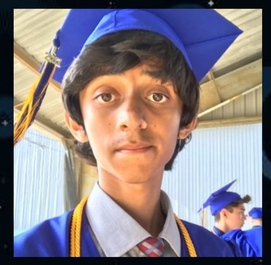
Team Clean Laundry *Presents*

Space Crisis Escape

A Multiplayer Escape Room Game



Samuel Scherer
Raja Vaze
Project Advisor: Rui Dai

Goal

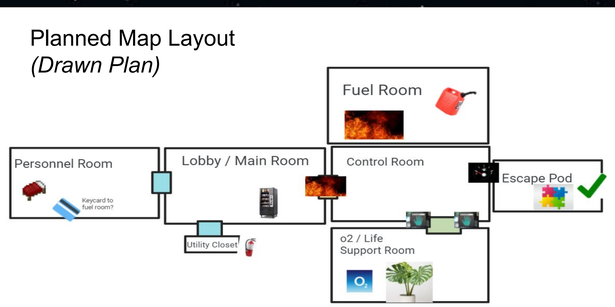
Due to the COVID-19 Pandemic, fans of Escape Room puzzles haven't been able to participate in their hobby safely - our project remedies this problem by providing a virtual escape room game playable over the internet.

Design

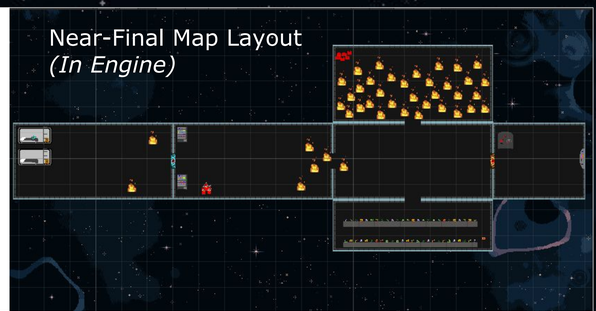
Our design choices were made with an emphasis on low cost of assets. As such, we decided to make our game in 2D using Pixel art, with a zero dollar budget. We also wanted to create a project which challenged our skills, which is why we chose to design a multiplayer game.

We made our game in Unity because we'd both used it in the past. The game requires two players to complete, and doesn't allow additional players. This restriction simplified map design, in which neither of us have much experience.

Planned Map Layout
(Drawn Plan)



Near-Final Map Layout
(In Engine)



Tools

Unity

+ Netcode for GameObjects

C#

Unity is a Game Engine with capabilities for creating 2D or 3D games, and support for third-party code packages and libraries. Both team members have Unity development experience. C# is the coding language used for scripts in Unity, thus both team members have C# experience.

Netcode for GameObjects *(a.k.a. MLAPI)* is a Unity Package which was released by Unity in 2021, which we used for networking code / RPCs.

Challenges

Networking Logic - Sam has worked on networked game projects before, but he hadn't used MLAPI since its beta. Raja hadn't worked on networked games at all. We both took this opportunity to learn more about the Netcode for GameObjects library.

Time Constraints & Scheduling - As full time students with, extracurriculars, jobs, etc., working on the project and meeting to discuss became difficult as coursework became more time-consuming. About halfway through the project we decided to meet on Tuesday evenings instead of Sundays, which helped us meet more consistently and improved our productivity.

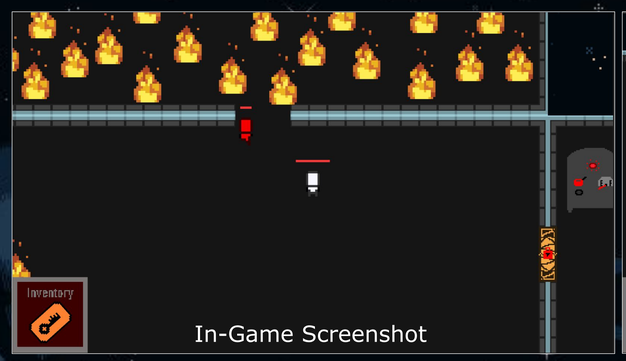
Acquiring Non-Code Assets - While a non-zero budget would've allowed us to use higher-quality art and sound assets, we decided early on to create our project using only assets that we create or acquire with a royalty-free license. Finding royalty-free assets which match a project's theme / art direction is difficult, but we were able to do so in several instances, such as for the animated Fire hazard used throughout the game. Many of the art assets needed to be create by hand, which was time consuming.

Final Product

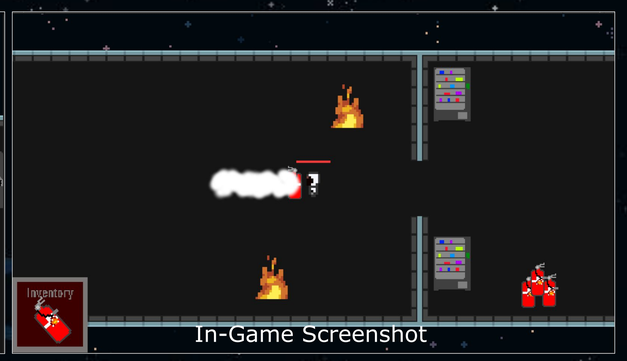
We've created an online multiplayer game, playable on Windows! Use this QR code to visit the *releases* section of our github and download a build of our game for free!

Future Work

We believe that the game could be improved with several additions, including an increased focus on story, and an added narrator.



In-Game Screenshot



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