

## METHOD AND SYSTEM FOR PROVIDING A DISAMBIGUATED KEYPAD

### FIELD OF THE INVENTION

[0001] The present invention relates generally to user interfaces, particularly alpha-numeric keypads and more specifically to methods and systems for providing a disambiguated alpha-numeric keypad.

### BACKGROUND OF THE INVENTION

[0002] Conventional alpha-numeric keypads (keypads) of subscriber devices include a plurality of keys. A majority of the keys include a number and three or four letters printed thereon. For example, the number nine usually has "WXYZ" printed thereon. In many of these keypads a user must first press a text menu key and subsequently press a specific key several times for entering a text symbol. For example, a user must press the key with the number nine thereon four times in order to enter the text symbol "Z". Such a process for entering text symbols is time consuming and error prone. Furthermore, this process becomes even more time consuming as well as cumbersome and inefficient when a user is attempting to write a text message with a multiplicity of alpha numeric key entries.

[0003] Therefore, what is needed is a method and device for providing fast and efficient text entry.

### BRIEF DESCRIPTION OF THE DRAWINGS

[0004] The accompanying figures, where like reference numerals refer to identical or functionally similar elements and which together with the detailed description below are incorporated in and form part of the specification, serve to further illustrate a preferred embodiment and to explain various principles and advantages all in accordance with the present invention.

[0005] FIG. 1 depicts an exemplary subscriber device in which the system for providing a disambiguated keypad is implemented.

[0006] FIG. 2 illustrates a block diagram of a preferred embodiment of the system for providing a disambiguated keypad.

[0007] FIGS. 3-4 illustrate a flow chart of a preferred methodology of operation of the subscriber device of FIG. 1.

[0008] FIG. 5 illustrates operation of the subscriber device of FIG. 1.

### DETAILED DESCRIPTION OF PREFERRED EMBODIMENT

[0009] In overview, the present disclosure concerns user interfaces such as alpha-numeric keypads (keypads) found, for example, on subscriber devices, such as cellular handsets, messaging devices, and most ordinary telephones. Note that subscriber device or unit may be used interchangeably herein with wireless device, mobile station or unit and each of these terms denotes a device ordinarily associated with a user and typically a wireless device that may be used with a public network in accordance with a service agreement or within a private network.

[0010] As further discussed below, various inventive principles and combinations thereof are advantageously employed to provide a disambiguated keypad, thus providing a more fast and efficient manner of text entry.

[0011] The instant disclosure is provided to further explain in an enabling fashion the best modes of making and using a preferred embodiment in accordance with the present invention. The disclosure is further offered to enhance an understanding and appreciation for the inventive principles and advantages thereof, rather than to limit in any manner the invention. The invention is defined solely by the appended claims including any amendments made during the pendency of this application and all equivalents of those claims as issued.

[0012] It is further understood that the use of relational terms, if any, such as first and second, top and bottom, and the like are used solely to distinguish one from another entity or action without necessarily requiring or implying any actual such relationship or order between such entities or actions.

[0013] Much of the inventive functionality and many of the inventive principles are best implemented with or in software programs or instructions and in integrated circuits (ICs). It is expected that one of ordinary skill, notwithstanding possibly significant effort and many design choices motivated by, for example, available time, current technology, and economic considerations, when guided by the concepts and principles disclosed herein will be readily capable of generating such software instructions, programs and ICs with minimal experimentation. Therefore, in the interest of brevity and minimization of any risk of obscuring the principles and concepts according to the present invention, further discussion of such software or ICs, if any, will be limited to the essentials with respect to the principles and concepts used by the preferred embodiments.

[0014] Referring to FIGS. 1-2, the system for providing a disambiguated keypad may be implemented in, for example, a subscriber device 1. Often, each key of the keypad may represent a multiplicity of different characters, for example a number and one of three or more alphabetic characters, such as "2 or a, b, or c" for the 2 key. The procedure and apparatus for determining which one of these multiple alphanumeric characters a key activation or sequence of activations is supposed to be may, for example, be referred to as resolving the particular key or disambiguating the particular key.

[0015] The subscriber device 1 includes several functional components shown as elements in the block diagram of FIG. 2. The subscriber device 1, includes inter coupled as depicted, a capacitive touchpad 10, a driver device 12, a controller 14, and a mechanical keypad (or keypad device) 16. These components will be discussed more fully below.

[0016] The capacitive touchpad (touchpad) 10 is adjacent and mechanically coupled to the mechanical keypad 16 and preferably disposed below the mechanical keypad 16. The touchpad 10 is for detecting movement of, for example, a user's finger, within a region defined by, for example, the outer perimeter of a key 2 (see FIG. 5). The touchpad 10 is further for detecting a direction of the movement within the region. The touchpad 10 is, preferably, composed of horizontal wires (at least one) and vertical wires (at least one)