JIACHENG QIU

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EDUCATION

Carnegie Mellon University (CMU), Pittsburgh, PA | *Master Degree expected* Aug. 2022 – May 2024

- Major: Master of Entertainment Technology

Rose-Hulman Institute of Technology (RHIT), Terre Haute, IN | *B.S. Degree* Aug. 2018 – May 2022

- Major: Computer Science; Minor: Japanese Language.
- Overall GPA: **3.90/4.0**; Top 7% within major

SKILLS

Programming: Java, C#, C/C++, MIPS Assembly, Python, JS, Firebase
Frameworks and Engines: Unity, Springboot, SQL, MongoDB
Language: Mandarin Chinese (Native), English (Proficient), Japanese (Conversational)

Projects

Mini Galaxy – 3D exploration RPG | *https://github.com/Jiacheng-Qiu/Mini-Galaxy* Jan. 2021 – Jan. 2022

- Developed this game in Unity with procedural space generation and realistic physics while self-studying and experimenting Unity, C#, and User Interface (UI) design principles.
- Applied noise map on mesh 2D array to generate reasonable planet terrain randomization and gravity on small objects to simulate real attraction forces based on object mass, and randomized solar system with stars.
- Implemented a basic save/load system that records the current game seed, player status and inventory info, which will regenerate the exact same planet environment, player placement, and all items in backpack the next time player enter the game.
- Developed a crafting and looting system that will detect if player have enough material for crafting, and inform player for potential gatherable positions with a minimap. For placable items like furnace, implemented a preview mode for placement and destruction where player can adjust the position and rotation of items.
- Based on public playtesting, adjusted future feature sets and iterated on implemented features monthly to create better player experiences.

Pipe Overflow – **VR Linear RPG** | *CMU Building Virtual World Project* Sep.6 – 19, 2022

- Designed an immersive experience of rescuing an NPC trapped in a room with increasing difficulty for each stage.
- Developed the game in a team of five in two weeks using Oculus Quest2 in Unity.
- Implemented player interactions with Oculus controller inputs to enable events like interacting with levers, pressing buttons, and picking up items on the table.
- Co-developed a storyline management system that controls the game stages and ensure that player will be on the right track by providing tips and highlighting objects using shadergraph and VFX.
- Based on playtesting after first week implementation, adjusted control guidings and atmosphere rendering. Also iterated on gameplay and visual elements to produce clearer game flow.

Cyber Skydive – VR Skydive RPG | *CMU Building Virtual World Project* Oct. 6 – 10, 2022

- Developed a procedural generated unity game with a team of 5 on Oculus Quest2 + Icaros flying chair in Unity within only four days.
- Designed the immersive experience of skydiving with supportive hardware (Icaros the flying chair).
- In charge of developing all functionalities, used art assets from team members to procedurally generate obstacles and environment based on how long player has been in game for dynamic difficulty and variety.
- Developed an easy to use input system with Quest2 controller, and created a reasonable control method for player to easily get into the skydiving experience using Icaros in two hours.
- Based on volunteer playtesting, adjusted game difficulty and visual experiences like player flying speed, FOV, and obstacle density for better game experiences.

Tiny Drop – 2D Platformer | *https://ldjam.com/events/ludum-dare/48/tiny-drop* April 2021

- Designed and implemented an indie-game from scratch during Ludum Dare Game Jam48, one of the world's largest and longest running Game Jam events.
- Created all visuals, animations, music, code, and distribution independently within 48 hours.
- Implemented an procedurally generated parkour experience with player acting as a rain drop avoiding getting dry in a pipe or being merged into a water flow behind.

Experience

Lenovo Connect | Shanghai, China July 2019 – Aug. 2019

- Worked on creating a voice recognizer capable of intelligently responding to users' requests or opening programs according to needs for car systems.
- Implemented a web crawler using Python Scrapy package that can crawl Baidu Forum given specific keywords.
- Designed a Python AI chatbot and GUIs using the Tkinter package that has self-learning functionality.