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(54) **HIGH QUALITY TEXTURE RECONSTRUCTION FROM MULTIPLE SCANS**

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(57) **ABSTRACT**

A system and method is disclosed for constructing a digital model of an object. The system includes an imaging system for generating object surface scan data from a plurality of surface scans, the surface scan data having a first resolution and representing the object from a plurality of viewpoints. The imaging system further generates image data having a second, higher resolution than the surface scan data for representing the object from the plurality of viewpoints. The system further includes a data processor for iteratively registering the surface scan data for the plurality of surface scans, using the image data, and for reconstructing substantially seamless surface texture data for the model using weights that reflect a level of confidence in the data at a plurality of surface points.

25 Claims, 19 Drawing Sheets
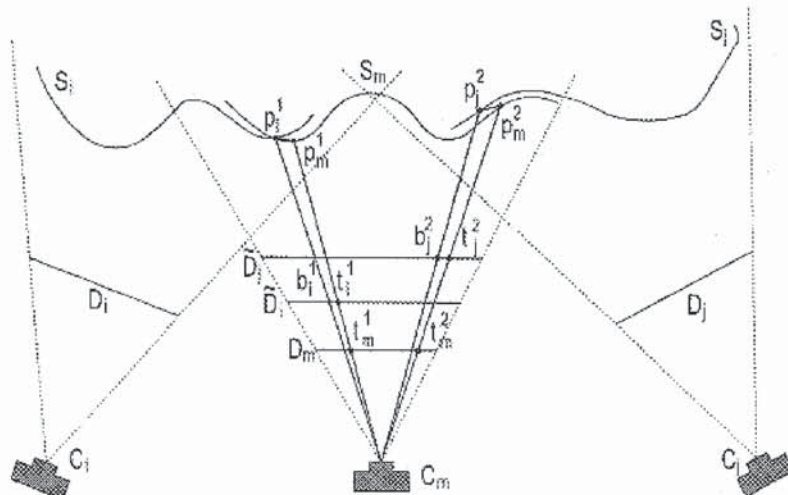
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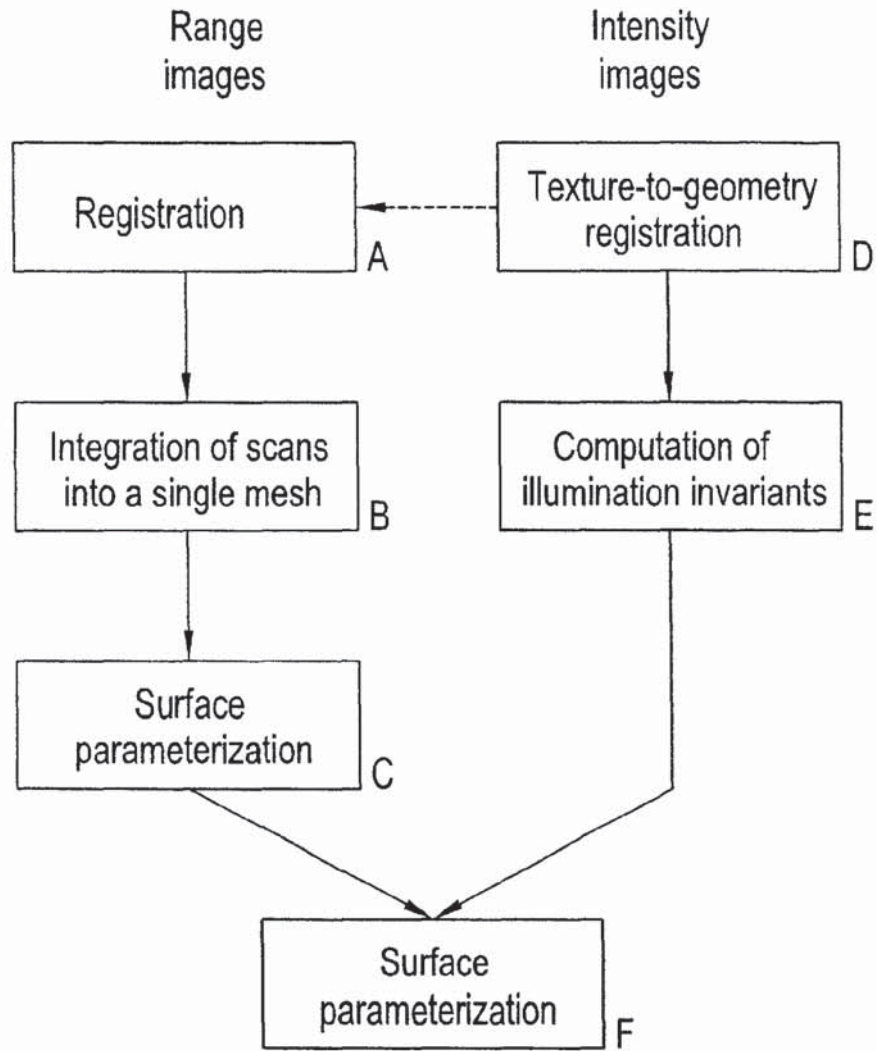
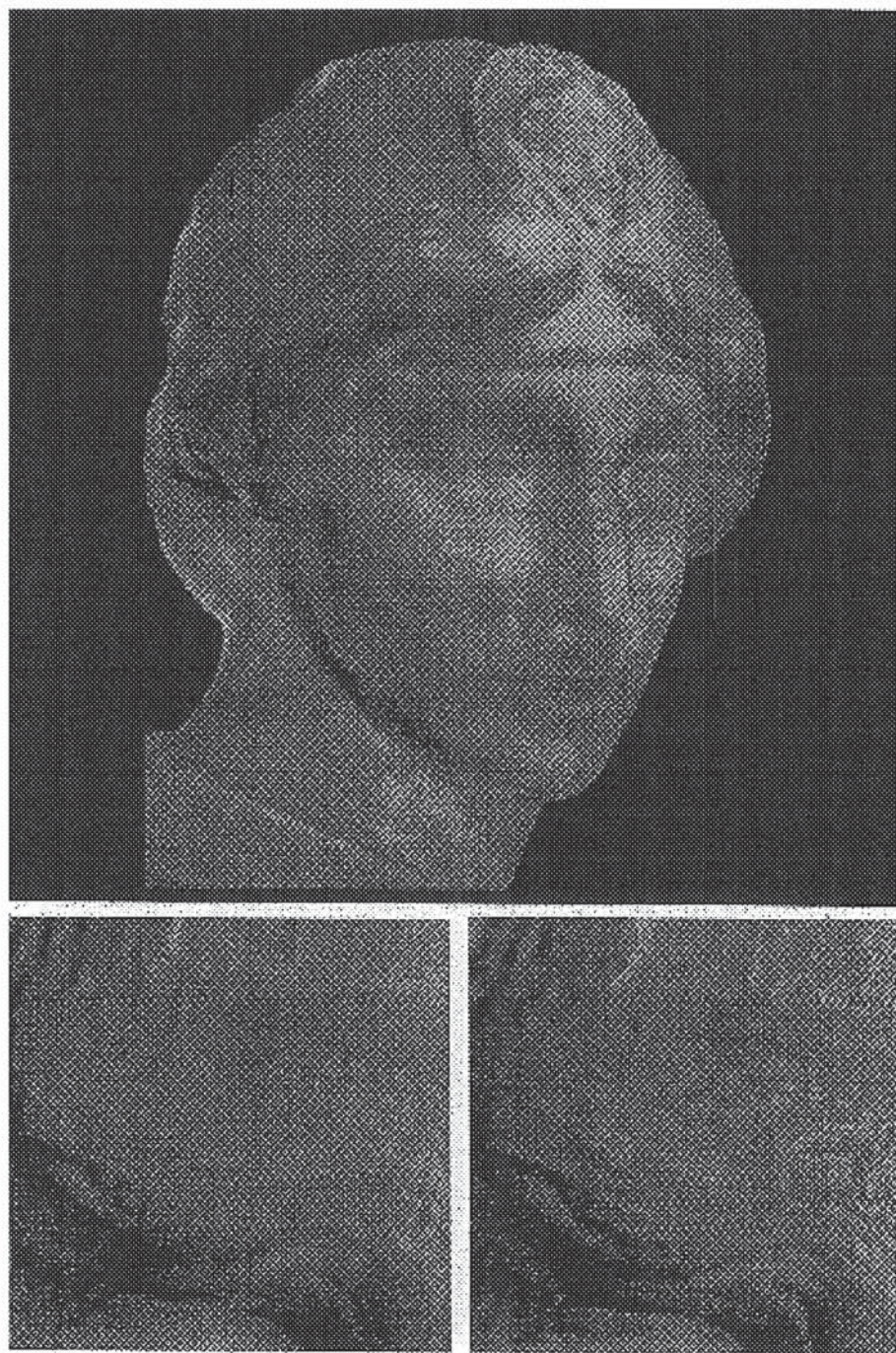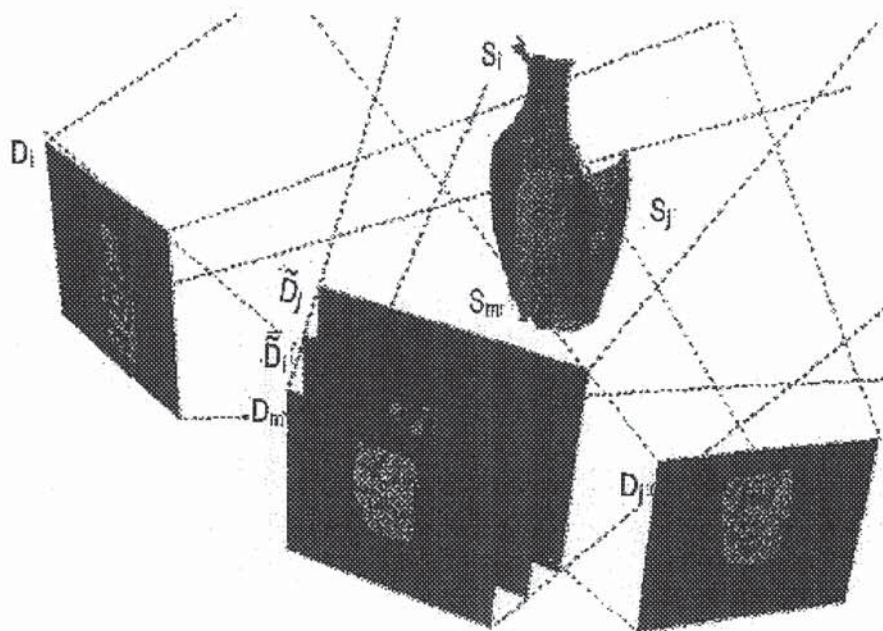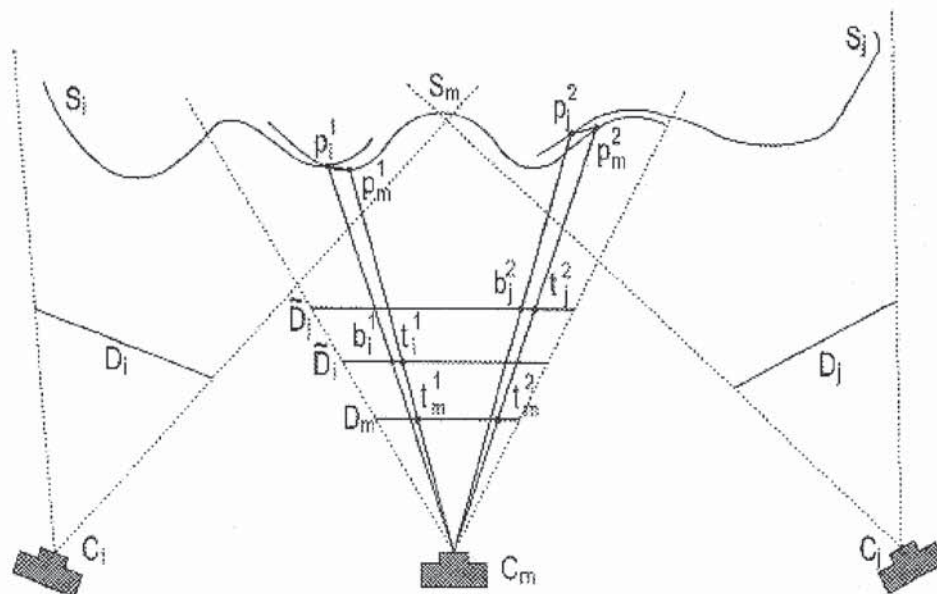* cited by examiner

Fig. 1

(Prior Art)

Fig. 2

Fig. 3A

Fig. 3C

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