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Serious Games and Digital Health

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Serious Games for Health Workshop
Philadelphia, USA. 22-23 March 2016

Serious Games & Digital Health

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Serious Games for Post-Stroke Rehabilitation

Funded by NI Chest, Heart & Stroke Association
Serious Games for Respiratory Physiotherapy

Partner with Nottingham University Hospitals
EU Regional Development Fund

3D Visualisation for Anatomy Education

Real-time Medical Visualisation of Human Head & Neck Anatomy and its Applications for Dental Training

Partner with
• Laboratory of Human Anatomy
  University of Glasgow

Funding
• NHS Education for Scotland

3D Visualisation for Physiology Education

Data Acquisition
- Confocal Microscope
- PET scan

Image Processing
- Processing/ Imaging software
- TIFF files

Segmentation and Surface Generation
- Axio Vision 5.4.6 - Semi-automatic and manual segmentation
- OBJ file

Post-processing and Rendering
- Autodesk Maya 2013 - Modelling and animation
- FBX export

Interactive Application
- Unity3D game engine
- SURFACE
- Stereolife exa

Partner with
School of Life Sciences, University of Glasgow
Funded by
Physiological Society David Jordan teaching grant

Sur-Face: A mobile app for educating patients regarding corrective surgery of facial deformities

- Orthognathic surgery - a complex procedure to correct the underlying facial deformities
- Patients make voluntary decisions
- Understand the intricacy of the techniques & potential risks of the surgery before they sign the consent form
- Interactive 3D visualizations in healthcare app

Available on Google Play, search "Sur FACE" Yeshwanth
Oculus Surgery
a mixed reality surgical training experience
Don’t worry Sir, you are in safe hands. We played the game well!


http://www.springer.com/engineering/computational+intelligence+and+complexity/book/978-3-642-54815-4
Mixed Reality Virtual Survivors for Holocaust Education

- The Interact Project
- Partners
  - The National Holocaust Centre & Museum
  - University of Huddersfield
  - Bright White Ltd
- Funding: NESTA, AHRC, The Arts Council England

Interaction of Holocaust Testimony and QA

Inspiring tomorrow’s professionals
Flow chart of Interact

- Spoken question
- Speech recognition
- Query elaboration
- Standardised question
- Information retrieval
- Unique answer ID
- Logic
- Has the answer just been played? Is the AV waiting/listening to questions?
- AV playback
- Meta data
- Spoken answer
- 3D graphic engine

What was your mum’s reaction when your dad was captured?

How did your mother react when your father was arrested?

She certainly reacted very quickly because we left our home.

Virtual patients for training doctors’ communication skills

Thank you

Contact
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