

highlighting these next predicted keys, the users focus is turned to these keys which makes it easier to identify the next key he is likely to press, and also easier to select or touch that key as it will stand out compared with the bulk of the keys which will not be coloured.

[0046] The example word which is to be input is “customizing”, and it can be seen that the next letter, after “C” will be “U” which is highlighted on the QWERTY keyboard of the first or initial touch sensitive display region 202. in FIG. 2. The other letters or characters highlighted are A, E, I, O, D, G, H, L, P, R, and Y, which can each form part of a meaningful or allowed word from the on-board dictionary stored in the static memory 116 when combined with the first letter of the word which is “C”.

[0047] Referring now to FIG. 4, there is illustrated the touch screen layout having a second set of input character keys 205 displayed or superimposed over the initial or first set of input character keys 204. The second set of input character keys 205 is enlarged compared with the first set of input character keys 204 which make them easier for a user to identify and to select or identify. The second set of input character keys 205 also identify the potential subsequent characters from each of the predicted words. The second set of input character keys 205 are also limited in number compared with the first set of input character keys 204, and in this example are limited to $N_{max}=9$.

[0048] The second set of input character keys 205 are grouped together as shown such that the keys are adjacent each other. This is a different screen layout such that the second set of input character keys 205 are grouped together with their relative screen locations with respect to each other being different to that of corresponding keys 204 in the first set of input character keys. By having a different screen layout or arrangement of respective second key locations, certain data entry advantages can be taken advantage of. For example the second set of character input keys 205 can be grouped together rather than being distributed across the display screen region 202 in a manner unrelated to their status as potential subsequent characters; as is the case with the highlighted input character keys 204C of the first set of input character keys 204.

[0049] By grouping the second set of input character keys 205 efficiently together, the user need only focus on that part of the first touch sensitive region 202. The grouping also on average reduces the distance between each key in the reduced or second set of input character keys 205 compared with the locations of the equivalent keys in the first set of input character keys 204. This has the advantage of reducing the amount of hand travel required to select the most likely next keys.

[0050] Typically, the grouping of the second set of input character keys 205 are positioned or located near the last key actuated on the previous displayed set of input character keys 204. This further reduces the hand travel requirements of the user.

[0051] As shown the displayed characters corresponding to the second set of input character keys 205 are grouped or arranged according to an order identifying which of the potential subsequent characters are most likely to follow the entered character, or in other words an order identifying each character’s predicted likelihood. In the embodiment this is

achieved by locating the key for the character determined as most likely to follow the entered character in substantially the same location as the input character key for the entered character. Additionally the second set of input character keys is located such that their proximity to the centre of the grouping is determined according to their predicted likelihood. In the example shown, this is implemented by locating the key of the most likely potential subsequent character “S” in the centre of the group of keys forming the second set of input character keys 205, the keys of the next most likely characters (“E”, “R”, “T”, “L”, “P”, “M”, “E”) adjacent “S”, and finally keys of the least likely potential subsequent characters (“I” and “D”) adjacent the next most likely keys. This makes it easier on average for the user to identify the character key of interest for selection.

[0052] The most likely potential subsequent character key (“S”) is located substantially over or about the last selected key (“U”). This increases the chances that the user need not move his hand laterally across the screen at all, and that clicks at the same location will be sufficient to select two or more characters. It also reduces on average the hand travel requirements of the user.

[0053] The detail shown in FIG. 5 illustrates the touch screen layout position having this overlapping of keys more clearly. It shows the centre key (referenced “S”) of the second set of keys 205 superimposed over the last character key (“U”) of the first set of input character keys 204.

[0054] The above mentioned ease of selection advantage may be further enhanced by highlighting the keys according to their likelihood; in other words displaying them in a manner associated with an order identifying which of the potential subsequent characters are most likely. For example keys 205 having a high likelihood can be displayed in a different colour compared with those having a lower likelihood. The highlighting could be implemented in different ways, for example different brightness’s, contrasts or flashing for example. The highlighting could also be used independently of the likelihood based layout arrangement mentioned above.

[0055] The predicted words 206 are entered or displayed in the second touch sensitive region 203 of the touch screen 200 as illustrated in FIG. 4. The group of words each correspond to one of the predicted subsequent characters, and are displayed in a manner associated with the order identifying which of their respective potential subsequent characters are most likely to follow the entered character. For example the word associated with the most likely subsequent potential character is located first in a list of these words. These predicted words 206 are selectable by the user by for example touching the corresponding part of the touch screen region 203 with a stylus. This word selection avoids a greater number of key selections by the user, and therefore reduces hand fatigue and the possibility of mistakes in selecting the keys.

[0056] Once the user has selected one of the second set of keys 205 (eg “S”), a subsequent character entry iteration using a another or further set of input character keys 205b is displayed as illustrated in FIG. 6. For the sake of explanatory clarity only this shows two key options—“T” and “H”—which correspond to predicted words having “CUS” already entered. The keys of new set 205b correspond to the potential subsequent characters in the words predicted as a