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Hinckley et al.

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(54) **UNIFIED SYSTEM FOR BIMANUAL INTERACTIONS**

(58) **Field of Classification Search**

CPC G06F 2203/04808; G06F 3/017
See application file for complete search history.

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(56) **References Cited**

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(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 121 days.

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This patent is subject to a terminal dis-
claimer.

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(57) **ABSTRACT**

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The unified system for bimanual interactions provides a
lightweight and integrated interface that allows the user to
efficiently interact with and manipulate content in the user
interface. The system is configured to detect a multi-finger
interaction on the touchscreen and to differentiate whether
the user intends to pan, zoom or frame a portion of the user
interface. Generally, the framing interaction is identified by
detection of the user's thumb and forefinger on the touch-
screen, which cooperate to define a focus area between
vectors extending outwards from the user's thumb and
forefinger. Upon a determination that the user intends to
interact with or manipulate content within the focus area, the
unified system for bimanual interactions provides an indi-
cation of the objects that are located within the focus area
and contextual menus for interacting with the objects.

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