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(54) Title: ICONS BASED ON KEYBOARD LOCATION ON A DISPLAY

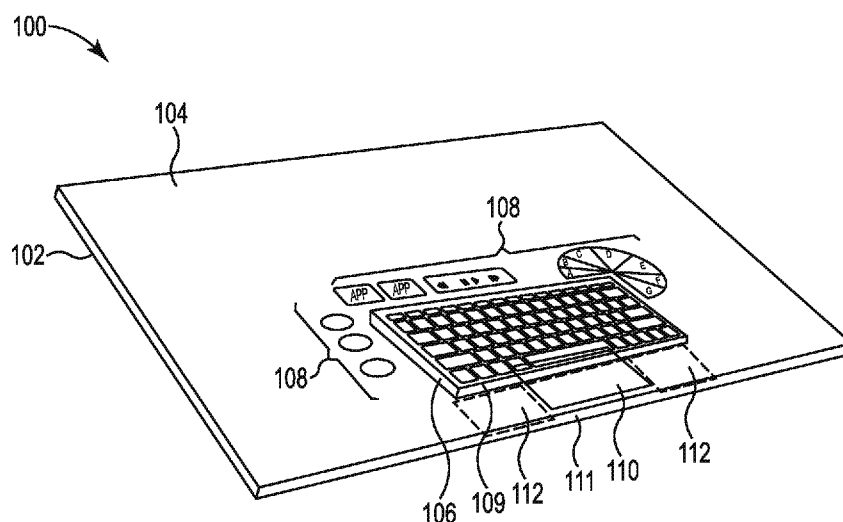


Fig. 1

(57) Abstract: In some examples, a computing device can provide icons based on a keyboard location on a display by detecting the presence of a keyboard at a location on the display in response to the keyboard being magnetically attached to the display, generate, in response to the detection of the keyboard, interactive icons, and display the interactive icons around the keyboard via the display at the location of the keyboard on the display.

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ICONS BASED ON KEYBOARD LOCATION ON A DISPLAY

Background

[0001] Computing devices may utilize a touch screen display and/or an input device such as a keyboard. For example, a user may interact with the computing device by touching the display, and/or by utilizing the keyboard to make keystroke inputs to the computing device.

Brief Description of the Drawings

[0002] Figure 1 illustrates an example of a system suitable for icons based on keyboard location on a display consistent with the disclosure.

[0003] Figure 2 illustrates an example of a system suitable for icons based on keyboard location on a display consistent with the disclosure.

[0004] Figure 3 illustrates a block diagram of an example of a computing device consistent with the disclosure.

[0005] Figure 4 illustrates a block diagram of an example of a system suitable for icons based on keyboard location on a display consistent with the disclosure.

[0006] Figure 5 illustrates an example of a method for icons based on keyboard location on a display consistent with the disclosure.

Detailed Description

[0007] Computing devices utilizing a touch screen display and/or a keyboard can allow a user to make inputs to the computing device using the touch screen display and/or the keyboard. For example, a user may select a document to modify by the computing device by selecting the document on the touch screen display. The user may then utilize the keyboard to modify the document.

[0008] In some instances, a user can touch the display, but have to interact with the keyboard on a work surface. The display may be on a different surface or at a different angle from the keyboard. A user may find this process undesirable.

[0009] Icons based on keyboard location on a display can allow for a user to set a keyboard on a display of a computing device, allowing for touch interaction of the display and use of the keyboard by the user. Icons generated and displayed around the keyboard can allow for shortcuts and other workflow improvement tools, allowing a user to increase productivity and/or efficiency.

[0010] Figure 1 illustrates an example of a system 100 suitable for icons based on keyboard location on a display consistent with the disclosure. System 100 can include a computing device 102, a display 104, a keyboard 106, an edge 109 of keyboard 106, and an edge 111 of display 104. Display 104 can include interactive icons 108, trackpad 110, and disabled area 112.

[0011] Computing device 102 can include a display 104. As used herein, the term “display” can, for example, refer to a graphical user interface that can provide and/or receive information to and/or from a user of computing device 102. Display 104 can be, for instance, a touch screen display, and can include a television, computer monitor, tablet screen, laptop screen, mobile device screen, other type of display device, or any combination thereof, connected to computing device 102 and can receive a video signal output from computing device 102.

[0012] Computing device 102 can detect the presence of keyboard 106 at a location on display 104 in response to keyboard 106 being magnetically attached to display 104. As used herein, the term “keyboard” can, for example, refer to a device which can use an arrangement of buttons or keys to act as a mechanical lever or electronic switch. Keyboard 106 may be utilized for input of text or number entry to a computing device.

[0013] Keyboard 106 and computing device 102 can be interconnected for input of text or numbers to computing device 102 via keyboard 106. As used herein, the term “interconnect” or used descriptively as “interconnected” can, for example, refer to a communication pathway established over an information-carrying medium. The “interconnect” may be a wired interconnect, wherein the medium is a physical medium (e.g., electrical wire, optical fiber, cable, bus traces, etc.), a wireless interconnect (e.g., air in combination with wireless signaling technology) or a combination of these technologies. For example, keyboard 106 can be interconnected with computing device 102 via a Bluetooth wireless connection, among other types of wireless connections.

[0014] Computing device 102 can determine the location of keyboard 106 on display 104. For example, computing device 102 may utilize a sensor and/or a magnet to determine the location of keyboard 106 on display 104. For instance, computing device 102 may utilize an optical sensor, pressure sensor, capacitive elements of the display 104, and/or a magnet, to determine the location of keyboard 106 on display 104, among other types of sensors. As used herein, the term “sensor” can, for example, refer to a device, an electrical component, system, or sub-system to detect events or changes in an environment, and send the detected events or changes to other device(s).

[0015] Keyboard 106 can be magnetically attached to display 104. For example, display 104 and keyboard 106 can include material such that a magnetic field, and correspondingly, an attractive magnetic force is created in response to keyboard 106 being in proximity with display 104. The magnetic force can prevent keyboard 106 from sliding around display 104. That is, the magnetic force can act to cause a greater amount of force to slide keyboard 106 around display 104 than if no magnetic force was present between keyboard 106 and display 104. For example, the keyboard 106 can include a magnetic material, and display 104 can include a magnetic material such that a magnetic force is created in response to the magnetic material of keyboard 106 and the magnetic material of display 104.

[0016] In some examples, keyboard 106 can include rubber or other material located on portions of keyboard 106 that may touch display 104. The rubber or other material can prevent keyboard 106 from sliding around display 104.

[0017] Computing device 102 can generate interactive icons 108 in response to the detection of keyboard 106 on display 104. As used herein, the term “interactive icon” can, for example, refer to a pictogram or ideogram displayed on a screen or display in order to help a user navigate a computing system or mobile device. That is, an interactive icon can serve as a link or shortcut to access applications, programs, and/or other data of a computing device. For example, computing device 102 can generate interactive icons 108 in response to a user setting keyboard 106 on display 104.

[0018] Interactive icons 108 can be displayed via display 104. Interactive icons 108 can be displayed around keyboard 106 at the location of keyboard 106 on display 104. For example, interactive icons 108 can be displayed around the

periphery of keyboard 106. The interactive icons 108 can be visible next to keyboard 106, but may not be located underneath keyboard 106.

[0019] Interactive icons 108 can include shortcuts and/or hotkeys, application shortcuts, notifications, media controls, and/or a trackpad, among other interactive icons. For example, a user may set keyboard 106 on display 104, and in response to interactive icons 108 being generated and displayed around keyboard 106, select an application shortcut included in interactive icons 108. In some examples, once the selected application launches, interactive icons 108 can change based on the selected application. For example, a photo editing application may provide interactive icons for cropping photos, layering options for modifying layers of a photo, and/or a color wheel for modifying color options of a photo, among other interactive icons.

[0020] Interactive icons 108 can be configurable. For example, a user can configure interactive icons 108 around keyboard 106 in a manner that the user may find easy and/or comfortable to use. For instance, a user can select a shortcut to an application that may be frequently used, and the user can place the application shortcut in a convenient location around keyboard 106.

[0021] As described above, interactive icons 108 can include a trackpad 110. As used herein, the term “trackpad” can, for example, refer to an area of a display that can translate the motion and position of a user’s finger(s) to a relative position on the operating system of the computing device including the display that is made to output to the display. For example, a user may “swipe” left across trackpad 110 on display 104, and a cursor (not shown) on display 104 can correspondingly move left.

[0022] A size of trackpad 110 can be based on a distance between an edge 109 of keyboard 106 and an edge 111 of display 104, as is further described in connection with Figure 2. In some examples, as the distance between an edge 109 of keyboard 106 and an edge 111 of display 104 increases, the size of trackpad 110 can increase. In some examples, as the distance between an edge 109 of keyboard 106 and an edge 111 of display 104 decreases, the size of trackpad 110 can decrease.

[0023] Computing device 102 can disable a portion of display 104 to user input. For example, in response to the presence of keyboard 106 being detected at a location on display 104, computing device 102 can cause disabled area 112 of the

display 104 to be disabled to user input. Disabled area 112 can be located next to a bottom portion of keyboard 106. For example, disabled area 112 can be located in an area on display 104 on which a user might rest their palm(s) while using keyboard 106. Disabling the display 104 to user input at disabled area 112 can prevent unwanted inputs to the display 104 from the user while the user is utilizing keyboard 106.

[0024] Figure 2 illustrates an example of a system 214 suitable for icons based on keyboard location on a display consistent with the disclosure. System 214-1 can indicate a display 216 with a keyboard 206 (e.g., keyboard 106 described in connection with Figure 1) at a first location on display 216. System 214-2 can indicate a display 216 with a keyboard 206 at a second location on display 216.

[0025] System 214-1 can include a computing device 202, interactive icons 208-1 (e.g., interactive icons 108 described in connection with Figure 1), trackpad 210-1 (e.g., trackpad 110 described in connection with Figure 1), and distance 218-1 between an edge 209 of keyboard 206 and an edge 211 of display 216 at the first location on display 216. System 214-2 can include a computing device 202, interactive icons 208-2 (e.g., interactive icons 108 described in connection with Figure 1), trackpad 210-2 (e.g., trackpad 110 described in connection with Figure 1), and distance 218-2 between an edge 209 of keyboard 206 and an edge 211 of display 216 at the second location on display 216.

[0026] Computing device 202 can detect the presence of keyboard 206 at a first location on a display 216 in response to keyboard 206 being magnetically attached to display 216. Computing device 202 can utilize an optical sensor, pressure sensor, capacitive elements of the display 216, and/or a magnet to detect the presence and/or location of keyboard 206, as described in connection with Figure 1.

[0027] For example, as shown in system 214-1, keyboard 206 can be located in a first location on display 216. The first location of keyboard 206 can be a first distance 218-1 from an edge 209 of keyboard 206 and an edge 211 of display 216. Display 216 can be a curved display.

[0028] Although display 216 is shown in Figure 2 as a curved display, examples of the disclosure are not so limited. For example, the display may be a flat display (e.g., display 104) as shown and described in connection with Figure 1.

[0029] Computing device 202 can display, via display 216, interactive icons 208-1 around keyboard 206 at the first location on display 216. Interactive icons 208-1 can be displayed around keyboard 206 at the first location of keyboard 206 on display 216.

[0030] Computing device 202 can display, via display 216, trackpad 210-1 adjacent to keyboard 206 at the first location on display 216. Trackpad 210-1 can be a first size at the first location of keyboard 206 on display 216. The first size of trackpad 210-1 can be based on distance 218-1 between an edge 209 of keyboard 206 and an edge 211 of display 216 at the first location on display 216.

[0031] For example, a user may place keyboard 206 on display 216 at the first location on display 216. As described in connection with Figure 1, computing device 202 can detect the presence of keyboard 206 at the first location on display 216, generate, and display interactive icons 208 around keyboard 206 at the first location on display 216. Trackpad 210-1 can be displayed on display 216, and the size of trackpad 210-1 at the first location can be based on distance 218-1 between an edge 209 of keyboard 206 and an edge 211 of display 216 at the first location on display 216.

[0032] Computing device 202 can detect the presence of keyboard 206 at a second location on a display 216 in response to keyboard 206 being moved from the first location and magnetically attached to display 216 at the second location. That is, computing device 202 can detect the presence of keyboard 206 at a different location on display 216 in response to keyboard 206 being moved from the first location to the second location. Computing device 202 can utilize an optical sensor, pressure sensor, capacitive elements of the display 216, and/or a magnet to detect the presence and/or second location of keyboard 206. For example, a user may move keyboard 206 from the first location to the second location. The user may move keyboard 206 to be closer to keyboard 206, to have keyboard 206 in a better working position at the second location relative to the first location, among other reasons for moving keyboard 206.

[0033] In response to the user moving the keyboard 206 from the first location to the second location, as shown in system 214-2, keyboard 206 can be located at the second location on display 216. The second location of keyboard 206 can be a second distance 218-2 from an edge 209 of keyboard 206 and an edge 211 of display 216.

[0034] Computing device 202 can generate, in response to the detection of keyboard 206 at the second (e.g., different) location on display 216, interactive icons 208-2 and display, via display 216, interactive icons 208-2. That is, computing device 202 can display interactive icons 208-2 around keyboard 206 at the second location via display 216. In other words, computing device 202 can adjust the location of interactive icons 208 in response to the keyboard 206 being moved to a different location on display 216. For example, computing device 202 can adjust interactive icons 208 from around keyboard 206 at the first location on display 216 (e.g., as shown in system 214-1) to around keyboard 206 at the second location on display 216 (e.g., as shown in system 214-2).

[0035] Computing device 202 can resize trackpad 210 in response to keyboard 206 moving from the first location to the second location on display 216. Trackpad 210-2 can be a second size at the second location of keyboard 206 on display 216. The second size of trackpad 210-2 can be based on distance 218-2 between an edge 209 of keyboard 206 and an edge 211 of display 216 at the second location on display 216.

[0036] As shown in Figure 2, a user may move the keyboard 206 closer to the user. For example, a user may move keyboard 206 from the first location on display 216 (e.g., as shown by system 214-1) to the second location on display 216 (e.g., as shown by system 214-1), where the keyboard 206 is closer to the user at the second location on display 216. As a result of the keyboard 206 moving from the first location on display 216 to the second location on display 216, distance 218-1 between an edge 209 of keyboard 206 and an edge 211 of display 216 is shortened to distance 218-2 between an edge 209 of keyboard 206 and an edge 211 of display 216. In response to the smaller distance between an edge 209 of keyboard 206 and an edge 211 of display 216, trackpad 210 can be made smaller. That is trackpad 210-2 can be smaller than trackpad 210-1 as a result of the distance 218-1 between an edge 209 of keyboard 206 and an edge 211 of display 216 being shortened to distance 218-2. The size of trackpad 210-1 and the size of trackpad 210-2 can be different.

[0037] In some examples, a user may move keyboard 206 from the first location on display 216 (e.g., as shown by system 214-1) to a second location (not shown in Figure 2) on display 216 that is farther from the user. As a result of the keyboard 206 moving from the first location on display 216 to the farther second

location on display 216, distance 218-1 between an edge 209 of keyboard 206 and an edge 211 of display 216 may be lengthened. In response to the lengthened distance between an edge 209 of keyboard 206 and an edge 211 of display 216, trackpad 210 can be made larger.

[0038] Icons based on keyboard location on a display can allow a user of a computing device to utilize a keyboard in combination with a display. The display can display icons and adjust the icons based on the user's preferences and/or the location of the keyboard on the display. Icons based on keyboard location on a display can provide a user with a customizable display, which may lead to an increase in work productivity and/or efficiency.

[0039] Figure 3 illustrates a block diagram of an example of a computing 302 device consistent with the disclosure. Computing device 302 can include a processing resource 320, a display 321 (e.g., display 104, 216, described in connection with Figures 1 and 2, respectively), and a computer readable medium 322. Computer readable medium 322 can include machine readable instructions, including detect the presence of a keyboard instructions 324, generate instructions 326, and display instructions 328.

[0040] Processing resource 320 may be a central processing unit (CPU), a semiconductor based microprocessor, and/or other hardware devices suitable for retrieval and execution of machine-readable instructions 324, 326, 328 stored in a computer readable medium 322. Processing resource 320 may fetch, decode, and execute instructions 324, 326, 328. As an alternative or in addition to retrieving and executing instructions 324, 326, 328, processing resource 320 may include a plurality of electronic circuits that include electronic components for performing the functionality of instructions 324, 326, 328.

[0041] Computer readable medium 322 may be any electronic, magnetic, optical, or other physical storage device that stores executable instructions 324, 326, 328 and/or data. Thus, computer readable medium 322 may be, for example, Random Access Memory (RAM), an Electrically-Erasable Programmable Read-Only Memory (EEPROM), a storage drive, an optical disc, and the like. Computer readable medium 322 may be disposed within computing device 302, as shown in Figure 3. Additionally and/or alternatively, computer readable medium 322 may be a portable, external or remote storage medium, for example, that allows computing

device 302 to download the instructions 324, 326, 328 from the portable/external/remote storage medium.

[0042] Processing resource 320 may execute detect the presence of a keyboard instructions 324 stored in computer readable medium 322 to detect the presence of a keyboard at a location on the display 321 in response to the keyboard being magnetically attached to the display 321. Computing device 302 can utilize an optical sensor, pressure sensor, capacitive elements of the display 321, and/or a magnet and/or a magnet to determine the location of the keyboard on the display 321. The keyboard can be magnetically attached to the display 321.

[0043] Processing resource 320 may execute generate instructions 326 stored in computer readable medium 322 to generate, in response to the detection of the keyboard, interactive icons. The interactive icons can allow a user to access applications, programs, and/or other data in response to the user selecting an interactive icon.

[0044] Processing resource 320 may execute display instructions 328 stored in computer readable medium 322 to display the interactive icons around the keyboard via the display at the location of the keyboard on the display 321. The interactive icons may be displayed on the display 321 and displayed next to and/or around the periphery of the keyboard at the location of the keyboard. For example, the keyboard can be set on the display 321, and the interactive icons can be displayed around the periphery of the keyboard.

[0045] In some examples, the user can move the keyboard from a first location on the display 321 to a second location on the display 321. Computing device 302 can cause the interactive icons to be adjusted so that the interactive icons are displayed around the periphery of the keyboard at the second location on the display 321.

[0046] Figure 4 illustrates a block diagram of an example of a system 430 suitable for icons based on keyboard location on a display consistent with the disclosure. In the example of Figure 4, system 430 includes a processing resource 420 (e.g., processing resource 320 described in connection with Figure 3) and a computer readable medium 422. Although the following descriptions refer to an individual processing resource and an individual machine readable storage medium, the descriptions may also apply to a system with multiple processing resources and multiple machine readable storage mediums. In such examples, the instructions

may be distributed across multiple machine readable storage mediums and the instructions may be distributed across multiple processing resources. Put another way, the instructions may be stored across multiple machine readable storage mediums and executed across multiple processing resources, such as in a distributed computing environment.

[0047] Processing resource 420 may be a central processing unit (CPU), microprocessor, and/or other hardware device suitable for retrieval and execution of instructions stored in computer readable medium 422. In the particular example shown in Figure 4, processing resource 420 may receive, determine, and send instructions 434, 436, 438, and 440. As an alternative or in addition to retrieving and executing instructions, processing resource 420 may include an electronic circuit comprising an electronic component for performing the operations of the instructions in computer readable medium 422. With respect to the executable instruction representations or boxes described and shown herein, it should be understood that part or all of the executable instructions and/or electronic circuits included within one box may be included in a different box shown in the figures or in a different box not shown.

[0048] Computer readable medium 422 may be any electronic, magnetic, optical, or other physical storage device that stores executable instructions. Thus, computer readable medium 422 may be, for example, Random Access Memory (RAM), an Electrically-Erasable Programmable Read-Only Memory (EEPROM), a storage drive, an optical disc, and the like. The executable instructions may be "installed" on the system 430 illustrated in Figure 4. Computer readable medium 422 may be a portable, external or remote storage medium, for example, that allows the system 430 to download the instructions from the portable/external/remote storage medium. In this situation, the executable instructions may be part of an "installation package". As described herein, computer readable medium 422 may be encoded with executable instructions related to icons based on keyboard location on a display. That is, using processing resource 420, computer readable medium 422 may instruct a computing device to display interactive icons around the keyboard on a display in response to the keyboard being detected on the display, among other operations.

[0049] Instructions 434 to detect the presence of a keyboard at a first location, when executed by processing resource 420, may cause system 430 to detect the

presence of a keyboard at a first location on a display in response to the keyboard being magnetically attached to the display. For example, a computing device can detect the presence of a keyboard via an optical sensor, pressure sensor, capacitive elements of the display, and/or a magnet at a first location on the display.

[0050] Instructions 436 to display interactive icons at the first location, when executed by processing resource 420, may cause system 430 to display, in response to the keyboard being detected, interactive icons around the keyboard at the first location on the display. For example, the computing device can cause interactive icons to be displayed around the keyboard at the first location on the display. The interactive icons can allow a user to access applications, programs, and/or other data in response to the user selecting an interactive icon.

[0051] Instructions 438 to detect the presence of the keyboard at a second location, when executed by processing resource 420, may cause system 430 to detect the presence of the keyboard at a second location on the display in response to the keyboard being moved from the first location and magnetically attached to the display at the second location. For example, a user may move the keyboard from the first location on the display to the second location on the display. The computing device can detect the presence of the keyboard via a sensor and/or a magnet at the second location on the display.

[0052] Instructions 440 to display interactive icons at the second location, when executed by processing resource 420, may cause system 430 to display, in response to the keyboard being moved, the interactive icons around the keyboard at the second location on the display. For example, a user may move the keyboard from the first location on the display to the second location on the display, and the computing device can cause interactive icons to be displayed around the keyboard at the second location on the display. That is, the computing device can adjust the location of the interactive icons based on the change in position of the keyboard on the display.

[0053] Figure 5 illustrates an example of a method 542 for icons based on keyboard location on a display consistent with the disclosure. For example, method 542 can be performed by a computing device such as those described herein to provide icons based on keyboard location on a display.

[0054] At 544, the method 542 includes detecting, via a computing device, the presence of a keyboard magnetically attached at a first location on a display. For

example, a computing device can detect the presence of a keyboard via an optical sensor, pressure sensor, capacitive elements of the display, and/or a magnet at the first location on the display.

[0055] At 546, the method 542 includes displaying, via the display, interactive icons including a trackpad around the keyboard at the first location on the display. A size of the trackpad at the first location on the display can be based on a distance between an edge of the keyboard and an edge of the display at the first location. For example, the size of the trackpad at the first location is based on the distance of the keyboard from an edge of the display.

[0056] At 548, the method 542 includes moving the keyboard from the first location to a second location on the display. For example, a user may move the keyboard from the first location to the second location. The user may move the keyboard to the second location so that the keyboard is easier and/or more comfortable to use at the second location, among other reasons for moving the keyboard.

[0057] At 550, the method 542 includes detecting, via the computing device, the presence of the keyboard magnetically attached at the second location on the display. For example, a computing device can detect the presence of a keyboard via an optical sensor, pressure sensor, capacitive elements of the display, and/or a magnet at the second location on the display.

[0058] At 552, the method 542 can include displaying, via the display, interactive icons including the trackpad at the second location on the display. A size of the trackpad at the second location on the display can be based on a distance between an edge of the keyboard and an edge of the display at the second location. For example, the size of the trackpad at the second location is based on the distance of the keyboard from an edge of the display.

[0059] The method 542 can include resizing the trackpad in response to the keyboard moving from the first location to the second location on the display. For example, the distance between an edge of the keyboard and an edge of the display at a second location can be different from the distance between an edge of the keyboard and an edge of the display at a first location. Based on the change in distance, the size of the trackpad can be resized. That is, the computing device can resize the trackpad in response to the keyboard moving to the second location from the first location.

[0060] In some examples, method 542 includes generating a larger trackpad in response to the distance between the edge of the keyboard and the edge of the display at the second location being larger than the distance between the edge of the keyboard and the edge of the display at the first location. For example, the user may move the keyboard farther from the edge of the display. In response, the computing device can resize the trackpad from a smaller trackpad to a larger trackpad.

[0061] In some examples, method 542 includes generating a smaller trackpad in response to the distance between the edge of the keyboard and the edge of the display at the second location being smaller than the distance between the edge of the keyboard and the edge of the display at the first location. For example, the user may move the keyboard closer to the edge of the display. In response, the computing device can resize the trackpad from a larger trackpad to a smaller trackpad.

[0062] As used herein, "logic" is an alternative or additional processing resource to perform a particular action and/or element described herein. Logic can include hardware. The hardware can include processing resources such as circuitry, which are distinct from machine-readable instructions on a machine readable media. Further, as used herein, "a" can refer to one such thing or more than one such thing.

[0063] The figures follow a numbering convention in which the first digit or digits correspond to the drawing figure number and the remaining digits identify an element or component in the drawing. Similar elements or components between different figures may be identified by the use of similar digits. For example, 102 may reference element "02" in Figure 1, and a similar element may be referenced as 202 in Figure 2.

[0064] Multiple analogous elements within one figure may be referenced with a reference numeral followed by a hyphen and another numeral or a letter. For example, 210-1 may reference element 10-1 in Figure 2 and 210-2 may reference element 10-2, which can be analogous to element 10-1. Such analogous elements may be generally referenced without the hyphen and extra numeral or letter. For example, elements 210-1 and 210-2 may be generally referenced as 210.

[0065] The above specification, examples and data provide a description of the method and applications, and use of the system and method of the disclosure. Since many examples can be made without departing from the spirit and scope of

the system and method of the disclosure, this specification merely sets forth some of the many possible example configurations and implementations.

What is claimed is:

1. A computing device, comprising:
 - a display;
 - a processing resource; and
 - a computer readable medium storing computer readable instructions to cause the processing resource to:
 - detect the presence of a keyboard at a location on the display in response to the keyboard being magnetically attached to the display;
 - generate, in response to the detection of the keyboard, interactive icons; and
 - display the interactive icons around the keyboard via the display at the location of the keyboard on the display.
2. The computing device of claim 1, wherein the instructions include instructions to cause the processing resource to detect the presence of the keyboard at a different location on the display in response to the keyboard being moved from the location to the different location.
3. The computing device of claim 2, wherein instructions include instructions to cause the processing resource to:
 - generate, in response to the detection of the keyboard at the different location on the display, the interactive icons; and
 - display the interactive icons around the keyboard at the different location on the display.
4. The computing device of claim 1, wherein the instructions include instructions to cause the processing resource to disable a portion of the display to user input below the location of the keyboard.
5. The computing device of claim 1, wherein the interactive icons include a trackpad.

6. The computing device of claim 5, wherein a size of the trackpad is based on a distance between an edge of the keyboard and an edge of the display.

7. The computing device of claim 1, wherein the display is a curved display.

8. A non-transitory computer readable medium having stored thereon machine readable instructions to cause a processing resource to:

detect the presence of a keyboard at a first location on a display in response to the keyboard being magnetically attached to the display;

display, in response to the keyboard being detected, interactive icons around the keyboard at the first location on the display;

detect the presence of the keyboard at a second location on the display in response to the keyboard being moved from the first location and magnetically attached to the display at the second location; and

display, in response to the keyboard being moved, the interactive icons around the keyboard at the second location on the display.

9. The medium of claim 8, comprising instructions to display a trackpad adjacent to the keyboard at the first location, wherein the trackpad is a first size at the first location.

10. The medium of claim 9, comprising instructions to display the trackpad adjacent to the keyboard at the second location, wherein:

the trackpad is a second size at the second location; and

the first size of the trackpad and the second size of the trackpad are different.

11. The medium of claim 8, wherein the interactive icons are configurable.

12. A method, comprising:

detecting, via a computing device, the presence of a keyboard magnetically attached at a first location on a display;

displaying, via the display, interactive icons including a trackpad around the keyboard at the first location on the display, wherein a size of the trackpad at the first

location on the display is based on a distance between an edge of the keyboard and an edge of the display at the first location;

moving the keyboard from the first location to a second location on the display;

detecting, via the computing device, the presence of the keyboard magnetically attached at the second location on the display; and

displaying, via the display, interactive icons including the trackpad around the keyboard at the second location on the display, wherein a size of the trackpad at the second location on the display is based on a distance between the edge of the keyboard and the edge of the display at the second location.

13. The method of claim 12, wherein the method includes resizing the trackpad in response to the keyboard moving from the first location to the second location on the display.

14. The method of claim 13, wherein resizing the trackpad includes generating a larger trackpad in response to the distance between the edge of the keyboard and the edge of the display at the second location being larger than the distance between the edge of the keyboard and the edge of the display at the first location.

15. The method of claim 13, wherein resizing the trackpad includes generating a smaller trackpad in response to the distance between the edge of the keyboard and the edge of the display at the second location being smaller than the distance between the edge of the keyboard and the edge of the display at the first location.

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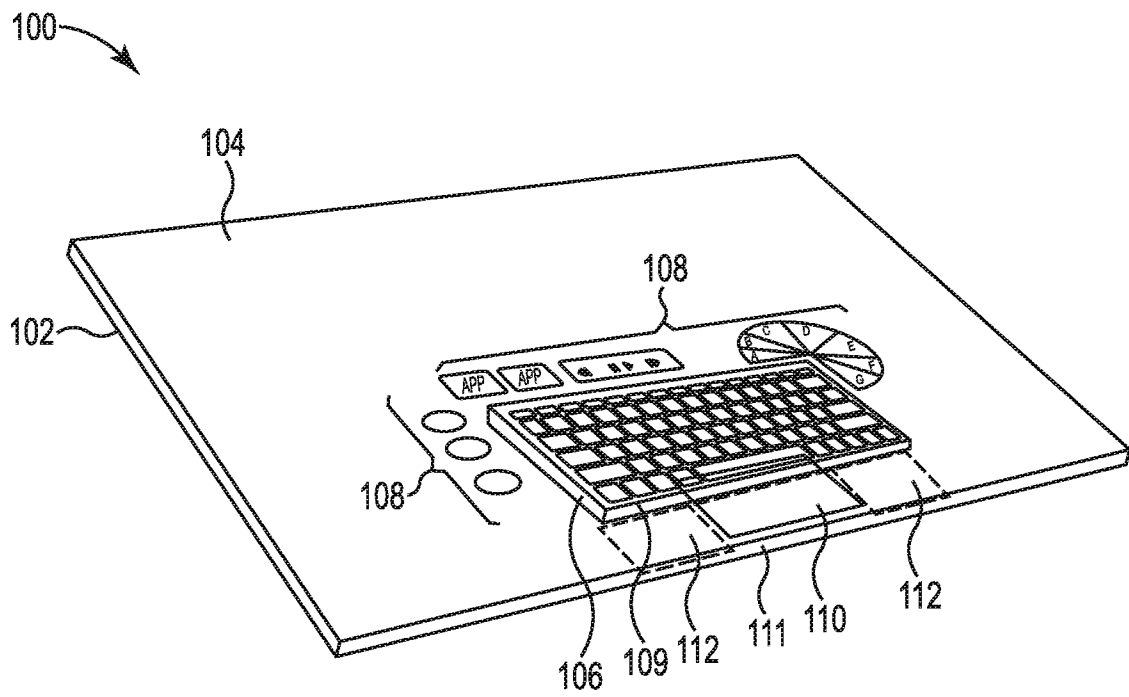
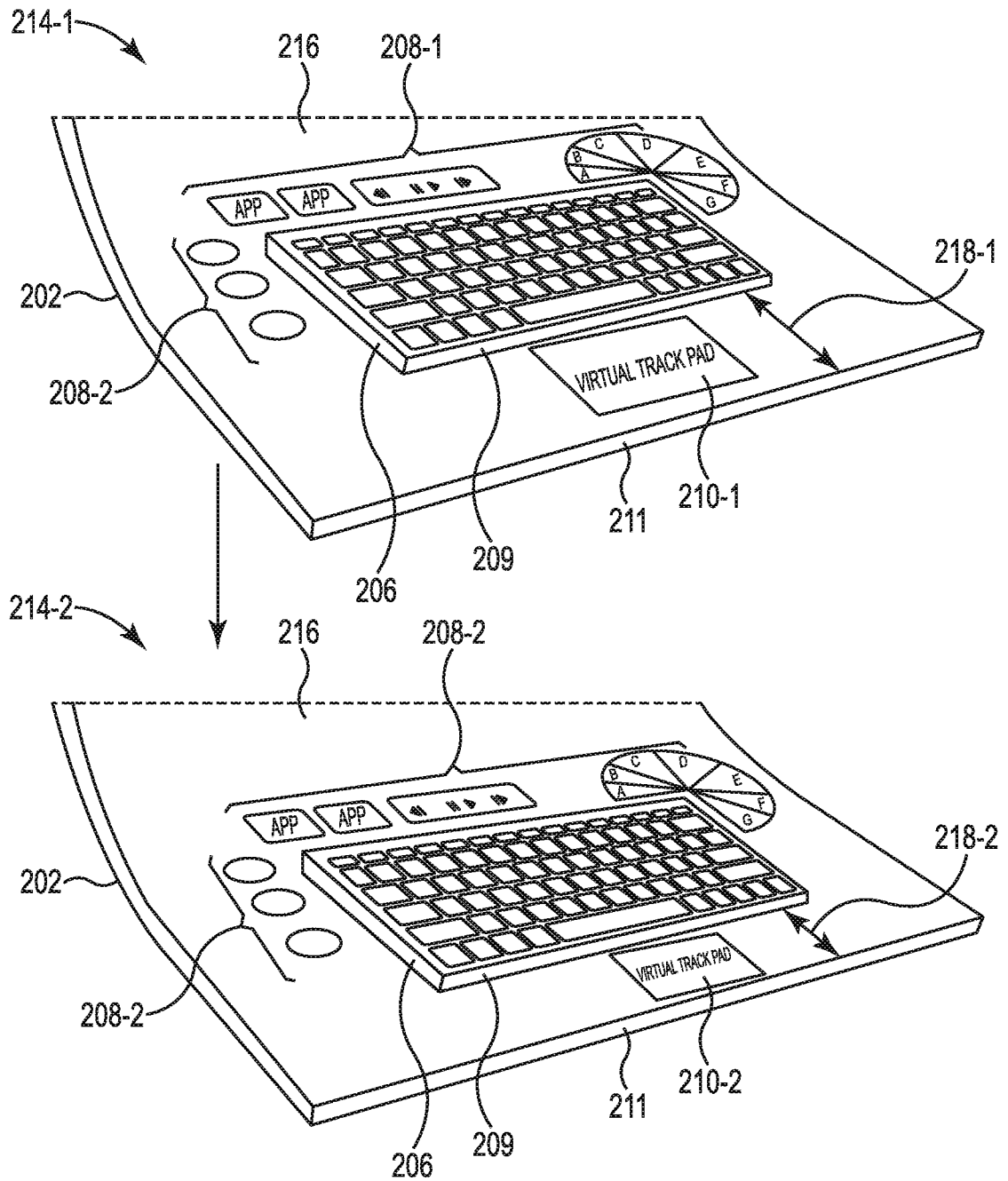
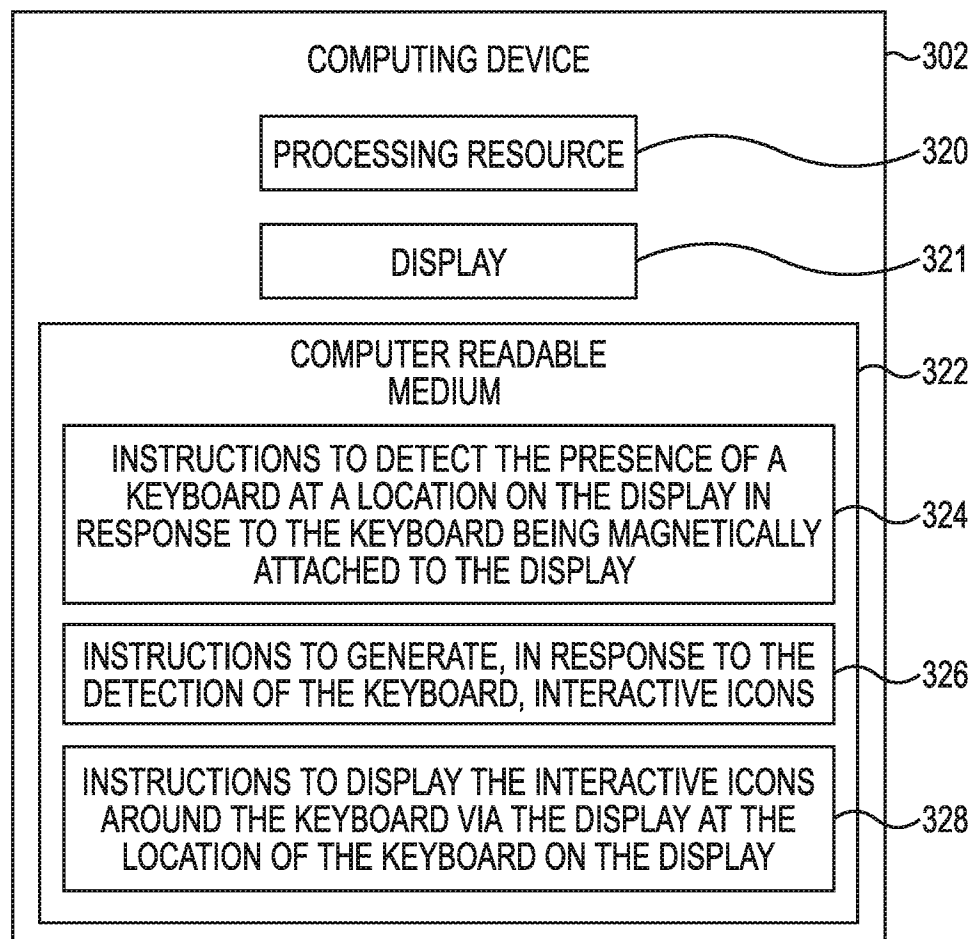


Fig. 1

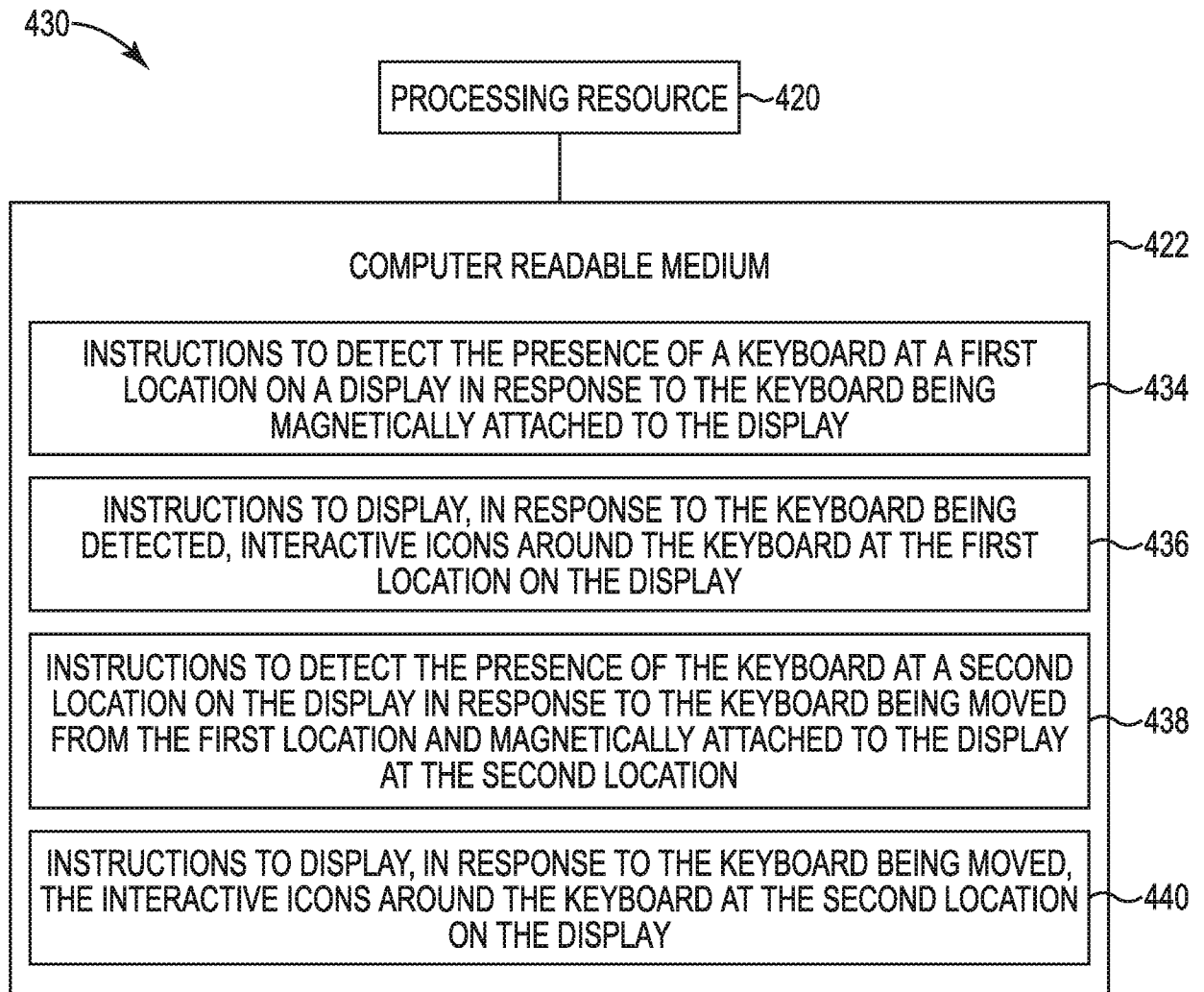
2/5

**Fig. 2**

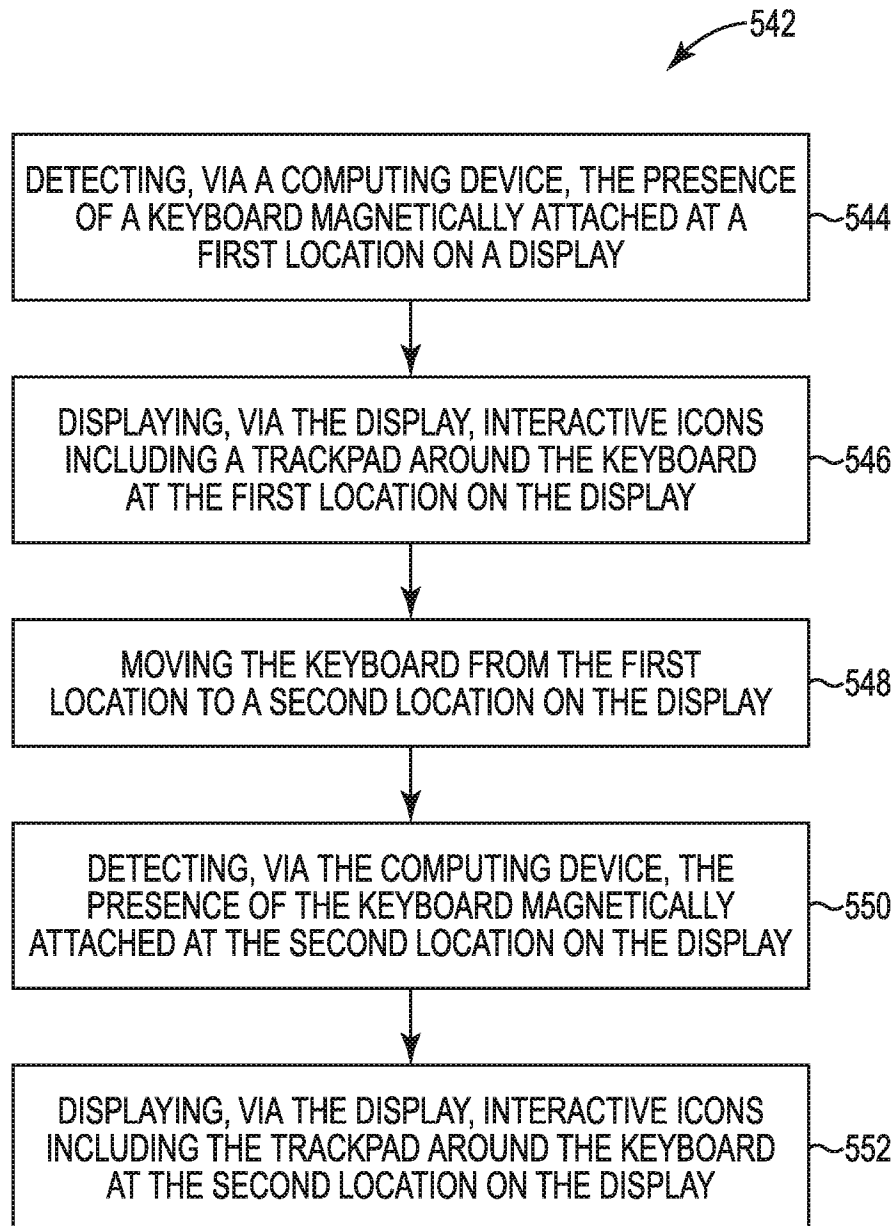
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**Fig. 3**

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**Fig. 4**

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**Fig. 5**

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 2017/027752

A. CLASSIFICATION OF SUBJECT MATTER <i>G06F 3/0481 (2013.01)</i> <i>G06F 3/0486 (2013.01)</i> <i>G06F 3/0489 (2013.01)</i> According to International Patent Classification (IPC) or to both national classification and IPC				
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) G06F 1/00-1/16, 3/00-3/0489, A63F 13/00 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) PatSearch, esp@cenet, USPTO, Google				
C. DOCUMENTS CONSIDERED TO BE RELEVANT				
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.		
X	RICHARD MOSS "Ideum experiments with tangible interface on projected capacitive touch tables", 11.09.2014, found in Internet: https://newatlas.com/ideum-dynamic-desktop-tangible-touch-table/33713/	1-6, 8-15		
Y		7		
Y	US 2012/0004030 A1 (BRYAN KELLY et al.) 05.01.2012, abstract, fig. 2	7		
A	US 2016/0313855 A1 (FTL LABS CORPORATION) 27.10.2016	1-15		
☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.				
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Date of the actual completion of the international search 20 November 2017 (20.11.2017)		Date of mailing of the international search report 21 December 2017 (21.12.2017)		
Name and mailing address of the ISA/RU: Federal Institute of Industrial Property, Berezhkovskaya nab., 30-1, Moscow, G-59, GSP-3, Russia, 125993 Facsimile No: (8-495) 531-63-18, (8-499) 243-33-37		Authorized officer D. Gudilin Telephone No. 8 (495)-531-64-81		