

Haoxuan Ma

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Portfolio: cublegend.github.io

EDUCATION BACKGROUND

University of Michigan – Ann Arbor, MI, United States 08/2018 – Present

B.S. in Computer Science, B.S. in Cognitive Science, and minor in Music | Overall GPA: 3.7

Courseworks: Game Design | Software Quality Assurance | Artificial Intelligence and Machine Learning | Object-Oriented Designs | Web System Design | Cognitive Science | Digital Music Composition

SKILLS

Programming Languages: C++ | C# | Java | Python | SQL | HTML | CSS | JavaScript

API/Tools: Unreal | Unity | Rest | Fetch | React | Flask | AR.js | Arduino | Ableton Live | Max

PROJECTS

YuanGu Project 08/2021 – 08/2022 Developer/Team Lead

- Designed and implemented the entire battle system and prototype game loop by using finite state machines, the pub-sub pattern, the flyweight pattern, and more.
- Designed systems such as the ability system, the status system, the AI system, and the navigation system.
- Utilized frameworks and third-party plugins such as Fmod and A* pathfinding to enhance gameplay and mechanics.
- Cooperated with the design and art team to finalize art concepts, level design, mechanics, and specific implementations.

Ragnarok Tower Defense Game Project 09/2021 – 12/2021 Developer

- Developed this Bloons TD6 Replica game which is published on itch.io and steam with a group of 10+ students.
- Designed and implemented the tower placement system, the upgrade system, and the enemy life system.
- Participated in the design of the general tower structure and the enemy structure, implemented UI elements and tools.

A Maze In Game Project 09/2020 – 12/2020 Developer/Designer

- Worked with a group of 4 to create the multiplayer maze/puzzle game with an adventurous theme.
- Implemented basic features including the overall structure of the game, including UIs, the ability system, and enemy AI.
- Created most of the SFX, background music, and theme music loop using Ableton Live 10 and implemented them.

Theseus Orbital Space Station 10/2022 – 12/2022 Developer/Designer

- Worked with a group of 4 to develop a VR typing game. Players will learn the story of the space station by typing and exploring pieces of information they found.
- The game aims to help players familiarize themselves with a variety of VR typing methods; we also provide analytics tools to help visualize the difference across each VR keyboard. We hope that the game could help people realize the importance of input system designs and invoke more interesting and efficient input methods for VR.
- Created the core keyboard mechanics, the UI system, and the storytelling(level) system.
- Wrote the script for the game, and created all the sound effects and background music for the game.

WORK EXPERIENCES

Bluebird Studios LLC 06/2022 – present ***Developer/Team Lead***

- Participated in the development of the game *Treat Team*, a casual puzzle game that is currently in open beta.
- Lead the team to conceptualize and develop an interactive base camp with a building/grid system and procedurally generated animals.
- Cooperated with the art team to solidify the animal procedural generation concept.
- Designed and implemented the timer system and the pathfinding system for the base camp.

Institute of Advanced Technology, University of Science and Technology of China 06/2021 – 08/2021

Research and Development Assistant

- Conducted research project on Vuforia's object recognition, surface detection, and marker-based augmented reality.
- Implemented projects on web-based AR solutions such as AR.js library, ARCore, three.js, and a-frame.
- Conducted detailed analysis on AR.js and ARCore; individually developed sample applications with respect to each functionality provided by these two libraries—Image Tracking, Location Based, Marker Based, and Gesture Tracking.