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Serious Games and Digital Health

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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**
- Optical Microscope
- PET Scan

**Image Processing**
- Processing: Image software
- TIFF Files

**Segmentation and Surface Generation**
- Apache 3.4.6 - semi-automatic and manual segmentation
- OBJ File

**Post-processing and Rendering**
- Autodesk Maya 2013 - Modelling and Animation
- VR export

**Interactive Application**
- Unity3D game engine - AR/VR
- Stereolive view

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**Partner with**
School of Life Sciences, University of Glasgow

**Funded by**
Physiological Society David Jordan teaching grant

**Daly, C., Clunie, L. & Ma, M. (2014) From Microscope to Movies: 3D animations for teaching physiology. Microscopy 
& Analysis 28(6):7-10, John Wiley & Sons.**

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**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**
Over crowded operating rooms

Oculus Surgery
a mixed reality surgical training experience

Equipment for the project

- 360° Video/Reality
- Motion control
- Unity 3D
- Leap Motion
- Stereoscopic 3D videos
- Oculus Rift
- Oculus Camera
- Virtual reality camera

Oculus Surgery - The Motivation

Over crowded operating rooms
Stereoscopic 3D videos
Don’t worry Sir, you are in safe hands. We played the game well!
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
Virtual patients for training doctors’ communication skills

Thank you

Contact

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