POSITION DESCRIPTION

Position Title: Virtual Reality (VR) Simulation Developer
Organisation Unit: School of Civil Engineering – Transport Group
Position Number: New
Type of Employment: Fixed Term until 28 February 2020
Classification: HEW Level 5 (consistent with Casual Researcher)

THE UNIVERSITY OF QUEENSLAND

The University of Queensland (UQ) contributes positively to society by engaging in the creation, preservation, transfer and application of knowledge. UQ helps shape the future by bringing together and developing leaders in their fields to inspire the next generation and to advance ideas that benefit the world. UQ strives for the personal and professional success of its students, staff and alumni. For more than a century, we have educated and worked with outstanding people to deliver knowledge leadership for a better world.

UQ ranks in the world’s top universities, as measured by several key independent ranking, including the Performance Ranking of Scientific Papers for World Universities (43), the US News Best Global Universities Rankings (52), QS World University Rankings (47), Academic Ranking of World Universities (55), and the Times Higher Education World University Rankings (60). UQ again topped the nation in the prestigious Nature Index and our Life Sciences subject field ranking in the Academic Ranking of World Universities was the highest in Australia at 20.

UQ has an outstanding reputation for the quality of its teachers, its educational programs and employment outcomes for its students. Our students remain at the heart of what we do. The UQ experience – the UQ Advantage – is distinguished by a research-enriched curriculum, international collaborations, industry engagement and opportunities that nurture and develop future leaders. UQ has a strong focus on teaching excellence, winning more national teaching excellence awards than any other in the country and attracting the majority of Queensland’s highest academic achievers, as well as top interstate and overseas students.

UQ is one of Australia’s Group of Eight, a charter member of edX and a founding member of Universitas 21, an international consortium of leading research-intensive universities.

Our 50,000-plus strong student community includes more than 13,000 postgraduate scholars and more than 12,000 international students from 144 countries, adding to its proud 240,000-plus alumni. The University has about 7,000 academic and professional staff and a $1.8 billion annual operating budget. Its major campuses are at St Lucia, Gatton and Herston, in addition to teaching and research sites around Queensland and Brisbane city. The University has six Faculties and four University-level Institutes. The Institutes, funded by government and industry grants, philanthropy and commercialisation activities, have built scale and focus in research areas in neuroscience, biomolecular and biomedical sciences, sustainable minerals, bioengineering and nanotechnology, as well as social science research.
UQ has an outstanding track-record in commercialisation of our innovation with major technologies employed across the globe and integral to gross product sales of $11billion+ (see http://uniquest.com.au/our-track-record).

UQ has a rapidly growing record of attracting philanthropic support for its activities and this will be a strategic focus going forward.

Organisational Environment

The School of Civil Engineering is one of the largest schools of its kind in Australia. Located in the state-of-the-art, $135 million Advanced Engineering Building, the School passionately delivers world-leading teaching, research, and service. We aspire to be the civil engineering school of choice for students, staff, industry, and the wider community in the fields of water, environmental, geotechnical, structural and transportation engineering.

Our goal is to foster graduates with the technical and professional skills required to lead the civil engineering profession and we aim to re-engineer civil and environmental research to improve the way communities operate and function.

Our academic staff hail from over 24 countries, are widely published and cited, and have extensive research backgrounds in diverse engineering disciplines including coastal, environmental, fire safety, geotechnical, hydraulics, structural, transport, and water resources. These research strengths attract expert academics and students from around the world and provide industry with consulting expertise, research collaboration and testing facilities.

Our people are our greatest asset. We offer collaborative, inclusive work and study places, which are enriched by the significant diversity of our staff, students and community. We genuinely believe that creativity and innovation flourishes in an environment where people feel supported, valued and empowered. Mutual respect, inclusivity and accountability are at the cornerstone of UQ’s culture.

The School is committed to supporting the career growth of women researchers and have a number of initiatives to support women in developing and achieving a fulfilling research career at the School.

The School has an agreed set of values that include:

1. Respecting each other.
2. Embracing equity and diversity.
3. Making decisions transparently whenever possible.
4. Collaborating across disciplines and universities.
5. Supporting each other.
6. Being accountable and responsible.
7. Seeking first to understand then be understood.
8. Making positive and meaningful societal contributions.
9. Celebrating achievement.

For more information about the School, please visit: www.civil.uq.edu.au

Information for Prospective Staff

The School recognises and values equity and diversity, and encourages applications from any individual who meets the requirements of this position irrespective of gender, sexuality, race, ethnicity, religion, disability, age or other protected attributes. The School strives to provide an inclusive working environment, and along with the University is committed to supporting staff with family and caring responsibilities by providing policies, programs and initiatives to help balance work and family responsibilities.
Further information about life at UQ including staff benefits, relocation and UQ campuses is available at - [http://www.uq.edu.au/current-staff/working-at-uq](http://www.uq.edu.au/current-staff/working-at-uq)

**DUTY STATEMENT**

**Primary Purpose of Position**

The primary purpose of this position is to provide research support for a PhD research project analysing pedestrian crossings in relation to autonomous vehicles. The Virtual Reality (VR) Simulation Developer will work closely with the Project Leader to implement project plans and ensure a realistic VR environment. The role will ensure tasks are delivered on time and on budget.

The Virtual Reality environment will be modelled on the zebra crossing located in Queen Street, Brisbane and will include buildings, bus stops, green areas, trees, bins, vehicles and pedestrians.

**Duties**

Duties and responsibilities include, but are not limited to:

- Establish and maintain strong working relationships with the Lead Researcher and UQ Staff
- Build and set up a realistic VR environment by working closely with the Lead Researcher to ensure requirements and specifications are met
- Animate vehicles both autonomous and human-driven
- Animate pedestrians crossing at a zebra crossing, standing still or interacting with drivers and autonomous vehicles
- Scale the Virtual Reality simulation
- Diagnose and fix bugs
- Complete processes associated with budgeted costs
- Cooperate with all health and safety policies and procedures of the university and take all reasonable care to ensure that their actions or omissions do not impact on the health and safety of others in the university
- General administration duties
- Any other duties as reasonably directed by your supervisor

**Other**

Ensure you are aware of and comply with legislation and University policy relevant to the duties undertaken, including but not exclusive to:

- the [University's Code of Conduct](http://www.uq.edu.au/current-staff/working-at-uq)
- requirements of the Queensland occupational health and safety (OH&S) legislation and related [OH&S responsibilities and procedures](http://www.uq.edu.au/current-staff/working-at-uq) developed by the University or Institute/School
- the adoption of sustainable practices in all work activities and compliance with associated legislation and related University [sustainability responsibilities and procedures](http://www.uq.edu.au/current-staff/working-at-uq)
• requirements of the Education Services for Overseas Students Act 2000, the National Code 2007 and associated legislation, and related responsibilities and procedures developed by the University

Organisational Relationships
The position reports to the School Manager, School of Civil Engineering. The Lead Researcher and supervisor is Prof Mark Hickman in the School of Civil Engineering.

SELECTION CRITERIA

• Experience building a realistic Virtual Reality Environment which included such things as buildings, trees, green areas, pedestrians and vehicles
• Strong background experience in general unity development (integrating assets, creating scenes, project management etc)
• Demonstrated strong C# / C++ development expertise
• Familiarity with standard 3D graphics software such as Maya
• Familiarity working with room-scale virtual reality headsets
• Ability to test, diagnose and fix bugs
• A creative, growth orientated mindset and an eagerness to explore new and exciting directions in immersive computing
• Experience in the use of a wide range of computer applications in a network environment.
• Excellent interpersonal skills including the ability to communicate effectively with clients by telephone, email and in person
• Ability to prioritise own workload, work independently and meet deadlines.

The University of Queensland values diversity and inclusion.

Applications are particularly encouraged from Aboriginal and Torres Strait Islander peoples. For further information please contact our Australian Indigenous Employment Coordinator at: atsi_recruitment@uq.edu.au
Applications are also encouraged from women.