GREGORY ALLEN

GAMEPLAY PROGRAMMER

LINKEDIN GITHUB

CONTACT

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SKILLS

Programming Languages

- C
- C++
- C#
- 68K Assembly
- CSS
- Java
- Python
- HTML
- Erlang
- Haskel

Tools

- Unity
- Unreal
- Blender
- SDL
- Git
- Perforce
- Pyxel
- Django

Database Management

- MySQL
- MySQL Workbench
- PostgreSQL

EDUCATION

University of Central Florida
Florida Interactive Entertainment Academy
M.S in Interactive Entertainment
Expected Graduation Date: Dec 2023

University of Central Florida
B.S in Computer Science
Minor in Math
Cert in Cyber Operations
Graduation Date: May 2022

PROJECTS

Squad-Based AI Coordinator — **May '23 - Present**

- TPS-style squad based AI manager system that controls a squad of enemy behaviors intelligently and reactively to elevate gameplay experience.
- Enemy types supported include regular enemies that shoot projectiles, enemies with healing abilities, enemies with sniping capabilities, and enemies that can both crouch and flank.
- The Enemy AI coordinator will utilize Unreal's environmental query system to recognize environmental data and communicate between squads through verbal cues and time-based message validity passed between members of the squad.

FIEA Game Engine — **Jan '23 - Apr '23**

- Custom Data-Driven Game Engine which has the capability to parse through JSON data at runtime to create user-defined class structures and instances
- Implemented programming Design patterns include Abstract Factory, Observer Pattern, Composite, Singleton, and Chain of Responsibility.
- Created Custom containers: Singly linked list, Vector, HashMap, and Datum. Tested project functionality by utilizing MS Unit Test Framework.

Space Invaders — **Dec '22**

- Clone of the classic 2D game, Space Invaders, implemented in C++ by utilizing the Simple and Fast Multimedia Library for rendering and gameplay mechanics.
- The user's HUD included the start and game over menu as well as an overall score while progressing through the levels.

Butterfree Ambush — **Oct '22 - Nov '22**

- An Arcade-Style Endless Flying Game developed in Easy 68k assembly, in which the player controls the Pokemon 'Butterfree' and must avoid several incoming enemy Pokemon.
- Handled user input control of Butterfree, drew from a bitmap file to render the background and game objects, simulated physics on Butterfree, created/updated a seven segment LED display as a HUD, detected collisions between Butterfree and enemies, and spawned enemies randomly using fixed-point math.

Particle Swarm Simulator — **Mar '22 - Apr '22**

- Particle simulator designed with C++'s graphics rendering library to create and display swarms of particles in predetermined patterns.
- Utilizes a polar coordinate system to direct particle movement and direction in order to achieve the particle swarm's swirling effects.

EXPERIENCE

Three Owls In a Trenchcoat — **Jan '23 - Present**

Gameplay Programmer

- Capstone Project with a team of over 20+ developers composed of artists, programmers, and producers.
- Assisted tech designers with implementing puzzle mechanics for Project Aqua: Bloodsong.
- Designed the AI behaviors for the enemy types in the project; behaviors included player sensing, attacking, retreating, player stuns, and implementation of animations.

UCF Student Union Event Services — **Jan '21 - Present**

Event Manager

- Coordinated Registered Student Organizations, VIP event setups, and facility turnover to ensure quality customer service.
- Lead teams of Event Service Associates and handled delegation of tasks for on-shift employee during each venue's setup.

CAMPUS INVOLVEMENT

Theta Tau, Philanthropy Board Member & DEI Committee Member — **Jan '20 - Aug '22**

- Planned and implemented discussions within the fraternity to expose members to topics in diversity, equity, and inclusion; topics included authenticity in the workplace, being an ally to marginalized groups, and handling impostor syndrome, to name a few.