Colin E. Banigan

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Objective

To expand and improve my knowledge and experience in Human-Computer Interaction and Computer Graphics

Summary

- Analytical and creative programmer with strong leadership, communication, and problem solving skills
- Successful leader of diverse teams in high stress and dynamic environments
- Innovative and capable of utilizing developmental software

Professional Experience

Undergraduate Researcher — **College Station, TX**
Texas A&M University — **Summer 2016 - Present**

Lead programmer in The StoryLab in developing an Android Wear application

- Integrated both front-end and back-end development of the Android Wear application
- Implemented human interactive design techniques with a professional user experience designer
- Engaged in IRB approved user testing to collect data for an NSF funded research project
- Applied basic agile methodologies to optimize project lifecycle

Education

B.S. in Computer Science – Minors: Art, Math — **College Station, TX**
Texas A&M University — **Fall 2014 – Present**

- GPA: 3.46 / 96 credit hours – Anticipated Graduation in May 2018
- Awards: Dean's List / Distinguished Student Recognition (Fall 2015, Spring 2016, Fall 2016)

Coursework

- Data Structures and Algorithms (C++)
- Programming Studio (Java, HTML5, Node.js)
- Computer Graphics (C++ with OpenGL)
- Computer Organization (C)

Experience: Coursework Projects

Ray Tracer — **Fall 2016**

- Created a ray tracer using C++ for all core functionality, utilizing OpenGL for per-pixel drawing
- Implemented spheres, infinite planes, infinite cylinders, and ellipsoids all with implicit parametric equations
- Utilized recursive ray tracing to produce proper lighting through reflective objects and shadowing

Online Multiplayer BattleShip — **Spring 2016**

- Developed a web-based multiplayer game using HTML5 as the leader of a team of four programmers
- Incorporated Node.js, WebSocket, and the Phaser game framework to augment capabilities of HTML5
- Administered Lee's algorithm, a variant of Dijkstra's algorithm, to facilitate proper gameplay
- Encouraged meaningful play through usage of user profiles and an in-game chat system

Assembler and Virtual Machine Translator — **Fall 2015**

- Wrote an assembler to generate machine code from a low-level assembly language
- Completed the assembler in Python to test myself in rapidly learning a new programming language
- Constructed a virtual machine translator in Java to generate assembly code for the assembler

Skills

Programming Languages: Java, Android SDK, C++, HTML5, Node.js, Python, C
Operating Systems: Windows, Android, Linux