

Michael P. Callihan

Software Engineer

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Objective

To obtain a position where my programming skills will be applied to building video games.

Education

B.S. in Real-Time Interactive Simulation (Computer Science) with a minor in Mathematics – DigiPen Institute of Technology - Redmond, WA Graduating April 2008

Technical Skills

- **Programming Languages:** C/C++ (5 years), Visual Basic, Game Boy Color Assembly, Flash
- **Programming Environments:** Microsoft Visual Studio .NET & Visual Studio 6.0, Borland C++ Builder 6, FUN Editor
- **Graphics:** Direct3D, Image Processing
- **Miscellaneous:** Adobe Photoshop, 3DS Max 8, Microsoft Word, Microsoft Excel, SVN (source control), Debugging
- **Math:** Linear Algebra, Calculus, Curves and Surfaces, basic Number Theory and Cryptography
- **Physics:** Newtonian Physics, Lagrangian Dynamics, Rigid Bodies, Collision Resolution
- **AI:** Path Finding (A*), Neural Networks, basic Flocking and Swarming

Projects Experiences

- Oasis Ostinato:** A 3D garden-growing defend-your-tower style rhythm game (Senior Project)
AI Programmer and Technical Director on Team of 3
- Designed and Coded AI Engine to handle movement and actions of multiple enemy types. Incorporating flocking, swarming, A* algorithms and Threat Maps.
 - Responsible for the creation and maintenance of the Technical Design Document, including delegation of relevant tasks to team members.

- Pandemonium:** 3D side view platform game, featuring fully deformable terrain. (Junior Project)
Graphics Programmer on Team of 5
- Created the 3D Graphics Engine using DirectX. Including 3D Meshes and 2D Sprites working together, as well as World Rotation.
 - Wrote Graphics portions of the Game and Technical Design Documents.

- Super Squirrel:** 2D tile-based platform game (Sophomore Project)
Physics Programmer and Designer on Team of 5
- Designed and coded the 2D tile-based Physics engine. Using Gravity and bounding box collision
 - Managed creation and maintenance of the Game Design Document, including delegation of relevant tasks to team members.
 - Used a tile editor built by another member to design and build some levels.

Work Experience - DigiPen Institute Of Technology

- **Summers of 2006 / 2007** – Summer Workshop Assistant/Instructor: Instructed high school and junior high students the use of C++ and the Project FUN Editor, DigiPen's proprietary game creation software.

Leadership Experience

- Instructor in Martial Arts
- First Degree black belt of Tae Kwan Do