Emma Cross

Software Engineer, Game Programmer

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SKILLS

PROGRAMMING LANGUAGES	ENGINES	LIBRARIES	SOFTWARE
C++ (proficient)	**Unity** (familiar with)	**OpenGL** (intermediate)	**Visual Studio** (proficient)
C (proficient)	**SFML** (intermediate)	**Lua** (beginner)	**Audacity** (intermediate)
Java (intermediate)			
JavaScript (intermediate)			

EDUCATION

BS in Computer Science in Real-Time Interactive Simulation   Expected Grad April 2024
DigiPen Institute of Technology, Redmond WA   3.6 cumulative GPA

ACADEMIC PROJECTS

Tech Lead, Graphics Programmer   August 2021 – April 2022
Cooper's Cleanup – 2D Collectathon Adventure (C++ custom engine)
- Implemented graphics rendering and fog-of-war lighting effects using OpenGL
- Designed art pipeline to give non-programmers the ability to input meshes and textures
- Created dynamic menu system fully usable by game designers via JSON files and Lua scripting
- Conducted programmer meetings, communicated with other disciplines, and managed team documents & work schedule as tech lead

Gameplay & Tools Programmer   January – April 2021
Hairaiser – 2D Platformer (C using AlphaEngine)
- Built fully interactable custom level editor that allowed teammates to design and iterate upon created levels
- Developed several features for the level editor including wall, platform, enemy, and decoration placement that serialized to a JSON file for rebuilding the level during gameplay
- Designed and implemented player hair attack that could deal damage to enemies and allow for progression through the game

Gameplay Programmer   October – December 2020

Turreting Test – 2D Top-Down Shooter (C using CProcessing engine)

- Developed gun behaviors and water balloon arc trajectories for players to deal damage to waves of robot bugs
- Created options menu that supports key/button remapping and window resizing
- Generated and implemented various sound effects using Audacity

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PERSONAL PROJECTS

Solo Engine Developer   May 2021 – present

enginebyebba – C++ custom engine

- Developed component-based custom engine in C++
- Implemented graphics via OpenGL to render meshes using shaders and textures read from files and abstracted its low-level functionality from the user
- Integrated Dear ImGui to allow users to edit engine and gameplay variables during runtime and save/load these values to/from JSON files