

the steps described herein as carried out, or assisted, by a processor. Embodiments of computer-readable media may comprise, but are not limited to, all electronic, optical, magnetic, or other storage devices capable of providing a processor, such as the processor in a web server, with computer-readable instructions. Other examples of media comprise, but are not limited to, a floppy disk, CD-ROM, magnetic disk, memory chip, ROM, RAM, ASIC, configured processor, all optical media, all magnetic tape or other magnetic media, or any other medium from which a computer processor can read. Also, various other devices may include computer-readable media, such as a router, private or public network, or other transmission device. The processor, and the processing, described may be in one or more structures, and may be dispersed through one or more structures. The processor may comprise code for carrying out one or more of the methods (or parts of methods) described herein.

**[0116]** While the present subject matter has been described in detail with respect to specific embodiments thereof, it will be appreciated that those skilled in the art, upon attaining an understanding of the foregoing may readily produce alterations to, variations of, and equivalents to such embodiments. Accordingly, it should be understood that the present disclosure has been presented for purposes of example rather than limitation, and does not preclude inclusion of such modifications, variations and/or additions to the present subject matter as would be readily apparent to one of ordinary skill in the art.

That which is claimed is:

1. A system comprising:
  - an actuator configured to receive a haptic signal and output a haptic effect based at least in part on the haptic signal, the haptic effect configured to simulate a texture;
  - a touch-sensitive interface configured to detect a user interaction and output a interface signal; and
  - a processor in communication with the actuator and the touch-sensitive interface, the processor configured to:
    - receive the interface signal;
    - receive a display signal comprising a plurality of pixels defining a display area;
    - determine a first texture associated with a first group of pixels defining a first section of the display area;
    - determine a second texture associated with a second group of pixels defining a second section of the display area; and
    - transmit a haptic signal configured to cause the actuator to:
      - output a first haptic effect configured to simulate the first texture if the user interaction is associated with the first section of the display area, and
      - output a second haptic effect configured to simulate the second texture if the user interaction is associated with the second section of the display area.
2. The system of claim 1, wherein first texture and the second texture are each based at least in part on the display signal.
3. The system of claim 1, wherein the texture is a vibrotactile effect.
4. The system of claim 1, wherein the texture comprises the texture of: sand, grass, bricks, rocks, skin, fabric, or fur.
5. The system of claim 1, wherein the actuator comprises: a linear resonant actuator, an eccentric rotating mass actuator, a shape memory alloy, an electroactive polymer, a composite piezoelectric actuator, or a piezoelectric actuator.
6. The system of claim 1, wherein the first section of the display area comprises a boundary, and the second section of the display area comprises the pixels that do not comprise the boundary.
7. The system of claim 1, wherein the first section of the display area comprises a route and the second section of the display area comprises a Global Positioning System Interface.
8. The system of claim 1, wherein the first section of the display area comprises a destination and the second section of the display area comprises a Global Positioning System Interface.
9. The system of claim 1, wherein the first section of the display area comprises a location on a social networking page and the second section of the display area comprises the remainder of the social networking page.
10. The system of claim 1, wherein first section of the display area comprises a scrollbar and the second section of the display area comprises pixels that do not comprise the scrollbar.
11. The system of claim 10, wherein the processor is configured to determine a different texture in the first section of the display area as the scrollbar moves.
12. The system of claim 1, wherein the first section of the display area comprises text and the second section of the display area comprises the remainder of the display area.
13. The system of claim 1, wherein the first section of the display area comprises a section of the display area determined based at least in part on the interface signal, and the second section of the display area comprises the remainder of the display area.
14. The system of claim 1, wherein the first section of the display area comprises an icon and the second section of the display area comprises the remainder of the display area.
15. The system of claim 14, wherein the icon comprises a drawing tool.
16. The system of claim 14, wherein the icon comprises a folder.
17. The system of claim 16, wherein the first texture is determined based at least in part on the contents of the folder.
18. The system of claim 1, further comprising a display in communication with the processor, the display configured to receive the display signal and output an image based at least in part on the display signal.
19. The system of claim 18, wherein the first texture and the second texture are output on a surface of the display.
20. A method for outputting textures comprising:
  - receiving a display signal comprising a plurality of pixels defining a display area;
  - receiving a interface signal from a touch-sensitive interface configured to detect a user interaction and output a interface signal;
  - determining a first texture associated with a first group of pixels defining a first section of the display area;
  - determining a second texture associated with a second group of pixels defining a second section of the display area; and
  - transmitting a haptic signal to an actuator configured to receive the haptic signal and output a haptic effect, the haptic signal configured to cause the actuator to:
    - output a first haptic effect configured to simulate the first texture if the user interaction is associated with the first section of the display area, and