Michael Partridge

michaelzp7@hotmail.com — (925) 364-1420
likablemike.github.io — linkedin.com/in/michael-partridge-2213b5266 — github.com/LikableMike

Education

California State University, Sacramento - Bachelor's of Science (BS) in Computer Science **Graduated:** December 2024

Experience

Lead Programmer - Hunu Interactive (July 2024 - Present)

This is a part-time position where I am spearheading the development of a future PC/Mobile game title. From front-end UI and gameplay mechanics to server architecture and multiplayer implementation, I am working to build this game from the ground up with a tight-knit team. This position is related to the "Tectonic Tactics" section below.

Skills

Programming: Java, C++, Python, gdscript, gdshader, GLSL, OpenGL
Engines: Godot, Unity, Unreal 5, and Custom Engines
Softwares: Maya, Blender, Photoshop, GitHub, GitLab, Android Studio
Services: Amazon EC2, Firebase, Jira, Linear
OS: Windows, Linux (Ubuntu), MacOS

Projects

3D Turn-based Strategy Game | Godot, Amazon EC2
Tectonic Tactics (In Development)

- **Multiplayer:** Stood up an Amazon EC2 server for cross platform multiplayer.
- **Design Tools:** Developed tools that allow for our designers to create new playable pieces with Google sheets.
- **Gameplay:** Built a system of modifiable chess-like game pieces, each with their own unique power-ups that shift and change the playing field itself.
- **Graphics:** Created placeholder particle effects and models as proof of concepts for our designers and artists.

Personal Trainer Mobile App | Flutter, Firebase, Android Studio, Xcode
TonneItUp App

- **Front-End:** Developed dynamic widgets for pages in the app meant to display variable user data.
- **Leadership:** Led a team of 8 in the technical aspects of the project in designing features and their implementation.
- **Firestore Database:** Built out the portion of our database capable of storing user data and custom client workout information.
- **App Deployment:** Oversaw the creation of our developer accounts and ensured our app adhered to the policies as outlined by both App Store and Google Play.

2D Platformer | Godot, Itch.io
Growth

- **Development:** Designed and developed this fully functional 2D platformer with Godot over the course of 2 days for a Game Jam.
- **Visuals:** Implemented simple and minimalistic visuals including 2D particle effects, 2D dynamic lighting, and light occluders.
- **Gameplay:** Built and refined a player controller using a 2D rigid body for gravity and collision, with an added bounce animation and sound effects.

3D Physics Based, Multiplayer Spaceship Combat Game | Java, OpenGL, Bullet, JInput, JOAL
Beyond

- **Graphics:** Implemented a custom skybox, linear fog and height maps using the Java OpenGL port, JOGL.
- **Physics:** Achieved satisfying Zero Gravity flight controls using the JBullet physics engine.
- **Procedual Map Generation:** Developed a system for randomly placing asteroids in a playable field based on random seed generation.
- **AI:** Created a simple state machine-based enemy AI that chases and fires at the player until they are destroyed.

Relevant University Courses

Advanced Computer Graphics: Using OpenGL, this course delved into advanced rendering techniques such as ray tracing and physically based rendering by offering students a hands-on experience with the render pipeline. We wrote our own shaders in the GLSL language and rendered our own 3D scenes with distance fog and reflections.

Computer Game Architecture + Implementation: This course combined many concepts from several upper-division Computer Science classes encouraging a deeper dive into the architecture of game engines and the implementation of gameplay mechanics. We combined our understanding of physics engines and the render pipeline with implementation of multiple device input handling and multiplayer network synchronizaiton to create a fully functional computer game.

Advanced Algorithm Design: This course taught me about advanced algorithms such as dynamic programming, greedy algorithms, and divide-and-conquer approaches while gaining an understanding of their time complexities and use cases.