

404: NOT FOUND

Let's start!



Presented by Marlene, Marco, Son, Josef



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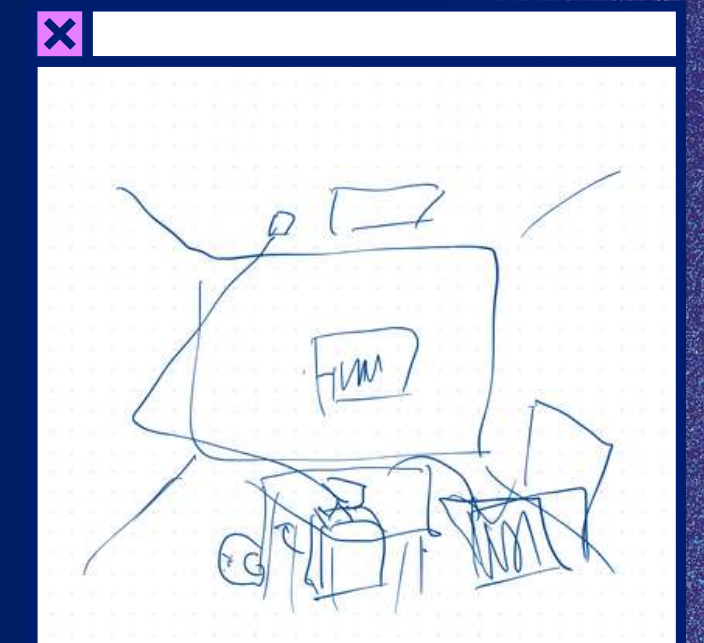
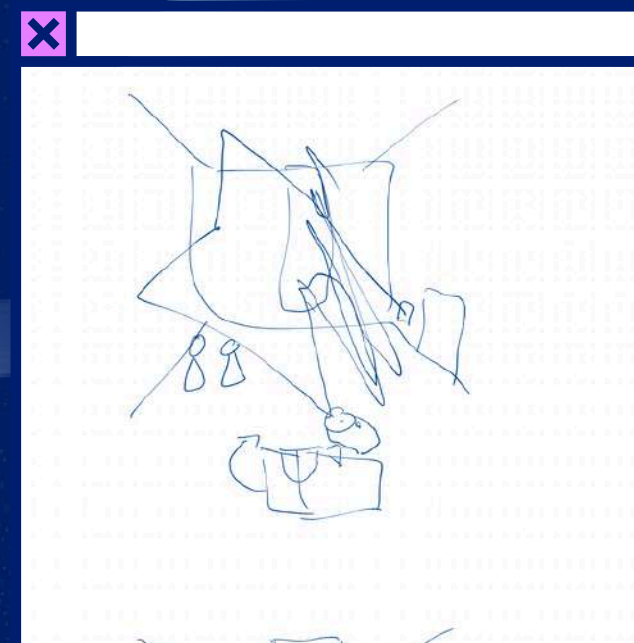
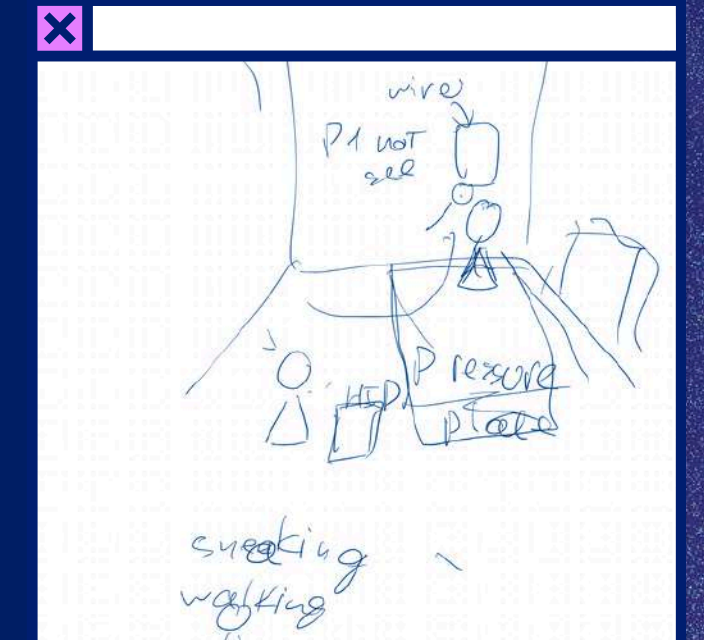
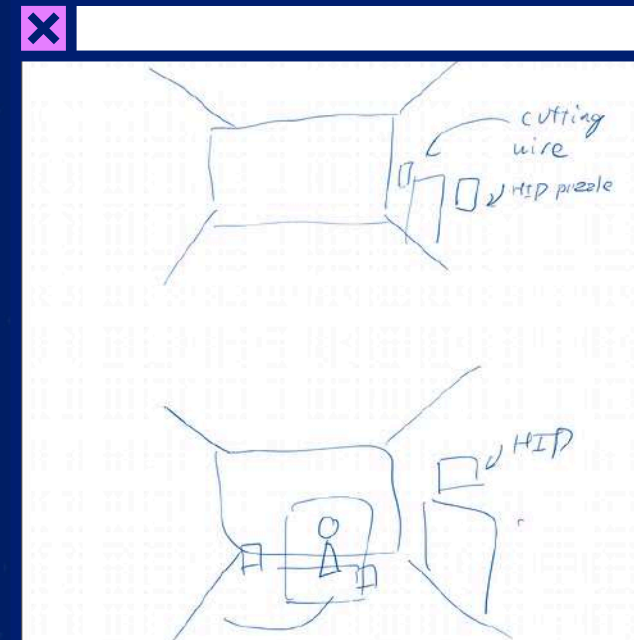


MOTIVATION

Our vision



- Synchronous Multiplayer Exit Game
- Futuristic "Prison"
- Players cooperate to escape the prison
- Each level introduces its own mechanics/puzzles and difficulties
- After finishing a level, the elevator lifts the player to the next level



THE PLAYERS



The Hacker

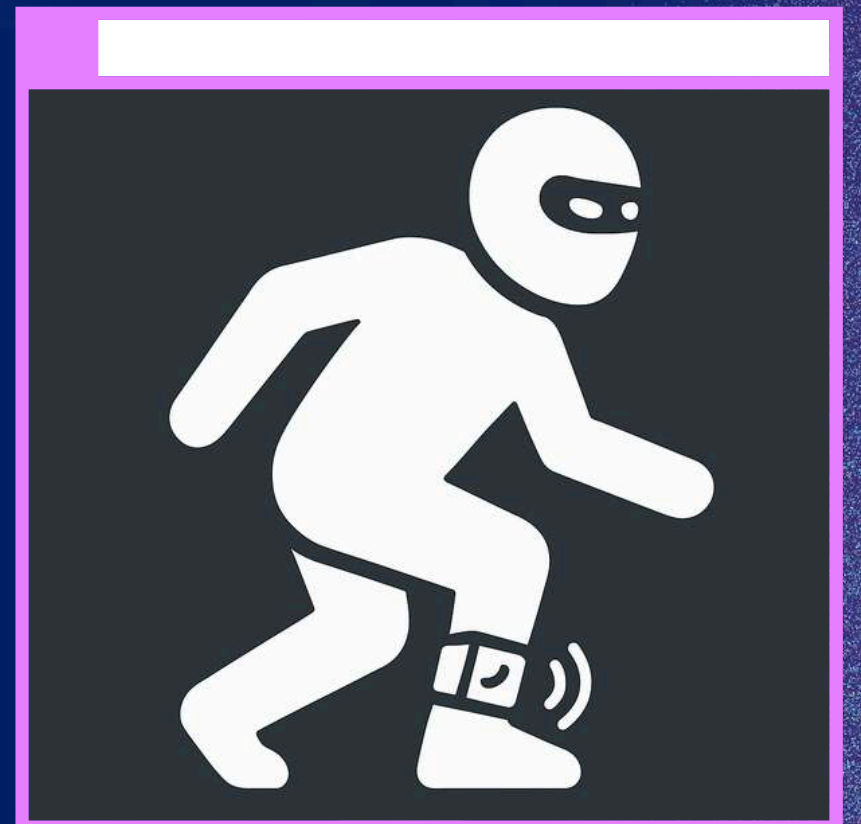


- Wearable “hacking” input device
- Buttons and knobs to interact with the environment

both have different information of the environment and need to communicate for solving puzzles

- Steals keycards
- Sneaks around in special zones

The Sneaker



MVP



- Fully networked Host/Client architecture over Fusion
- 5 puzzle types with different interaction possibilities
- 2 different hardware types for input and haptic feedback
- Simple UI for start menu & sound settings

GAME
OVER

- Win Condition: Solve all puzzles together
- Lose Condition:
 - Not able to solve all puzzles and escape the prison
 - caught by the guard

THE HARDWARE



Hacking Device



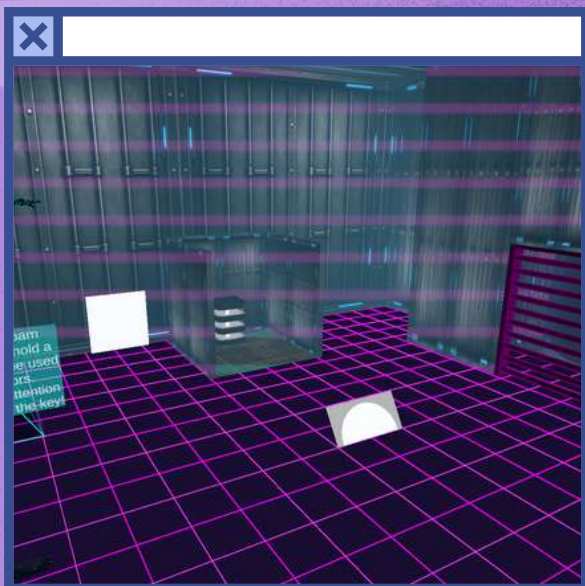
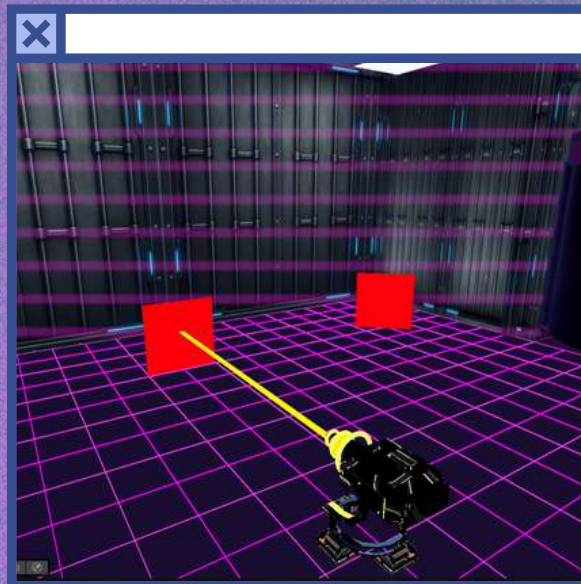
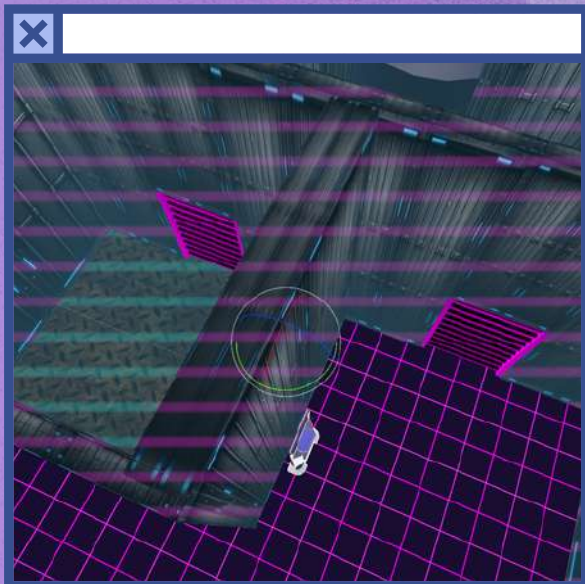
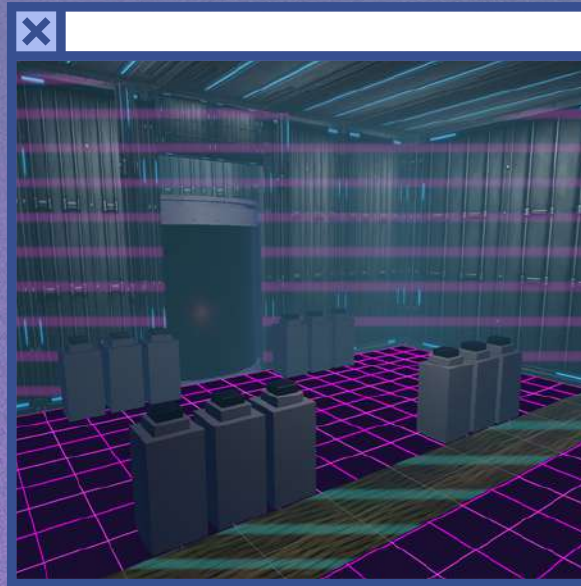
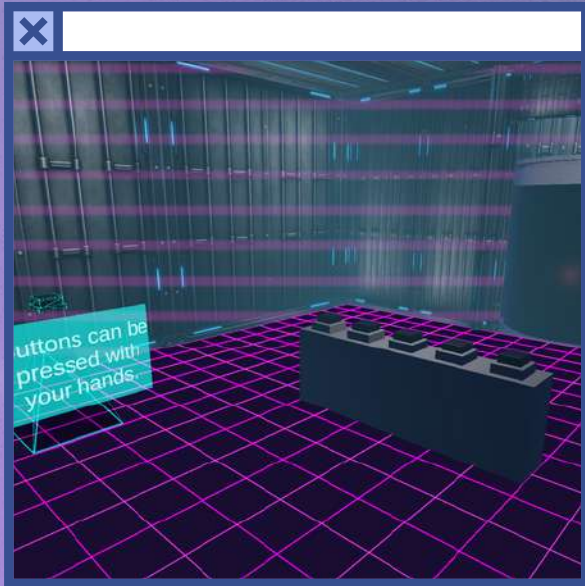
- Powered by an ESP32
- Input using rotary encoder & switches
- Inspired by The Power Glove
- Bluetooth connection

- Powered by an ESP32
- Player tracking with accelerometer
- On-board webserver for communication between headset and tracking hardware
- in build vibration motor

Sneaking Device



LEVELDESIGN



Level 1: Button room

- Introduction how to press a button

Level 2: Sneaking room

- Sneaking player is able to test its ability for the special sneaking zones

Level 3: Keycard room

- Introduction on grabbing keycards, how the terminals work and how to open doors

Level 4: Mirror room

- Introduction on interacting with the laser and mirrors

Level 5: NPC room

- Players learn how to distract the guard to steal a keycard
- Players learn how to enter PIN into devices

INTERACTION

BOTH

- TELEPORTATION IN COMBINATION WITH PHYSICAL MOVEMENT FOR LOCOMOTION
- PRESS BUTTONS
- GRAB AND PLACE KEYCARDS TO UNLOCK DOORS
- NPC INTERACTION (E.G THROUGH STEALING SOMETHING FROM HIM)

SNEAKING PLAYER

- SNEAKING AS AN EXCLUSIV ABILITY TO INTERACT WITH PUZZLES

HACKING PLAYER

- GUIDE THE REFLECTION OF A LASER BEAM ON MIRRORS OVER THE "HACKING DEVICE" HARDWARE
- INSERT PIN INTO INTERFACES OVER THE "HACKING DEVICE" HARDWARE



FEEDBACK

- Visual feedback: highlight effects on interactable objects
- Haptic feedback: vibrations when Sneaking player is not sneaking
- Auditive feedback: Click sounds for button presses, success/failure tones for hacking and keycard use, alarm sounds

CHALLENGES

- Fusion Hardware-Rig
- late testing of the whole game experience with 2 Players
- Networking of environment objects: later spawned objects causing issues
- Hand Tracking
- UI Interaction
- Hardware integration and improve it to a standalone input device
- Integration of Meta Quest into Fusion

FUTURE IMPROVEMENTS

- Enable hand tracking and gesture recognition for more interaction (e.g cut wires with hands)
- Include an UI for choosing the player type
- Include a combined big puzzle
- Extend the storyline
- More haptic feedback - bring back the idea of the ball of chain :D



THANK
YOU!

