

sponding element of prior art PDA **100** described earlier, that is for the input of numeric and/or alphanumeric data, for displaying various graphical and/or alphanumeric messages, and so forth. However, unlike prior art PDA **100** of FIG. **1**, the keypad of PDA **200** has been advantageously and ergonomically disposed near top end **218A** above display screen **208** as well as divided into left key set **202A** and right key set **202B**. Such an arrangement provides convenient access to the data input keys with out causing thumb strain caused by prior art PDA configurations, and without causing users' thumbs to interfere with viewing of the text and/or images displayed on display screen **208**. In one embodiment of the invention, display screen **208** is rectangular in shape having a top edge **208B**, a bottom edge **208A** disposed below top edge **208B**, a left side and a right side. In one embodiment, at least one of left key set **202A** and right key set **202B** is disposed at an angle with respect to at least one of bottom edge **208A** and/or top edge **202A** of display screen **208**. In one embodiment, at least one of left key set **202A** and right key set **202B** is disposed at approximately a forty-five degree angle with respect to at least one of bottom edge **208A** and/or top edge **202A** of display screen **208**.

Note that top end **218A** and bottom end **218B** (as well as top edge **208B** and bottom edge **208A** of display screen **208**) are objectively determined. A device such as PDA **200** having display screen **208** necessarily has a display orientation. For example, textual data are either rendered from left to right and top to bottom, as denoted by arrows **220A** and **220B** respectively, as in the case of the English language, or right to left and top to bottom, as denoted by arrows **222A** and **222B** respectively, as in the case of the Hebrew language, or top to bottom and right to left, as denoted by arrows **224A** and **224B** respectively, as in the case of the Chinese language. Thus the manner in which textual data are rendered defines which end is the top end, and which end is the bottom end of PDA **200**. Accordingly, an element X of PDA **200**, is necessarily above element Y of PDA **200** and element Y is necessarily below element X, if element X is closer to the objectively determinable top end of PDA **200** or if element Y is closer to the objectively determinable bottom end of PDA **200**.

As illustrated, display screen **208** represents a broad category of display screens, such as a liquid crystal display (LCD), to display text and/or graphical information such as status information and input and output data the user may be interested in viewing. For example, display screen **208** includes date and time display **204** designed to inform a user of the current date and time, as well as graphical icons **210–214** designed to provide a user with expedited access to a variety of operating functions that PDA **200** may be equipped to perform.

Depending upon the particular implementation, PDA **200** may be equipped to provide services including but not limited to electronic mail services, text editing services, file storage services, and calendaring services. For example, mail icon **210** may represent an electronic mail function, which when selected, provides a user with the ability to transmit and/or receive electronic messages. Similarly, edit icon **211** may represent a text editing function, which when selected, provides a user with the ability to create and/or edit simple text messages. Likewise, calendar icon **214** may

represent various calendaring functions available to a user. These and other functions described in the context of PDA **200** are intended to be merely illustrative and should not be read as limiting the present invention. Accordingly, PDA **200** may represent a wide variety of devices that provide a similarly wide variety of functionalities. For example, PDA **200** may be implemented as a multi-function personal digital assistant, or as a dedicated personal paging device, provided that one or more data input keys and/or devices are disposed above display screen **208**. In one embodiment, PDA **200** is approximately 3.5 inches in length measured from left side **219A** to right side **219B**, and 2.5 inches in width measured from top end **218A** to bottom end **218B**.

Body casing **216** further includes finger mouse **205** as well as left mouse button **203A** and right mouse button **203B**. In one embodiment finger mouse **205** is ergonomically disposed near top end **218A** so as to correspond to the natural arch of a user's index finger when naturally grasping a device such as PDA **200**. In FIG. **2**, finger mouse **205** is illustrated as being disposed above right key set **202B**, however finger mouse **205** or an additional finger mouse may be disposed above left key set **202A**. Furthermore, other user input devices such as a track wheel and/or roller ball may be utilized in addition to, or in place of finger mouse **205**. However, such a user input device is not required. In the illustrated embodiment, left mouse button **203A** is disposed above display screen **208** and at least partially below left key set **202A** so as to provide convenient access by one's left thumb, whereas right mouse button **203B** is disposed above display screen **208** and at least partially below right key set **202B** so as to provide convenient access by one's right thumb. In one embodiment, left mouse button **203A** is disposed above display screen **208** and at least partially between left side **219A** and left key set **202A**, whereas right mouse button **203B** is disposed above display screen **208** and at least partially between right side **219B** and right key set **202B**.

Referring now to FIG. **3**, wherein PDA **200** is further illustrated as incorporating the teachings of the present invention, in accordance with one embodiment. As described above with respect to FIG. **2**, PDA **200** of FIG. **3** includes display screen **208** disposed near bottom end **218B**, below left mouse button **203A** and left key set **202A**, as well as right mouse button **203B** and right key set **202B**, which are both partially hidden by right hand **306**. Right hand **306** represents a user's right hand grasping PDA **200** in a natural grasping position such that index finger **309** may be utilized to manipulate finger mouse **205**, and thumb **315** may be utilized to manipulate right key set **202B**, while at the same time limiting the strain normally placed on right thumb **315** and/or right hand **306** by keypad configurations of the prior art. At the same time, the novel and advantageous configuration of PDA **200** likewise facilitates natural and reduced strain grasping of PDA **200** by a user's left hand (not shown). Accordingly, finger mouse **205** may be disposed near top edge **218A** in a location more conducive for use with a finger from a user's left hand. However, it should be noted that the advantageous configuration of the present invention facilitates single-hand usage of PDA **200**, thereby freeing a user's second hand for other tasks.

In addition to facilitating ergonomic use of PDA **200**, the novel arrangement of display screen **208** below left key set