Joseph Greaney

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Profile

A forward-thinking BSc. Hons Computer Science graduate, with established organisational and professional skills. Strong team ethos and analytical ability, who enjoys the challenge of work. Developed & proven communication and interpersonal skills. Keen interest in virtual and augmented reality applications and remote operations.

Key Skills

Source Control	C#
HoloLens and Oculus Touch development	Unity and Source 2
Scientific and statistical visualisation	.NET sockets
Object-oriented programming	C++
HoloLens and Oculus Touch deployment	Python
3D Asset Design and Photogrammetry	3DS MAX

Education

BSC Computer Science: First Class with Honours, University of Hull   September 2016 – July 2020

Completed a variety of functional assignments, including virtual environments using Unity with C#, learning contemporary principles of virtual reality design and how to compensate for technological limitations, earning BCS accreditation, and proving my abilities for independent study and understanding new and radical development concepts. Learned to communicate effectively via written reports and group meetings, and adapt rapidly to changing specifications and circumstances by working through lockdown. Organised a variety of team tasks, focused on research and development using the HoloLens platform, learning to coordinate effectively as part of a team, lead when necessary and develop remotely controllable room-scale simulations. Scheduled and completed a two-semester, goal oriented working schedule, learning to effectively use Agile and iterative development strategies to progress. Automated data cleaning and taxonomy processes using Python, to create accurate decision systems, learning contemporary methods for enabling efficient and accurate machine learning. Used source control to maintain changelogs, track task completion and gauge progress throughout.

Modules

Third Year: Virtual Environments, Advanced Software Engineering, Visualization, Data Mining and Decision Systems.

Second Year: Electronics and Interfacing, Database Techniques, Systems Analysis Design and Process, Artificial Intelligence, Advanced Programming, Networking and User Interface Design.

Virtual Environments - Managed a group project developing software for the HoloLens platform, using Unity with C# scripting to enable remote operation and calibration. Developed a 360-degree video player for the Oculus Rift, with diegetic user interfaces and focus activated displays.

Research Project (Virtual Environments and Dexterity) - Planned and documented an eight-month research project for evaluating spatial distortion effects in virtual reality, featuring a virtual testing environment to be deployed on the Oculus Rift / Touch platform, using Unity with C#. Developed custom assets using 3DS Max. Successfully implemented environments captured using photogrammetry, automatic experimental data generation into dated, serialised CSV file entries, hand-dependent controller inputs and remotely configurable avatar user representation.

Visualization - Used Git source control, D3.JS and Paraview packages to create and evaluate scalable, multi-dimensional abstract visualisation objects for engineering and financial data sets. Produced interactive radar charts, OHLC graphs, and three-dimensional volumetric renders with animated vector streamlines.

Advanced Programming - Produced a wordsearch solver using C++, with process threading, pointers, references, linked lists, and efficiency instrumentation.

Networking and User Interface Design - Implemented .NET sockets, TCP stack and threading techniques to produce client and server facilities with graphical user interfaces, providing allowances for multiple HTML formatting protocols, simultaneous incoming requests, and error handling.

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Relevant Experience

Laboratory Assistant: University of Hull, Faculty of Science & Engineering   **February 2018 – May 2019**

Assisted with lab sessions educating foundation year students in C#, HTML, CSS, XML and SVN repository systems. Guided students through coursework and practical assignments, helping them build a web design portfolio. Assisted in managing team projects for system specification and functionality implementation, whilst developing contemporary ethical understanding with respect to data handling. Monitored and assessed student progress on behalf of Lecturers. Received high praise from many undergraduates, to the extent of being requested to provide private tuition.

Projects and Interests

Limbal Creative   **September 2017 – July 2019**

Established informal design label. Produced poster graphic, three-dimensional model and merchandise designs for University societies and student union election campaigns in Hull and York. Developed virtual environments for the Janus VR platform, using Source 2 and Unity.

Free Rock Ensemble   **September 2019 – January 2020**

Played rhythm guitar in a music society project. Programmed and automated synthesisers and audio filters using Ableton MAX. Recorded solo work under the label of j48.