

Vacancy number:

24345

Organisation name:

iMayflower

Vacancy title:

"Enhancing Rehabilitation Using XR Technologies in Clinical Environments" Masters R&D Studentship

Vacancy summary:

Are you considering applying for the MRes Digital Art & Technology with the University of Plymouth in 2021?

Do you have an interest in exploring how digital technologies can help organisations to innovate, grow or increase productivity?

Are you keen to work collaboratively with an established industry partner to apply your knowledge and further your own research, in a work context, contributing to the development of a new product, service or experiential offering, and enhancing your future career prospects?

Torbay and South Devon NHS Foundation Trust: "Enhancing rehabilitation using XR technologies in clinical environments" Masters R&D Studentship

About Torbay and South Devon NHS Foundation Trust:

TSDT is an active and innovative NHS organisation in digital health, with a particular reputation in developing and implementing appropriate use of XR technologies in its education and carebased pathways. The VR Lab at Torbay Hospital has delivered an active programme of research and innovation since 2017. The Lab was set up to bring together healthcare professionals (from a range of roles), patients, academia and industry and facilitate the co-design, development and early adoption of immersive technologies. The insights gained are now informing national strategy and policy in healthcare education.

The work of the VR Lab in digital healthcare is expanding. This is partly in response to the pandemic, but also as integral part of the Trusts ambitious programme of digital transformation that maps into NHS 10-year plan - and our aspirations for realising the service of tomorrow begins today.

About the project: Enhancing rehabilitation using XR technologies in clinical environments

This project aims to further develop our understanding of the impact the practical application of immersive XR technologies can have on the patient rehabilitation during and after a period in intensive care.

It will build upon work already undertaken between TSDFT Intensive Care Unit (ICU) team and Prof. Bob Stone utilising an enhanced rehabilitation bike with gamified output. This strongly endorsed that bringing the outdoors and green spaces into ICU has definite therapeutic benefits (improved duration and engagement with rehabilitation) as well as positive impact on patient anxiety and well-being.

This project provides the opportunity to further scope and develop new interactive visual interfaces – for example projection on to the walls of an ICU side room - that will support and augment current mindfulness rehabilitation activity and have a positive impact on anxiety and well-being.

This is an opportunity to create an experience that enhances and personalises the clinical setting for the benefit of our patients. The utilisation of local landmarks and locations may be an important consideration, as connectivity between patient and the local area is a powerful element of mindful rehabilitation.

The development of immersive interventions will need to be sensitive to the needs of the user group and the unique nature of the ICU environment and it is expected that the student will consider a range of important human-centred issues relevant to this particular cohort and context. This will include needing to consider immersive technologies that are non-obtrusive and practical to use.

Due to the need to appreciate both clinical awareness and human factors elements, this project will involve working closely with our Intensive Care Rehabilitation specialist James Bruce, human factors advisor Prof. Bob Stone and Clinical Service Lead Dr Tod Guest to ensure any technology enabled intervention in this environment is carefully considered and relevant, with genuine opportunity to make a difference to people's lives.

We are looking for a postgraduate student who will be involved in the development of tools and applications of digital / XR technology to increase the acceptance of and promote engagement with treatments and therapies for hospital in patients. Particularly during recovery and rehabilitation from longer and more severe illness where newly acquired weakness and disability are being addressed through therapy teams and patient is going through significant psychosocial readjustment.

The Student will work with clinical teams, the digital innovation team and patient representation to ensure a truly codesigned and contextually relevant output is achieved.

The student will have a unique opportunity to be positioned in a function that junctions digital technologies, academia and healthcare. For this position it will be crucial that the student can undertake activities that are both creative/design focused and have knowledge and proficiency in XR experience development.

This would ideally be complimented by an ability and desire to engage with our clinical teams and staff and an appreciation and interest for human interface design and human factors.

Activities will include taking part in design workshops & discussions, further researching the opportunities (such as what is practical to deliver in this setting), prototyping ideas and early concepts and contributing to the Digital Futures programme (a TSDFT digital innovation workstream). In addition to the supervision of the Plymouth University team, the student will have the benefit of receiving guidance and support from the TSDFT project steering group whose membership covers clinical, digital and human centered design experience (biographies attached).

A clinical fellow will be allocated to work alongside the student on the project and act as a key point of contact. There will be opportunity of presenting this work to regional networks and at our yearly

research conference.

Undertaking the role will require occasional visits to the hospital and interaction with our healthcare teams. We therefore ask for individuals with an appreciation and sensitivity to the hospital environment.

They will be subject to required checks in order to satisfy honorary contract status.

Applicant profile:

We are looking for candidates that have a strong design thinking and creative development skillset, that covers the use and understanding of visual technologies and/or interest in game design when applied to the context of healthcare. The theme of this project revolves around furthering the use of XR technologies for rehabilitation, therefore we are really keen to have a student that can explore the use of immersive technologies such as VR and AR with us, where digital assets/interaction can be overlaid or incorporated within the clinical environment.

We are also keen to attract a student who will have interest and an appreciation for the cognitive and emotional elements that a digital intervention in this space may entail. This should include an interest in how evaluation of immersive technology interventions that are practical to deliver in an ICU setting can occur.

Although this is a digital project, just as importantly is the way this project engages with the identified need and the service around it, particularly when considering how a digital intervention / tool is implemented.

This is, by its very nature, a multidisciplinary project, requiring the student to undertake human-centred design activities, site surveys (scenes of local green and blue nature) and the development of an appropriate interactive XR implementation. Given the timescales involved, it is not expected that the student will need to learn 3D modelling and VR rendering from scratch. Rather, as has been shown successfully in the past, the student will be expected to identify and integrate a number of online assets in a meaningful interactive environment. The Torbay Team has access to a range of 3D models and rendering/effects assets which could be made available, although it is likely that others will be required, depending upon the simulated location of choice.

Salary details:

Competitive

Successful applicants will receive a scholarship of £3000 towards their course fees. The business (Sponsor) will also receive a stipend of up to £2000 towards agreed costs of materials, travel and accommodation directly associated with the project. Students will receive joint supervision from the business and University staff throughout the duration of the project, impacting positively on your practice and future prospects.

Closing date:

04-Jun-2021

How to apply:

This project is expected to be delivered through the MRes Digital Art and Technology, applicants should therefore have secured or be in the process of applying for a place on one of these programmes.

To be considered for this Masters R&D Studentship, please contact us with a covering letter, detailing the skills you would bring to this role and areas you would like to develop through the experience. Please also include a completed Expression of Interest form (see attached documentation, if you haven't already returned one), your CV and links to your portfolio, if you have one.

Email

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