Russell Billingsley

Curriculum Vitae

Education

2014– **Ph.D., Computer Science**, *University of Hull*, Hull, In progress.
My research project is concerned with resolving the scalability issues involved when rendering volumetric data for real-time immersive virtual reality. During this time I have gained experience within this field, and experience extracting information from technical reports, papers, and presentations. I've also been given several opportunites to give technical presentations to peers and write technical reports (which has given me experience with LaTeX),
Under the Postgraduate Training Scheme I completed two MSc level modules in Real-time Graphics (**DirectX 11**) and Advanced C++. I've had the opportunity to aid undergraduates with their learning as a Lab Demonstrator for C#, networking, mobile development(Android) and 3D graphics (OpenGL).

2011–2014 **BSc Hons, Computer Science with Games Development**, *University of Hull*, Hull, *First*.
My degree course contained modules offering hands on experience with a variety of programming languages such as **Java** and **JavaScript**, but mainly consisting of **C#/.NET** and **C++**. There was a focus on team work with several group projects a year, and coverage of industry standard development methodologies. I gained experience in a variety of types of development such as: application, graphics (**OpenGL**), cross-platform, mobile **(Android**, **Windows Phone**), client/server networking and web development.

Selected Projects

2014– **Cross Platform Volume Renderer**, *Ph.D. Project*, Hull.
This project is a supporting part of my Ph.D work. The solo project revolves around the creation of a real-time rendering framework. The goal of this project was to create a software framework to aid in real-time rendering research as I found that using an off the shelf engine wouldn't allow the same versatility and the same kind of learning opportunities that doing as much of the development as reasonably possible would. During this project I've gained experience with real-time rendering API's, cross-platform development between OSX/Mac OS and Windows with C++, source control software **Git**, and the **cmake** build system. The framework as it exists today is an application for rendering volumes, but the software design allows for introduction of new capabilities such as new platforms, new rendering API's, and I/O technologies (such as VR) with ease.

June – August 2014 **Volume Visualiser for Virtual Reality and Immersive Environments**, *Research Internship Project*, Hull.
This project was part of my work as a Summer Research Intern and it was to create a Volume visualiser for the output of physics simulations. The goal was to visualise these simulations on Oculus Rift VR hardware and on the Cube Immersive Display systems within the Departments Immersive Visualisation Environment (HIVE). Due to the limited time avaliable to complete the project the application was developed using the **Unity3D** game engine, which allowed fast iteration and easier deployment onto custom display technology. This gave me experience developing with Unity3D, and developing for VR hardware/custom display units. The project created a tool for scientists to visualise their data on a variety of new and engaging mediums, for me it gave me more experience in creating and "shipping" a project for users in a limited period of time.

April & October 2012 **Game Jam Entries**, *Departmental 24 Hour Game Jam "Three Thing Game"*, Hull.
April 2012: Windows Phone, "Shear Carnage", Second Place
October 2012: Windows Phone, "Hypermorph", First Place
Both projects were undertaken during the first and second year of the undergraduate course with the same team. The projects focused on the fast design and development of games utilising the **XNA** framework.

Previous Employment

June – August 2014 **Summer Research Intern**, *Department of Computer Science, University of Hull*, Hull.
Research internship focused on the visualisation of simulations within the Departments Immersive Visualisation Environment.

2010 – 2011 **Office Administrator**, *Fein Industrial Power Tools UK Ltd*, Daventry.
An office based role filing and dispatching customer paperwork, assisting the sales team.

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