

generated. The feature selected may for example be the feature closest to the second touch. In some cases, the select command is generated at finger lifted off (e.g., tap). In other cases, the select command is generated at placement of the second touch. Going back to block 186, if a second touch is not detected in the expanded area, the method proceeds to block 190 where the expanded area is reduced to its normal state after a time out. Block 190 may for example correspond to block 170 of FIG. 2.

[0066] FIG. 4 is a touch based method, in accordance with another embodiment of the present invention. The method includes blocks 202 and 204. In block 202, a localized screen area is momentarily expanded with a first touch pressure. The localized screen area includes a selectable feature such as a link or button. In block 204, the feature located within the expanded screen area is activated with a second touch pressure that is different than the first touch pressure. In some cases, the second touch is greater than the first touch, and in other cases, the second touch is less than the first touch. The first and second touches may be segmented contact or continuous contact. If segmented, the second touch generally needs to take place before the expanded area times out and goes back to its normal unexpanded state. If continuous contact, the second touch generally can take place at any time since the contact maintains the expanded state.

[0067] In one example of this embodiment, the user notices one or more features on the GUI and because they are small the user places their finger over the features for a predetermined amount of time in order to initiate the expansion of the features. Once expanded, the user views the features and moves their finger over the desired feature without removing their finger. Once over the desired feature and without removing their finger, the user exerts a second touch pressure that is greater than the first touch pressure used to initiate the expansion of the features. The second touch pressure activates the feature. For example, in the case of a web link, the web page associated with the web link is launched. In the case of a button, the action associated with the button is initiated.

[0068] FIG. 5 is a touch based method 250, in accordance with one embodiment of the present invention. The touch based method may for example be performed on a touchscreen display. The method includes blocks 252, 254 and 256. In block 252, graphical information is displayed. In block 254, a user targets an area of the graphical information and the target area is expanded when a user places their finger over the target area. In block 256, the expanded target area follows the motion of the finger as the finger is moved over the display screen. That is, the location of the target area changes with the location of the finger. In most cases, the following action occurs while the finger is sensed. Once the finger is not sensed, the expanded portion stops moving and goes back to its normal state after a time out. As should be appreciated, this method is more intuitive than using a remote input device and cursor, i.e., this is a direct action rather than a remote action.

[0069] FIGS. 6 and 7 are exemplary diagrams illustrating one embodiment of the method shown and described in FIG. 5. As shown in FIGS. 6A and 7A, a GUI 260 is displayed underneath a transparent sensing surface 262. As shown in FIGS. 6B and 7B, a targeted portion 264 of the GUI 260 is

expanded relative to other portions 266 of the GUI 260 when a finger 268 is positioned over the targeted portion 264. The targeted portion 264, which is a localized region of the GUI 260, can be any portion of the GUI 260. During expansion, the targeted portion 264 is increased in size, magnified and raised up relative to the remaining portion 266 of the GUI 260. Although shown raised and out of plane in FIG. 7B, it should be noted that the expanded targeted portion 264 is actually in plane. It is only shown this way to better illustrate the protruding effect caused by expansion. The illusion of raising the targeted portion 264 may be created in one embodiment by compressing the edges of the expanded targeted portion. As shown in FIGS. 6C and 7C, as the finger 268 is moved over the GUI 260, the expanded targeted portion 264 follows the motion of the finger 268. The expanded targeted portion 264 thereby informs the user to the location of the touch (similar to a cursor).

[0070] FIG. 8 is a touch based method 300, in accordance with another embodiment of the present invention. The touch based method 300 may for example be performed on a touchscreen display. The method includes blocks 302, 304 and 306. In block 302, graphical information is displayed. In block 304, the graphical information is expanded when a first touch pressure is applied to a target area. In block 306, the expanded target area is expanded differently when a second touch pressure is applied to the target area. The second touch pressure generally occurs during a continuous touch, i.e., the first and second pressures occur in the same touch event (continuous contact with the touchscreen). By way of example, the size of expansion, the rate of expansion, the amount of magnification may all be based on the touch pressure. With regards to the size of expansion, the expanded portion may get larger with greater touch pressures and smaller with lower touch pressures. With regards to the rate of expansion, the expansion may grow faster with greater touch pressures or slower with lower touch pressures. With regards to magnification, the expanded area may magnify to larger values with greater touch pressures and lower values with lower touch pressures.

[0071] The method 300 may further include an additional block where the target area stays in the first expanded state when the touch is discontinued in the first expanded state or stays in the second expanded state when the touch is discontinued in the second expanded state.

[0072] FIGS. 9 and 10 are diagrams showing GUI 400 in an unexpanded and expanded state, in accordance with one embodiment of the present invention. FIG. 9 is a side view and FIG. 10 is a top view. As shown, the expanded portion 402 is enlarged, magnified and raised (e.g., pushed up) relative to the remaining portions 404 of the graphical information. Although the expanded portion appears to be out of plane relative to the remaining portions, it should be noted that the expanded portion is actually in plane with the remaining portions. Visual techniques are used to make it appear as if it is raised even though it is displayed in the same plane.

[0073] In the illustrated embodiment, the expanded portion includes a plateau region 406 and a transition region 408. The plateau region 406 is configured to display the target area 410 in a larger and magnified state. The transition region 408, on the other hand, is configured to compress the areas between the plateau region 406 and the remaining