



US 20060118610A1

(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2006/0118610 A1**

Pihlaja et al.

(43) **Pub. Date: Jun. 8, 2006**

(54) **GENERAL PURPOSE INPUT BOARD FOR A TOUCH ACTUATION**

Publication Classification

(75) Inventors: **Pekka Pihlaja**, Helsinki (FI); **Matti Ryyananen**, Helsinki (FI)

(51) **Int. Cl.**
G06C 7/02 (2006.01)
(52) **U.S. Cl.** **235/145 R**

Correspondence Address:

WARE FRESSOLA VAN DER SLUYS & ADOLPHSON, LLP
BRADFORD GREEN BUILDING 5
755 MAIN STREET, P O BOX 224
MONROE, CT 06468 (US)

(57) **ABSTRACT**

The specification and drawings present a new method and apparatus for a touch actuation in an electronic device using a general purpose input board. The input board comprises of a grating of conductors running in one direction (y-lines). Between these conductors there are contacts connected to a grating running in the perpendicular direction a layer below (x-lines). The grating layers are separated by an insulating layer. Various known methods can be used to read the position of, e.g., a conductive actuator touching the input board. The input board can be used as a configurable UI board under a keymat. The input devices on the keymat can be a key, a joystick, a touchpad top membrane, etc. Also, the actuators can be made force-sensitive by detecting a contact surface area. In addition, all components of the general purpose input board can be made of materials substantially transparent to light.

(73) Assignee: **Nokia Corporation**

(21) Appl. No.: **11/303,868**

(22) Filed: **Dec. 15, 2005**

Related U.S. Application Data

(63) Continuation-in-part of application No. 10/946,909, filed on Sep. 21, 2004.

