StudentShapers Recruitment: Calling all students with an interest in Surgery, Coding, and Virtual Reality

Virtual Reality – Anatomy and Surgery

Bursary:

£330/week (8 full time weeks)

Who should apply:

Students with an aptitude for coding and enthusiasm for creating software, as well as a keen interest in clinical education or surgery. We anticipate that students within Imperial College School of Medicine will be best placed to meet these criteria, but all Imperial undergraduates are eligible. Preference will be given to students who are not in their final year.

Campus/Location:

South Kensington, though with scope for remote working in the later stages of the project

Project details:

This is an opportunity to develop a range of three-dimensional models and other interactive content for use in virtual-reality teaching within the Faculty of Medicine. You will be working in partnership with Mr James Kinross and Mr Guy Martin, and in conjunction with the wider ViRSE team to design, code and test a system to model and visualise simple anatomical, and other clinically useful models that may enhance and augment undergraduate surgical teaching.

The goal is for this system to form the core of an interactive virtual reality application in which students can interact with three-dimensional models to better understand and appreciate clinically relevant human anatomy, and how this impacts the diagnoses and treatment of surgical pathology.

There are a range of current software applications and programs that use three-dimensional models to support anatomy teaching, for example those developed at Case Western Reserve University (https://case.edu/holoanatomy/). This project seeks to begin the development a more powerful, flexible and clinically relevant software platform that can be integrated into our ViRSE system for deployment in VR across Imperial.

https://sketchfab.com/3d-models/human-anatomy-female-pelvis-779438624fe846f2bde56c33ab4c30b3

The student undertaking this engagement will gain technical skills and experience in coding (in C#/Unity), and in three-dimensional visualisation. They will also gain experience in collaborative software-development as part of a professional team.

This engagement is part of the ViRSE (Virtual Reality Student Experience) project, which is developing a virtual reality platform to ease the development and deployment of 'multi-player' virtual reality into Imperial's teaching across a range of departments and subjects. ViRSE is built on the Unity game engine, and all ViRSE applications (including this project) are also built within Unity; code is written in the C# programming language. Students will not
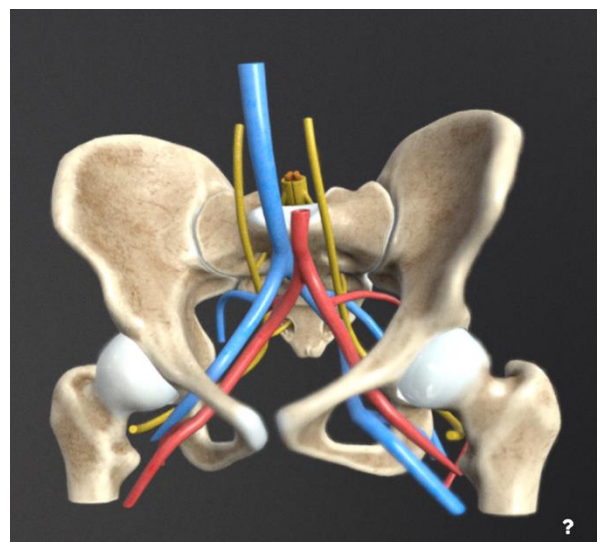
need to build a VR interface, write rendering code, or concern themselves with networking or administrative issues; these are handled by the ViRSE framework and the Unity engine. The development in this engagement will concentrate on the creation of a three-dimensional 'environment' specific to the project, and creating and testing the code necessary to make it function, and to interface with the ViRSE system.

All ViRSE student shaper engagements will commence with a two-week full time collaborative skill development and training course run by the Interdisciplinary EdTech Lab (IETL), which will provide the necessary grounding in the C# language, object-oriented programming, the Unity engine, and the virtual reality interface. This training will take place July 4th-15th 2022. In subsequent six project weeks the ViRSE student partners will lead on the development of the particular applications within Unity, in collaboration with the academic lead, and with the ViRSE team providing technical support and advice. These six project-development weeks are flexible in precise timing, but should take place over summer 2022, before the start of Autumn term of the 22/23 academic year.

How to apply:

Applications (300-500 words) should be made via the 'Student Expression of Interest' form on the StudentShapers website ([here](#)) or accessed using the above QR code. This will then be distributed directly to the appropriate staff partner.

Deadline: 22nd April 2022

Contact details: *Contact Mr Guy Martin (Department of Surgery & Cancer), guy.martin@imperial.ac.uk further information*