Brock Pittman

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EDUCATION

North Carolina State University, Raleigh, NC GPA: 3.25

- Bachelor in Computer Science, anticipated May 2025
- Courses: Game Engine Foundations, Building Game AI, Foundations of Interactive Game Design, Software Engineering, C and Software Tools

EXPERIENCE

Game Engine Foundations:

- Modeled and assembled a game engine in C++ from the ground up that utilizes the SFML and ZMQ libraries
- Implemented networking for multiple clients to connect to a server with zero delay
- Constructed a multithreaded game loop architecture to listen for client connections, disconnections, and to update the server as needed
- Designed with the intent to add future code for additional functionality
- Created an engine to be general enough for users to implement their own games
- Implemented Functionality: Collision, Networking, Events, Scripting, Multithreading

Game AI:

- Programmed basic AI actions, such as Seek, Wander, and Flocking
- Utilized C++ and the SFML library to create an environment for the AI to be tested
- Analyzed and compared different behavior values to determine what made the AI act most natural

Foundations of Interactive Game Design:

- Created games in Puzzlescript, Twine, and Godot
- Analyzed different games from a design perspective and studied different elements that make games enjoyable
- Coordinated with a team to develop a video game that had theming requirements

Video Game Development Club - *Member*

- Hosted a workshop for teaching the fundamentals of UEFN and Verse
- Engaged in workshops related to game design and development
- Collaborated with other members to participate in club run game jams
- Learned different techniques and strategies to use when creating game assets

SKILLS

Programming Languages: C++, C, Java, Verse
Tools: Jenkins, GitHub, Maven, Eclipse, Twine
Game Engines: Unreal Engine, UEFN, Godot 4.3, PuzzleScript
Web Technologies: HTML, CSS, Javascript

PROJECTS

Kaching:

- Cooperated with other Video Game Development Club members to create a video game from specified themes
- Designed a mechanic in which the spare change received from buying items acted as an ammo resource
- Assisted in brainstorming different effects for each ammo type and setting
- Developed with Godot 4

1v1 Arena | King of the Hill:

- Utilized Epic Games Unreal Editor for Fortnite with its proprietary Verse language to create a Fortnite island
- Modified basic shapes and assets to create small arenas for players to compete
- Programmed with Verse to implement a player queue
- Employed the use of Fortnite's creative devices and assets to create the world setting, allow the player to join a queue, and include Fortnite's items within the island
- Implemented a scoring system that takes into account player skill to determine the game length
- Processes the amount of time a player is out of the queue and removes them from the game if they remain inactive

Game Engine:

- Learned and Utilized C++, SFML, ZMQ, and V8 scripting for the creation of the engine
- Utilized multithreading to listen to any number of client connections while the engine was running
- Developed an event system to handle lots of actions occurring at once
- Implemented scripting to assist in reducing future compile time

CoffeeMaker:

- Collaborated with other students to create a system that allows for Coffee Orders to be created and completed
- Organized Recipes, Ingredients, and Orders to be stored in a MySQL database
- Utilized Java, Javascript, CSS, HTML, AngularJS, MySQL, Maven, and REST API to create an orderly frontend and backend

WolfScheduler

- Developed a scheduling system that allows students to schedule college classes
- Performed JUNIT and blackbox tests to ensure correct system functionality
- Created using Java

WORK HISTORY

NCSU - *CSC Grader*

- September 2024 - PRESENT
- Class: Game Engine Foundations
- Instructor: Dr. Alexander Card

NC State Dining: Fountain Dining Hall - *Student Assistant Manager*

- August 2021 - PRESENT

Creekside Farm - *Farm Hand*

- May 2019 - August 2024