



US 20100231541A1

(19) **United States**

(12) **Patent Application Publication**

**Cruz-Hernandez et al.**

(10) **Pub. No.: US 2010/0231541 A1**

(43) **Pub. Date: Sep. 16, 2010**

(54) **SYSTEMS AND METHODS FOR USING TEXTURES IN GRAPHICAL USER INTERFACE WIDGETS**

(75) Inventors: **Juan Manuel Cruz-Hernandez**, Montreal (CA); **Danny A. Grant**, Laval (CA); **Ali Modarres**, Montreal (CA); **Andrew Gosline**, Montreal (CA)

Correspondence Address:  
**PATENT DEPARTMENT (51851)  
KILPATRICK STOCKTON LLP  
1001 WEST FOURTH STREET  
WINSTON-SALEM, NC 27101 (US)**

(73) Assignee: **Immersion Corporation**, San Jose, CA (US)

(21) Appl. No.: **12/697,037**

(22) Filed: **Jan. 29, 2010**

**Related U.S. Application Data**

(60) Provisional application No. 61/159,482, filed on Mar. 12, 2009, provisional application No. 61/262,041, filed on Nov. 17, 2009, provisional application No. 61/262,038, filed on Nov. 17, 2009.

**Publication Classification**

(51) **Int. Cl.**  
**G06F 3/041** (2006.01)  
**G06F 3/01** (2006.01)  
**G06F 3/048** (2006.01)

(52) **U.S. Cl.** ..... **345/173**; 715/702; 715/786

(57) **ABSTRACT**

Systems and methods for using textures in graphical user interface widgets are disclosed. For example, one disclosed system includes: a system including: 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 including 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.

