

ABSTRACT

A SYSTEM AND METHOD FOR MIXED REALITY TELE PROCTORING IN MINIMALLY INVASIVE SURGERY

The inventions relate to a mixed reality tele proctoring system (500) for use in surgical procedures, comprising a surgeon module (200), a network architecture (400) based on WebRTC for low latency communication, and a proctor module (300), wherein the system (500) enables real-time audiovisual communication and annotation between a surgeon (202) and a proctor (302). The surgeon module (200) is adapted to process and transmit 2D and 3D stereoscopic imagery from a wide range of endoscopic cameras (214). The network architecture (400) employs a signaling server (402) for handshake, exchanging encoding formats, and bitrate information and creates a peer-to-peer encrypted communication link between the proctor (302) and the surgeon (202). The proctor module (300) allows adjustments for screen size and inter-pupillary distance and allows proctor (302) to provide suggestions via voice and annotations on a virtual annotation panel (310). Multiple proctors could connect to the same operation theatres which eases methods of live surgery streaming for educational purposes.

Figure 5