motion of the objects. For instance, as the fingers move, the object moves with the fingers at the same time.

[0112] **FIGS. 13A-13D** illustrate a panning sequence based on the pan method **400** described above. Using the map of **FIG. 11**, **FIG. 13A** illustrates a user positioning their fingers **366** over the map. Upon set down, the fingers **366** are locked to the map. As shown in **FIG. 13B**, when the fingers **366** are moved vertically up, the entire map **364** is moved up thereby causing previously seen portions of map **364** to be placed outside the viewing area and unseen portions of the map **364** to be placed inside the viewing area. As shown in **FIG. 13C**, when the fingers **366** are moved horizontally sideways, the entire map **364** is moved sideways thereby causing previously seen portions of map **364** to be placed outside the vowing area and unseen portions of the map to be placed inside the viewing area. As shown in **FIG. 13D**, when the fingers **366** are moved diagonally, the entire map **364** is moved diagonally thereby causing previously seen portions of map **364** to be placed outside the viewing area and unseen portions of the map to be placed inside the viewing area. As should be appreciated, the motion of the map **364** follows the motion of the fingers **366**. This process is similar to sliding a piece of paper along a table. The pressure the fingers exert on the paper locks the paper to the fingers and when the fingers are slid across the table, the piece of paper moves with them.

[0113] **FIG. 14** is a diagram of a rotate method **450**, in accordance with one embodiment of the present invention. The rotate gesture may be performed on a multipoint touch screen. The rotate method **450** generally begins at block **452** where the presence of a first object and a second object are detected at the same time. The presence of at least two fingers is configured to indicate that the touch is a gestural touch rather than a tracking touch based on one finger. In some cases, the presence of only two fingers indicates that the touch is a gestural touch. In other cases, any number of more than two fingers indicates that the touch is a gestural touch. In fact, the gestural touch may be configured to operate whether two, three, four or more fingers are touching, and even if the numbers change during the gesture, i.e., only need a minimum of two fingers.

[0114] Following block **452**, the rotate method **450** proceeds to block **454** where the angle of each of the finger is set. The angles are typically determined relative to a reference point. Following block **454**, rotate method **450** proceeds to block **456** where a rotate signal is generated when the angle of at least one of the objects changes relative to the reference point. In most cases, the set down of the fingers will associate or lock the fingers to a particular GUI object displayed on the touch screen. Typically, when at least one of the fingers is positioned over the image on the GUI object, the GUI object will be associated with or locked to the fingers. As a result, when the fingers are rotated, the rotate signal can be used to rotate the object in the direction of finger rotation (e.g., clockwise, counterclockwise). In most cases, the amount of object rotation varies according to the amount of finger rotation, i.e., if the fingers move 5 degrees then so will the object. Furthermore, the rotation typically can occur substantially simultaneously with the motion of the fingers. For instance, as the fingers rotate, the object rotates with the fingers at the same time.

[0115] **FIGS. 15A-15C** illustrate a rotating sequence based on the method described above. Using the map of **FIG. 11**, **FIG. 15A** illustrates a user positioning their fingers **366** over the map **364**. Upon set down, the fingers **366** are locked to the map **364**. As shown in **FIG. 15B**, when the fingers **366** are rotated in a clockwise direction, the entire map **364** is rotated in the clockwise direction in accordance with the rotating fingers **366**. As shown in **FIG. 15C**, when the fingers **366** are rotated in a counterclockwise direction, the entire map **364** is rotated in the counter clockwise direction in accordance with the rotating fingers **366**.

[0116] It should be noted that the methods described in **FIGS. 10-15** can be implemented during the same gestural stroke. That is, zooming, rotating and panning can all be performed during the gestural stroke, which may include spreading, rotating and sliding fingers. For example, upon set down with at least two fingers, the displayed object (map) is associated or locked to the two fingers. In order to zoom, the user can spread or close their fingers. In order to rotate, the user can rotate their fingers. In order to pan, the user can slid their fingers. Each of these actions can occur simultaneously in a continuous motion. For example, the user can spread and close their fingers while rotating and sliding them across the touch screen. Alternatively, the user can segment each of these motions without having to reset the gestural stroke. For example, the user can first spread their fingers, then rotate their fingers, then close their fingers, then slide their fingers and so on.

[0117] **FIG. 16** is a diagram of a GUI operational method **500**, in accordance with one embodiment of the present invention. The GUI operational method **500** is configured for initiating floating controls in a GUI. The GUI operational method **500** generally begins at block **502** where the presence of an object such as a finger or thumb is detected. This may for example be accomplished using a touch screen. Following block **502**, the GUI operational method **500** proceeds to block **504** where the object is recognized (the identity of the object is found). The object may be recognized among a plurality of objects. For example, see block **104** of **FIG. 2** above.

[0118] Following block **504**, the GUI operational method **500** proceeds to block **506** where an image in the vicinity of the object is generated. The image is typically based on the recognized object. The image may include windows, fields, dialog boxes, menus, icons, buttons, cursors, scroll bars, etc. In some cases, the user can select and activate the image (or features embedded therein) in order to initiate functions and tasks. By way of example, the image may be a user interface element or a group of user interface elements (e.g., one or more buttons that open, close, minimize, or maximize a window). The image may also be one or more icons that launch a particular program or files that open when selected. The image may additionally correspond to non interactive text and graphics. In most cases, the image is displayed as long as the object is detected or it may be displayed for some preset amount of time, i.e., after a period of time it times out and is removed.

[0119] In one particular embodiment, the image includes one or more control options that can be selected by the user. The control options may include one or more control buttons for implementing various tasks. For example, the control option box may include music listening control buttons as for example, play, pause, seek and menu.

[0120] **FIGS. 17A-17E** illustrate a floating control sequence using the method described above. As shown in