Simple, Accurate, Real-Time 3D Imaging System

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Technology description

Brief Description

This invention relates to a simple, inexpensive, automated 3-D imaging system that will allow a physician to perform a rapid preoperative and postoperative 3-D analysis of the head and neck. The technology aids in airway quality evaluation in anesthesiology; plastic surgery and biometric systems, including 3-D facial recognition.

Application area

This technology could be used by anesthesiologists for difficult intubations, to reduce related mortality and morbidity; early detection of obstructive sleep apnea due to particular head and neck features. Plastic or maxillofacial surgeons may use it for preoperative modeling and follow up after corrective surgery.
Orthodontists may use it for analysis of facial disproportion and growth prediction.
It can also be used in security applications involving facial recognition.

Advantages

This would provide a simple, more accurate, real-time, non-invasive and safe cranio-facial measurement than 2-D images or from systems using high resolution commercial laser scanners. This system would create 3-D images of comparable quality and accuracy as from laser systems, without requiring tedious calibrations, special lighting, specific arrangements or an operator to intervene during the imaging process with greater ease and safety.

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