



(12) **United States Patent**  
**Marvit et al.**

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(54) **HANDHELD DEVICE WITH PREFERRED MOTION SELECTION**

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(21) Appl. No.: **10/807,570**

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(Continued)

(65) **Prior Publication Data**

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(74) Attorney, Agent, or Firm—Baker Botts L.L.P.

(51) **Int. Cl.**  
**G09G 5/00** (2006.01)

(57) **ABSTRACT**

(52) **U.S. Cl.** ..... **345/156; 345/158**

(58) **Field of Classification Search** ..... 345/156–158;  
715/856–864; 348/734

See application file for complete search history.

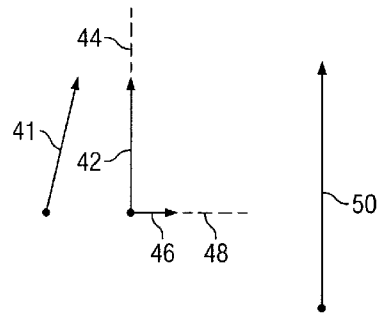
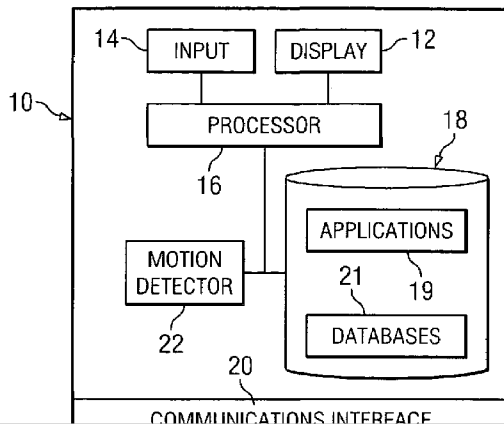
A motion controlled handheld device includes a display having a viewable surface and operable to generate an image and a motion detection module operable to detect motion of the device within three dimensions and to identify components of the motion in relation to the viewable surface. The components comprise a first component parallel to the viewable surface, a second component parallel to the viewable surface and perpendicular to the first component, and a third component perpendicular to the viewable surface. The device includes a motion processing module operable to compare the components, to isolate a preferred one of the components based on the comparison, and to adjust a magnitude of the preferred component by an augmentation factor. The device also includes a motion response module operable to modify the image based on the augmented preferred component.

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**21 Claims, 11 Drawing Sheets**



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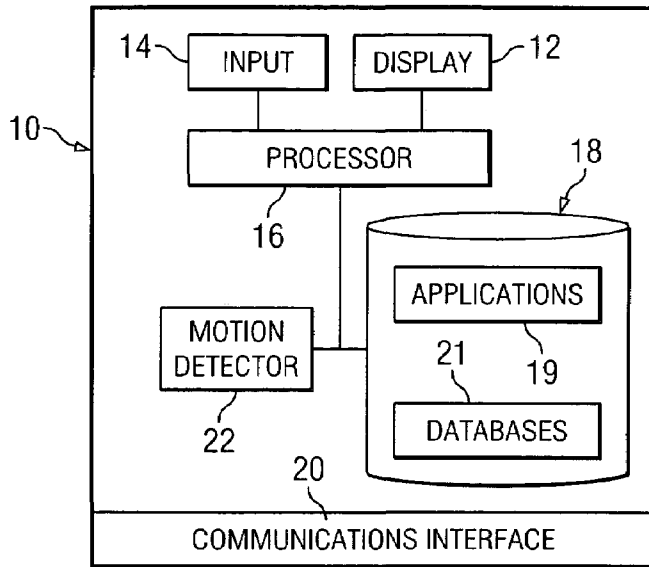


FIG. 1

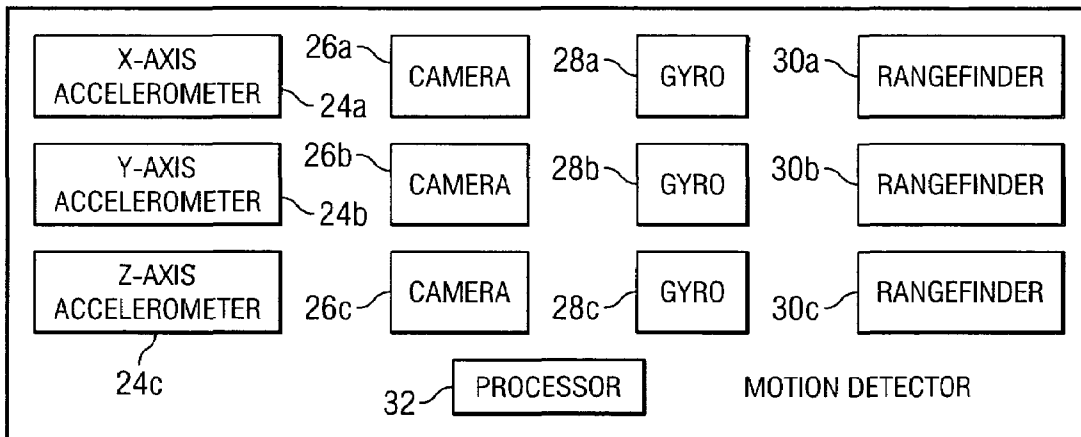


FIG. 2

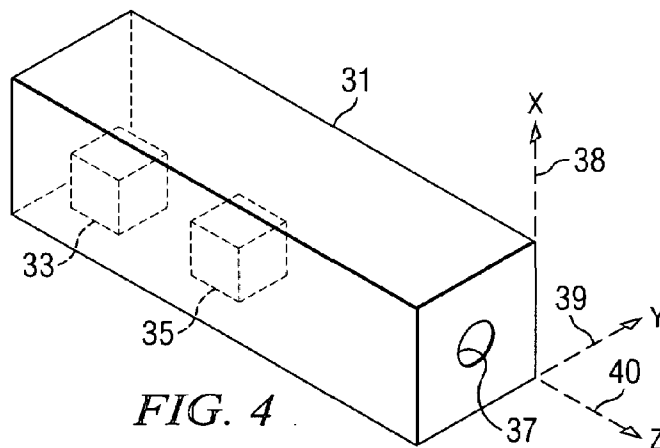


FIG. 4

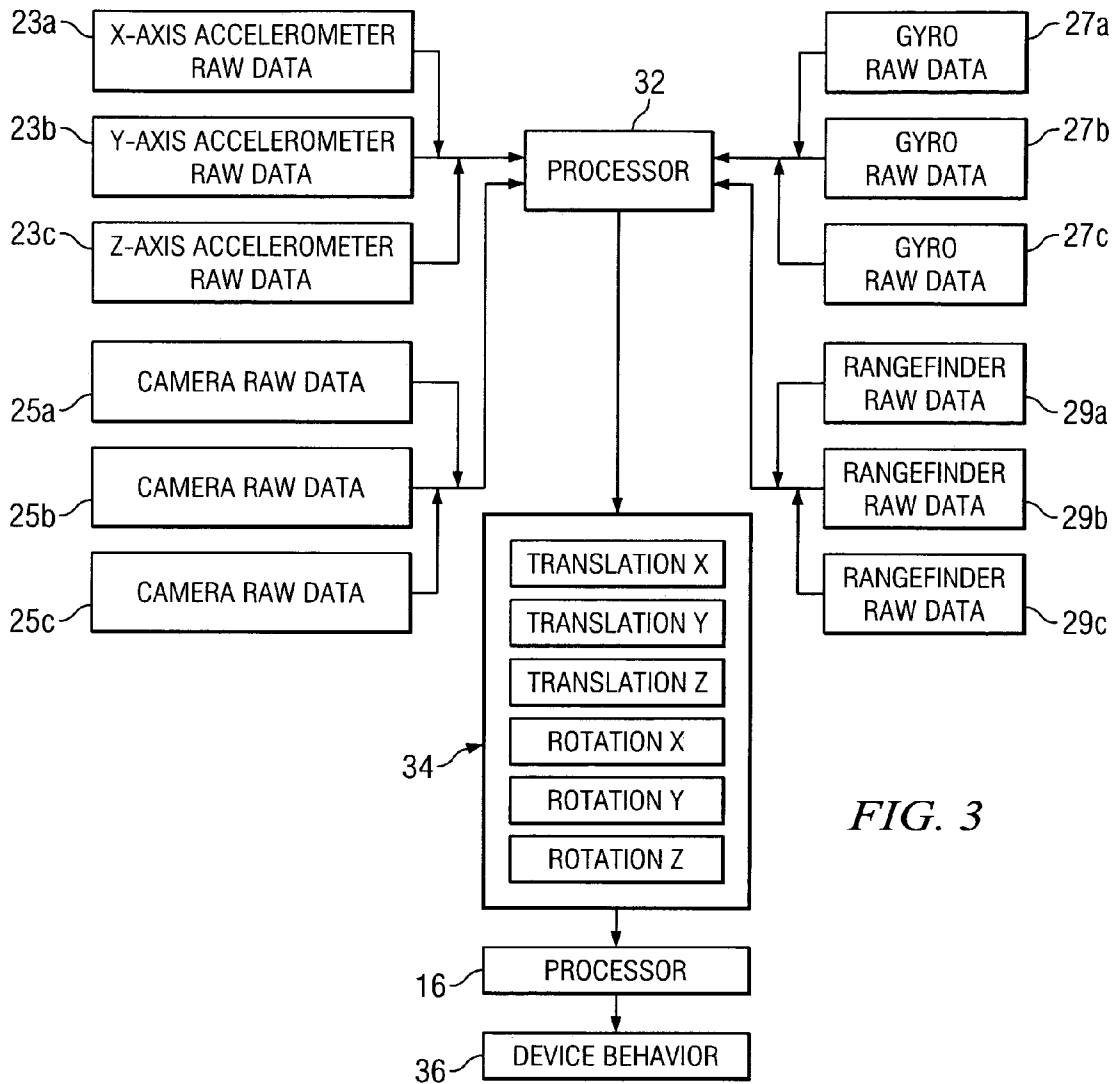


FIG. 3

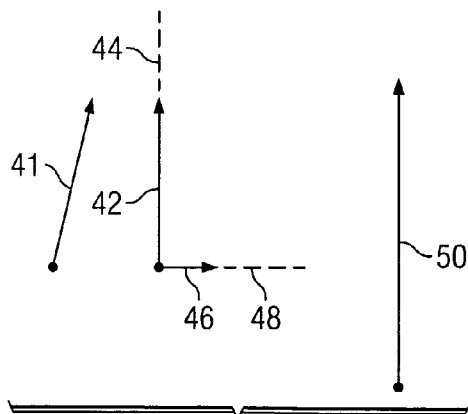


FIG. 5

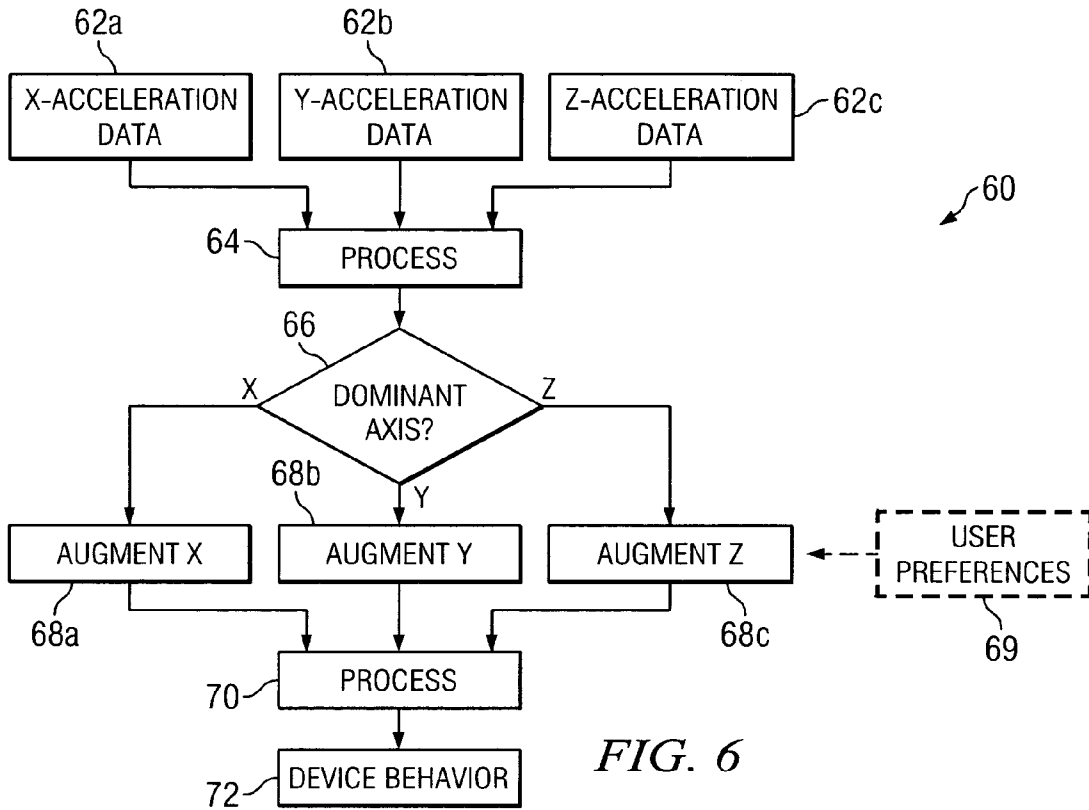


FIG. 6

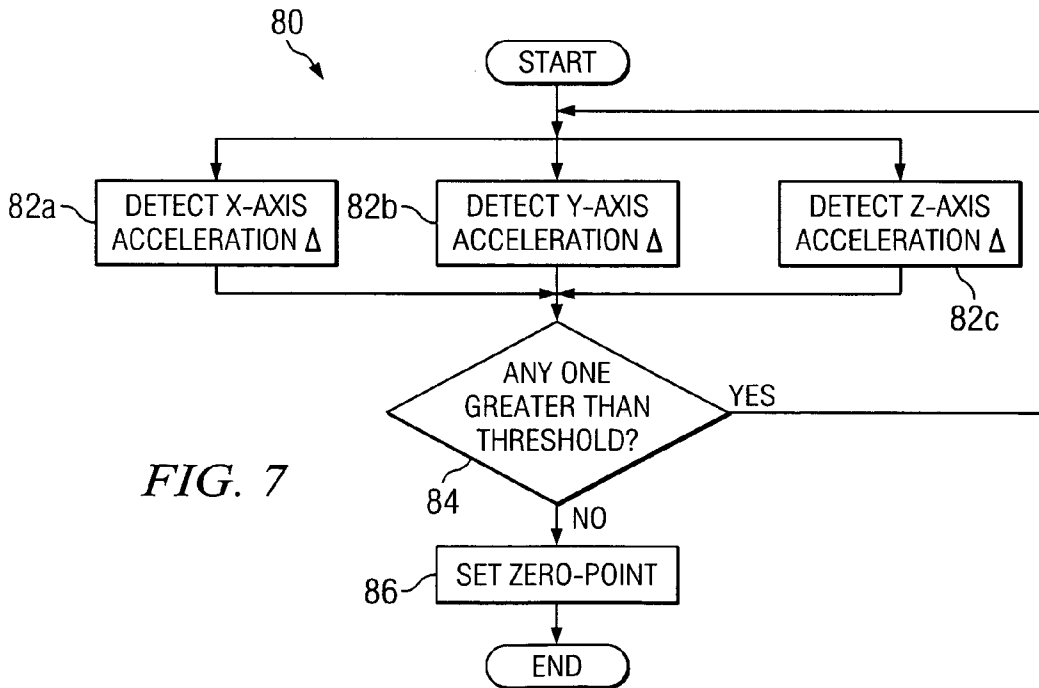


FIG. 7

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