



US 20100171720A1

(19) **United States**

(12) **Patent Application Publication**
Craig et al.

(10) **Pub. No.: US 2010/0171720 A1**

(43) **Pub. Date: Jul. 8, 2010**

(54) **USER INTERFACE SYSTEM**

Publication Classification

(76) Inventors: **Ciesla Michael Craig**, Mountain View, CA (US); **Yairi B. Micah**, Palo Alto, CA (US)

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

(52) **U.S. Cl.** **345/173**

Correspondence Address:

SCHOX PLC
500 3rd Street, Suite 515
San Francisco, CA 94107 (US)

(57) **ABSTRACT**

(21) Appl. No.: **12/652,708**

A user interface system of one embodiment includes a layer defining a surface; a substrate supporting the layer and at least partially defining a cavity; a displacement coupled to the cavity that expands the cavity, thereby deforming a particular region of the surface; and a touch sensor coupled to the substrate and adapted to sense a user touch proximate the particular region of the surface. The layer and the substrate are connected at an attachment point, and the location of the attachment point relative to the layer, substrate, and cavity at least partially defines the shape of the deformed particular region of the surface.

(22) Filed: **Jan. 5, 2010**

Related U.S. Application Data

(63) Continuation-in-part of application No. 12/319,334, filed on Jan. 5, 2009.

(60) Provisional application No. 61/223,002, filed on Jul. 3, 2009.

