Research Associate (1.0 FTE) - UNITY VR
Research Developer for Maritime Heritage
School of Simulation and Visualisation
Fixed Term – 24 months

Job Title: Research Associate (1.0 FTE) - UNITY VR Research Developer for Maritime Heritage

Location: The Hub, Pacific Quay, Glasgow

Reports to: Reader in Heritage Visualisation

Purpose of the Role

The Project

The UK Marine Area extends over some 867,400 km2, an area equivalent to around 3.5 times the UK terrestrial extent. The UK's marine heritage is extraordinarily rich and exciting. Wrecks on the sea bed range in date from the Bronze Age to the World Wars and bear testimony to Britain as an island nation, a destination for trade and conquest, and in past times, the heart of a global empire. Communities along the coast have been shaped by their maritime heritage and monuments and stories recall losses and heroes.

This arc of heritage, stretching over 23,000 years, is represented by an abundance of collections. Charts and maps, documents, images, film, oral histories, sonar surveys, seismic data, bathymetry, archaeological investigations, artefacts and objects, artworks and paleoenvironmental cores all tell us different things about our marine legacy. But they can't easily be brought together. They are dispersed, held in archives, unconnected and inaccessible. This matter because it is clear that the story of our seas is of huge interest to the UK public. In 2019 alone, there were 2.9m visits to Royal Museums Greenwich, home of the National Maritime Museum; 1.1m visits to National Museum Royal Navy; 837,000 visits to Merseyside Maritime Museum, and 327,000 visits to HMS Belfast. If we are to unlock new stories and manage our past effectively and sustainably, we need to join up all our marine collections and get the most of them.

UNPATH will bring together first-class universities, heritage agencies, museums, charitable trusts and marine experts to work out how to join these collections up. It will use Artificial Intelligence to devise new ways of searching across newly linked collections, simulations to help visualise the wrecks and landscapes, and science to help identify wrecks and find out more about the artefacts and objects from them. It will deliver integrated management tools to help protect our most significant heritage. And it will invite the public to help co-design new ways of interacting with the collections and to help enhance them from their own private collections. The methods, code and resources created will be published openly so they can used to shape the future of UK marine heritage.

One Ocean Hub is a major Global Challenges Research Fund project working with partners in the South Pacific, South and West Africa. The Hub aims to transform the global response to the urgent challenges facing our oceans by bridging current disconnections in law, science and policy to balance ocean uses with a conservation agenda. Crucially, it strives to empower the

communities, women and children, most reliant upon the oceans, to inform decisions about its future. A key aspect of the Hub's research activity, being led by the School of Simulation and Visualisation at the Glasgow School of Art, focuses on emotional engagement with the ocean and this work will be supported by a fund (the DEEP fund) to facilitate arts and cultural heritage-based responses to the ocean, arising from ocean communities. This post will include helping prepare an online/virtual exhibition of the DEEP fund outputs.

The Role

Main Duties

This post is for a research associate skilled in VR who will work with the GSA's project lead, and external partners to implement a co-designed immersive system for into maritime heritage datasets. The immersive will access these heritage datasets dynamically, including externally hosted 3D content. The immersive will initially focus on three audience case studies: Cross-disciplinary researchers, the visually impaired community and non-coastal communities. This will require the development of exciting and novel interface approaches such as the use of spatialised audio as well as creative representation(s) of the maritime environment.

Ultimately, this research will deliver a fully evaluated immersive system that clearly demonstrates the value of creating a national maritime collection through data integration and the benefits of working with multiple users groups to create new modes of access and uses of such a collection. The final outputs will include exhibition standard immersives, one developed in UNITY (or similar) for the AHRC Funded UNPATH project and one (via Matterport) for the GCRF One Ocean Hub project.

Tasks associated with this role include:

- Participating in audience engagement and co-design through partner workshops.
- Dataset definition and development with UNPATH partners.
- Developing an immersive environment in UNITY based on the co-design outcomes, including the development of novel UIs and real-time access to partner datasets.
- Liaising and assisting in dissemination activities including public exhibition and installations.

Other duties will also include: -

- This role will ultimately involve national/international travel (although in the interests of sustainability this will be kept to a minimum), a willingness to travel, including overnight stays, is therefore a requirement.

<u>Relationships</u>

Principal Internal Contacts:

- The line manager for this post will be Dr Stuart Jeffrey - OOH CI, UNPATH CI.
- UNPATH Post-Doctoral Research Associate
- One Ocean Hub Post-Doctoral Research Associate
- The Director of the School of Simulation and Visualisation
- Head of Research for the School of Simulation and Visualisation
- The GSA Head of Research and Enterprise
- Other SimVis research and technical staff

- GSA Finance Department

Principal External Contacts:

- All UNPATH Partner organisations, particularly MOLAS, University of Bradford, the University of Southampton and SCAPE at the University of St Andrews.
- UNPATH PI Barney Sloane, Historic England
- One Ocean Hub RP2 Collaborators in Ghana, South Africa and The Pacfic
- UK Community participants and group representatives.

Person Specification

Experience / qualifications

Essential:

- A higher degree and/or relevant experience in developing real-time immersive environments using games engine technology (UNITY).
- A good understanding of UI development, specifically in immersives systems
- A broad understanding of visualisation technologies, web based, e.g. Web GL and stand-alone and their design processes.
- Demonstrable experience in managing large and complex development projects.
- Demonstrable experience in managing public facing digital visualisation projects to specific deadlines.

Desirable:

- An understanding of heritage database structures for searchable metadata (particularly linked data, i.e. RDF Triples)
- A broad understanding of community co-design and engagement processes.
- An understanding of maritime heritage
- Experience in working in digital dissemination, including VR/AR and GIS
- Website, social media and blog management.

Skills and attributes

Essential:

- A high level of IT development skills, including scripting and coding is essential including, web technologies
- The ability to manage technology-based heritage projects including responding to design briefs generated by project partners.
- A proven ability to work individually and as part of a team, to agreed objectives, and to tight deadlines.
- Excellent interpersonal skills; Excellent planning, coordination and leadership skills;
- The ability to think innovatively and creatively;
- Strong presentation and communication skills, including report writing.

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Terms and Conditions

Contract   Fixed Term (24 months)

                               This post will be split 50/50 between the One Ocean Hub
                               Project and UNPATH projects in year one and then entirely on
                               the UNPATH project in year 2.

Probationary Period   It is recognised that there is an inevitable 'settling in' period in
                               any post. The probationary period is therefore an opportunity
                               for the employee to fit within the culture of the School. It
                               should also be determined during this time whether the job is
                               in line with expectations as expressed in pre-appointment
                               discussions, interview and as set out in the Job Description.
                               The probation period for this role is 6 months.

Salary   Grade 6, £34,308.00 - £39,745.00 per annum

Hours   35 hours per week

Holidays   35 days plus 11 statutory holidays per annum

Pension   Scottish Teachers' Superannuation Scheme

Notice Period   3 months