Software Developer: Mid-Air Haptics Project

Centre for Human-Computer Interaction Design

April 2019

The University for business and the professions

Role Profile

Post:	Software Developer: Mid-Air Haptics Project
Department:	Centre for HCI Design, Department of Computer Science
School:	School of Mathematics, Computer Science and Engineering
Grade:	Grade 5 point 26 (temporary staff) – 19.35/hour
Tenure:	Total of 90 hours, flexible over between May and June
Responsible to:	Dr Timothy Neate

Background

We are seeking an experienced C++ developer to undertake a small implementation project as part of research into mid-air haptics, based in the Centre for HCI Design at City, University of London.

Mid-air haptics is an exciting novel technology which uses ultrasound to give users haptic feedback when gesturing in mid-air.

The post-holder will be developing in C++ for the Ultrahaptics development kit. Ultrahaptics (https://www.ultrahaptics.com/) is a novel piece of technology which uses ultrasound to provide tactile sensations in mid-air. They will develop C++ code to support experimental work using the LeapMotion and Ultrahaptics SDK. Familiarity with the LeapMotion SDK is desirable and a reasonable understanding of 3D maths (e.g. vectors, matrices) is essential. Experience of building simple software GUI using C++ libraries would also be advantageous.

Main Duties

- Work with the project team to develop for the Ultrahaptics toolkit.

- Develop code to support user testing of the system

- Succinctly document the code and the development process

- Report regularly to the grant holder

- Contribute to the overall activities of the project team as required

- Be based within the Centre for HCI Design at City, University of London (hardware cannot be removed from the premises).

Additional Information

- The post holder must at all times carry out their responsibilities with due regard to the University's Equal Opportunities Statement

- The post holder must accept responsibility for ensuring that the policies and procedures relating to Health and Safety in the workplace are adhered to at all times.

- The post holder must respect the confidentiality of data stored electronically and by other means in line with the Data Protection Act.

- The post holder must carry out their responsibilities with due regard to the non-smoking environment of the University

Sustainable Development

The University is committed to a policy of best practice to assist in building a sustainable way of life by taking a positive, solutions-orientated approach. All post holders are encouraged to contribute through their roles to improving the environment, for the University and the wider community. This is promoted via The Forum for the Future – Higher Education Project. Details of policy, information and the staff development supporting the policy on the environment will be promoted through the website and various University communication channels.

The above list is not exclusive or exhaustive and the post holder will be required to undertake such duties as may reasonably be expected within the scope and grading of the post. All members of staff are required to be professional, co-operative and flexible in line with the needs of the post, Division, School and the University.

Person Specification

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Qualifications

BSc in Computer Science, or transferrable discipline (2.1 or above)

Experience

Experience of developing in C++

Developed in XCode previously (desirable)

Experience of delivering innovative technical implementations

Knowledge

Knowledge of C++

Knowledge of 3D mathematics (vectors, matrices, etc.).

Knowledge of LeapMotion SDK (desirable)

Skills

Excellent problem solving skills

Personal Qualities

An ability to work as part of a multidisciplinary team and respond to the ideas and suggestions of fellow team members.

An ability to work independently and complete tasks with minimal supervision.

Highly organised, with excellent attention to detail.