December 2019

GESTURE BASED ACTIVATION OF PRIVATE MODE

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GESTURE BASED ACTIVATION OF PRIVATE MODE

ABSTRACT

Applications executing at a computing device may operate in a variety of modes, including a regular mode and a private mode. When operating in the private mode, the application may refrain from storing activity information. For instance, when operating in the private mode, a web browser application may refrain from storing browsing history, cookies and site data, and/or information entered in forms. Similarly, when operating in the regular mode, the web browser application may store, after receiving user authorization, browsing history, cookies and site data, and/or information entered in forms. A user may cause an application to operate in the private mode by navigating a menu structure. However, in some cases, triggering operation in the private mode in this way (or other ways) may be undesirable or cumbersome. As such, in some examples, a user may cause an application to switch into the private mode by performing a gesture. One example gesture includes the user placing the side of their hand on a display of the computing device (e.g., as one would do when covering answers during an exam or when concealing cards during a poker game). However, it is noted that any gesture may be utilized.

DESCRIPTION

Techniques are described that enable a computing device to toggle operation of an application between private and regular modes using gestures. In the example of FIG. 1, computing device 2 includes processors 4, presence-sensitive display (PSD) 6, and application module 8.

Examples of computing device 2 include a desktop computer, a tablet computer, a smart phone, a countertop computer (e.g., a smart display), among others. Computing device 2 includes one or more processors 4. Examples of processors 4 include, but are not limited to, digital signal processors (DSPs), general purpose microprocessors, application specific integrated circuits (ASICs), field programmable logic arrays (FPGAs), or other equivalent integrated or discrete logic circuitry. In the example of FIG. 1, processors 4 execute the functionality of application module 8.

```
┌─────────────────────────────────────────┐
│          COMPUTING DEVICE 2               │
│                                           │
│        ┌───────────────────┐              │
│        │    PROCESSORS      │              │
│        │        4           │              │
│        └───────────────────┘              │
│                                           │
│        ┌───────────────────┐              │
│        │    PRESENCE-       │              │
│        │    SENSITIVE       │              │
│        │    DISPLAY         │              │
│        │        6           │              │
│        └───────────────────┘              │
│                                           │
│        ┌───────────────────┐              │
│        │   APPLICATION      │              │
│        │    MODULE          │              │
│        │        8           │              │
│        └───────────────────┘              │
│                                           │
└─────────────────────────────────────────┘
```
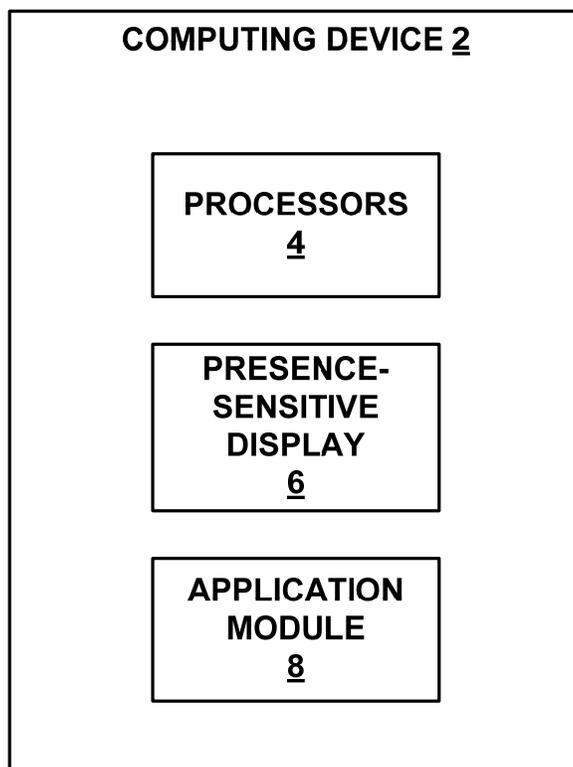
FIG. 1

PSD 6 may function as a respective input and/or output device for computing device 2. PSD 12 may be implemented using various technologies. For instance, PSD 6 may function as an input device using presence-sensitive input screens, such as resistive touchscreens, surface acoustic wave touchscreens, capacitive touchscreens, projective capacitance touchscreens, pressure sensitive screens, acoustic pulse recognition touchscreens, radar, or another presence-sensitive display technology. PSD 6 may also function as an output (e.g., display) devices using any one or more display devices, such as liquid crystal displays (LCD), dot matrix displays, light emitting diode (LED) displays, organic light-emitting diode (OLED) displays, e-ink, or similar monochrome or color displays capable of outputting visible information to a user of computing device 2.

Application module 8 may represent any application that may be executed by processors 4. Examples of application module 8 include, but are not limited to, internet browser applications, work processing applications, image editing applications, media playback application, or any other application that may operate in a private mode and a regular (i.e., non-private) mode. When operating in the private mode, application module 8 may refrain from gathering and/or storing activity information. Activity information may include any information

that may relate to the activities of a user of computing device 2 while interacting with application module 8. As one example, where application module 8 is an internet browser, activity information may include browsing history, cookies and site data, and/or information entered in forms. As another example, where application module 8 is a media playback application, activity information may include a history of media played (e.g., songs listened to and/or videos viewed).

In the example of FIG. 1, application module 8 of mobile computing device 2 outputs a graphical user interface (GUI) via presence-sensitive display (PSD) 6. For instance, where application module 8 is an internet browser, application module 8 may output (e.g., cause PSD 6 to display) a GUI that includes one or more internet windows or tabs.

Application module 8 may start off operating in the regular mode and the user may desire for application module 8 to operate in a private mode. In some examples, the user may cause application module 8 to switch from the regular mode to the private mode by navigating through a menu and selecting one or more GUI elements (e.g., buttons) that cause application module 8 to transition into the private mode. However, in some examples, navigating such a menu may be cumbersome.

In accordance with one or more techniques of this disclosure, application module 8 may toggle operation of the private mode in response to the user performing a privacy gesture. One example privacy gesture includes the user placing the side of their hand on a display of the computing device (e.g., as one would do when covering answers during an exam or when concealing cards during a poker game). However, it is noted that any gesture may be utilized as the privacy gesture. For instance, another privacy gesture may include the user double tapping on a corner of the display.

In some examples, application module 8 may operate in accordance with the technique of FIG. 2. For instance, application module 8 may start off operating in the regular mode. While operating in the regular mode, application module 8 (or another component of computing device 2, such as a gesture recognition module) may determine whether the user has performed a privacy gesture. Application module 8 may determine whether the user has performed the privacy gesture based on data generated by any sensor or combination of sensors of computing device 2. Some example sensors include, but are not limited to, presence-sensitive components of PSD 6, motion sensors (e.g., radar sensors, accelerometers and/or gyroscopes), light sensors,

cameras, or any other sensors. As one specific example, where the privacy gesture includes the user placing the side of their hand on PSD 6, application module 8 may determine that the user has performed the privacy gesture based on a comparison between input generated by PSD 6 and a template corresponding to the privacy gesture. The template may represent an area of PSD 6 that is activated when the privacy gesture is performed. Application module 8 may determine that the user performed the privacy gesture when the area of PSD 6 indicated as being activated substantially matches the template (e.g., where a shape of a gesture currently being performed is approximately equal to a shape of a gesture indicated by the template)..

If the privacy gesture has not been detected, application module 8 may continue to operate in the regular mode. However, if the privacy gesture has been detected, application module 8 may switch operation into the private more. In some examples, it may not be necessary for the user to continue to perform the privacy gesture in order to cause application module 8 to remain in the private mode. For instance, where the privacy gesture includes the user placing the side of their hand on PSD 6, the user may remove the side of the hand from PSD 6 without causing application module 8 to exit the private mode.

In some examples, while operating in the private mode, application module 8 may continue to monitor for performance of the privacy gesture. If the privacy gesture has not been detected, application module 8 may continue to operate in the private mode. However, if the privacy gesture has been detected, application module 8 may switch operation into the regular mode.

It is noted that, while described above as using the same gesture to transition from regular mode into privacy mode and from privacy mode into regular mode, the techniques of this disclosure are not so limited. For instance, application module 8 may transition into the private mode in response to the user performing a first gesture and transition into the regular mode in response to the user performing a second gesture that is different than the first gesture.

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┌─────────────────────┐
│    OPERATE IN       │
│   REGULAR MODE      │
└─────────────────────┘
          │
          ▼
        ╱─────────╲
  No   ╱  DETECT   ╲
◄─────╱   PRIVACY   ╲
      ╲  GESTURE?   ╱
        ╲─────────╱
          │
         Yes
          │
          ▼
┌─────────────────────┐
│    OPERATE IN       │
│   PRIVATE MODE      │
└─────────────────────┘
          │
          ▼
        ╱─────────╲
  No   ╱  DETECT   ╲   Yes
◄─────╱   PRIVACY   ╲─────►
      ╲  GESTURE?   ╱
        ╲─────────╱
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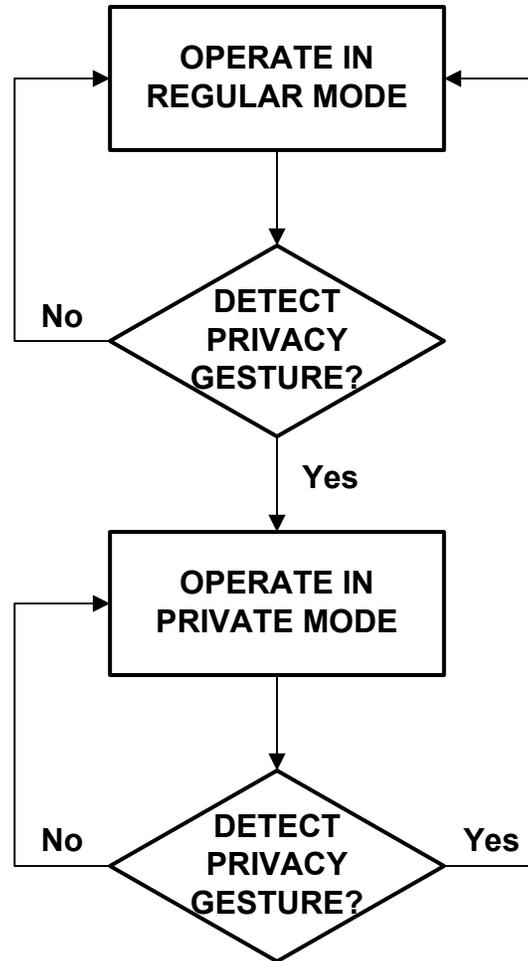
FIG. 2

It is noted that the techniques of this disclosure may be combined with any other suitable technique or combination of techniques. As one example, the techniques of this disclosure may be combined with the techniques described in U.S. Patent Publication No. 2015/0346929. As another example, the techniques of this disclosure may be combined with the techniques described in U.S. Patent Publication No. 2015/0281383.