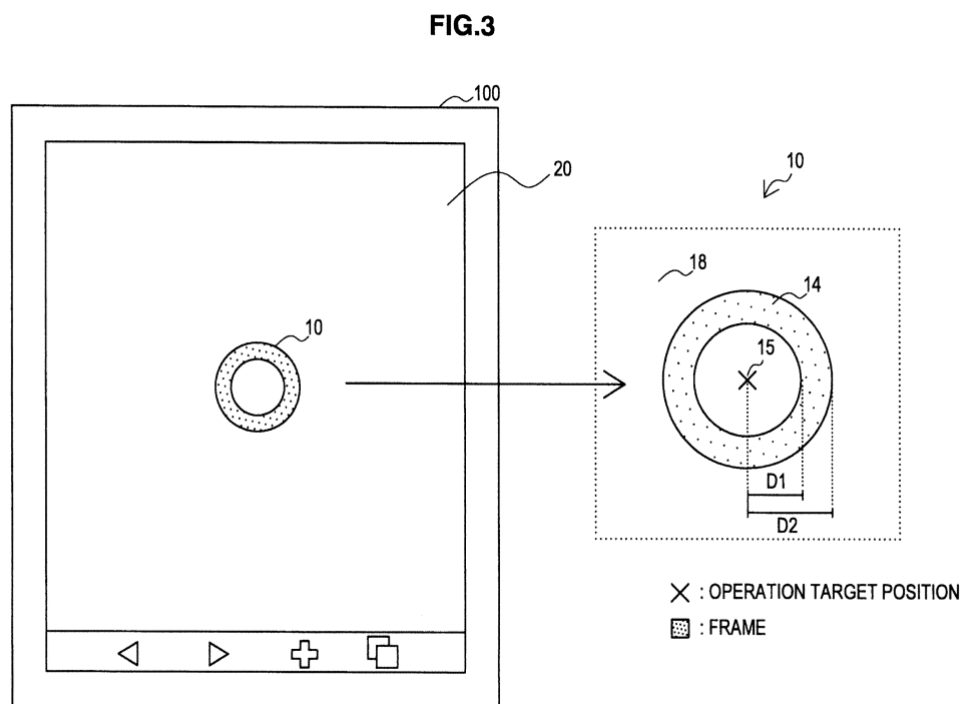
FIG. 5M

Walkin, Fig. 5M (annotated). Annotated Figure 5P below illustrates a dragging motion of the control bauble that may be used to select an icon.



Walkin, Fig. 5M (original (left); annotated (right)).

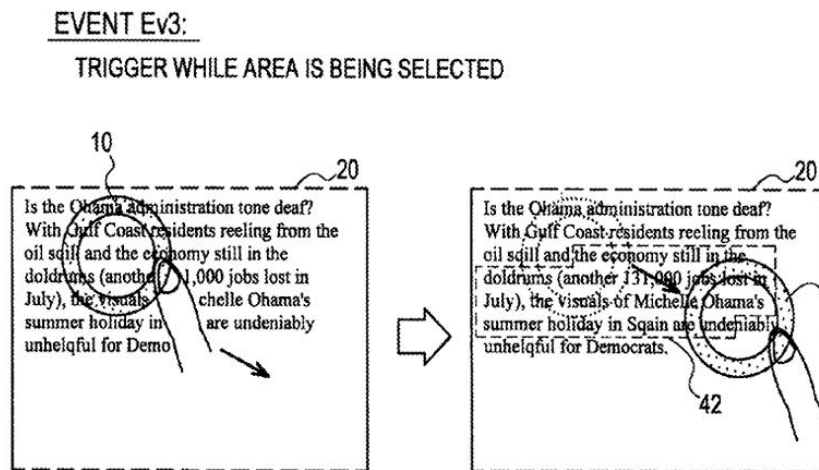
89. As I explain in Section X.B, *Homma* discloses GUI elements and selection tools of various shapes and sizes, including a cursor rendered as a ring-shaped frame with different inner and outer circumferences. *Homma*, ¶¶104, 130, 172, Fig. 3. Figure 3 illustrates the ring-shaped cursor 10:



Homma, ¶104, Fig. 3. *Homma* discloses that the frame 14 of cursor 10 may be “semi-transparent so that an object on the screen that overlaps the frame 14 is visible.” *Homma*, ¶104, Fig. 3; *see also Homma*, Figs. 8C, 9B, 10. *Homma*’s ring-shaped cursor allows the user to see the user interface behind the cursor, affording

the user improved clarity and control over the precise position of the cursor's target. *Homma*, ¶¶104, 130, 172; *see also Homma*, Figs. 8C, 9B, 10.

FIG.8C



Homma, Fig. 8C (excerpted).

a. The *Walkin-Homma* Combination

i. *Walkin* and *Homma* Are Analogous Art

90. In my opinion, *Walkin* and *Homma* are both analogous art to the '878 patent at least because they are in the same field of endeavor as the '878 patent: graphical user interfaces for a computing system. *See, e.g.*, EX1001, Title ("Selection Ring User Interface"), 14:60-63 ("a plurality of exemplary user interface 113 'screen shots' of a user's computer device 112"), 17:39-44, Figs. 3A-3H. *Walkin* relates to "a user interface" for a computing device (e.g., a smartphone)

that includes user-selectable “interactive elements” (icons). *Walkin*, ¶¶2-4, 15, Figs. 5L-5Q. *Homma* likewise relates to “novel and improved” computing processes for implementing “a wide variety of user interfaces on a screen without an operation target being covered,” such as through using a “ring shape[d]” cursor 10. *Homma*, ¶¶7, 42, 108, Figs. 3, 5, 9B.

91. It is my opinion that *Walkin* and *Homma* are also reasonably pertinent to the problems facing the inventors of the ’878 patent: improving processes for navigating a graphical user interface. EX1001, 18:16-52 (describing processes for using a selection tool to access icons and navigate between user interfaces); *Walkin*, ¶¶66-69, 71, Fig. 6B (same), *Homma*, ¶¶3, 7, 172 (describing an improved selection process for navigating a user interface).

ii. Modifying *Walkin*’s “Control Bauble” in View of *Homma*

92. In my opinion, a POSITA would have been motivated to modify *Walkin* to implement *Homma*’s semi-transparent, ring-shaped cursor design in place of *Walkin*’s “control bauble” (yielding the “*Walkin-Homma* combination”) to improve the user’s visibility of both the underlying GUI and the target icon being selected. *Homma*, ¶¶7, 103-104. Such a modification would have improved the user’s experience and the functionality of *Walkin*’s device by allowing the

information and user interface elements underlying the selection ring to be more visible to the user. *Homma*, ¶¶7, 103-104, 172.

93. Annotated Figure 5P below illustrates *Walkin*'s GUI modified to implement *Homma*'s ring-shaped selection tool design in place of *Walkin*'s control bauble and the resulting improvement in GUI visibility. *Walkin*, Figs. 5P-5Q. The transparency of the selection tool would also allow the user to see more of the target icon when the selection ring is manipulated by the user to overlap with the icon as part of the icon selection process.

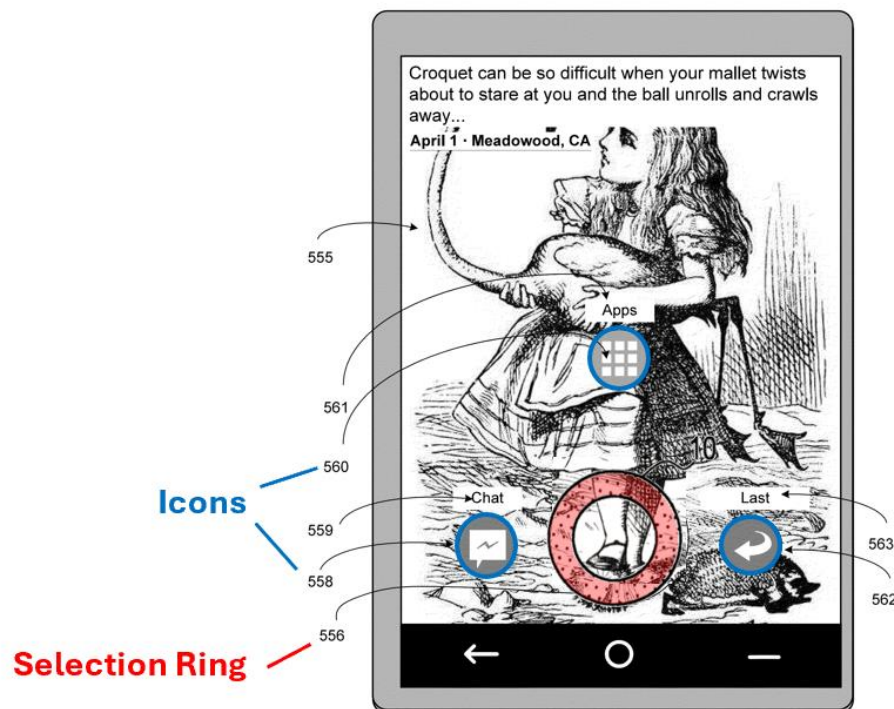


FIG. 5P

Walkin, Fig. 5P (annotated representation of replacing *Walkin*'s **control bauble** design with *Homma*'s **selection ring** shape).⁸

94. Further, it is my opinion that POSITA would have found it obvious to configure *Walkin*'s control bauble to utilize *Homma*'s ring-shaped design because doing so would have merely required the substitution of one known icon selection tool shape for another known shape to achieve predictable results in a GUI.

95. As another alternative, based on the teachings of *Homma*, a POSITA would have found it obvious as a matter of routine design choice to remove the interior image of *Walkin*'s control bauble to make the underlying GUI visible, as shown in annotated Figure 5P below. *Walkin*, Fig. 5P.

⁸ For the other claim elements discussed in this Declaration, the functionalities depicted for *Walkin*'s control bauble 556 in annotated figures apply equally to this modification of *Walkin*'s control bauble to incorporate *Homma*'s ring-shaped GUI element.

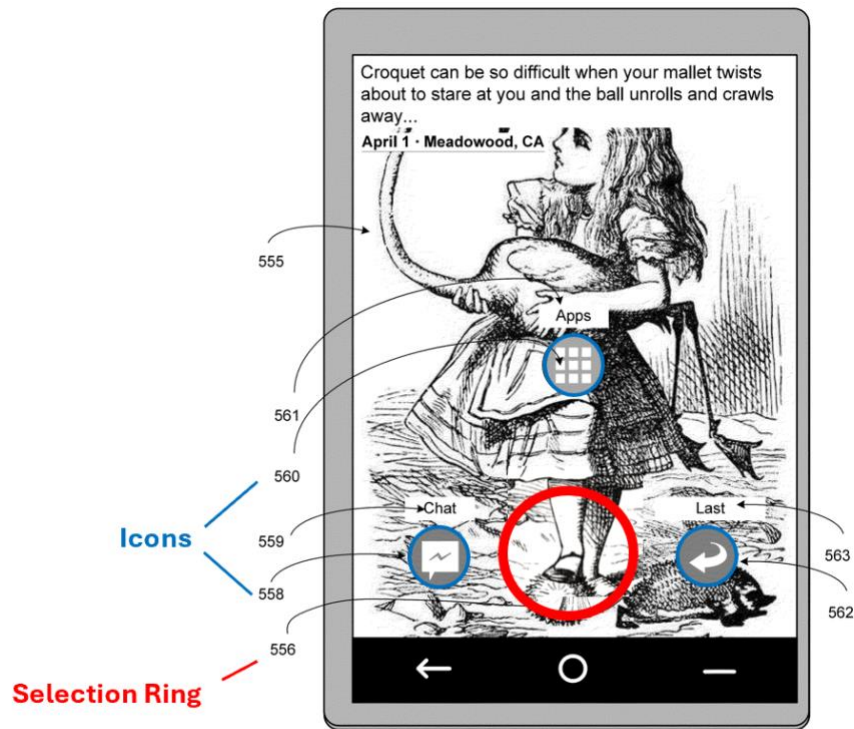


FIG. 5P

Walkin, Fig. 5P (modified to remove interior image of control bauble 556). *Walkin* expressly notes that the exemplary image depicted within the “control bauble” in its figures is an optional feature of the GUI element’s design and contemplates a variety of icon selection tool shapes and designs. *See Walkin*, Figs. 5B, 5H, 5I, 5L, 5M, ¶65 (“[C]ontrol bauble 556 . . . *may* display an image associated with the user of the computing device (e.g., the user’s profile picture).” (emphasis added)).

96. Moreover, it was well known in the art to use a variety of shapes, including ring shapes, within a GUI to facilitate icon selection. *See, e.g., Homma*, ¶¶16-17, 103-104, Fig. 3; EX1009, ¶53 (“[A]ttributes of the selection indicators

may include shapes (e.g., rectangular, polygonal, angular wedge shape, [or] *annular shape*)” (emphasis added)); EX1010, ¶336 (“In some embodiments, the first visual indicator comprises one of: *a ring, donut, circle*, oval, ellipse, arrow, cross, I-beam, star, or virtual finger.” (emphasis added)). Thus, it is my opinion that a POSITA would have also recognized the ring-shaped design to be an obvious matter of design choice and found it obvious to modify *Walkin* for the same reason. Both of the above examples therefore result in “present[ing], on the display device, the selection ring to a user in a first graphical user interface” based on the *Walkin-Homma* combination.

97. A POSITA would have had a reasonable expectation of success in implementing *Homma*’s ring-shaped selection tool design using either of these exemplary modifications.

98. The proposed modification would have merely required routine and conventional GUI programming and design techniques, including incorporating known GUI shapes and elements (e.g., a transparent, ring-shaped cursor) into another GUI element to obtain known design benefits, thus yielding predictable results for a more user-friendly, higher-visibility GUI. Indeed, a POSITA would have recognized the similarities and compatibility of *Walkin* and *Homma* for various reasons. For example, both use a circular selection tool to allow a user to

select icons in a GUI. *Walkin*, ¶¶65-66, 68, 71, Figs. 5M-5P; *Homma*, ¶¶103-104, Figs. 6, 8C. Furthermore, each uses executable computer instructions (including through a computer operating system) to implement such GUI functionalities.

Walkin, ¶¶75-76, Fig. 7; *Homma*, ¶¶39, 93. Moreover, *Homma* expressly discloses that its cursor may be implemented in a “variety of user interfaces” (*Homma*, ¶42), and a POSITA would have understood that modifying *Walkin* to incorporate the design of *Homma*’s ring-shaped selection tool would have only required routine skill and knowledge in the field to implement.

6. [8e]: “prior to selection of the selection ring by the user, hide a plurality of icons from the first graphical user interface;”

99. *Walkin* and *Homma* render obvious the additional limitations of claim element [8e]. As I explain for claim element [8d], the *Walkin-Homma* combination renders obvious the selection ring shape. The addition of *Homma* does not otherwise alter the functionality associated with *Walkin*’s modified control bauble.

100. As I explain for claim element [8d], *Walkin*’s modified control bauble is a **selection ring** (in the *Walkin-Homma* combination) that a user selects to display **additional interactive elements** (e.g., **icons 558, 560, and 562**). *Walkin*, ¶66, Figs. 5M-5N.

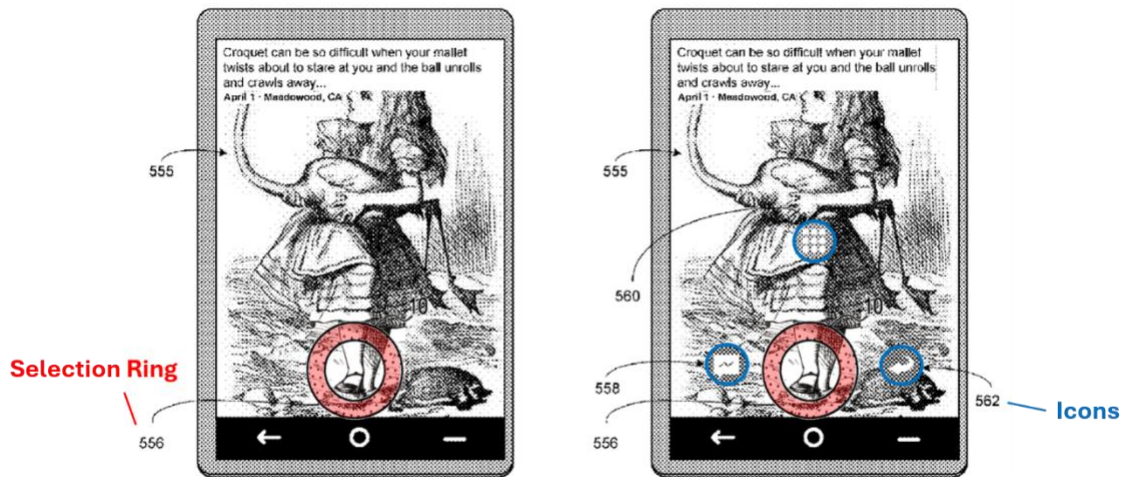


FIG. 5M

FIG. 5N

Walkin, Figs. 5M-5N (modified, annotated). Prior to the selection of the modified **control bauble**, as I illustrate in Figure 5M above, the **additional “interactive elements”** (e.g., icons 558, 560, and 562) hide in “a position behind the **control bauble”** and are not visible in *Walkin*’s “socialized dash” (first graphical user interface) prior to the selection of the **control bauble**. *Walkin*, ¶¶66, 68-69, Figs. 5M-5N. The **additional interactive elements** may also “fly out in all directions from behind the **control bauble** toward their final positions in the user interface” “in response to selection of a **control bauble**.” *Walkin*, ¶66. A POSITA would have understood that these exemplary “additional interactive elements” are hidden prior to a user’s selection of *Walkin*’s modified control bauble because they do not appear prior to the user’s selection of the control bauble. *Walkin*, ¶66, Figs. 5M-5N.

101. Moreover, it was well known in the art to hide interactive interface elements (e.g., icons) on a GUI until a user provides input, and to then un-hide the icons upon receiving the user's input to allow the user to interact with the icons. EX1008, ¶¶33, 47, Figs. 3, 5-6; EX1011, 12:14-29. For example, decades-old prior art systems allowed users to selectively “reveal one or more additional icons” that were previously “hidden,” and to hide “previously visible [icons].” EX1008, ¶¶33, 47, Figs. 3, 5-6; *see also* EX1011, 4:55-61 (describing a prior art “pull down menu” for displaying icons when a particular “logo” is “activated”), 12:14-29 (explaining that “icons” may be “visible” so that they are “accessible” or “hidden” such that they do not occupy the GUI). It is my opinion that a POSITA would have understood that hiding icons until they are needed advantageously reduces GUI “clutter,” thereby enhancing “display screen management” and the user's experience. *See, e.g.,* EX1011, 3:10-46, 4:6-9, 4:55-61 (explaining that undesirable GUI “clutter” arises when multiple icons and windows appear on the screen—and is reduced by selectively presenting icons). Additionally, in my opinion, a POSITA would have understood that hiding and selectively presenting icons also improves system efficiency and responsiveness by avoiding unnecessary re-computation or re-rendering of graphical elements.

102. As another example of “hiding” icons before they are presented in the GUI in response to a user’s selection of the control bauble (selection ring in the *Walkin-Homma* combination), *Walkin* describes an exemplary embodiment in which the “additional interactive elements” (icons) disappear “after a lack of user input.” *Walkin*, ¶64. The reference further discloses that a user may select the control bauble multiple times. *See, e.g., Walkin*, ¶66 (“Similarly, if *user input selecting the control bauble is received once again*, the interactive elements may appear to fly back from their final positions to a position behind the control bauble in the user interface.” (emphasis added)). Thus, after a user first selects *Walkin*’s modified control bauble and icons appear, those icons disappear (are hidden) from the user interface until the user selects the control bauble again, causing those icons to un-hide and re-appear. *Walkin*, ¶64. In this example, the user’s second selection of the control bauble (*Walkin-Homma* selection ring) causing the icons to re-appear is the claimed “selection of the selection ring by the user,” and the disappearance of icons from the GUI constitutes hiding the plurality of icons from the first GUI prior to that selection.

7. [8f]: “receive a selection of the selection ring by the user;”

103. *Walkin* and *Homma* render obvious the additional limitations of claim element [8f]. As I explain for claim element [8d], the *Walkin-Homma* combination

renders obvious the selection ring shape. The addition of *Homma* does not otherwise alter the functionality associated with *Walkin*'s modified control bauble.

104. For example, *Walkin* presents a control bauble 556 and a “user clicks on, touches a finger on, hovers over, or otherwise provides input selecting [the] control bauble” (receive a selection of the selection ring by the user). *Walkin*, ¶66; *see also Walkin*, ¶¶59, 65-66 (describing numerous user inputs for “selecting” an interactive element, including the control bauble), claim 1 (“in response to the first user input, providing for presentation a plurality of second interactive elements”), ¶71 (“At step 670, in response to the first user input, a plurality of second interactive elements is provided for presentation, each of the second interactive elements being presented with an associated label.”), Figs. 5N, 6B.

105. Figure 6B below illustrates “an example method 650 for selecting an interactive element of a user interface.” *Walkin*, ¶71, Fig. 6B.

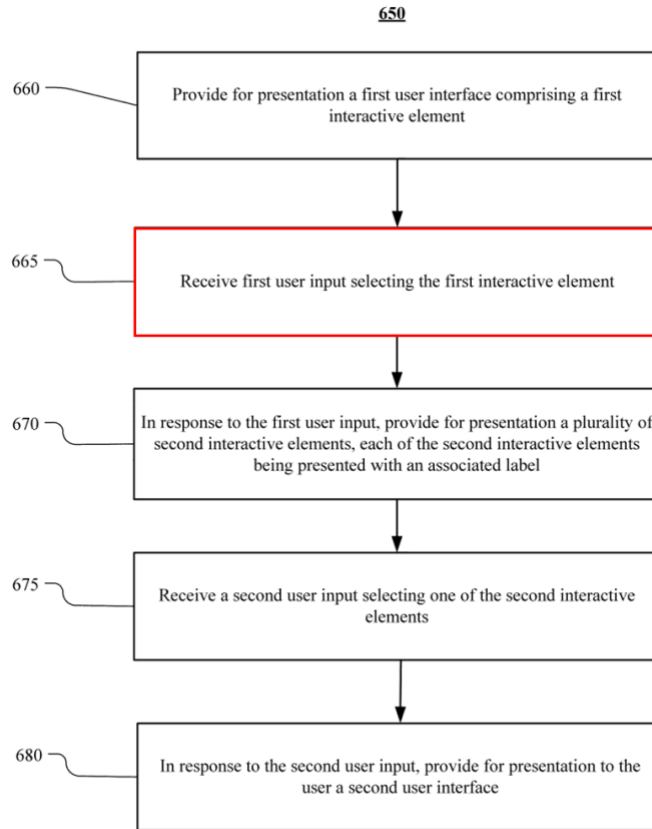


FIG. 6B

Walkin, Fig. 6B (annotated).

106. In my opinion, *Walkin* and *Homma* (**Ground 1B**) render obvious the **selection ring**, as I explain for claim element [8d]. This combination does not otherwise alter *Walkin*'s functionality regarding the presentation of several icons in response to a user's selection of the control bauble. Thus, *Walkin* and *Homma* render obvious claim element [8f] for substantially the same reasons as *Walkin*.

8. **[8g(i)]: “in response to the selection of the selection ring by the user: activate the selection ring to enable the user to manipulate a position of the selection ring within the first graphical user interface; and”**

107. *Walkin* and *Homma* render obvious the additional limitations of claim element [8g(i)]. As I explain for claim element [8d], the *Walkin-Homma* combination renders obvious the selection ring shape. The addition of *Homma* does not otherwise alter the functionality associated with *Walkin*’s modified control bauble.

108. For example, *Walkin* discloses allowing a user to manipulate the position of the control bauble after the user selects the control bauble.

109. As I discuss for claim element [8f], *Walkin*’s Figure 6B illustrates “an example method 650 for selecting an interactive element of a user interface.” *Walkin*, ¶71, Fig. 6B. At step 665, “first user input selecting the first interactive element[] is received” (e.g., the user selects the control bauble). EX1005, ¶71, Fig. 6B. At step 670, “in response to the first user input” (e.g., after the user selects the control bauble), “a plurality of second interactive elements” (e.g., a plurality of icons) “is provided for presentation.” *Walkin*, ¶71, Fig. 6B. Next, in step 675, “a **second user input selecting** one of the second interactive elements is received.” *Walkin*, ¶71, Fig. 6B.

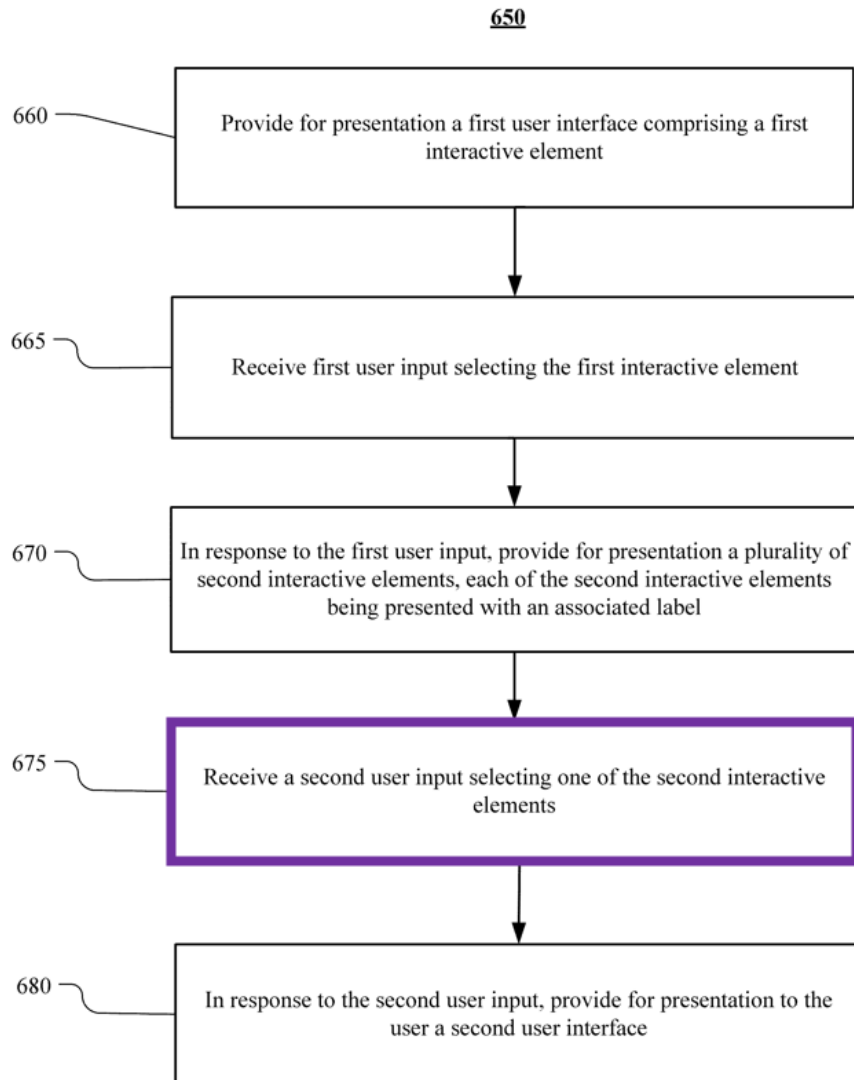


FIG. 6B

Walkin, Fig. 6B (annotated).

110. For example, “if the user placed their finger onto control bauble 556 to cause icons 558, 560, and 562 to appear” (as described in claim element [8f]), “the user *may then drag control bauble 556 onto a particular interactive element* (e.g., onto *icon 560*, as shown in Fig. 5P) in order to select it.”

Walkin, ¶69 (emphasis added); *see also Walkin*, claim 5 (“[T]he *second* user input selecting one of the second interactive elements comprises a touch gesture comprising dragging the first interactive element toward the one of the second interactive elements.” (emphasis added)). In this example, a user’s selection of *Walkin*’s modified control bauble (i.e., the selection ring of the *Walkin-Homma* combination) is a precursor to dragging (e.g., manipulating a position of) the selection ring. In my opinion, a POSITA would have understood that the *Walkin-Homma* system, in response to a user’s selection of the selection ring, enables the user to then manipulate the position of the selection ring to select an icon within the GUI. Annotated Figure 5P, which I have modified below to depict the motion of *Walkin*’s modified **control bauble (selection ring)**, illustrates an exemplary **dragging gesture for manipulating a position** of the **selection ring** to select **icon** 560. *Walkin*, ¶69, Figs. 5N, 5P, 5Q.

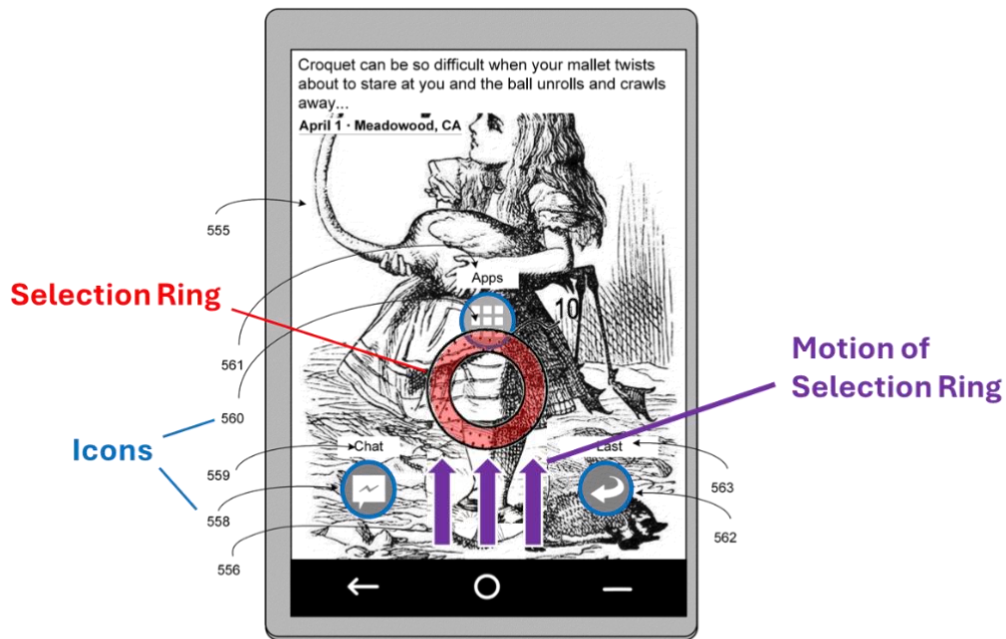


FIG. 5P

Walkin, Fig. 5P (annotated).

9. [8g(ii)]: “[in response to the selection of the selection ring by the user:] un-hide and present, on the display device, the plurality of icons to the user in the first graphical user interface;”

111. *Walkin* and *Homma* render obvious the additional limitations claim element [8g(ii)]. As I explain for claim element [8d], the *Walkin-Homma* combination renders obvious the selection ring shape. The addition of *Homma* does not otherwise alter the functionality associated with *Walkin*’s modified control bauble.

112. For example, in response to the selection of the selection ring (*Walkin*’s modified control bauble) by the user, “additional interactive elements”

(e.g., a plurality of icons) are un-hidden and then “appear in the socialized dash” and are thus presented within the first graphical user interface. *Walkin*, ¶66; *see also Walkin*, ¶¶59, 65-66, 71 (describing numerous user inputs for “selecting” an interactive element, including the control bauble), claim 1 (“in response to the first user input, providing for presentation a plurality of second interactive elements”), Figs. 5N, 6B.

113. *Walkin*’s Figure 6B, which I have shown below, illustrates “an example method 650 for selecting an interactive element of a user interface.” *Walkin*, ¶71, Fig. 6B. First, in step 660, “a first user interface comprising a first interactive element” (e.g., the control bauble) “is provided for presentation.” *Walkin*, ¶71, Fig. 6B. Next, at step 665, “first user input selecting the first interactive element[] is received” (e.g., the user selects the control bauble). *Walkin*, ¶71, Fig. 6B. Then, at step 670, “in response to the first user input, **a plurality of second interactive elements**” (e.g., a **plurality of icons**) “is provided for presentation.” *Walkin*, ¶71, Fig. 6B.

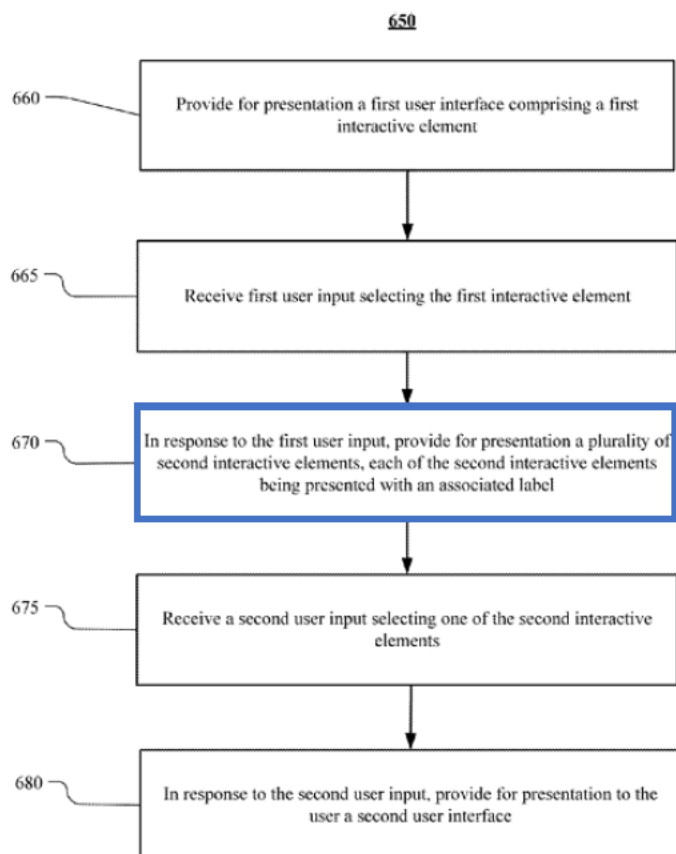


FIG. 6B

Walkin, Fig. 6B (annotated).

114. As I explain for claim element [8e], *Walkin* discloses an exemplary embodiment in which the “additional interactive elements” (icons) are hidden “after a lack of user input.” *Walkin*, ¶64. *Walkin* further discloses that a user may select the control bauble multiple times. *Walkin*, ¶66. Thus, after a user first selects the control bauble and icons appear, those icons disappear (are hidden) from the user interface until the user selects the control bauble again, causing those icons to un-hide and re-appear. *Walkin*, ¶64. Moreover, “in response to selection of a

control bauble,” the additional “interactive elements may appear to fly out in all directions from behind the control bauble toward their final positions in the user interface.” *Walkin*, ¶66. After the interactive elements are un-hidden, they are “arranged in a triangle formation” (as illustrated in Figure 5N) or other “suitable arrangement . . . , depend[ing] on the number or type of interactive elements presented.” *Walkin*, ¶66, Fig. 5N. For example, “an interactive element associated with a particular action or functionality (or general category of action or functionality) may consistently be displayed to the user in a particular location (or general region) in the user interface.” *Walkin*, ¶66. Thus, in my opinion, each icon of the plurality of icons also has an icon position within the socialized dash.

Walkin, ¶66.

115. Figures 5M and 5N, which I show below, illustrates the un-hidden “**additional interactive elements**” 558, 560, and 562 (plurality of icons) presented in a triangle formation (e.g., having an icon position) on the “socialized dash” (first graphical user interface) after the user selects the modified **control bauble (selection ring)**. *Walkin*, ¶66, Figs. 5M-5N.

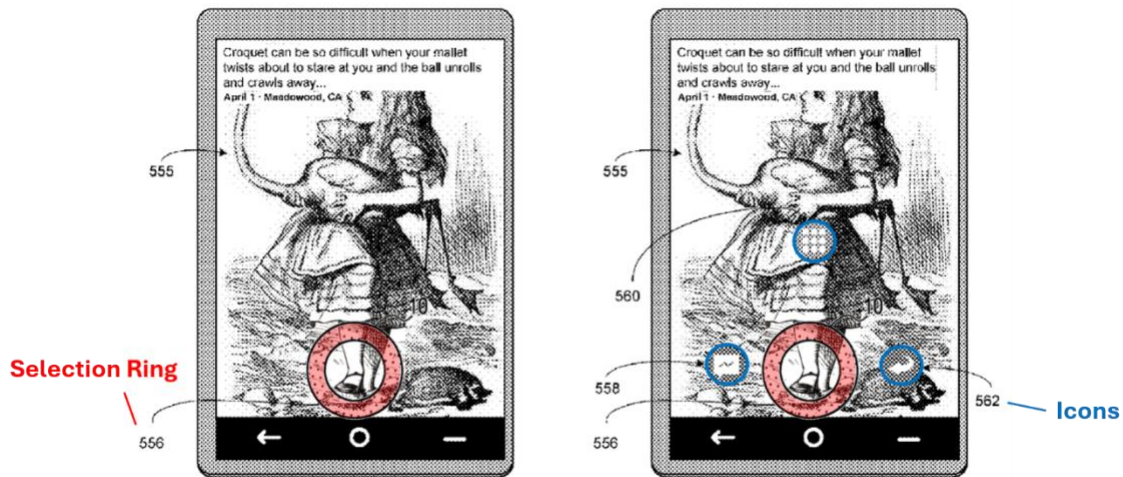


FIG. 5M

FIG. 5N

Walkin, Figs. 5M-5N (annotated).

10. [8h(i)]: “while the selection ring is selected: receive a user manipulation that drags positioning of the selection ring within the first graphical user interface without altering a location of the plurality of icons within the first graphical user interface; and”

116. *Walkin* and *Homma* render obvious the additional limitations of claim [8h(i)]. As I explain for claim element [8d], the *Walkin-Homma* combination renders obvious the selection ring shape. The addition of *Homma* does not otherwise alter the functionality associated with *Walkin*’s modified control bauble.

117. As I explain for claim element [8g(i)], when a user provides an input selecting *Walkin*’s modified control bauble (e.g., by placing their finger on the bauble) to cause interactive elements to appear, the user may then “drag” the control bauble “onto a particular interactive element . . . to select it.” *Walkin*, ¶69,

claim 5. *Walkin* additionally discloses “particular embodiments” in which the icon to be selected moves toward the control bauble through a “gravity-based” animation model. *Walkin*, ¶69. As I explain for claim element [8g(ii)], the interactive elements (plurality of icons) have a set position within the socialized dash because they are “consistently [] displayed to the user in a particular location.” *Walkin*, ¶66 (“interactive elements . . . appear . . . [and] com[e] to rest in their final positions”), Fig. 5N. Thus, a user dragging the control bauble to an icon to select it does not alter the location of the target icon or other icons within the socialized dash interface.

118. Figure 5P, which I have annotated below, illustrates an exemplary dragging gesture for **manipulating the position** of the **control bauble (selection ring)** relative to **interactive elements (icons) 558, 560, and 562**. *Walkin*, ¶69, Figs. 5P-5Q.

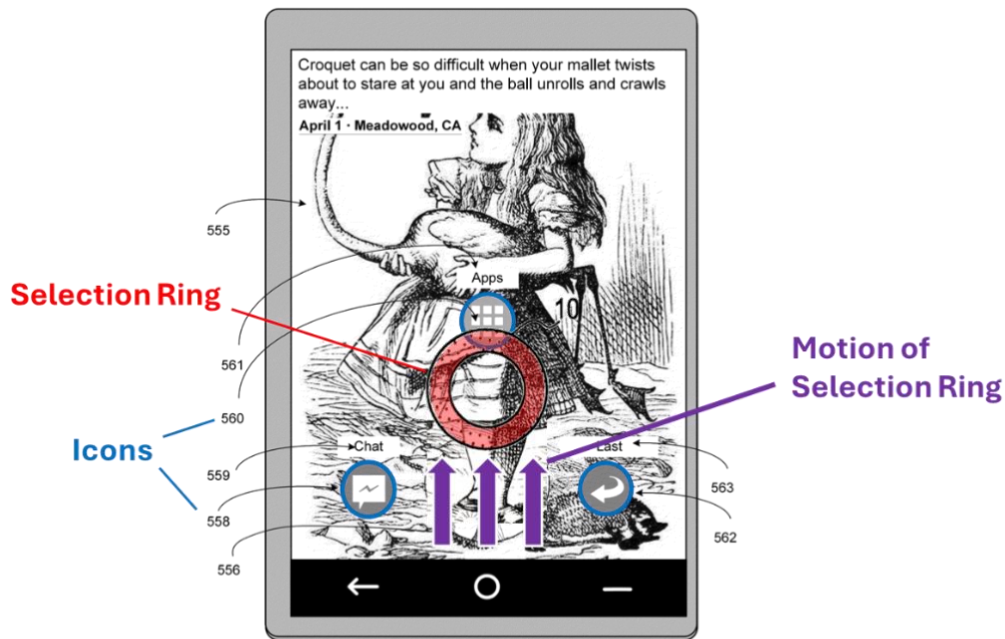


FIG. 5P

Walkin, Fig. 5P (modified, annotated).

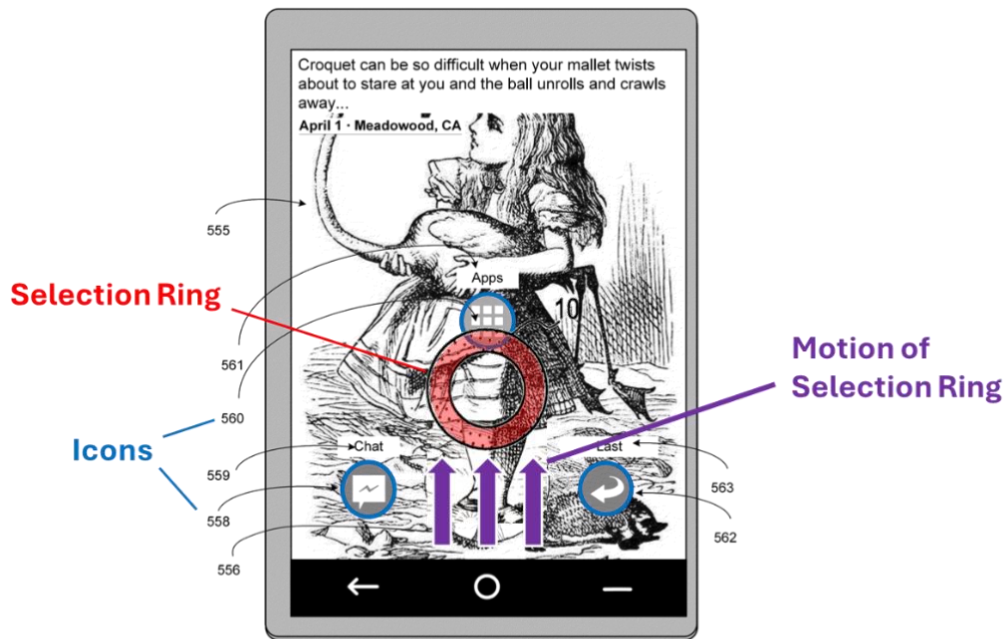
119. It is my opinion that a POSITA would have understood, from *Walkin*'s disclosure, that the user selects an icon by **moving** the **selection ring** “**onto**” the target **icon**, as shown in annotated Figure 5P above. *Walkin*, ¶69, Figs. 5P-5Q.

11. [8h(ii)]: “[while the selection ring is selected:] receive a selection of an icon from the plurality of icons based on a position of the selection ring in the first graphical user interface relative to the icon in response to the user manipulation; and”

120. *Walkin* and *Homma* render obvious the additional limitations of claim element [8h(ii)]. As I explain for claim element [8d], the *Walkin-Homma*

combination renders obvious the selection ring shape. The addition of *Homma* does not otherwise alter the functionality associated with *Walkin*'s modified control bauble.

121. As I explain for claim element [8h(i)], a user of *Walkin*'s system may manipulate the position of **control bauble 556** by “drag[ing]” it “onto a particular interactive element” (e.g., dragging the control bauble onto **icon 560**, as shown in Figure 5P) “in order to select it.” *Walkin*, ¶69, Figs. 5P-5Q; *see also Walkin*, ¶68 (“[S]election [of] icon 560 opens the application launcher interface.”), claim 5 (“[T]he second user input selecting one of the second interactive elements comprises a touch gesture comprising dragging the first interactive element toward the one of the second interactive elements.”). *Walkin*'s system therefore receives a user's selection of one of a **plurality of icons** in response to the user's manipulation of the position of the modified **control bauble (selection ring)** relative to the icon within the GUI.



Walkin, Fig. 5P (modified, annotated).

12. [8i]: “transition the first graphical user interface into a second graphical user interface in response to the selected icon.”

122. *Walkin* and *Homma* render obvious the additional limitations of claim element [8i]. As I explain for claim element [8d], the *Walkin-Homma* combination renders obvious the selection ring shape. The addition of *Homma* does not otherwise alter the functionality associated with *Walkin*’s modified control bauble.

123. For example, after a user of *Walkin*’s system selects an icon (one of the “additional interactive elements”), a “**second user interface** is provided for presentation.” *Walkin*, ¶¶68-69, 71, Fig. 6B (step 680); *see also Walkin*, Abstract

(“The computing device receives a second user input selecting one of the second interactive elements and, in response to the second user input, provides for presentation a second user interface”), ¶¶4, 60 (similar), claim 1, Fig. 6B.

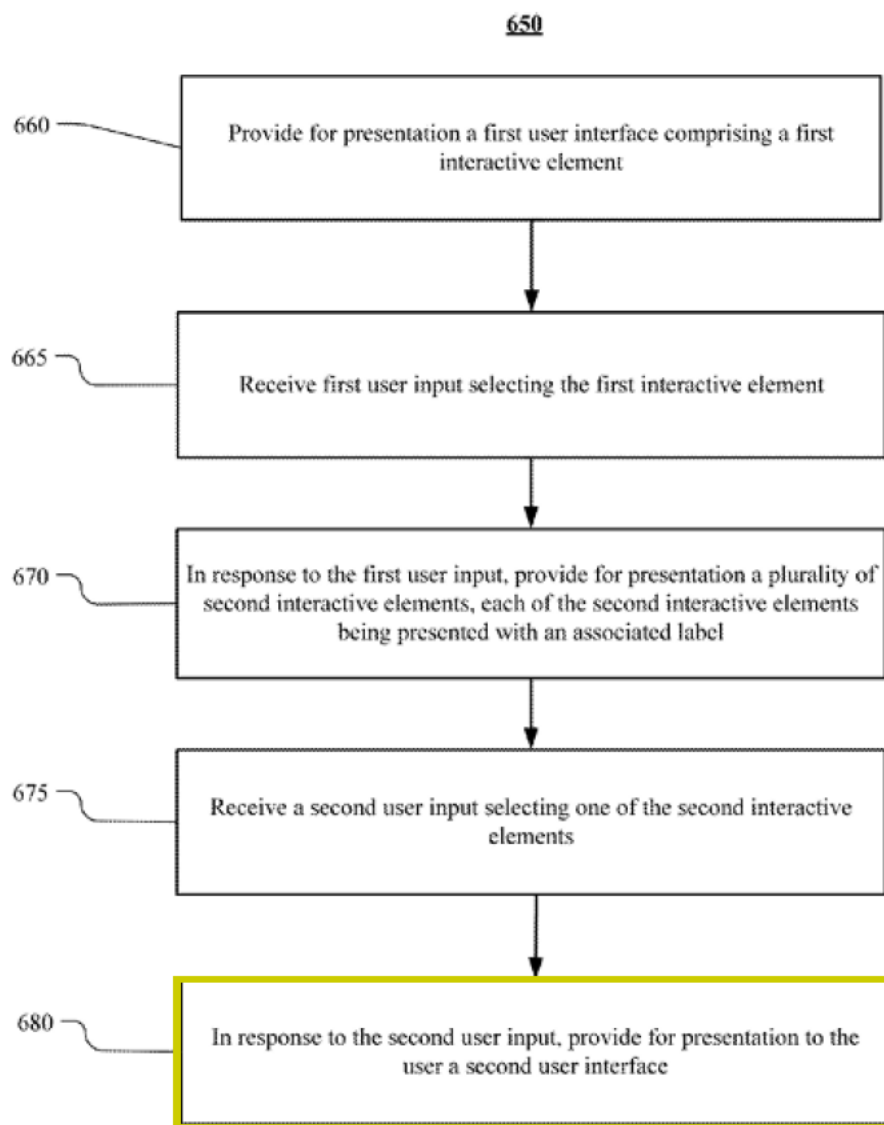


FIG. 6B

Walkin, Fig. 6B (annotated).

124. During this process, *Walkin*'s first graphical user interface transitions into a second graphical user interface. For example, when the user selects "Apps" icon 560 on the "socialized dash" (the first graphical user interface) using the control bauble (selection ring), a second user interface "may move into view in any suitable fashion," such as by "overlay[ing]" the second user interface "on top of the first user interface (e.g. until it is closed or otherwise dismissed)." *Walkin*, ¶¶60, 68. The "second user interface may . . . be a screen of the operating system such as a launch screen offering the user various application options for selecting and launching." *Walkin*, ¶60; *see also Walkin*, ¶68 ("[S]election [of] icon 560 opens the application launcher interface.").

125. It is my opinion that this is consistent with the '878 patent, which explains that "[i]f the user selects the first icon, the user interface 113 partially or wholly transitions into an interface where the user can view, respond to, or otherwise take action based on certain notifications." EX1001, 17:45-49. Thus, *Walkin* discloses transitioning between first and second GUIs, such as from a "socialized dash" (first graphical user interface) to an application "launch screen" (second user interface) based on an icon 560 selected by a user's manipulation of the control bauble. *Walkin*, ¶¶60, 68.

B. Independent Claim 1

1. [1 preamble]: “A method, comprising:”

126. *Walkin* and *Homma* render obvious claim element [1preamble] because *Walkin* discloses a “method” for selecting an icon using a selection tool (control bauble), and the *Walkin-Homma* combination further renders obvious doing so using a “selection ring,” as I discuss for claim 8 and as illustrated in Figure 6B below. *Walkin*, ¶¶68, 71, Fig. 6B. In my opinion, the method as a whole is obvious for substantially the same reasons as claim 8.

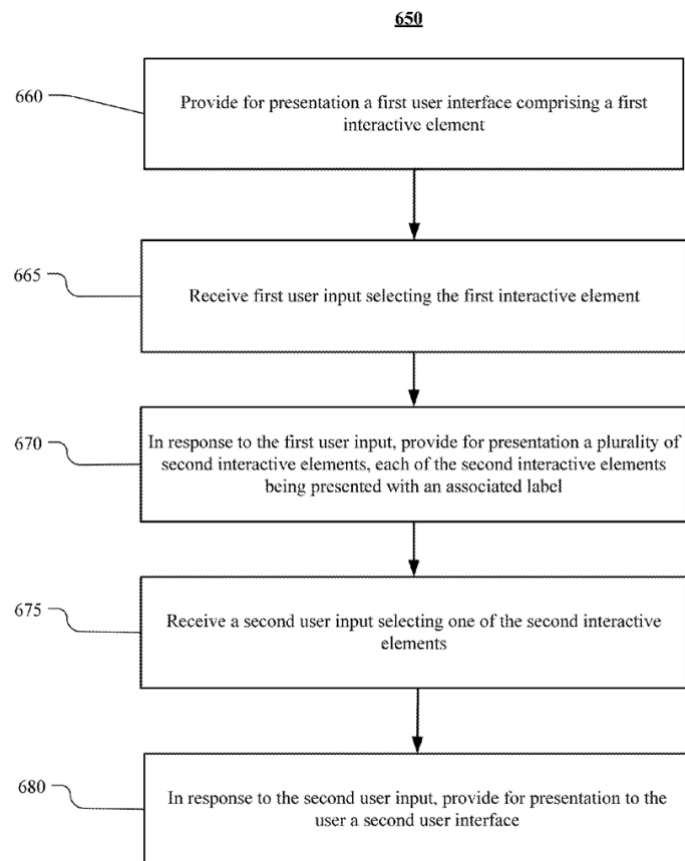


FIG. 6B

Walkin, Fig. 6B.

2. [1a]: “presenting, by a processor of a computing device, a first graphical user interface;”

127. It is my opinion that *Walkin* in combination with renders this claim limitation obvious for substantially the same reasons I discuss for claim elements [8c]-[8d].

128. For example, *Walkin* displays a “socialized dash,” which is “a user interface that may be displayed on the computing device.” *Walkin*, ¶65. Figure 5M below illustrates the “socialized dash” presented on the “displayable region 555” of *Walkin*’s “client system” (e.g., a “computing device” such as a smartphone). *Walkin*, ¶¶15, 65, Fig. 5M. The client system also “includes a processor 702” “for executing instructions, such as those making up a computer program” stored in memory 704 or storage 706, including computer code relating to the presentation of a GUI on the computing device. *Walkin*, ¶¶72-77, Fig. 7.

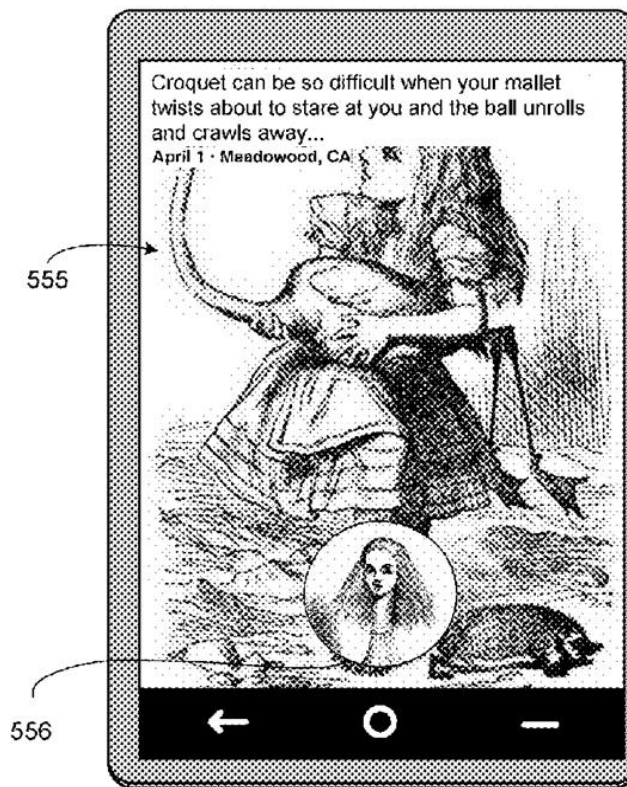


FIG. 5M

Walkin, Fig. 5M.

3. [1b]: “enabling, by the processor, a user to control presentation of information within the first graphical user interface;”

129. For substantially the same reasons as I discuss for claim elements [8c]-[8d], [8g(i)]-[8g(ii)], and [1a], it is my opinion that *Walkin* in combination with *Homma* renders this claim limitation obvious.

130. Additionally, *Walkin* discloses enabling a user to control presentation of information within the socialized dash (first graphical user interface).

131. For example, a user “consume[s] or interact[s] with a specific content item” on the socialized dash when the “user scrolls, opens up, views, listens to, selects, reviews, comments on, clicks on, or taps the content item.” *Walkin*, ¶54 (“This disclosure contemplates any applicable means for a user to consume or interact with a content item.”). As another example, a user may “navigat[e] the content of [a] social-networking website” including “profile pages and “a linear timeline of objects, such as, for example and without limitation, photos, photo albums, check-ins, comments from other users, attended events, tags, applications the user has added to the profile page, stories, songs the user has listened to, [and] playlists.” *Walkin*, ¶48.

132. *Walkin* also discloses displaying a **control bauble 556** overlaid on the “socialized dashboard . . . in displayable region 555,” as shown in Figure 5M, which I have annotated below. *Walkin*, ¶65, Fig. 5M. As I explain for claim elements [8g(i)]-[8g(ii)], the display of the user-selectable control bauble enables a user to control the presentation of information within the socialized dash, including the ability to manipulate the bauble’s position and display additional interactive elements.

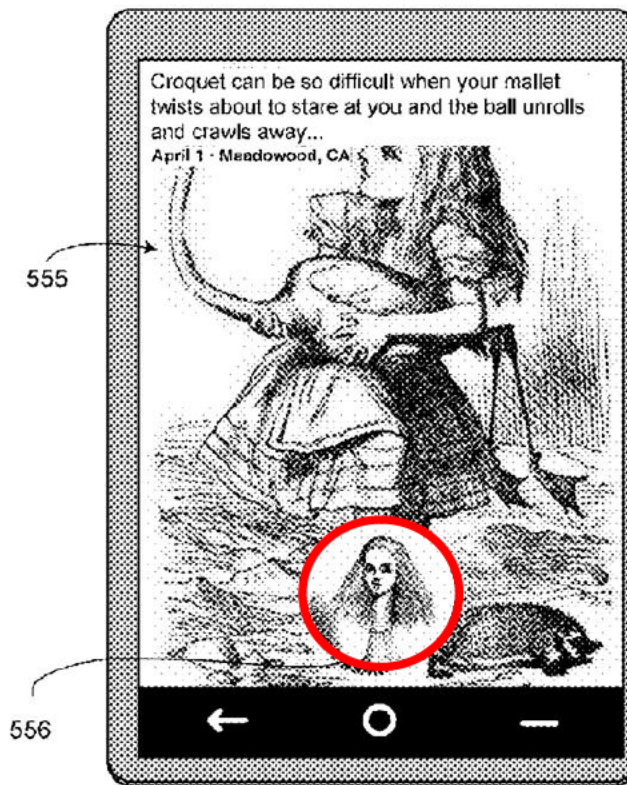


FIG. 5M

Walkin, Fig. 5M (annotated).

4. [1c]: “presenting, by the processor, a selection ring to the user in the first graphical user interface without altering the presentation of information within the first graphical user interface;”

133. It is my opinion that, for substantially the same reasons I discuss for claim elements [8c]-[8d], [8h(i)], and [1a]-[1b], *Walkin* in combination with *Homma* renders this claim limitation obvious.

134. Additionally, *Walkin* overlays a **control bauble 556** on the “socialized dash” without otherwise altering the information presented in the GUI (e.g., the information in the user interface separate from the control bauble), as shown in Figure 5M below. *Walkin*, ¶65, Fig. 5M.

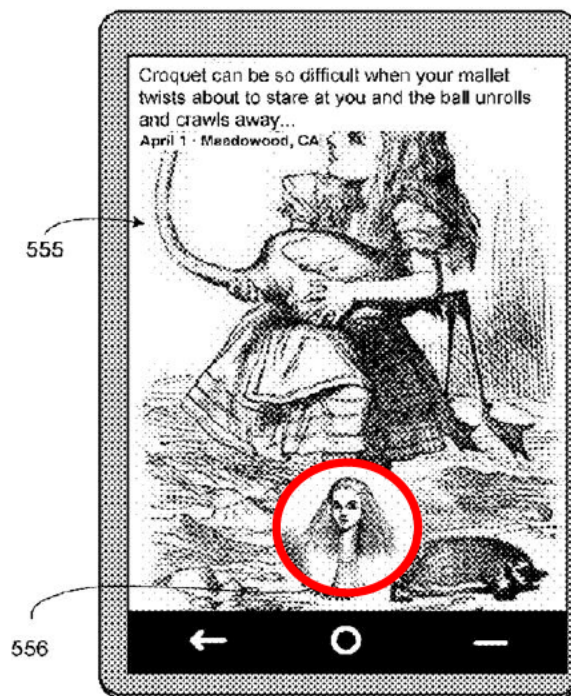


FIG. 5M

Walkin, Fig. 5M (annotated). This is consistent with the '878 patent, which discloses overlaying the selection ring on top of the information presented in the first graphical user interface. See EX1001, 17:39-44, 18:11-52, Figs. 3B-3F.

5. **[1d]: “receiving, by the processor, a selection of the selection ring by the user to enable the user to manipulate a position of the selection ring within the first graphical user interface;”**

135. In my opinion, and for substantially the same reasons I discuss for claim elements [8c], [8f], [8g(i)], and [1a]-[1c], *Walkin* in combination with *Homma* renders this claim limitation obvious.

6. **[1e]: “presenting, by the processor, a plurality of icons to the user in the first graphical user interface in response to the selection of the selection ring;”**

136. In my opinion, and for substantially the same reasons I discuss for claim elements [8c], [8g(ii)], and [1a]-[1d], *Walkin* in combination with *Homma* renders this claim limitation obvious.

7. **[1f]: “receiving, by the processor, a user manipulation of positioning of the selection ring within the first graphical user interface without altering the information being presented within the first graphical user interface and without altering a location of the plurality of icons in the first graphical user interface;”**

137. In my opinion, and for substantially the same reasons I discuss for claim elements [8c], [1a], [1c], and [8h(i)], *Walkin* in combination with *Homma* renders this claim limitation obvious.

138. Additionally, *Walkin* discloses that the received user manipulation of the control bauble (selection ring) during an icon selection process does not alter information presented in the first GUI or the locations of the plurality of icons. For

example, as I explain for claim element [8h(i)], in *Walkin*'s system, a user manipulates the position of the control bauble within the socialized dash to select one of the additional interactive elements, which have a consistent position in the GUI that is not altered by the user's manipulation of the position of the control bauble. Both the control bauble and additional interactive elements are overlaid on the socialized dash. *See* my discussion of claim element [8e]. Similarly, in my opinion, the manipulation of the control bauble to select an interactive element occurs on top of the socialized dash and does not alter the information being presented within the GUI.

139. For example, Figure 5P, which I have annotated below, illustrates a **dragging gesture for manipulating a position** of the modified **control bauble 556 (selection ring)** to select **interactive element (icon) 560**; such manipulation occurs on top of the socialized dash in displayable region 555 without otherwise altering the information presented in the dash or altering the locations of the icons within the GUI. *Walkin*, ¶¶65, 69, Figs. 5P-5Q.

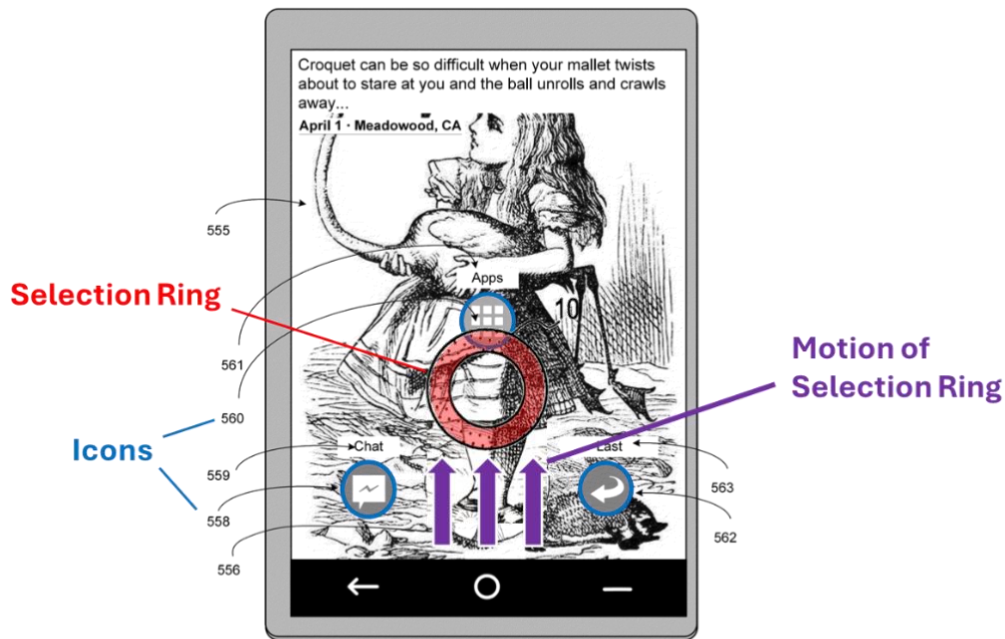


FIG. 5P

Walkin, Fig. 5P (modified, annotated).

8. [1g]: “receiving, by the processor, a selection of an icon from the plurality of icons based on a position of the selection ring in the first graphical user interface relative to the icon in response to the user manipulation of the positioning of the selection ring; and”

140. In my opinion, and for substantially the same reasons I discuss for claim elements [8c], [8h(ii)] and [1a], *Walkin* in combination with *Homma* renders this claim limitation obvious.

9. **[1h]: “presenting, by the processor, a second graphical user interface to the user based on the selected icon.”**

141. In my opinion, and for substantially the same reasons I discuss for claim elements [8c], [8i], and [1a], *Walkin* in combination with *Homma* renders this claim limitation obvious.

C. **Independent Claim 13**

1. **[13 preamble]: “A non-transitory computer readable medium that stores computer instructions that, when executed by at least one processor, cause the at least one processor to perform operations, the operations comprising:”**

142. *Walkin* discloses claim element [13preamble].

143. For example, *Walkin* discloses “a computer-readable non-transitory storage medium or media” such as “memory 704 . . . for storing instructions for processor 702 to execute,” resulting in the processor performing certain operations related to GUI functionality, as I describe further for the additional claim terms below. *Walkin*, ¶¶75-76, 81, claim 9. Figure 7, below, shows that *Walkin*’s computer system includes processor 702 and memory 704. *Walkin*, ¶74, Fig. 7. In my opinion, a POSITA would have understood that computer memory, such as *Walkin*’s memory 704, may be “non-transitory” computer memory, as the use of such computer memory was routine and conventional in the field at least by the earliest possible priority date in 2016. *Walkin*, ¶81.

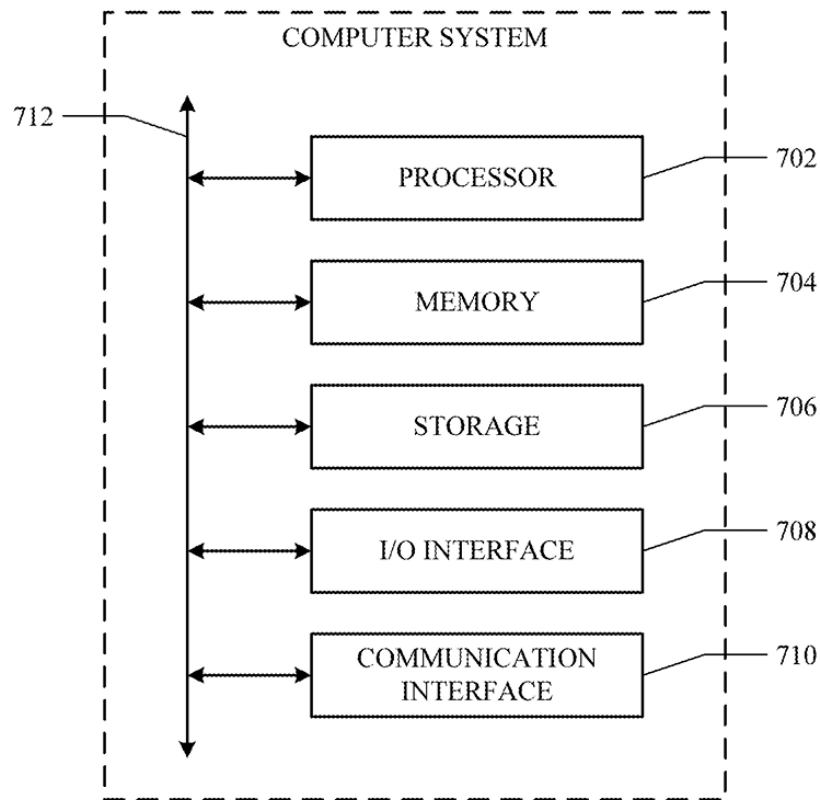


FIG. 7

Walkin, Fig. 7.

144. As an additional example of a non-transitory computer readable medium storing computer instructions executed by a processor to perform the claimed GUI functionalities, *Walkin* further discloses storage 706, which “includes mass storage for data or instructions.” *Walkin*, ¶77. Storage 706 may be, for example, a hard disk drive, optical disc, USB drive, or “non-volatile, solid-state memory.” *Walkin*, ¶77. The processor 702 may retrieve computer instructions

(including to perform the GUI functionalities recited in other claim elements) from either memory 704 or storage 706 (*Walkin*, ¶75), and in my opinion, storage 706 is therefore a “non-transitory computer readable medium that stores computer instructions that, when executed by at least one processor, cause the at least one processor to perform operations” (*Walkin*, ¶81).

2. [13a]: “displaying a first graphical user interface on a display device;”

145. In my opinion, and for substantially the same reasons I discuss for claim elements [8d] and [1a], *Walkin* in combination with *Homma* renders this claim limitation obvious.

3. [13b]: “displaying a plurality of information within the first graphical user interface;”

146. In my opinion, and for substantially the same reasons I discuss for claim elements [8d] and [1b], *Walkin* in combination with *Homma* renders this claim limitation obvious.

147. For example, *Walkin*’s first user interface (e.g., the “socialized dashboard” or “socialized dash”) includes “an interactive element in the form of a control bauble” that is displayed over other information in the dash (plurality of information within the first graphical user interface). *Walkin*, ¶65. Figure 5M below illustrates the “socialized dash” and “**control bauble 556**” presented on the

“displayable region 555,” which includes a **plurality of information** underneath the **control bauble**. *Walkin*, ¶65, Fig. 5M.

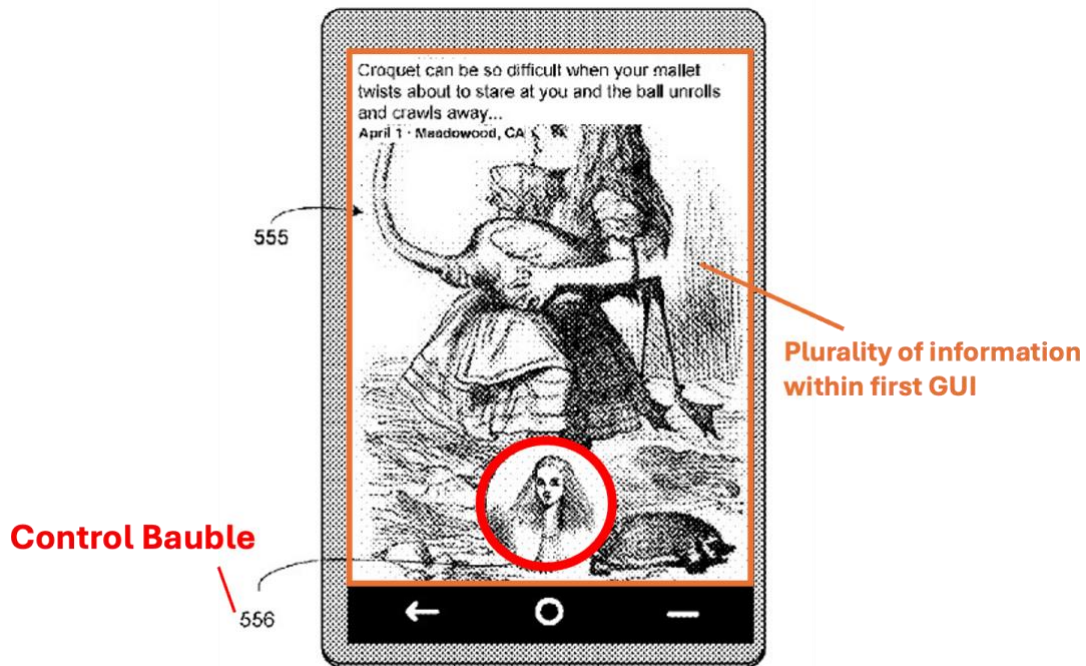


FIG. 5M

Walkin, Fig. 5M (annotated). In my opinion, the modified control bauble (selection ring) of the *Walkin-Homma* combination does not otherwise alter this feature of *Walkin*’s GUI and similarly includes a plurality of information within the GUI, thus rendering obvious “displaying a plurality of information within the first graphical user interface.”

4. [13c]: “enabling a user to control display of the plurality of information within the first graphical user interface;”

148. In my opinion, and for substantially the same reasons I discuss for claim elements [8d] and [1b], *Walkin* in combination with *Homma* renders this claim limitation obvious.

5. [13d]: “displaying a selection ring over the plurality of information in the first graphical user interface without altering the underlying display of the plurality of information within the first graphical user interface;”

149. In my opinion, and for substantially the same reasons I discuss for claim elements [8d] and [1c], *Walkin* in combination with *Homma* renders this claim limitation obvious.

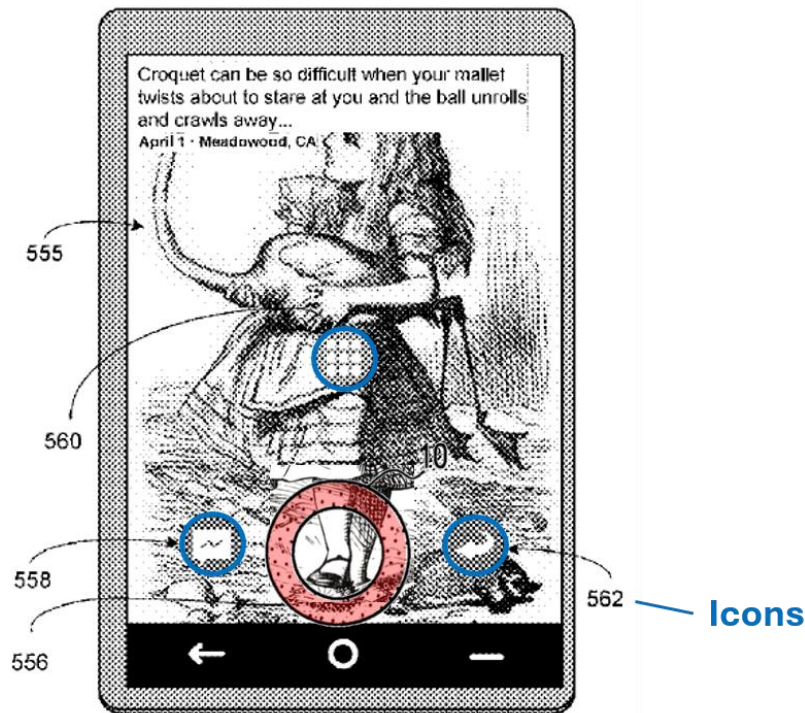
6. [13e]: “receiving a selection of the selection ring by the user to enable the user to manipulate a position of the selection ring over the plurality of information within the first graphical user interface;”

150. In my opinion, and for substantially the same reasons I discuss for claim elements [8f], [8g(i)], and [1f], *Walkin* in combination with *Homma* renders this claim limitation obvious.

7. **[13f]: “displaying, in response to selection of the selection ring, a plurality of icons over the plurality of information in the first graphical user interface without altering the underlying display of the plurality of information within the first graphical user interface, wherein the plurality of icons were previously hidden prior to selection of the selection ring;”**

151. In my opinion, and for substantially the same reasons I discuss for claim elements [1f], [8e], and [8g(ii)], *Walkin* in combination with *Homma* renders this claim limitation obvious.

152. Additionally, *Walkin* discloses that the display of additional interactive elements (plurality of icons), which are hidden before a user’s selection of *Walkin*’s control bauble, does not alter the underlying display of information within the first GUI. For example, the additional interactive elements are displayed on top of the socialized dash and do not alter the information being presented within the GUI. Figure 5N below illustrates the **additional interactive elements** that are displayed on top of *Walkin*’s socialized dash in displayable region 555 without altering the information presented in the dash. *Walkin*, ¶¶65-66, Fig. 5N.



Walkin, Fig. 5N (annotated).

8. [13g]: “receiving a user manipulation of positioning of the selection ring over the plurality of information within the first graphical user interface without altering the underlying display of the plurality of information within the first graphical user interface and without altering a location of the plurality of icons within the first graphical user interface;

153. In my opinion, and for substantially the same reasons I discuss for claim elements [8h(i)] and [1f], *Walkin* in combination with *Homma* renders this claim limitation obvious.

9. **[13h]: “receiving a selection of an icon from the plurality of icons based on a position of the selection ring in the first graphical user interface relative to the icon in response to the user manipulation of the positioning of the selection ring; and”**

154. In my opinion, and for substantially the same reasons I discuss for claim element [8h(ii)], *Walkin* in combination with *Homma* renders this claim limitation obvious.

10. **[13i]: “displaying a second graphical user interface to the user based on the selected icon.”**

155. In my opinion, and for substantially the same reasons I discuss for claim element [8i], *Walkin* in combination with *Homma* renders this claim limitation obvious.

D. Dependent Claims

156. I address the dependent claims of the '878 patent in the same order as the independent claims. That is, I address claims depending from independent claim 8 (claims 11 and 12) first, then claims depending from independent claim 1 (claims 2 and 5-7), and then claims depending from independent claim 13 (claims 17 and 18).

1. **Claim 11: “The interactive user interface control system of claim 8, wherein the at least one processor further executes the computer instructions to: present, on the display device, a second plurality of icons to the user in the second graphical user interface based on manipulation of the selection ring.”**

157. The *Walkin-Homma* combination renders obvious the additional limitations of claim 11. As I explain for claim element [8d], the *Walkin-Homma* combination renders obvious the selection ring shape. The addition of *Homma* does not otherwise alter the aforementioned functionality of *Walkin*’s GUI, including the use of the selection ring (modified control bauble) to present additional icons within a GUI.

158. As I explain for claim elements [8c], [8h(i)], and [8i], a user’s manipulation of *Walkin*’s modified control bauble (selection ring) to select the “Apps” icon 560 results in the presentation of a second user interface, such as an application “launch screen.” *Walkin*, ¶¶55, 60, 68, 71, Fig. 6B. *Walkin* further discloses that “[w]hen the *launch screen is displayed*, a user may be able to *see and access one or more applications installed . . . in the form of one or more application icons.*” *Walkin*, ¶55 (emphases added). Therefore, in my opinion, a second plurality of icons (“application icons”) are presented in the second graphical user interface (“launch screen”) based on the user’s manipulation of the selection ring to select the “Apps” icon 560. *Walkin*, ¶¶55, 60, 68, 71, Fig. 6B. The

first plurality of icons (*Walkin*'s icons surrounding control bauble 556 (or *Walkin-Homma*'s selection ring) upon its selection by a user, annotated blue in Figure 5P) is distinct from the second plurality of icons (*Walkin*'s launch-screen icons presented based on the user's selection of the "Apps" icon 560 from the first plurality of icons). *Walkin*, ¶¶55, 60, 68, Fig. 5P.

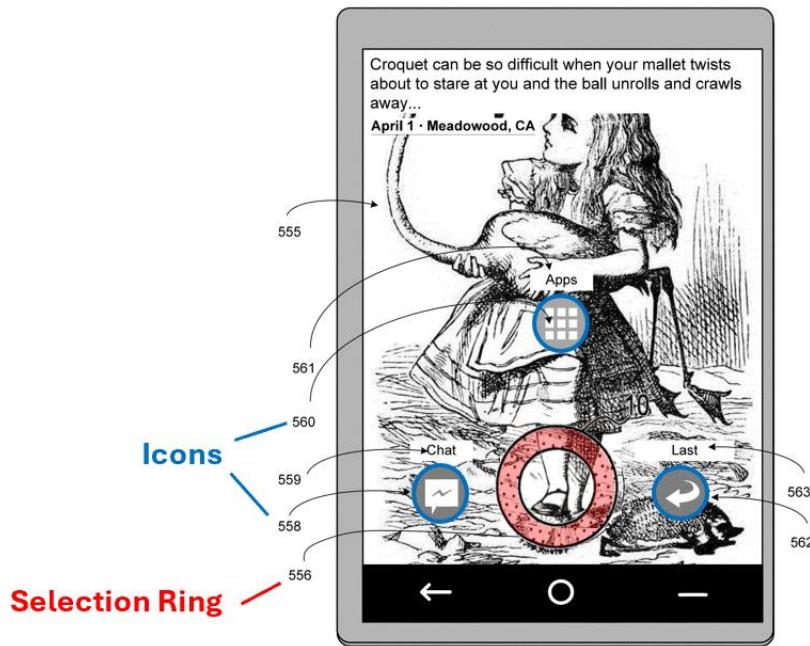


FIG. 5P

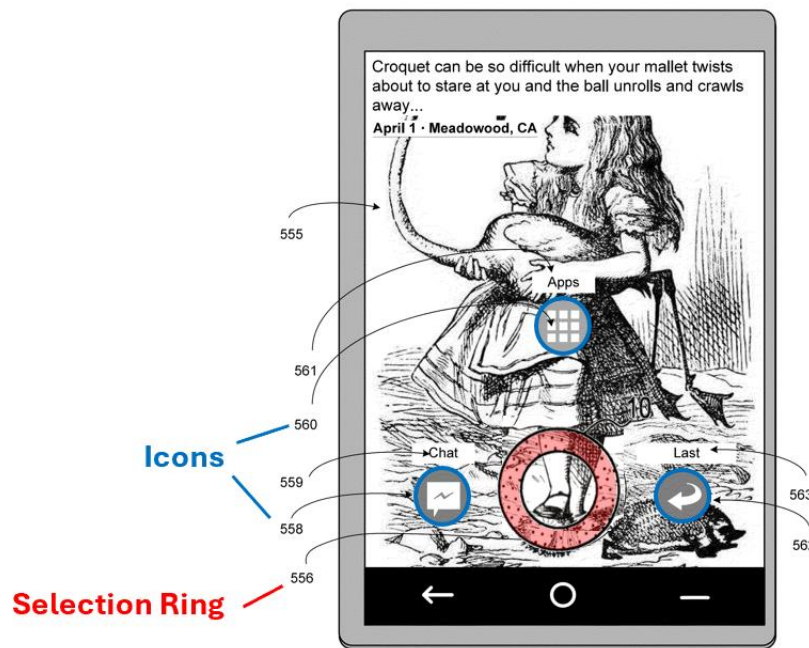
Walkin, Fig. 5P (modified, annotated).

159. As an additional example of an alternative "second plurality of icons" presented to a user in the second interface, *Walkin* discloses that the steps of the process of Figure 6B may be repeated. *Walkin*, ¶71, Fig. 6B. Thus, after

transitioning to a second user interface, *Walkin* discloses again presenting the control bauble (or “first interactive element”) in the second user interface to provide users with “a convenient shortcut to perform several different actions or access particular functionalities on the computing device.” *Walkin*, ¶¶65, 71; *see* my discussion of claim elements [8d]-[8i]. In my opinion, a POSITA would have understood that *Walkin*’s modified “control bauble” or “first interactive element” functions across multiple interfaces of the computing device, since such a configuration beneficially maintains a consistent user mechanism for initiating core navigation functions, thereby improving efficiency and usability in a multi-interface environment. A POSITA would therefore have understood that the presentation of a plurality of second icons within the second graphical user interface is based on the user’s manipulation of the selection ring in the first graphical user interface to launch the second graphical user interface.

160. By the process described in Figure 6B, after using the selection ring to select an icon and launch a second graphical user interface, the user can again select *Walkin*’s modified control bauble 556 (selection ring), resulting in the presentation of additional icons (a second plurality of icons) around the control bauble within the second user interface, such as interactive elements for navigating to other user-interface screens. *Walkin*, ¶71, Fig. 6B. For example, as shown in

Figure 5P below and in my discussion of claim elements [8f]-[8h(ii)] above, a user can manipulate the modified **control bauble (selection ring)** in the first user interface to select **icon 562** (e.g., from the first plurality of icons) to launch the most-recently used application. *Walkin*, ¶66, Fig. 5P. The subsequent selection of the modified control bauble within the launched second user interface is based on and facilitated by the user's selection of the icon in the first graphical user interface.



Walkin, Fig. 5P (modified, annotated).

2. **Claim 12: “The interactive user interface control system of claim 11, wherein the at least one processor further executes the computer instructions to: receive a selection of an icon from the second plurality of icons based on a position of the selection ring in the second graphical user interface.”**

161. The *Walkin-Homma* combination renders obvious the additional limitations of claim 12. As I explain for claim element [8d], the *Walkin-Homma* combination renders obvious the selection ring shape. The addition of *Homma* does not otherwise alter the functionality associated with *Walkin*’s modified control bauble.

162. As I explain for claim 11, *Walkin* discloses presenting a second plurality of icons (“application icons”) in the second graphical user interface (“launch screen”) when “Apps” icon 560 is selected by the user. *Walkin*, ¶¶55, 60, 68, 71, Fig. 6B. *Walkin* further discloses selecting one of the applications in the launch screen based on a position of the control bauble (selection ring) in the launch screen. For example, *Walkin* discloses that “[c]ontrol bauble 556 may . . . perform several different actions or access particular functionalities on the computing device including, for example, *launching applications via an application launcher*.” *Walkin*, ¶65 (emphasis added).

163. Additionally, as I explain above, *Walkin* describes that “[p]articular embodiments may repeat one or more steps of the method of FIG. 6B, where

appropriate.” *Walkin*, ¶71, Fig. 6B. It is my opinion that a POSITA would have understood, for example, that selecting an interactive element (such as an application icon in the second user interface) by dragging the bauble over the icon to “select it” is one such step. The control bauble is used to select each of the icons on the user interface. *Walkin*, Fig. 6B (step 675), ¶65 (control bauble 556 may “launch[] applications.”), ¶69 (“[D]rag control bauble 556 onto a particular interactive element . . . in order to select it.”), ¶71. As I explain for claim elements [8g(i)]-[8h(ii)], Figure 5P, which I have annotated below, illustrates an exemplary **dragging gesture for manipulating a position** of the modified **control bauble (selection ring)** to select an **icon**. *Walkin*, ¶¶23, 59, 69, Figs. 5P-5Q.

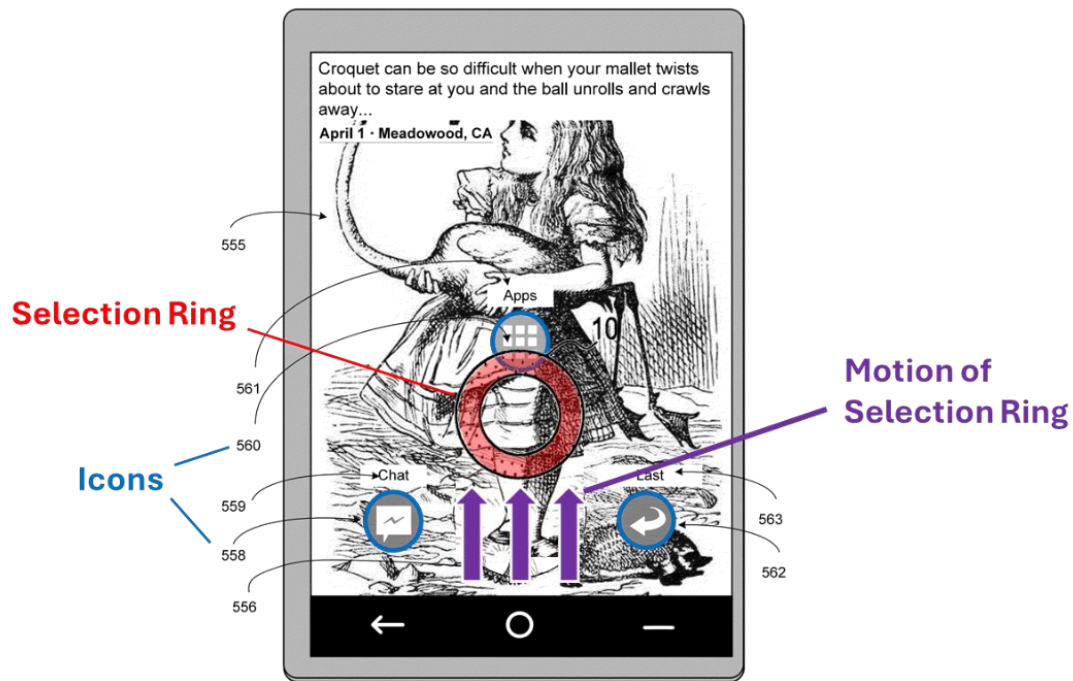


FIG. 5P

Walkin, Fig. 5P (modified, annotated).

164. For the additional set of icons presented in the second user interface around the interactive element (selection ring) when it is selected by a user (an alternative option for the claimed “second plurality of icons”), *Walkin* describes that a user can drag the interactive element to select one of those icons within the second user interface. *See, e.g., Walkin*, ¶¶ 23, 59, 65, 69, 71, Figs. 5P-5Q, 6B.

165. In my opinion, a POSITA would have therefore understood that selecting an icon from the second plurality of icons (e.g., either “application icons” within the application launcher interface or the icons presented upon selection of the interactive element, *see* claim 11 above) is similarly “based on” a position of the selection ring because the selection ring is moved “onto” an icon by the user to select the icon in either example. *Walkin*, ¶¶ 23, 55, 59, 69.

3. Claim 2: “The method of claim 1, wherein the plurality of icons were previously hidden in the first graphical user interface prior to selection of the selection ring.”

166. In my opinion, and for substantially the same reasons I discuss for claim element [8e], the combination of *Walkin* and *Homma* renders obvious the additional limitations of claim 2.

4. **Claim 5: “The method of claim 1, further comprising: presenting, by the processor, a second plurality of icons to the user in the second graphical user interface based on manipulation of the selection ring.”**

167. In my opinion, and for substantially the same reasons I discuss for claim 11, the combination of *Walkin* and *Homma* each renders obvious the additional limitations of claim 5.

5. **Claim 6: “The method of claim 1, further comprising: presenting, by the processor, a second plurality of icons to the user in the second graphical user interface.”**

168. In my opinion, and for substantially the same reasons I discuss for claim 11, the combination of *Walkin* and *Homma* renders obvious the additional limitations of claim 6.

6. **Claim 7: “The method of claim 6, further comprising: receiving, by the processor, a selection of an icon from the second plurality of icons based on a position of the selection ring in the second graphical user interface.”**

169. In my opinion, and for substantially the same reasons I discuss for claim 12, the combination of *Walkin* and *Homma* renders obvious the additional limitations of claim 7.

7. **Claim 17: “The non-transitory computer readable medium of claim 13, wherein execution of the computer instructions by the at least one processor, cause the at least one processor to perform further operations, the further operations comprising: presenting a second plurality of icons to the user in the second graphical user interface.”**

170. In my opinion, and for substantially the same reasons I discuss for claim 11, the combination of *Walkin* and *Homma* renders obvious the additional limitations of claim 17.

8. **Claim 18: “The non-transitory computer readable medium of claim 13, wherein the operations are performed by an operating system.”**

171. The *Walkin-Homma* combination renders obvious the additional limitations of claim 18. As I explain for [13d], [8d], and [1c], the *Walkin-Homma* combination renders obvious the selection ring shape. The addition of *Homma* does not otherwise alter the functionality associated with *Walkin*’s modified control bauble.

172. For example, *Walkin*’s “socialized dash”—the claimed first graphical user interface—is a “user interface associated with an operating system.” *Walkin*, ¶¶55, 65, Figs. 5M-5Q. The operating system “running on the computing device (or a managing application running on the computing device) may provide one or more screens for the computing device and its applications including, for example, a home screen, a lock screen, or a launch screen.” *Walkin*, ¶55.

173. *Walkin* describes that the computing device (via its operating system) receives user input and, in response, causes the opening of operating-system screens or applications, demonstrating that the claimed operations recited in claim 13 and disclosed by *Walkin* are executed by the operating system itself. For example, *Walkin*'s "computing device" receives user input to "open one or more pre-determined applications or screens of the operating system." *Walkin*, ¶¶56, 60. In addition, the "user interface" associated with the "operating system of the computing device may include one or more interactive elements." *Walkin*, ¶57.

XII. GROUND 2: CLAIMS 3, 4, 9, 10, AND 14-16 UNPATENTABLE OVER *WALKIN* IN VIEW OF *HOMMA* AND *FUJIOKA* (2B)

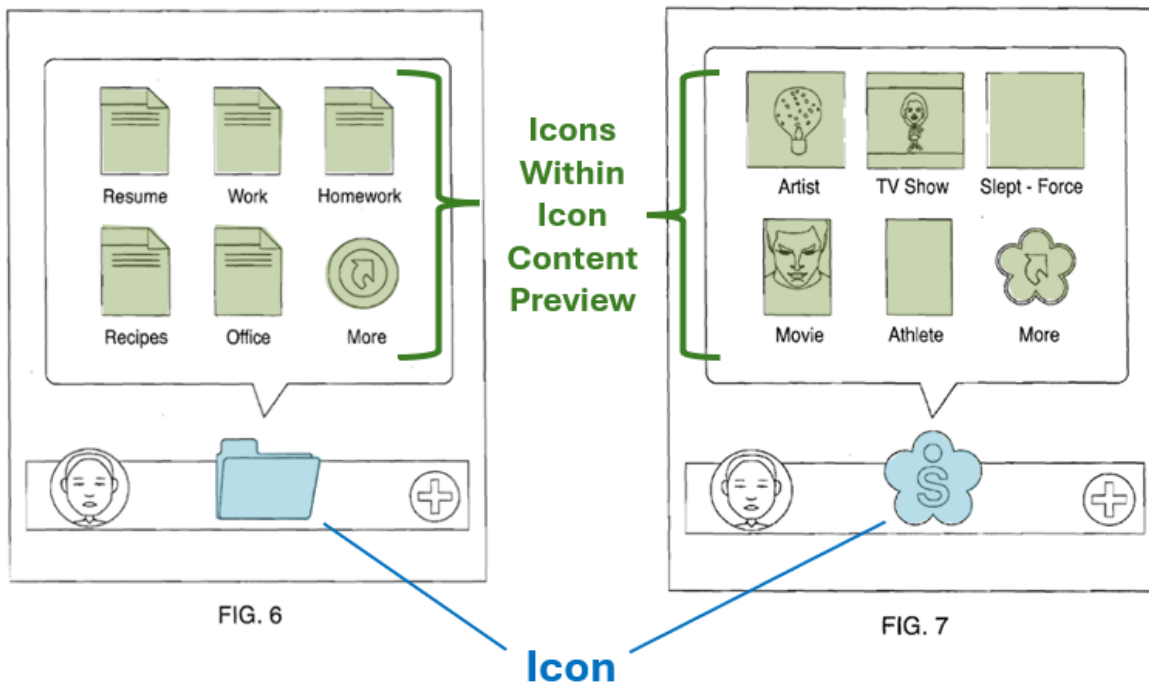
A. Combining *Fujioka* with *Walkin* and *Homma*

174. In my opinion, *Fujioka* is analogous art to the '878 patent at least because it is in the same field of endeavor: graphical user interfaces for a computing system. *Fujioka*, Title, ¶¶2-3; EX1001, Title, 14:60-63, 17:39-44, Figs. 3A-3H. *Fujioka* is also reasonably pertinent to the problem facing the inventors of the '878 patent: improving processes for navigating a graphical user interface. *Fujioka*, Abstract, ¶¶5-9; EX1001, 18:16-52, Figs. 3D-3F.

175. As I explain above, *Fujioka* discloses GUI functionality for previewing the content of an icon before selecting and opening it. In my opinion, a POSITA would have been motivated to incorporate *Fujioka*'s icon-preview

functionality into the GUI of *Walkin* (as modified based on *Homma*) and would have found it obvious to do so.

176. *Fujioka* describes that its icon-preview process advantageously allows a user to visualize an icon's content without incurring the processing power or "unwanted time" associated with "launch[ing]" the icon itself. *Fujioka*, ¶¶8, 35-36. A POSITA would have understood that because the preview is only presented when the cursor is proximate to (or overlapping with) the target icon, the GUI otherwise includes less content and therefore appears less cluttered when the preview is not in use, which is a desirable aspect of GUI design well known to skilled artisans in the field of GUI development. *Fujioka*, ¶¶35-36, Figs. 6-7.



Fujioka, Figs. 6-7 (annotated).

177. In my opinion, a POSITA would have been motivated to implement *Fujioka*'s icon-preview feature into *Walkin*'s GUI (modified in view of *Homma* as I describe above) to obtain the same benefits described in *Fujioka*. For example, a POSITA integrating *Fujioka*'s icon-preview functionality into *Walkin*'s GUI would have expected to achieve *Fujioka*'s stated benefits of doing so, such as allowing the GUI user to ascertain the contents of the icon without requiring the time or processing power needed to launch the icon or to transition to an alternative user-interface screen to see the contents of the icon, thereby providing a more efficient and less cluttered GUI. *Fujioka*, ¶¶8, 35-36, Figs. 6-7.

178. It is my opinion that a POSITA would have appreciated, for example, that a user of *Walkin*'s "Apps" icon (an application launcher) would have benefited from *Fujioka*'s preview feature. For example, previewing would have allowed the user to see each of the "application icons" represented by the app launcher when the control bauble is dragged to (and hovered over) the "Apps" icon—just as the preview feature allows the user in *Fujioka* to see each of the applications represented by an icon when the cursor is positioned proximate to the icon. *Walkin*, ¶¶55, 68-69; *Fujioka*, ¶¶35-36.

179. In my opinion, a POSITA would have found it obvious to implement *Fujioka*'s preview feature into *Walkin*'s GUI by adding the preview information box adjacent to the target icon within the user interface, consistent with *Fujioka*'s disclosure. *Walkin*, ¶¶55, 68-69; *Fujioka*, ¶¶35-36. In view of *Walkin*'s broad disclosure of using a wide variety of different potential actions and gestures to select an icon, a POSITA would have understood that a user would then have been able to select the icon after seeing the icon preview, for example, by releasing the hovered selection ring when it is positioned in contact with the icon. *See, e.g.*, EX1005, ¶¶23 ("Different touch input events may result in different responses and this disclosure contemplates any applicable gesture"), 59 ("Different user inputs may result in selection of the interactive element, and this disclosure contemplates any applicable user input for selection. Additionally, different types of user inputs may be mapped by the computing device to different types of behaviors within a user interface."). Such selection mechanisms (launching an icon upon releasing a selection tool) have been known in the art of GUI design for several decades. *See, e.g.*, EX1012, 80 ("When the button is pressed in a particular area, the cursor changes to show what will happen (see Figure 12). If *the button is released, the operation happens*, but if the cursor is moved away before releasing, the operation is aborted.") (emphasis added); *see also* EX1017, Figs. 1b-1d, ¶58 ("[A]n icon is

temporarily selected by depressing the right button 132 in order to initiate display of the graphical menu, moving the cursor 170 towards (and/or partially or fully over) a desired icon in order to temporarily select the icon, and releasing the right button 132 to permanently select the desired icon in order to initiate execution of an operation associated with the selected icon.”). *Walkin* Figure 5P, which I have annotated below, depicts an exemplary combination of *Walkin*’s GUI (modified in view of *Homma*) with *Fujioka*’s preview feature, which results in a GUI in which the user can **preview** the contents of *Walkin*’s “**Apps**” **icon** by **dragging** the modified **control bauble 556 (selection ring)** to the **icon** and hovering over it.

Walkin, ¶¶68-69, Figs. 5P-5Q.

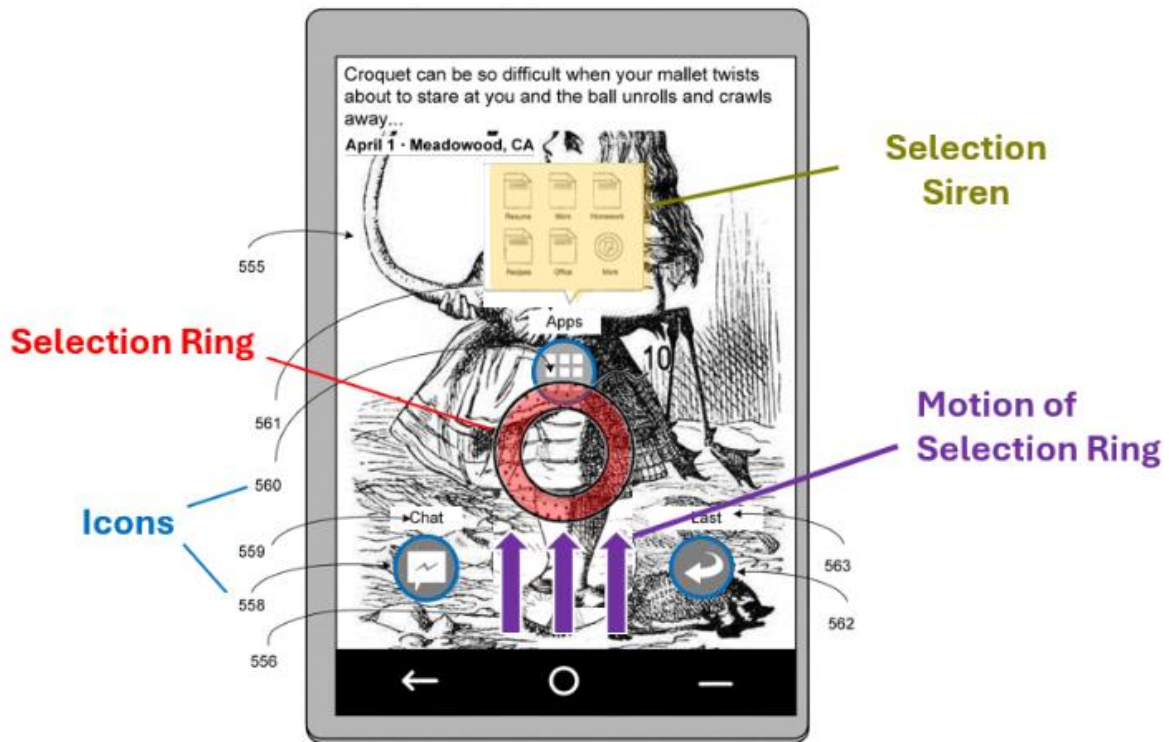


FIG. 5P

Walkin, Fig. 5P (modified, annotated).

180. It is my opinion that a POSITA would have had at least had a reasonable expectation of success in further modifying the *Walkin-Homma* combination in view of *Fujioka* because modifying *Walkin*'s GUI in the aforementioned manner would have merely required known, routine GUI programming techniques implemented in a conventional manner to obtain predictable results. As *Fujioka* recognize, and as a POSITA would have known at the time of purported invention, GUIs are "a well-understood and long established

mechanism whereby a user gains access to computing data, commands, applications, information, network protocols, outcomes, files, and the like.”

Fujioka, ¶5.

181. The references describe GUIs with similar functionalities and uses, including using an icon selection tool (e.g., *Walkin*’s control bauble or *Fujioka*’s cursor) to select an icon on a GUI. *Walkin*, ¶¶65-66, 68, 71; *Fujioka*, ¶¶33, 35-36, 38-39. In my opinion, a POSITA would have thus had a reasonable expectation of success in incorporating the icon-preview functionality of *Fujioka* into *Walkin*’s GUI. *Walkin* and *Fujioka* each contemplate presenting information about an icon before launching the icon. *Walkin*, ¶68, Fig. 5P; *Fujioka*, ¶¶ 35-36, 39, Figs. 6-8. Both references use executable instructions or a computer program to implement its GUI functionalities. *Walkin*, ¶¶75-76, Fig. 7; *Fujioka*, ¶31, Fig. 1. It is therefore my opinion that a POSITA would have understood that modifying *Walkin* to perform *Fujioka*’s preview functionality would have only required routine skill to implement.

182. As I explain for claim element [8d], a POSITA would have found it obvious to implement the ring-shaped cursor of *Homma* into *Walkin*’s GUI in place of the control bauble, providing the claimed “selection ring.” Modifying *Walkin*’s control bauble in this manner would not otherwise alter the

aforementioned integration of *Fujioka*'s icon-preview functionality into *Walkin*'s GUI.

B. Dependent Claims

183. I address the dependent claims of the '878 patent in the same order as the independent claims. That is, I address claims depending from independent claim 8 (claims 9 and 10) first, then claims depending from independent claim 1 (claims 3 and 4), and then claims depending from independent claim 13 (claims 14-16).

- 1. Claim 9: "The interactive user interface control system of claim 8, wherein the at least one processor further executes the computer instructions to: present, on the display device, a selection siren to the user in the first graphical user interface based on the user manipulation."**

184. The combination of *Walkin*, *Homma*, and *Fujioka* renders obvious the additional limitations of claim 9.

185. As I discuss above, in my opinion, a POSITA would have found it obvious to implement *Fujioka*'s icon-preview functionality into *Walkin-Homma*'s GUI. The modification results in the processor of *Walkin*'s device executing computer instructions to present an **icon information box (selection siren)** previewing information about an **icon** that appears when a user of *Walkin*'s GUI **manipulates** (e.g., moves) the **selection ring** to contact a target **icon** and hover

over it, as shown in *Walkin* Figure 5P, which I have modified and annotated below.

Walkin, ¶¶66, 68-69, 72, 75-76, Figs. 5N-5Q, claim 5; see my discussion of claim elements [8c] and [1a].

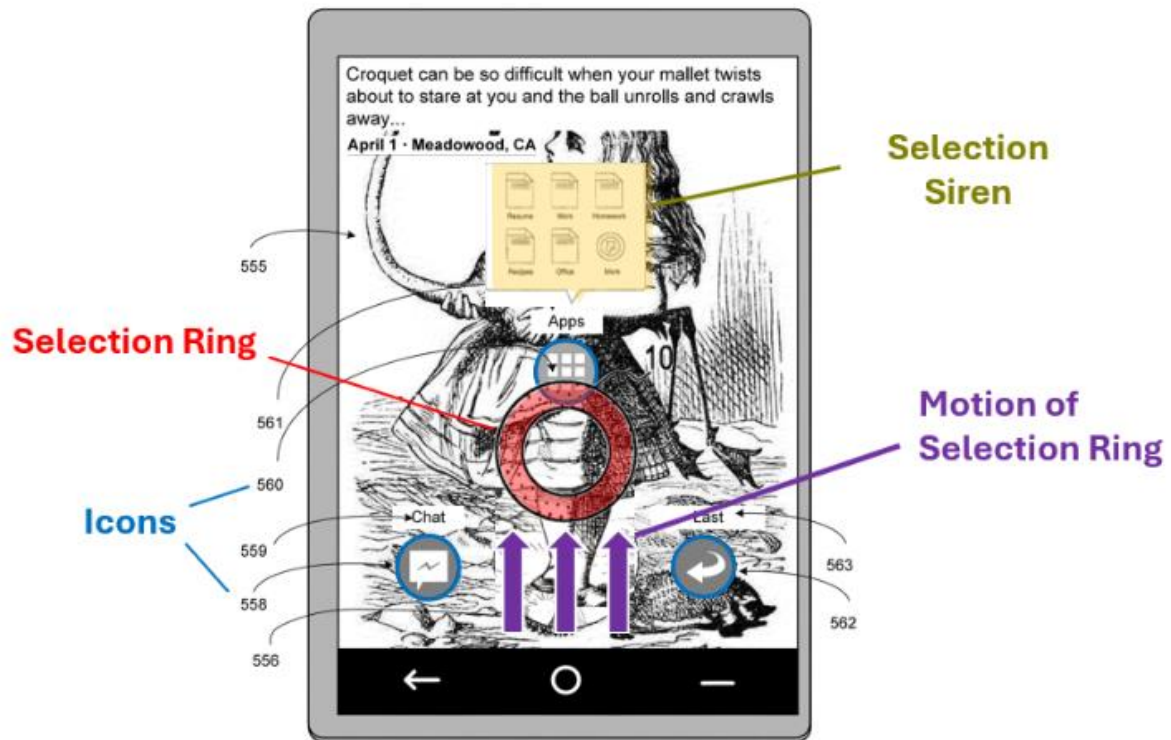


FIG. 5P

Walkin, Fig. 5P (modified, annotated).

186. Thus, further modifying *Walkin-Homma* in view of *Fujioka* renders obvious presenting, on a display device, a selection siren (e.g., an information box or label previewing information about an icon) to the user in the first graphical user

interface based on the user's manipulation of the selection ring (e.g., positioning the selection ring over the icon).

187. This is, in my opinion, consistent with the '878 patent, which describes its exemplary "siren" as an information box configured to "present contextual information" (e.g., "visual," "audio," and/or "tactile information") that is "associated with manipulation of the selection ring." EX1001, 18:21-27. Thus, for example, when a selection ring of the '878 patent "has been manipulated and positioned above" icon 162, a "siren 160" is presented that "indicates that selecti[ng] . . . the fourth icon 162 *will permit* the user to enter a time travel feature interface." EX1001, 18:40-43 (emphasis added), Fig. 3D. That is, the siren previews the functionality associated with an icon when the selection ring is positioned over that icon in the same manner as the *Walkin-Homma-Fujioka* combination. EX1001, 18:40-52, Figs. 3D-3F.

2. Claim 10: "The interactive user interface control system of claim 9, wherein the selection siren includes information regarding an icon associated with the position of the selection ring in the first graphical user interface."

188. The combination of *Walkin*, *Homma*, and *Fujioka* renders obvious the additional limitations of claim 10.

189. As I explain above for claim 9 and Section XII.A, it is my opinion that a POSITA would have found it obvious to implement *Fujioka*'s icon-preview

functionality into *Walkin-Homma*'s GUI. The modification results in the processor of *Walkin*'s device executing computer instructions to present an **icon information box (selection siren)** that appears when a user of *Walkin-Homma*'s GUI **manipulates** (e.g., moves) the **selection ring** to contact a target **icon**, as shown in *Walkin* Figure 5P, which I have modified and annotated below. *Walkin*, ¶¶68-69, 71, 75-76, Fig. 5P; *see* my discussion of claim elements [8c] and [1a].

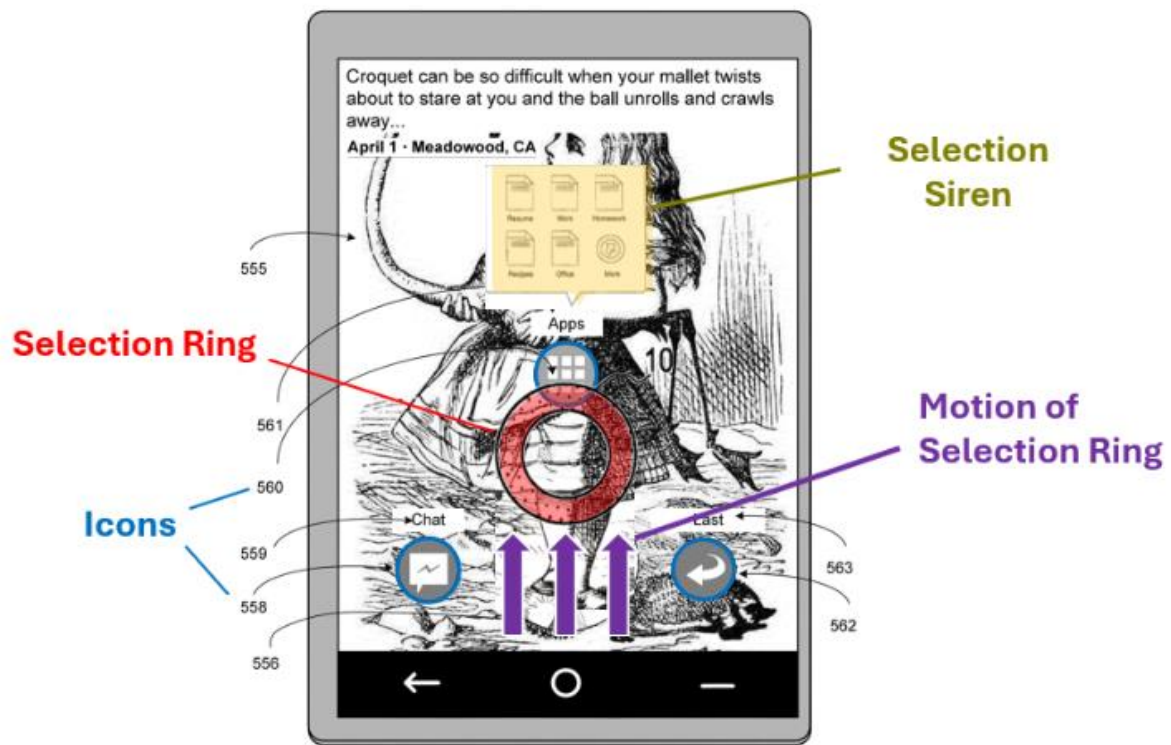


FIG. 5P

Walkin, Fig. 5P (modified, annotated).

190. Accordingly, it is my opinion that further modifying *Walkin-Homma* in view of *Fujioka* renders obvious that the selection siren includes information regarding an icon associated with the position of the selection ring in the first graphical user interface.

3. Claim 3: “The method of claim 1, further comprising: presenting, by the processor, a selection siren to the user in the first graphical user interface based on the user manipulation.”

191. In my opinion, and for substantially the same reasons I discuss for claim 9, the combination of *Walkin*, *Homma*, and *Fujioka* renders obvious the additional limitations of claim 3.

4. Claim 4: “The method of claim 3, wherein the selection siren includes information regarding an icon associated with the position of the selection ring in the first graphical user interface.”

192. In my opinion, and for substantially the same reasons I discuss for claim 10, the combination of *Walkin*, *Homma*, and *Fujioka* renders obvious the additional limitations of claim 4.

5. **Claim 14: “The non-transitory computer readable medium of claim 13, wherein execution of the computer instructions by the at least one processor, cause the at least one processor to perform further operations, the further operations comprising: presenting a selection siren to the user in the first graphical user interface based on the user manipulation.”**

193. In my opinion, and for substantially the same reasons I discuss for claim 9, the combination of *Walkin*, *Homma*, and *Fujioka* renders obvious the additional limitations of claim 14.

6. **Claim 15: “The non-transitory computer readable medium of claim 14, wherein the selection siren includes information regarding an icon associated with the position of the selection ring in the first graphical user interface.”**

194. In my opinion, and for substantially the same reasons I discuss for claim 10, the combination of *Walkin*, *Homma*, and *Fujioka* renders obvious the additional limitations of claim 15.

7. **Claim 16: “The non-transitory computer readable medium of claim 13, wherein execution of the computer instructions by the at least one processor, cause the at least one processor to perform further operations, the further operations comprising: presenting a second plurality of icons to the user in the first graphical user interface based on manipulation of the selection ring.”**

195. It is my opinion that the combination of *Walkin*, *Homma*, and *Fujioka* renders obvious the additional limitations of claim 16.

196. As I explain for claim 9 and Section XII.A, in my opinion, a POSITA would have found it obvious to implement *Fujioka*'s icon-preview functionality into *Walkin-Homma*'s GUI. The modification results in the processor of *Walkin*'s device executing computer instructions to present an **icon information preview** that appears when a user of *Walkin*'s GUI **manipulates** (e.g., moves) the modified **selection ring** to contact a target **icon**, where that **information preview** includes a **plurality of additional icons** within it, as shown in *Walkin* Figure 5P, which I have modified and annotated below. *Walkin*, ¶¶68-69, 71, 75-76, Fig. 5P; EX1007, ¶35; see my discussion of claim elements [8c] and [1a].

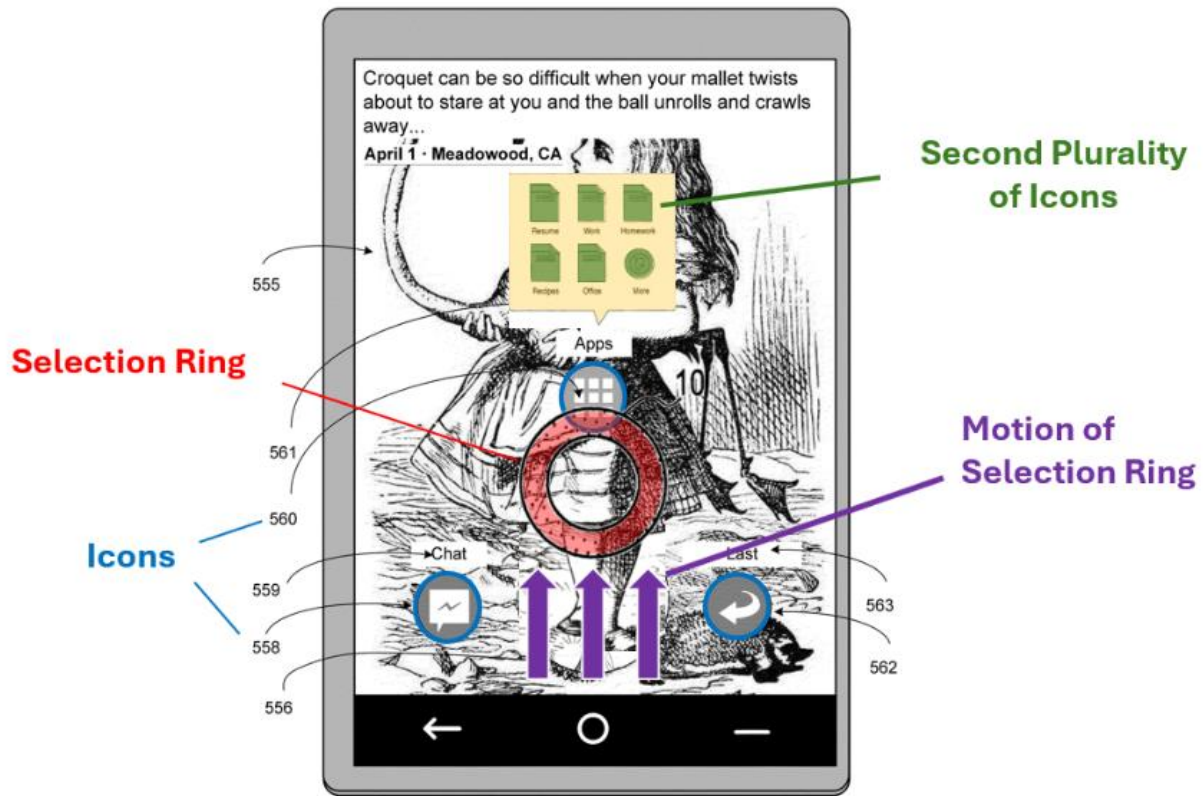


FIG. 5P

Walkin, Fig. 5P (modified, annotated).

197. As shown in the annotated figure above, the icon information preview that appears in the modified *Walkin-Homma-Fujioka* user interface includes a plurality of icons (which, relative to the **first set of icons annotated in blue** above, constitute a **“second” plurality of icons**). EX1007, ¶35 (*Fujioka* stating a “smaller preview of icons proximate to the icon over which the cursor is placed may also be provided, such as a text bubble or informational bubble indicative of the item correspondent to an icon.”). Those icons may, for example, be **application icons**

for *Walkin*'s "application launcher" icon that the user selects by moving the **selection ring** (e.g., control bauble 556) to **icon 560**, as depicted above, and thus represent icons that a user would expect to see within the application launcher after selecting application launcher icon 560. *Walkin*, ¶68 ("Icon 560 has an associated label 561 of 'Apps,' indicating that icon 560 is associated with an application launcher and that selection [of] icon 560 opens the application launcher interface."). Thus, in my opinion, further modifying *Walkin-Homma* in view of *Fujioka* renders obvious presenting, on the display device, a second plurality of icons to the user in the first graphical user interface based on the user manipulation of the selection ring.

XIII. CONCLUSION

198. For the reasons set forth above, it is my opinion that one skilled in the art would have found claims 1-18 of the '878 patent obvious.

199. In signing this declaration, I understand that the declaration will be filed as evidence in a contested case before the Patent Trial and Appeal Board of the United States Patent and Trademark Office. I acknowledge that I may be subject to cross-examination in this case and that cross-examination will take place within the United States. If cross-examination is required of me, I will appear for cross-examination within the United States during the time allotted for cross-examination.

200. I declare that all statements made herein of my knowledge are true, and that all statements made on information and belief are believed to be true, and that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Date: August 17, 2026

Respectfully submitted,



Dr. Benjamin B. Bederson