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(54) Title: MOBILE ROBOT INITIALIZATION IN A BUILDING BASED ON A BUILDING INFORMATION MODEL (BIM) OF THE BUILDING

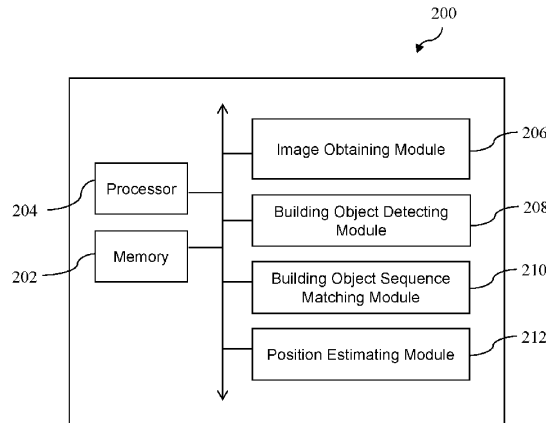


FIG. 2

(57) Abstract: A method of mobile robot initialization in a building based on a BIM of the building is provided. The method includes: obtaining, from an image sensor mounted on a mobile robot, a plurality of images of scenes in the building as the mobile robot navigates in the building; detecting a plurality of building objects of the building from the plurality of images obtained using a trained building object detector to obtain a sequence of detected building objects; matching the sequence of detected building objects with respect to a plurality of BIM building objects extracted from the BIM of the building to obtain one or more matching sequences of BIM building objects for the sequence of detected building objects; and estimating a position of the mobile robot in a BIM frame of the BIM based on a matching sequence of the one or more matching sequences of BIM building objects for the sequence of detected building objects. There is also provided a corresponding system for mobile robot initialization and a corresponding mobile robot with mobile robot initialization functionality.

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