

device **210** and another computing device. The data port **814** can be a serial or a parallel port. In some instances, the data port **814** can be a USB port that includes data lines for data transfer and a supply line that can provide a charging current to charge the battery **830** of the portable electronic device **210**.

[0036] The short-range communications subsystem **822** provides for communication between the portable electronic device **210** and different systems or devices, without the use of the wireless network **850**. For example, the subsystem **822** may include an infrared device and associated circuits and components for short-range communication. Examples of short-range communication standards include standards developed by the Infrared Data Association (IrDA), Bluetooth, and the 802.11 family of standards developed by IEEE.

[0037] In use, a received signal such as a text message, an e-mail message, or web page download will be processed by the communication subsystem **804** and input to the main processor **802**. The main processor **802** will then process the received signal for output to the display **214**. A subscriber may also compose data items, such as e-mail messages, for example, using a virtual keyboard on the display **214** or a physical keyboard **816** in conjunction with the display **214** and possibly the auxiliary I/O subsystem **812**. The auxiliary subsystem **812** may include devices such as: a mouse, depressible trackball, infrared fingerprint detector, a depressible thumb navigator or other buttons. A composed item may be transmitted over the wireless network **850** through the communication subsystem **804**.

[0038] For voice communications, the overall operation of the portable electronic device **210** is substantially similar, except that the received signals are output to the speaker **818**, and signals for transmission are generated by the microphone **820**. Alternative voice or audio I/O subsystems, such as a voice message recording subsystem, can also be implemented on the portable electronic device **210**. Although voice or audio signal output is accomplished primarily through the speaker **818**, the display **214** can also be used to provide additional information such as the identity of a calling party, duration of a voice call, or other voice call related information.

[0039] An accelerometer **890** is provided for measuring the magnitude and direction of acceleration of the portable electronic device **210**. Methods of manufacturing accelerometers are known in the art. One common type of accelerometer **890** is a micro-electrical-mechanical system (MEMS) that includes a cantilever beam and a proof mass. Under the influence of gravity or acceleration, the proof mass deflects from its neutral position. This deflection is measured in an analog or digital manner, which is sent to the main processor **802** as data signals. However, it is appreciated that other types of accelerometers with similar properties may be suitable, as known in the art.

[0040] The touch screen display **214** communicates with the main processor **802** via an LCD controller **214a** and a sensor **214b**. In the illustrated embodiment, the touch screen display **214** is a capacitive touch screen display and the sensor **214b** is a capacitive sensor. The LCD controller **214a** operates to control the rendering of images, text, data, etc. on the display **214**. The capacitive sensor **214b** indicates to the main processor **802** if the touch screen display **214** has been touched and where it has been touched in relation to the images and text rendered by the LCD controller **214a**.

[0041] The process for dialing a phone number using the portable electronic device **210** will now be described. Generally, when a user of the device **210** desires to dial a phone number, the user will first instruct the device **210** to enter a dialing mode, as defined by the dial pad module **895**. The dialing mode may be entered by touching an appropriate new item or key on the device **210**. The key may be a virtual key on the touch screen display **214**, or a physical key such as one of the customizable buttons **222**. The dialing mode may also be entered by the user speaking a command such as "Dial" when the device **210** is in a voice activated mode.

[0042] Once the dialing mode has been entered, a default dialing pad is displayed on the touch screen display **214**. The default dialing pad may be one of any number of dialing pads that are available to the user. The user may change the default dialing pad by navigating the appropriate menus and options displayed on the display **214**. However, the selected default dialing pad will always be the dialing pad that is displayed when the dialing mode is entered.

[0043] The traditional dialing pad configuration **310** is illustrated in FIG. 3. In FIG. 3, the portable electronic device **210** is displaying a dialing pad configuration **310** within dialpad area **340** on its touch screen display **214**. The configuration **310** includes a standard layout of digits in rows and columns of virtual keys. As a user presses the first digit of the desired phone number, the pressed digit appears in input field **320** on the display **214** (in FIG. 3, above the dial pad) as confirmation that the digits have been selected for dialing. Input field **320**, located above dialpad **340**, contains delete button **316**, which can be pressed to delete the last-entered digit. A series of tabs or buttons **315** are positioned above input field **320**, and can be configured as user-selectable shortcuts to other telephone related applications, such as the call log or contact list, or as send or end buttons. A banner of status information **330** is optionally displayed above input field **320** and can include information such as a battery life indicator, clock, or signal strength display. Generally, the user first selects all digits in the phone number and then presses a dial or send button **315** (or physical button **218** of FIG. 1). Alternatively, the user may press the dial or send button **315** and then select the digits to be dialed. Once all necessary digits have been selected by the user and the dial or send button **315** has been touched, the device **210** will dial the desired telephone number.

[0044] Other dialing pad configurations are also available for display and use in dialpad area **340**. FIG. 4A illustrates a virtual rotary dial pad configuration **410A** on the device **210**. The rotary dial pad is meant to resemble the rotary dial telephones that were prevalent before touch-tone telephones became popular. The configuration **410A** includes a horse-shoe-like arc **412** over stationary numbers **413** on the display **214**. The arc **412** includes finger holes **414**, which are initially aligned with the numbers **413**. It should be appreciated that the arc **412** could be a circle (e.g., circle **412B** illustrated in FIG. 4B), or other desirable shape. To select a number to dial, a user will touch the finger hole **414** over the desired digit and then drag counterclockwise along the arc of numbers until the selected digit has been dragged to a stopping point **415** near the lower left-hand corner of the display **214**. As the user drags their finger towards stopping point **415**, the finger holes **414** of arc **412** over the numbers will appear to rotate. Alternatively, the digits themselves will rotate so that the dragging of the selected digit results in turning of the arc **412**. Once the user has dragged the arc **412** to stopping point **415**, the