

Logan Harvell

Game Programmer

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Technical Skills

Languages: C/C++, C#, Assembly, Lua, Bash
Engines: Unreal Engine 4 (UE4), Unity

Versioning: Perforce, Git
IDEs/Tools: Visual Studio, XCode, Jira

Experience

Studio Chili

Orlando, Florida

Keepers of the Trees, Lead Programmer

Dec. 2019 – Present

- Created a local co-op puzzle platformer with a team of 21 people in **UE4**, releasing for PC in August 2020.
- Coordinated the programming team, while working with other leads to facilitate interdisciplinary collaboration.
- Designed a flexible co-op camera system in **C++** with customizable follow behavior that is modifiable at runtime.

University of Central Florida

Orlando, Florida

Institute for Simulation and Training, Research Assistant

Dec. 2018 – Aug. 2019

- Built a plugin wrapping GDAL library functionality for reading geospatial data using **C++** into **UE4**.
- Designed an Unreal editor tool for generating procedural meshes and dynamic materials from data embedded in GeoTIFF files that map to a database containing physically based material attributes.
- Designed a component that applies and manages a dynamic material to the owner's mesh that adjusts parameter values of the material, i.e. increasing emissivity to simulate heat absorbed over a time interval for infrared views.

Boy Scouts of America

Winter Park, Florida

Eagle Scout

Sept. 2014

Projects

C++ Game Engine Development

Jan. 2020 – Present

- Created linked list, vector, hash map, and various adapter containers modeled after STL counterparts.
- Designed a runtime data reflection system using a custom runtime type information class.
- Implemented a parser to support **data-driven** development with **JSON** as a configuration language.
- Recreated the battle mode of Super Bomberman in the engine and **OpenGL** with five other programmers.

Adaptive Training Sim

Jan. 2020 – Apr. 2020

A prototype created for the Federal Law Enforcement Training Center (FLETC) in **UE4**. Players drive a police vehicle to specified locations while completing tasks with difficulty conditions controlled by researchers over a TCP connection.

- Designed a waypoint system that uses node-based weighted graphs to represent city traffic networks.
- Implemented **A*** pathing in **C++** to calculate routes using the waypoint system representing a car GPS system.

Bounce Off

Oct. 2019

Conceptualized and implemented a head-to-head, real-time competitive game written from scratch in **68K assembly**, running on the EASy68K emulator. Players use momentum-based movement to control balls that bounce off all surfaces, including each other, while they aim to be the first to pick-up randomly spawning points.

Astral Pathfinder

Jan. 2018 – Sept. 2018

Created a real time strategy game inspired by the classic resource management game Hammurabi. Players explore and colonize planets and respond to random events while managing resources to maximize their population for a high score.

- Prototyped in **C** with **ncurses** as a text-based game, then re-invented GUI-based in **C++** with **SDL2** frameworks.
- Built an interface to use **Lua** as a configuration language to support data-driven parameters.
- Implemented procedural planet map generation and population growth mechanics based on real-world models.
- Designed a generic collision component class with circle, axis aligned, and oriented box collision functions.

Education

University of Central Florida, Florida Interactive Entertainment Academy

Orlando, Florida

M.S. Interactive Entertainment, 4.0 GPA

Aug. 2019 – expected Dec. 2020

University of Central Florida, College of Engineering and Computer Science

Orlando, Florida

B.S. Computer Science, Cum Laude, 3.78 GPA

Aug. 2015 – Dec. 2018