435-659-8707

[hopkis@rpi.edu](mailto:hopkis@rpi.edu)

Troy, New York

simonlhopkins.github.io

Simon Hopkins

GAME DEVELOPER & PROGRAMMER

**LANGUAGES**

**PROFICIENCIES**

C++

C#

C

HLSL

WebGL

Python

Java

Javascript (jQuery, AR.js)

HTML/CSS

Unreal Engine Blueprints

**WORKING KNOWLEDGE**

NodeJS

ExpressJS

Haskell

Prolog

**TECHNOLOGIES**

Unity

Unreal Engine 4

Adobe Photoshop

Adobe Animate

Adobe Illustrator

Blender

Microsoft Office

GitHub

Confluence

**EDUCATION**

**PROFILE**

I am a Senior at Rensselaer Polytechnic Institute studying Game Simulations Arts and Science and Computer Science. I am a programmer who specializes in computer graphics and gameplay programming, but frequently branch out and learn new fields such as animation, augmented reality, and UI design as a result of being on small teams. I have worked on multiple games in environments including long term team projects, individual projects, game jams, and undergraduate research positions. I come from an artistic background, so I enjoy working with artists to aid their process as much as I can on the programming side, as well as implement my own artistic creativity by creating unique shaders.

**PROJECTS AND EXPERIENCE**

**GRAVE SHADOWS** – Gameplay Programmer, Computer Graphics Programmer

*Rensselaer Polytechnic Institute , Troy, NY | Unity| Spring 2018*

Worked in a team of 6 over the course of 4 months as the gameplay programmer on Grave Shadows, a 3D Noir Stealth Game.

* Grave Shadows was showcased at RPI’s Gamesfest, and was one of 5 finalists in E3’s 2019 College Game Competition.
* Created a system which allowed the character to be transformed into a shadow on any wall they projected on, which reused the 3D animations, saving our artist work.
* Created a 3rd person camera system from scratch, a shadow camera system, as well as a system that seamlessly blended them together depending on the game state.
* Worked with our artist to create both a post processing effect and a custom shader that communicated the Noir art style.

**DEVELOPMENT TEAM INTERN** – Programmer, Game Designer

*E-Line Media, Phoenix, AZ | Unity/Proprietary Unity Based Engine | Summer 2019*

* Created several small games to be included in the Alpha launch of *The Endless Mission* using their Unity-Based Engine*.*
* Communicated with my team strategies I used to overcome difficulties with their engine that would then be implemented into the final game.
* Provided owners and investors with an outsider's view of the product capabilities.  Explained use cases I came up with and provided my thoughts about future.

**COMPUTER GRAPHICS**

* Developed a hand-drawn shading look that could be added to any texture using a tonal art map.
* Created HLSL shader that can flatten out any high-poly smooth geometries to achieve a unique low poly, flat lit look without modifying vertex normal.
* Used WebGL to create multiple applications that explored UV mapping, mip mapping, shadows, different lighting systems, recursively generated meshes, and other topics of computer graphics

**IS EVERYTHING GOING TO BE ALRIGHT?** – Programmer, 3D artist, writer (Individual)

*Rensselaer Polytechnic Institute , Troy, NY | Unity| Spring 2017*

3D puzzle story game where you can progress through different branches of the story by reaching different, often more difficult, areas of the levels.

* Scanned in collages, which I applied to the UV map to create a unique, tactile art style.
* Used a technique to ensure the branching story was properly represented by the player choices.

**ESCAPING THE AMERICAN DREAM** – Programmer, Level Designer

*Rensselaer Polytechnic Institute , Troy, NY | Unity | Summer 2018*

Worked in a team of 5 as the programmer to create an obstacle course game in which you must reach the end without being hit by projectiles or cars.

* Scripted projectiles that launched in an arc, landing at predicted player position
* Designed certain events such as projectile spawning and camera angle changes to only occur when entering certain areas, and communicated to my team this strategy to help them rapidly design levels
* Implemented all animations and character movement scripts

**UNDERGRADUATE RESEARCH POSITION** – Computer Science With Humanities

* Worked with professor to prototype new Computer Science curriculum which incorporates humanities into a regular Computer Science 1 class.
* Worked as teaching assistant, helping current student debug code and brainstorm solutions to homework.
* Responsible for grading student papers and supplying useful feedback.

GAMES SIMULATIONS ARTS & SCIENCES/ COMPUTER SCIENCE

Rensselaer Polytechnic Institute

GPA: 3.54

2016 - Present

Danish Technical University

Fall 2018

Park City High School

GPA: 3.6

2012 – 2016