would provide an optimum haptic feedback response. For example, $H_{button}(x)$ can be configured to provide haptic feedback that depends upon the location of a user's finger within a region defined by the button element. Accordingly, the button element can be divided into separate regions each having its own haptic response or a haptic response related to the haptic response of the other regions. In this way, the varying haptic responses can be arranged to "lead" a user to a particular target area **706** or **708**. For example, button **702** (as well as button **704**) can be divided into regions "target", region **1**, and region **2**. A user can experience a different haptic response in each of the regions such as H_{target} in target region (a fast vibration, for example), H_1 in region **1** (a slower vibration than that presented in the target region), H_2 in region **2** and so on. The various haptic responses can be arranged to provide the user with the ability to "feel" their way to the target area without the need to actually view the display **112**. In this way, the described embodiments allows a user to pinpoint the location of a target area of a button element (or any other GUI element so configured) in dark or low light conditions or in situations where the user cannot easily view display **112** by "feeling" their way to the particular target area. Accordingly, by following the "lead" provided by the varying haptic responses, a user can accurately identify target areas of particular buttons (or GUI elements) and once identified, can provide accurate tactile inputs to device **100** with the need to actually view display device **112**. For example, by appropriately configuring haptic active button elements **610**, a user can accurately enter data (such as a phone number) into device **100** by way of keypad **608** using the vibro-tactile feedback provided by haptic active button elements **610**.

[0076] As shown in FIG. **8**A, button elements **702** or **704** can have an associated haptic profile H(x). In one implementation, the haptic profile H(x) can include profiles that are related to each other in such a way as to lead a user to a particular location within the button (such as the target area). For example, as the user's finger moves across the portion of display **112** having keypad **608**, the user can experience varied haptic responses that can depends upon the particular location of the user's finger on the surface **126**. In this way, the user can be "lead" to the target area **706** by feeling his way along the surface **126**. As shown in FIG. **8**B, as the user's finger is moved across keypad **608**, the user experiences haptic feedback based upon haptic profile H(x). In the example shown, in the region between button elements **602**, the user's finger would be moving across a portion of surface **126** associated with a quiescent haptic response. By quiescent it is meant that the user would feel little or no haptic effects. However, once the user's finger intersects outer boundary **802** (that could be visible, or not) of button element **702**, the user experiences haptic sensation H_1 corresponding to region **1**. As the user's finger moves from region **1** to region **2**, the user experiences haptic sensation H_2 corresponding to region **2**, and so on until the user reaches target area **708**. If the user's finger continues to move in such a way that it would be leaving target area **708** by re-entering region **2**, for example, then the user would be made aware of this fact since the user would experience a change in the haptic sensation indicating that the user's finger is leaving target area **708**.

[0077] FIG. **9**A shows slider element **900** as a particular embodiment of slider element **604** shown in FIG. **6**. Slider element **900** includes slider portion **902** that can be moved across surface **126** within the confines of slider element **900** by the action of a user's finger. As the user's finger is placed in contact with slide portion **902**, the user can experience a haptic sensation consistent with haptic profile $H_{slider}(x)$ shown in FIG. **9**B. In the described embodiment, as the user's finger (while still in contact with slide portion **902**) moves slide portion **902** from left to right (or vice versa), then the user can experience vibro-tactile feedback based upon haptic profile $H_{slider}(x)$ where, for example, the haptic sensations monotonically increase from left to right and monotonically decrease from right to left, or vice versa. In some cases, $H_{slider}(x)$ can be a linear function of touch co-ordinate x (as shown in FIG. **9**B) or can be non-linear depending of course on the application for which slider **900** is being used.

[0078] FIGS. **10**A-**10**B illustrates yet another embodiment whereby a user can "feel" an edge of image feature **612** presented on display **112** shown in FIG. **6**. In this embodiment, the user can "feel" edge E of feature **612** due to the fact that the haptic profile $H_{edge}(x)$ provides a haptic response in a region R in proximity to the edge E of feature **612**. In some cases, the haptic response $H_{edge}(x)$ can be asymmetric (as shown in FIG. **10**B) where a user approaching edge E from an interior portion of feature **612** will feel a gradually intensifying haptic response indicating to the user that edge E is being approached from the interior of feature **612**. On the other hand, if the user's finger is approaching edge E of feature **612** from a region exterior to feature **612**, then the haptic response $H_{edge}(x)$ will cause the user to experience a sharp step increase in haptic sensation at or near edge E itself. In the case where the haptic profile $H_{edge}(x)$ is symmetric, then the user will experience a haptic sensation of substantially equal no matter if edge E is approached from the interior or exterior regions of feature **612**.

[0079] FIG. **11** is a diagram of a zoom gesture method **1100** in accordance with an embodiment of the invention. The zoom gesture can be performed on multi-touch multi-haptic surface **126**. It should be noted that initially, the haptic devices associated with the surface **126** can be in the passive state whereby the controller can monitor the condition of each of the haptic nodes by determining if there is voltage Vp is being generated by the haptic device indicative of pressure being applied in the vicinity of the haptic node. Accordingly, the zoom gesture method **1100** generally begins at block **1102** where the presence of at least a first finger and a second finger are detected on a touch sensitive surface of the surface **126** at about the same time. In the described embodiment, the nature of the multi-touch event can be determined based upon either the presence of at least two fingers indicating that the touch is gestural (i.e., multi-touch) rather than a tracking touch based on one finger and/or by the pressure asserted by the fingers on the surface **126**. The pressure asserted by the fingers on the touch screen can be determined by monitoring the voltage Vp described above. If it is determined at block **1104** that the presence of the two fingers represents a gesture, then the haptic devices nearest the touch point are set to active mode in order to provide a vibro-tactile response at **1106** to each of the fingers during the gesture. In the described embodiment, the vibro-tactile response provided to each finger can have the same profile or different profiles. For example, if it the pressure applied by one finger is substantially greater than that applied by the other finger, then the vibro-tactile response for the two fingers can be different due to the varying pressure applied by each finger. For the most part, however, the haptic profiles will be correlated to assure that the user has a perception that the haptic effects are consonant with each other. Furthermore, it should be noted that in some cases, the pres-