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Serious Games and Digital Health

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Serious Games & Digital Health

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Inspiring tomorrow's professionals



Serious Games for Post-Stroke Rehabilitation



Funded by NI Chest, Heart & Stroke Association
Ma, M. & Bechkoum, K. (2008) Serious Games for
Movement Therapy after Stroke. IEEE Systems,
Man & Cybernetics, Oct 2008, 1872-1877.

Inspiring tomorrow's professionals



Serious Games for Respiratory Physiotherapy



Partner with Nottingham University Hospitals
EU Regional Development Fund
Oikonomou, A., Hartescu, D., Day, D., & Ma, M.
(2014) **Computer Games Physiotherapy for Children with Cystic Fibrosis**. In *Virtual, Augmented Reality and Serious Games for Healthcare*, Ma, M. et al. (Eds.) 411-444, Springer, Heidelberg. ISBN 978-3-642-54815-4

Inspiring tomorrow's professionals



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

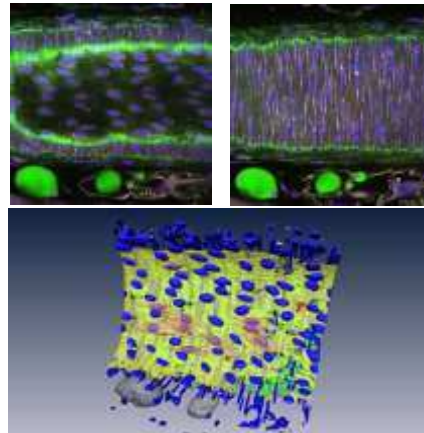
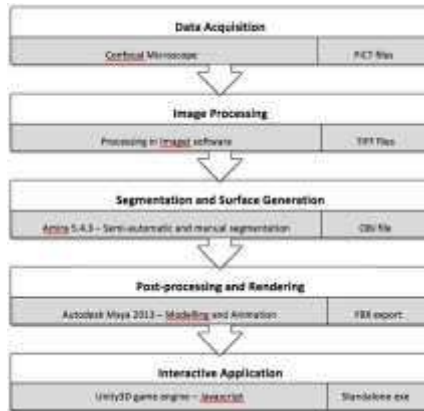
Funding

- NHS Education for Scotland

Anderson, P., Chapman, P., Ma, M. & Rea P. (2013) Real-time Medical Visualization of Human Head and Neck Anatomy and its Applications for Dental Training and Simulation. *Current Medical Imaging Reviews*, 9(4): 298-308, November 2013. Bentham Science Publishers: Netherlands.



3D Visualisation for Physiology Education



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.

Inspiring tomorrow's professionals



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

Inspiring tomorrow's professionals





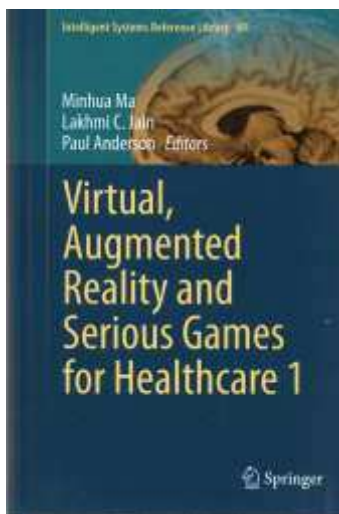
Oculus Surgery

a mixed reality surgical training experience

Equipment for the project

- Bubi Camera
- 360° Videography
- Thinker cell
- virtual reality viewer
- Interactive User Interface
- unity
- Unity 3D
- Motion control
- Leap Motion

Stereoscopic 3D videos



Ma, M., Jain, L., Anderson, P. (Eds.) (2014) Virtual, Augmented Reality and Serious Games for Healthcare 1. Springer-Verlag: Heidelberg, Germany. ISBN 978-3-642-54815-4, 650 p.

<http://www.springer.com/engineering/computational+intelligence+and+complexity/book/978-3-642-54815-4>

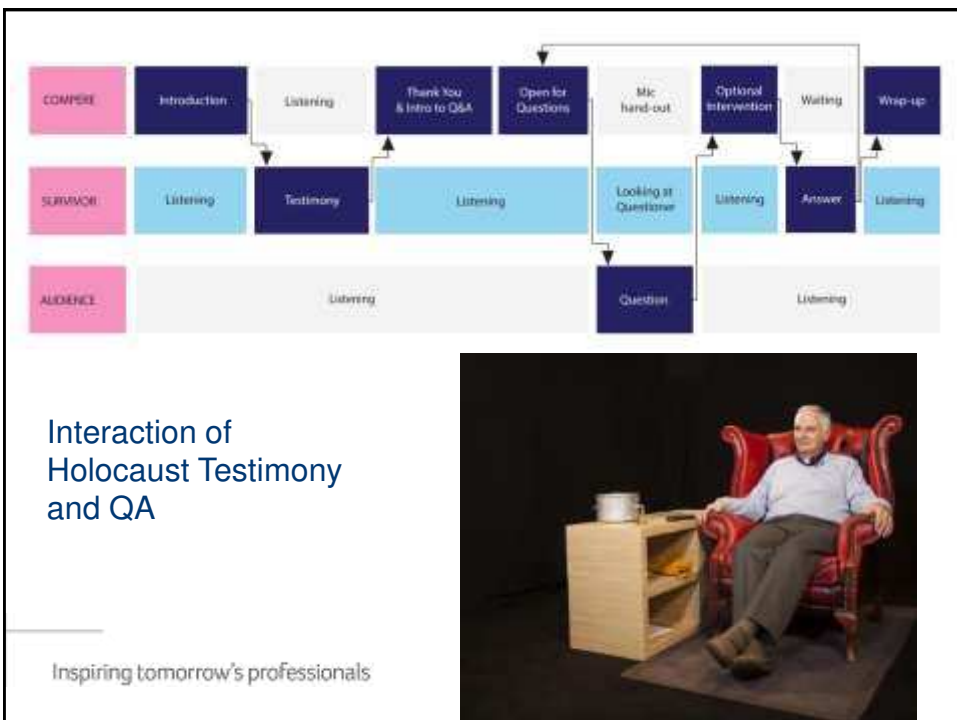


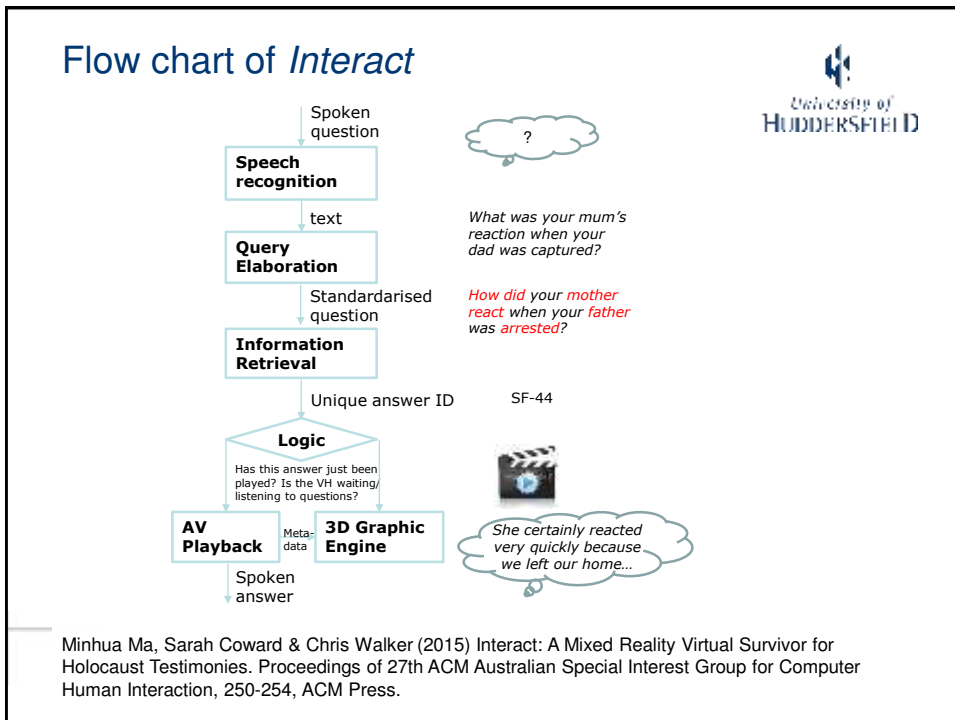
Inspiring tomorrow's professionals



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





Virtual patients for training doctors' communication skills



Inspir



Thank you



Contact



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minhua eunice ma

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