James David King

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Objective

My main hobby and passion is game development, focussing on computer graphics programming and AI design. Currently I am in my final year of a Computer Science course at Durham University, for which I am on target to receive a first-class degree. Along with numerous game hobby projects, I also have experience with writing tools for both existing games and my own, and with writing a few web applications (usually with a game related theme). For a more detailed selection of prior work, please visit my portfolio site (link in the contact box).

Recent Experience

Ongoing, from Sept 2012

Final Frontier

Gamemode for the video game Garry's Mod, scripted in Lua. Features free-form multiplayer and advanced in-world screen system. All code except some recent contributions written by myself, now project is open source. Recently picked up by PC gaming media despite being largely unfinished. Level design and some art assets also produced by myself.

Ongoing, from Sept 2013

SpelunkyExplorers.com

Built a web app to provide a live leaderboard archive for the video game Spelunky. Web server is written from scratch in C♯, and automatically fetches and serves leaderboard data. Mossmouth LLC, developer of Spelunky, has taken an interest and expressed their desire to provide more data explicitly for the project to make use of.

Ongoing, from May 2012

Zombles

Real time strategy game written in C♯ on top of a custom engine. Features procedural generation and support for many active entities using a component based system. Uses OpenTK to interface with OpenGL. Improving the AI for the project is the subject of my undergraduate dissertation. All code and art assets produced by myself.

July 2013 – Sept 2013

Durham University Oberon-2 Compiler

During Summer 2013 I created an Oberon-2 compiler as a vacation research placement at my university. The compiler is written in C♯, and provides support for interfacing with native libraries and vector arithmetic (unlike existing compilers). The project uses the LLVM toolchain to support as many platforms as possible, and for code optimisation.

Education

2011 – Present	Bachelor of Science Computer Science Durham University
2013 – Present	Final Year Modules Adv Computer Systems Adv Artificial Intelligence Adv Theory of Computation Undergraduate Dissertation
2012 – 2013	Second Year Modules Computer Systems II Programming & Reasoning Software Applications Software Engineering Theory of Computation
2011 – 2012	First Year Modules Computer Systems Formal Aspects Maths for Engineers & Scientists

Awards

2012	Computer Science Student Prize BCS Newcastle Branch
2012	Vice Chancellor's Scholarship Durham University
2012	First Year Computer Science Prize Morgan Stanley

Languages & Environments

Basic Knowledge	C++, Haskell, PHP, SQL, CSS, Linux
Intermediate Knowledge	C, Java, JavaScript, LLVM, ActionScript
Advanced Knowledge	C♯, .NET, Lua, OpenGL, GLSL, Visual Studio