particular scheme. Similarly, the sensor panel may dynamically switch between different self capacitance schemes, such as in FIGS. **4***a*-**4***c*. This may also be accomplished by enabling and disabling the appropriate switches that connect the drives and sense lines involved in forming a particular scheme.

[0050] In some embodiments, the sensor panel may dynamically switch between a mutual capacitance scheme, such as in FIGS. **3***a* and **3***b*, and a self capacitance scheme, such as in FIGS. **4***a*-**4***c*. For example, to switch from mutual to self capacitance, a mutual capacitive drive line may switch from a row and a sense line from a column to both connect to a single electrode. Conversely, for example, to switch from self to mutual capacitance, a self capacitance drive line may switch from a single electrode to connect to a row and a sense line from the single electrode to connect to a column.

[0051] It is to be understood that the composite electrodes are not limited to the square and rectangular shapes illustrated in FIGS. **3***a*-**4***c*, but may includes any shapes, either regular or irregular, capable of providing sensor panels according to embodiments of the present invention.

[0052] FIG. **5** illustrates an exemplary method for dynamically reconfiguring sensor size and shape of a sensor panel based on an object's proximity to the panel according to embodiments of the invention. Initially, a device having a sensor panel with dynamically reconfigurable sensor size and shape may adjust the sensing pixels to a first size and/or shape (**505**). The first size may be the maximum defined size of the panel where all of the pixels are interconnected. Alternatively, the first size may be any large size that is still able to detect the presence of an object. The first shape may be any shape that is able to detect the presence of an object. When the pixels sense an object, the device may determine the proximity of the object to the panel based on the pixel signals (**510**). The device may compare the determined proximity with a predetermined proximity threshold (**515**). If the object is not yet at a proximity that approximately matches the threshold, the device may continue to monitor the object's proximity to the panel (**510**, **515**). However, if the object is at or below that threshold, the device may dynamically reconfigure the pixels to a second size and/or shape (**520**). The second size may be the minimum defined size of the panel where none of the pixels are interconnected. Alternately, the second size may be any size sufficiently small enough to detect where the object is targeting on the panel with precision. The second shape may be any shape that is able to detect where the object is targeting on the panel with precision.

[0053] FIGS. **6***a*, **6***b*, and **6***c* are exemplary illustrations of a sensor panel having dynamically reconfigurable sensor size and shape based on an object's proximity to the panel according to embodiments of the invention. FIGS. **6***a*, **6***b*, and **6***c* illustrate the method of FIG. **5**. In FIG. **6***a*, sensor panel **600** of a device may have a larger pixel size and square shape **610** in which all of the pixels are interconnected. Object **620**, e.g., a hand, may be a distance d_1 from sensor panel **600**. As object **620** approaches panel **600**, as some point, the panel may detect the object. When panel **600** detects object **620**, the device may determine the object's proximity to the panel and continue to do so as the object approaches. Suppose a distance d_2 is the predetermined proximity threshold, where $d_2<d_1$. In FIG. **6***b*, when object **620** reaches a proximity to panel **600** that approximately matches or falls below the threshold d_2, the device may dynamically reconfigure the panel to a smaller pixel size **615** in which none of the pixels are interconnected.

[0054] Alternatively, in FIG. **6***c*, when object **620** reaches a proximity to panel **600** that approximately matches or falls below the threshold d_2, the device may dynamically reconfigure the panel to a circular pixel shape **625** in which a subset of the pixels are interconnected.

[0055] In some embodiments, both pixel size and shape may be dynamically reconfigured as the proximity of object **620** to panel **600** changes.

[0056] FIG. **7** illustrates an exemplary method for dynamically reconfiguring sensor size and shape of a sensor panel according to a predetermined factor based on an object's proximity to the panel according to embodiments of the invention. Initially, a device having a sensor panel with dynamically reconfigurable sensor size and shape may adjust the sensing pixels to a first size and/or shape (**705**). The first size may be the maximum defined size of the panel where all of the pixels are interconnected. Alternatively, the first size may be any large size that is still able to detect the presence of an object. The first shape may be any shape that is able to detect the presence of an object. When the pixels sense an object, the device may determine the proximity of the object to the panel based on the pixel signals (**710**). The device may compare the determined proximity with a predetermined proximity threshold (**715**). If the object is not yet at a proximity that approximately matches the threshold, the device may continue to monitor the object's proximity to the panel (**710**, **715**).

[0057] However, if the object is at or below that threshold, the device may determine a size factor by which to subdivide the pixels to form a smaller size (**720**). The factor may be a predetermined value stored in memory, e.g., a multiple of an integer such as 2 or 3. Alternatively, the factor may be a function of proximity and calculated therefrom. The device may dynamically subdivide the pixels by the determined factor to form a plurality of pixel subgroups (**725**). The number of subgroups may be the same as the value of the factor. All the pixels in a subgroup may be interconnected. The device may determine whether further size adjustment is needed (**730**). Further size adjustment may not be needed if the object has reached a proximity to the panel at or below the minimum predetermined proximity threshold. Further adjustment may also not be needed if the panel has reached its minimum defined size. Further adjustment may not be needed if an application currently executing does not require it. Or further adjustment may not be needed if the user so indicates. If further size adjustment is not needed, the method may stop.

[0058] Alternatively, if the object is at or below the threshold, the device may determine a shape factor according to which to adjust the pixels to form a different shape (**720**). The factor may be a predetermined shape stored in memory, e.g., a square, a circle, an oval, etc. Alternatively, the factor may be a function of proximity and determined therefrom. The device may dynamically reconfigure the pixels according to the determined factor to form the desired shape (**725**). The device may determine whether further shape adjustment is needed (**730**). Further shape adjustment may not be needed for the same reasons as those described above regarding size adjustment.

[0059] However, if further size and/or shape adjustment is needed, the device may recursively reconfigure the size and/or shape of the pixels according to this method. To do so, the device may reset the predetermined proximity threshold to a new predetermined threshold that is closer to the panel (**735**). The device may determine the object's proximity to the panel