AUS4INNOVATION

Telehealth

Augmented Reality Remote Assistance solution for managing rural patient

Funding granted: AUD 387,245

Context

In many rural and remote areas, healthcare staff have difficulty accessing realistic training and the real-time, prompt assistance from experienced mentors that can be provided by experts located in urban centres. This results in a lower availability of appropriate care in rural and remote settings and additional costs for residents of these areas when they are forced to travel for care.

Augmented Reality (AR) is an immersive experience in which the real world is enhanced by computer-generated three-dimensional content tied to specific locations and activities. In other applications, AR-based telehealth systems have been reported to be a more effective training technique in teaching some medical skills to novices compared to traditional systems.

Solution

Telehealth can improve clinical management and delivery of health care services in rural or remote areas. This project will support the development of University of Tasmania (UTAS)'s Augmented Reality Remote Assistance (UTAS-ARRA) system. With a heads-up display, and hands-free video calling, the local practitioners can call the centrally located experts and then share what they see. Using Microsoft's *HoloLens* technology, local practitioners and their mentors can troubleshoot issues in real-time and complete tasks together.

AR also allows experts to create annotations in 3D space and transmit them directly, or to share images and PDF documents in real-time. The use of wearable technology by UTAS-ARRA is also practical as the local operating practitioners can retrieve information and interact with imaging immediately and intuitively without removing their sterile gloves.

Key activities

1. Develop clinical scenarios and perform full-scale trials to test the solution in the high-fidelity environment at the simulation lab.
2. Develop, customise, install and UTAS-ARRA solution at Bach Mai hospital and eight provincial, district, and commune healthcare facilities in Yen Bai province.
3. Implement the system in a routine clinical environments to connect Yen Bai's practitioners to Bach Mai's experts.
4. Training sessions to provide hands-on and practical experience to all stakeholders in Vietnam to make them ready to implement the system.

For further information
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