easy to use interface between a user of the computer system and the operating system or application running thereon. Generally speaking, the GUI **69** represents, programs, files and operational options with graphical images. The graphical images may include windows, fields, dialog boxes, menus, icons, buttons, cursors, scroll bars, etc. Such images may be arranged in predefined layouts, or may be created dynamically to serve the specific actions being taken by a user. During operation, the user can select and activate various graphical images in order to initiate functions and tasks associated therewith. By way of example, a user may select a button that opens, closes, minimizes, or maximizes a window, or an icon that launches a particular program. The GUI **69** can additionally or alternatively display information, such as non interactive text and graphics, for the user on the display device **68**.

[**0068**] The computer system **50** also includes an input device **70** that is operatively coupled to the processor **56**. The input device **70** is configured to transfer data from the outside world into the computer system **50**. The input device **70** may for example be used to perform tracking and to make selections with respect to the GUI **69** on the display **68**. The input device **70** may also be used to issue commands in the computer system **50**. The input device **70** may include a touch sensing device configured to receive input from a user's touch and to send this information to the processor **56**. By way of example, the touch-sensing device may correspond to a touchpad or a touch screen. In many cases, the touch-sensing device recognizes touches, as well as the position and magnitude of touches on a touch sensitive surface. The touch sensing means reports the touches to the processor **56** and the processor **56** interprets the touches in accordance with its programming. For example, the processor **56** may initiate a task in accordance with a particular touch. A dedicated processor can be used to process touches locally and reduce demand for the main processor of the computer system. The touch sensing device may be based on sensing technologies including but not limited to capacitive sensing, resistive sensing, surface acoustic wave sensing, pressure sensing, optical sensing, and/or the like. Furthermore, the touch sensing means may be based on single point sensing or multipoint sensing. Single point sensing is capable of only distinguishing a single touch, while multipoint sensing is capable of distinguishing multiple touches that occur at the same time.

[**0069**] The input device **70** may be a touch screen that is positioned over or in front of the display **68**. The touch screen **70** may be integrated with the display device **68** or it may be a separate component. The touch screen **70** has several advantages over other input technologies such as touchpads, mice, etc. For one, the touch screen **70** is positioned in front of the display **68** and therefore the user can manipulate the GUI **69** directly. For example, the user can simply place their finger over an object to be controlled. In touch pads, there is no one-to-one relationship such as this. With touchpads, the touchpad is placed away from the display typically in a different plane. For example, the display is typically located in a vertical plane and the touchpad is typically located in a horizontal plane. This makes its use less intuitive, and therefore more difficult when compared to touch screens. In addition to being a touch screen, the input device **70** can be a multipoint input device. Multipoint input devices have advantages over conventional singlepoint devices in that they can distinguish more than one object (finger). Singlepoint devices are simply incapable of distinguishing multiple objects. By way of example, a multipoint touch screen, which can be used herein, is shown and described in greater detail in copending and commonly assigned U.S. patent application Ser. No. 10/840,862, which is hereby incorporated herein by reference.

[**0070**] The computer system **50** also includes capabilities for coupling to one or more I/O devices **80**. By way of example, the I/O devices **80** may correspond to keyboards, printers, scanners, cameras, speakers, and/or the like. The I/O devices **80** may be integrated with the computer system **50** or they may be separate components (e.g., peripheral devices). In some cases, the I/O devices **80** may be connected to the computer system **50** through wired connections (e.g., cables/ports). In other cases, the I/O devices **80** may be connected to the computer system **80** through wireless connections. By way of example, the data link may correspond to PS/2, USB, IR, RF, Bluetooth or the like.

[**0071**] In accordance with one embodiment of the present invention, the computer system **50** is designed to recognize gestures **85** applied to the input device **70** and to control aspects of the computer system **50** based on the gestures **85**. In some cases, a gesture is defined as a stylized interaction with an input device that is mapped to one or more specific computing operations. The gestures **85** may be made through various hand, and more particularly finger motions. Alternatively or additionally, the gestures may be made with a stylus. In all of these cases, the input device **70** receives the gestures **85** and the processor **56** executes instructions to carry out operations associated with the gestures **85**. In addition, the memory block **58** may include a gesture operational program **88**, which may be part of the operating system or a separate application. The gestural operation program **88** generally includes a set of instructions that recognizes the occurrence of gestures **85** and informs one or more software agents of the gestures **85** and/or what action(s) to take in response to the gestures **85**.

[**0072**] When a user performs one or more gestures, the input device **70** relays gesture information to the processor **56**. Using instructions from memory **58**, and more particularly, the gestural operational program **88**, the processor **56** interprets the gestures **85** and controls different components of the computer system **50**, such as memory **58**, a display **68** and I/O devices **80**, based on the gestures **85**. The gestures **85** may be identified as commands for performing actions in applications stored in the memory **58**, modifying GUI objects shown on the display **68**, modifying data stored in memory **58**, and/or for performing actions in I/O devices **80**. By way of example, the commands may be associated with zooming, panning, scrolling, paging, rotating, sizing, and the like. As further examples, the commands may also be associated with launching a particular program, opening a file or document, viewing a menu, making a selection, executing instructions, logging onto the computer system, permitting authorized individuals access to restricted areas of the computer system, loading a user profile associated with a user's preferred arrangement of the computer desktop, and/or the like.

[**0073**] A wide range of different gestures can be utilized. By way of example, the gestures may be single point or multipoint gestures; static or dynamic gestures; continuous