

initiate the task immediately. As above, a haptic effect is generated to confirm the gesture to the user or allow the user to review the gesture.

**[0040]** As disclosed, a device having a user interface generates various haptic effects in order to provide feedback to a user input or provide information regarding a state of the device. The haptic effects enhance the usability of the device.

**[0041]** Several embodiments are specifically illustrated and/or described herein. However, it will be appreciated that modifications and variations are covered by the above teachings and within the purview of the appended claims without departing from the spirit and intended scope of the invention.

What is claimed is:

1. A method of operating a user interface comprising: receiving a first indication that the user is scrolling through a list of elements; determining a scroll rate; and generating a first haptic effect having a magnitude, wherein the magnitude is based on the scroll rate.
2. The method of claim 1, wherein the magnitude is increased as the scroll rate is decreased.
3. The method of claim 1, wherein the magnitude is decreased as the scroll rate is increased.
4. The method of claim 1, further comprising: receiving a second indication that an end of the list is selected; and generating a second haptic effect in response to the second indication, wherein the second haptic effect is different from the first haptic effect.
5. The method of claim 1, wherein the second haptic effect has a different value compared to the first haptic effect for a least one of the parameters from the group comprising magnitude, frequency or duration.
6. A method of operating a user interface comprising: receiving an indication that an object has been flicked by a user gesture and that the object has reached an end point that causes the object to bounce; and generating a haptic effect when the object has reached the end point.
7. The method of claim 6, wherein the haptic effect is dynamic and has a decreasing magnitude as the bounced object comes to rest.
8. A method of operating a user interface comprising: providing a slider on the user interface, wherein the slider varies between a low and high magnitude; receiving an input that moves the slider towards the high magnitude; and generating a first dynamic haptic effect that has an increasing magnitude as the slider moves toward the high magnitude.
9. The method of claim 8, further comprising: receiving an input that moves the slider towards the low magnitude; and

generating a second dynamic haptic effect that has a decreasing magnitude as the slider moves toward the low magnitude.

10. The method of claim 9, further comprising generating a third haptic effect that corresponds to a state of the slider.
11. A method of operating a user interface comprising: generating a screen transition between two states on the user interface; and generating a haptic effect based on the screen transition.
12. The method of claim 11, wherein the haptic effect is generated during the screen transition.
13. The method of claim 11, wherein the haptic effect is generated at a completion of the screen transition.
14. A method of operating a user interface comprising: receiving a selection of at least one item of the user interface; receiving an indication that the item is being dragged; and generating a first haptic effect while the item is being dragged.
15. The method of claim 14, further comprising generating a second haptic effect when the selection is received.
16. The method of claim 14, wherein the user interface comprises a surface, and the first haptic effect simulates the surface.
17. A method of operating a user interface comprising: receiving an indication that the user interface has entered a standby state; and generating a first haptic effect that corresponds to the standby state.
18. The method of claim 17, wherein the haptic effect is dynamic and comprises a parameter that increases as the user interface progresses to an end to the standby state.
19. The method of claim 18, further comprising generating a second haptic effect when the end is reached.
20. A method of operating a device having a touchscreen comprising: storing a gesture on the device; wherein the gesture comprises a user interaction with the touchscreen; and generating a haptic effect on the device that simulates the gesture.
21. The method of claim 20, wherein the haptic effect is applied to an individual portion of the touchscreen to simulate a motion portion of the gesture.
22. The method of claim 20, wherein the haptic effect has a dynamically changing amplitude to simulate a varied pressure portion of the gesture.
23. The method of claim 20, wherein the gesture unlocks the device.
24. The method of claim 20, wherein the gesture initiates a task on the device.

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