Prison Break: AR

Capstone Project:
Department of Computing and Software
Supervisor: Dr. Irene Yuan

Motivation

Shared activities play an important part in people's offline social practices. However, many elements (which are often associate successful social outcomes) are often missing when transferring these social practices from offline to online.

Our mobile escape room game leverages augmented reality technology to extend these interactions in the physical space to the remote/hybrid setting in an engaging way.

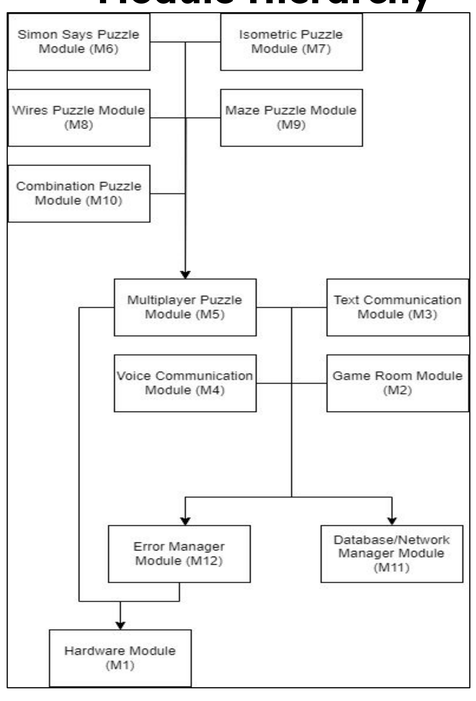
The usage of the game and experiences of real players will be monitored in a live study by Dr. Irene Yuan and used to understand how we can better design technology to support social connections over remote communication.

Accomplishments

- **5 Multiplayer Puzzles:** Designed and implemented 5 diverse cooperative puzzles that allow multiple players to simultaneously interact with them
- **Augmented Reality Technology:** Integration of several augmented reality features from location based object manipulation to gyroscopic rotation
- **High replayability:** Creation and implementation of a custom algorithm to provide a unique experience to users every time
- **Vivox Communication:** Integration of state of the art communication system Vivox used by popular games like Valorant for voice and text communication.
- **Lobby System:** Created a lobby system allowing games to be played simultaneously

Design Overview

Module Hierarchy



Tools Used

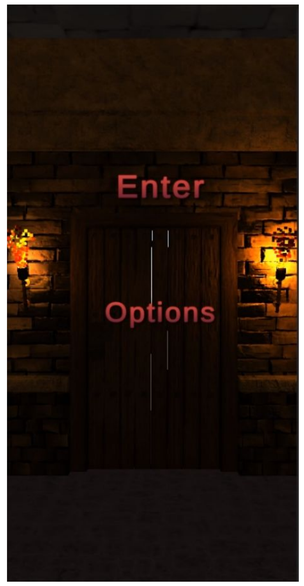
Unity

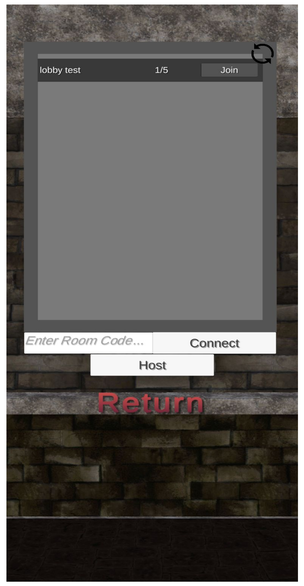
VIVOX
COMMUNICATION IS CRITICAL

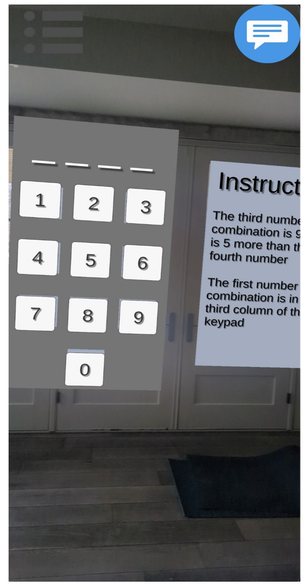
nunit

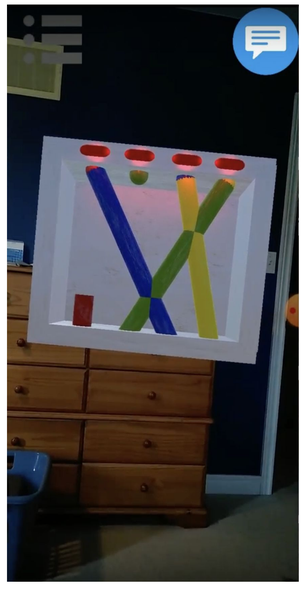
GitHub

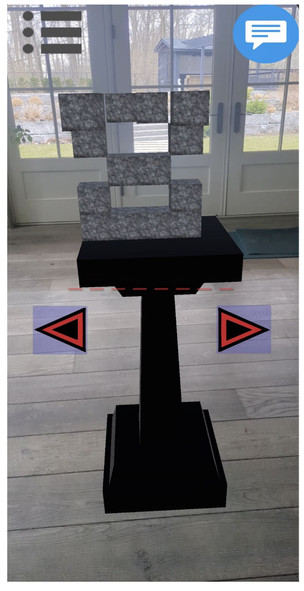
Gameplay Images











The Team

Matthew Collard

Ethan Kannampuzha

Sam Gorman

Kieran Gara