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(54) Title: CAMERA POSE DETERMINATIONS WITH DEPTH

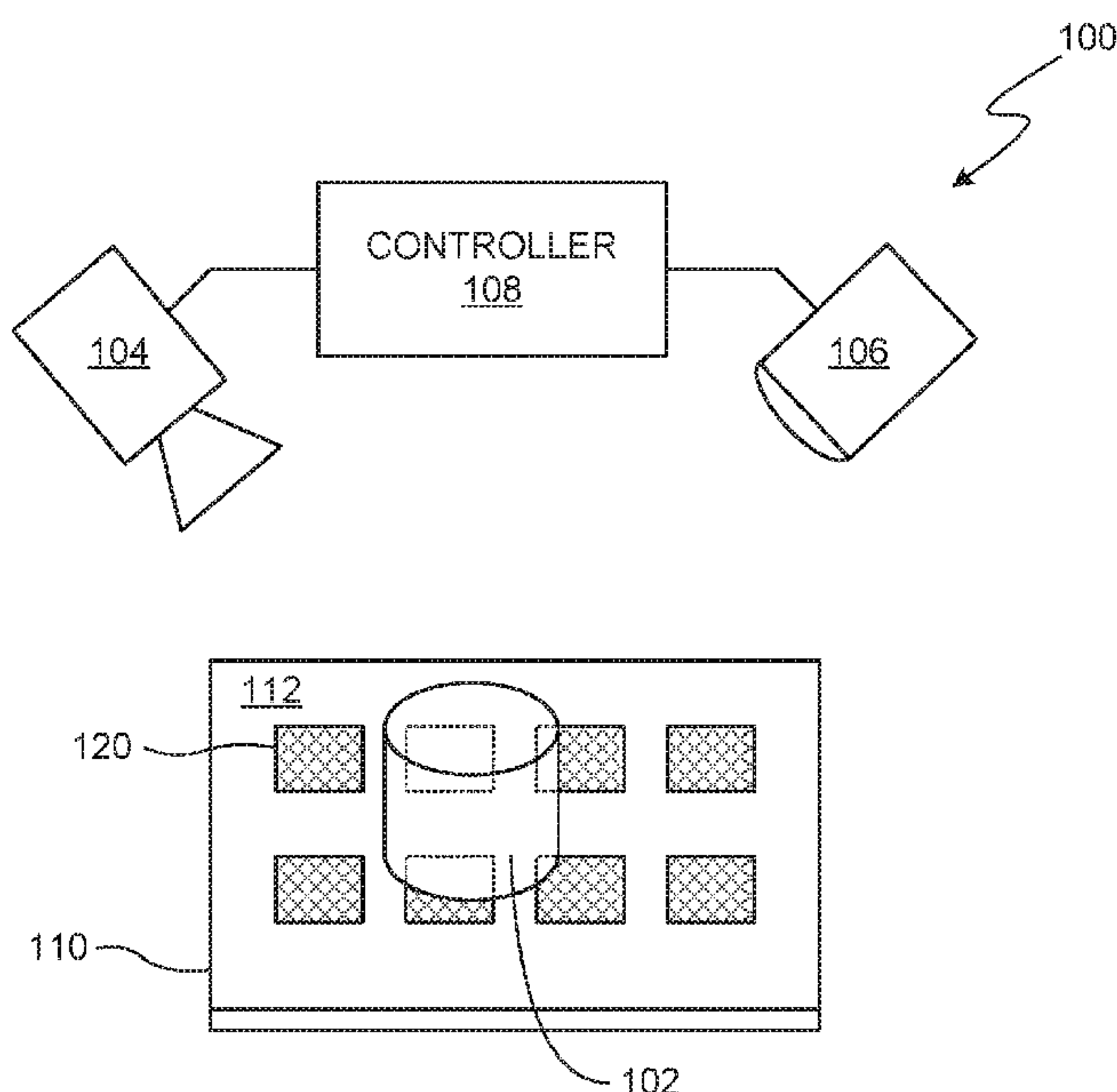


FIG. 1

(57) Abstract: An example system includes a camera aimable at a planar platform, a depth sensor aimable at the planar platform, and a controller to control the camera to obtain a captured image of the planar platform. The controller is further to control the depth sensor to capture depth data of the planar platform. The controller is further to determine a pose of the camera using the depth data and features extracted from the captured image.

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## CAMERA POSE DETERMINATIONS WITH DEPTH

### BACKGROUND

[0001] Cameras may be used in three-dimensional (3D) scanning systems, virtual or augmented reality (VR or AR) systems, robotics systems, assisted or autonomous driving systems, and the like. The pose of a camera, that is, its actual position and orientation within a frame of reference, may be used to reduce error in processing information from images captured by the camera. For example, in an AR system, an accurate camera pose may allow for increased accuracy in positioning an overlay graphic. Similarly, accuracy in object scanning or tracking may be increased with a more accurate camera pose.

### BRIEF DESCRIPTION OF THE DRAWINGS

[0002] FIG. 1 is a schematic diagram of an example system to determine a pose of a camera based on image features and depth data.

[0003] FIG. 2 is a schematic diagram of an example pose determination of a camera based on image features and depth data.

[0004] FIG. 3 is a flowchart of an example method to determine camera pose using image features and depth data.

[0005] FIG. 4 is a flowchart of another example method to determine camera pose using image features and depth data.

[0006] FIG. 5 is a diagram showing a plane skewed with respect to a camera for which depth and feature data is used to determine pose.

[0007] FIG. 6 is a schematic diagram of an example system to determine poses of a cameras based on image features and depth data.



























































