

Teaching and Learning (T&L) Week

31 October – 4 November 2022



CREATE CHANGE



Using augmented and virtual reality in healthcare education

For students to engage, explore and practice in a safe and controlled environment

Acknowledgement of Country

The University of Queensland (UQ) acknowledges the Traditional Owners and their custodianship of the lands on which we meet.

We pay our respects to their Ancestors and their descendants, who continue cultural and spiritual connections to Country.

We recognise their valuable contributions to Australian and global society.

*The Brisbane River pattern from A Guidance Through Time
by Casey Coolwell and Kyra Mancktelow.*



Agenda

Using augmented and virtual reality in healthcare education

ITS support (5 mins)

gigXR HoloPatients 2.0 & HoloHuman 2.0 (10 mins)

apoQlar - Virtual Surgery Intelligence (VSI) (10 mins)

UQ Rural Clinical School experiential apps (25 mins)

- Community Awareness First Aid Training
- Interprofessional Communication Project
- Imminent Birth
- Urology Percutaneous Nephrolithotomy (PCNL) project

Future application (5 mins)

Q&A (5 mins)



ITS support

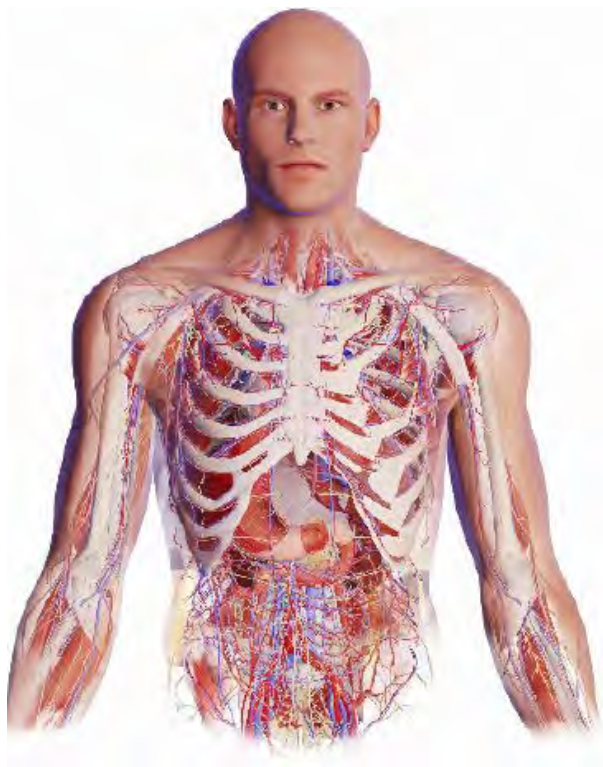
The CIO has actively promoted innovation in the Mixed Reality Space. Below is a list of services currently provided :

- **Loan Microsoft HoloLens 2, to assist capability assessment**
- **The ongoing support for the Holo Suite of products**
- **Cloud Infrastructure & Automated tools to support these devices**
- **A business and technical engagement team, accessed through ITS Relationship Managers and technical support officers**



gigXR HoloHuman 2.0

Aaron Grogan
(School of Nursing, Midwifery & Social Work)



Used by:
Dentistry, Nursing &
Occupational Therapy



gigXR HoloPatients 2.0

Aaron Grogan
(School of Nursing, Midwifery & Social Work)

17x patient scenarios:

Anaphylaxis

Asthma

Burn

COPD

COVID-19

Dementia/Delirium

Diabetes

Domestic Violence

Heart Failure

Hip Fracture

Myocardial Infarction

Parkinson's Disease

Preeclampsia

Sepsis

Stroke

Trauma

Sexual Assault



apoQlar VSI (Virtual Surgery Intelligence)

Claire Aland (School of Biomedical Sciences)

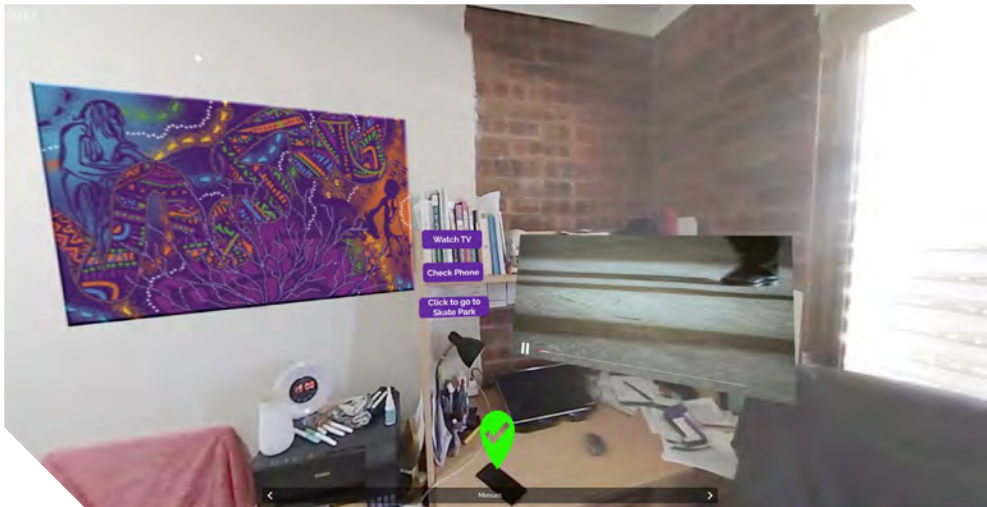
- Transform real-world medical images into 3D models for a 360° perspective (MRI, CT, SPECT etc.)
- Virtual movement, resizing, rotation, cutting/dissection and fixing of 3D images in a virtual space
- Combine 3D anatomy & pathology models from real world medical data
- Collaboration with local or remote participants sharing the same mixed reality environment



Experiential

Chris Camilleri
(UQ Rural Clinical School)

- **Community Awareness First Aid Training**
- **Interprofessional Communication Project**
- **Imminent Birth**
- **Urology Percutaneous Nephrolithotomy (PCNL) project**



Future Application

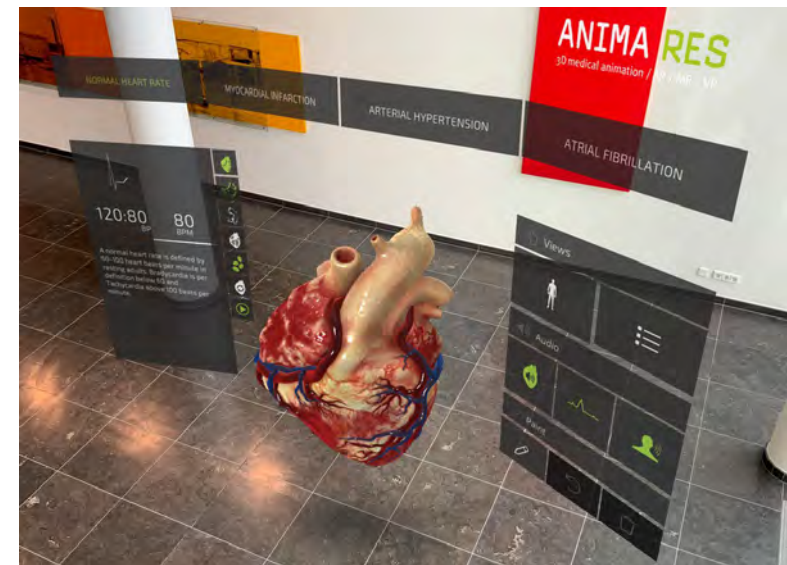
Upcoming applications to deliver new teaching and learning experiences in AR

GIGXR – HoloScenarios

Multi-participant mixed reality simulator. Your holographic patient improves or deteriorates as you make decisions & perform interventions.

GIGXR / Anima Res - Insight Heart (<https://vimeo.com/522367861>)

Exploration of the heart in mixed reality. Trigger impressive visualizations of various conditions, such as normal heart rate, myocardial infarction, arterial hypertension, atrial fibrillation and dive into the detailed mode of disease of coronary artery disease and atrial fibrillation.



Q&A

Contacts

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Resources and feedback

- Session recordings/resources will be available on the ITaLI website upon conclusion of T&L Week.
- All attendees will receive an email with the link to these resources and a request to complete a short survey on their T&L Week experience.



Thank you

School/Faculty/Business Unit



@uqITaLI



uq-institute-for-teaching-and-learning-innovation

CRICOS 00025B