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(54) **INTERACTION USING TOUCH AND NON-TOUCH GESTURES**

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G06K 9/00 (2006.01)

(52) **U.S. Cl.**
USPC **382/181**; 345/156; 345/173; 382/103; 382/203

(58) **Field of Classification Search** 345/156, 345/173; 382/103, 181
See application file for complete search history.

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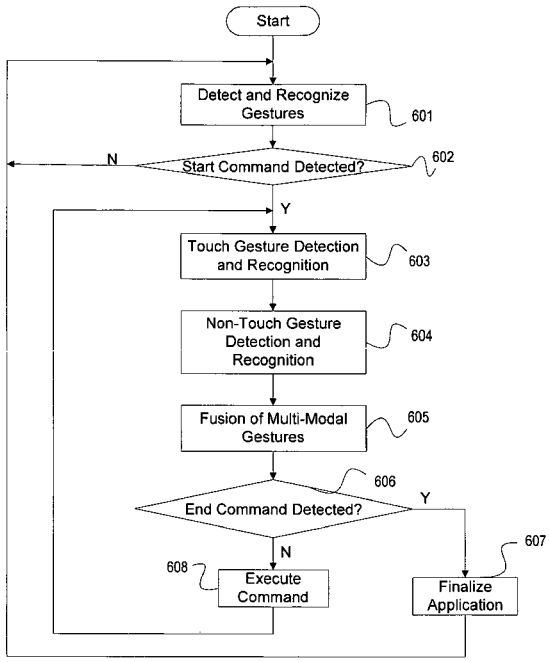
(57) **ABSTRACT**

A computer interface may use touch- and non-touch-based gesture detection systems to detect touch and non-touch gestures on a computing device. The systems may each capture an image, and interpret the image as corresponding to a predetermined gesture. The systems may also generate similarity values to indicate the strength of a match between a captured image and corresponding gesture, and the system may combine gesture identifications from both touch- and non-touch-based gesture identification systems to ultimately determine the gesture. A threshold comparison algorithm may be used to apply different thresholds for different gesture detection systems and gesture types.

29 Claims, 7 Drawing Sheets