Flood Evacuation Game

Prototype, version 1.2.1

About the game

This game is a prototype that attempts to simulate evacuation in the first-person perspective. The game uses basic geometry for construction of indoor rooms (such as an office or a supermarket), which the player traverses during evacuation. Evacuation happens during night time. Because visibility can impact speed of evacuation, emphasis is placed on placement of lights and signs to help guide the player to the nearest emergency exit.

The game has been made with the focus on studying human behaviour and how people perceive their environment. It comes with a replay system, which records the steps a player took to finish the level. This allows for both a source of analysis and also engagement among players looking to climb the in-game leaderboard.

How to play

Your job is to evacuate as quickly as possible by traversing a series of rooms. Touch the nearest emergency door to exit the room.

As of this prototype, there are four rooms in total. Some of the rooms are flooded. If flood water reaches knee level, your movement speed will decrease, thus delaying evacuation. Avoid floodwater whenever possible. Note that water remains constant in this prototype and will not rise.
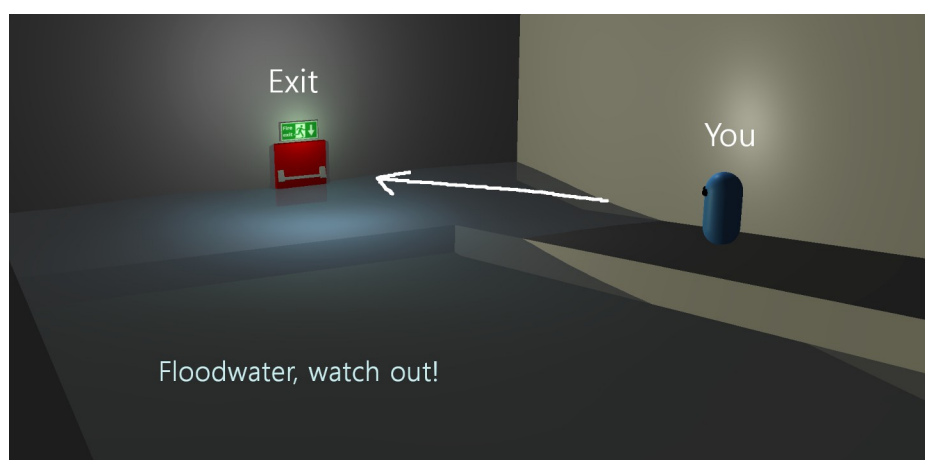

Fig 1. How the game looks like

Options

Options can be checked in game by clicking on the "Options" tab in the main menu. A number of options are available to the user.

You can adjust your mouse sensitivity (i.e., the turning speed of your camera) to your liking by dragging the slider. Minimum sensitivity is 1, and maximum is 300.

Hiding leaderboard names is an option for viewing players anonymously in the leaderboard, replacing their usernames with randomly-generated numbers.

By default, the player has to run by holding the sprint button (Shift or C keys). However, this can be reversed by enabling the always run toggle. This way the player always runs and stamina is always drained when the player is moving, unless they start holding the sprint button.
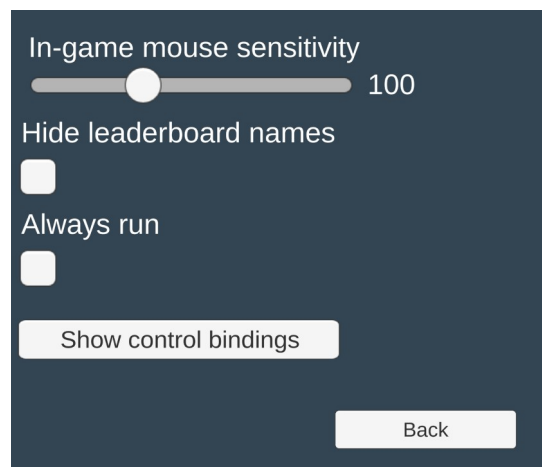

Fig 2. Options menu

Controls

Controls can be checked in-game by clicking the "Options" tab in the main menu. Note that in this prototype, key bindings cannot be changed.

When you start the game, movement becomes available after the initial three-second countdown. Use your mouse to look around and analyse your surroundings. You can run by holding Shift or C, and jump by pressing Space. To restart the level, press R. To leave the game, press Esc.
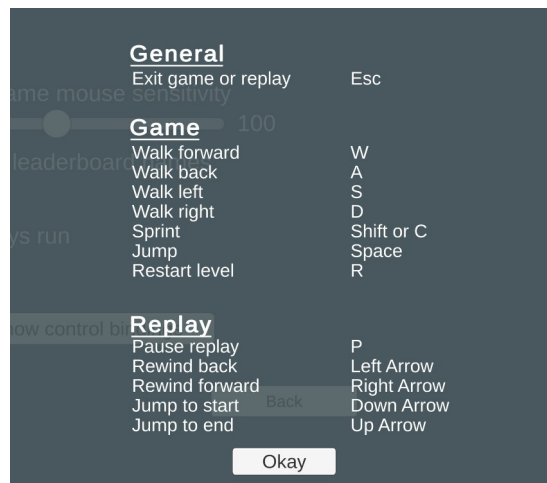
Fig 3. Game controls, available in Options

Stamina system

The game employs an experimental stamina system to reflect stamina of an average person during evacuation. Running and jumping drain the stamina meter. Once the stamina runs out, the player cannot run or jump. However, the stamina will recharge overtime by walking normally.
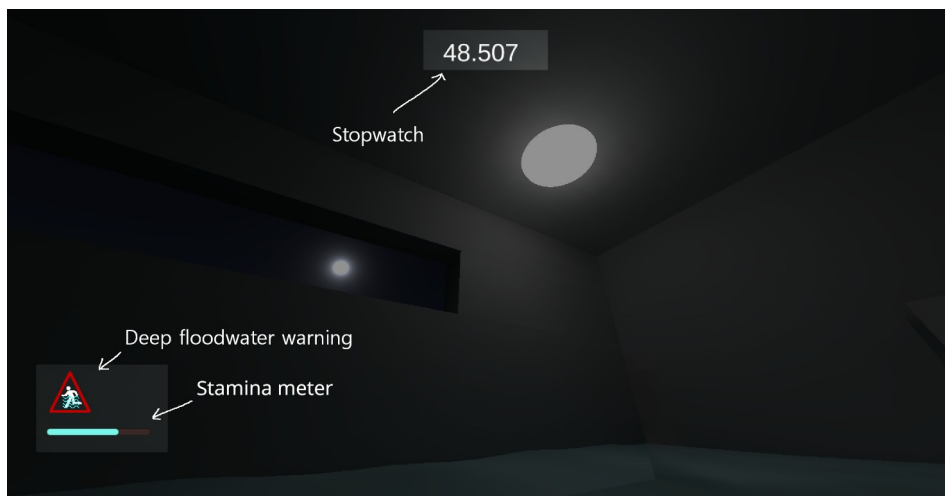
*Fig 4. In-game screenshot showing stamina, floodwater warning and stopwatch*

Replay system

After a successful evacuation, a replay file is saved locally, which can be viewed in the "Leaderboard" tab in the main menu. If the player exits in the middle of the game, or evacuation exceeds 300 seconds (5 minutes), the replay will not be saved. Replay controls allow you to pause, unwind and fastforward replays.

Leaderboard

When a player reaches a new personal best, their replay is uploaded to the remote server and becomes available in the leaderboard. This is where you can watch replays of other people. You can view a replay by clicking on the blue eye icon corresponding to one.

In version 1.2, the leaderboard has been updated to support up to 100 players. You can scroll through the leaderboard by dragging it within its box margins.
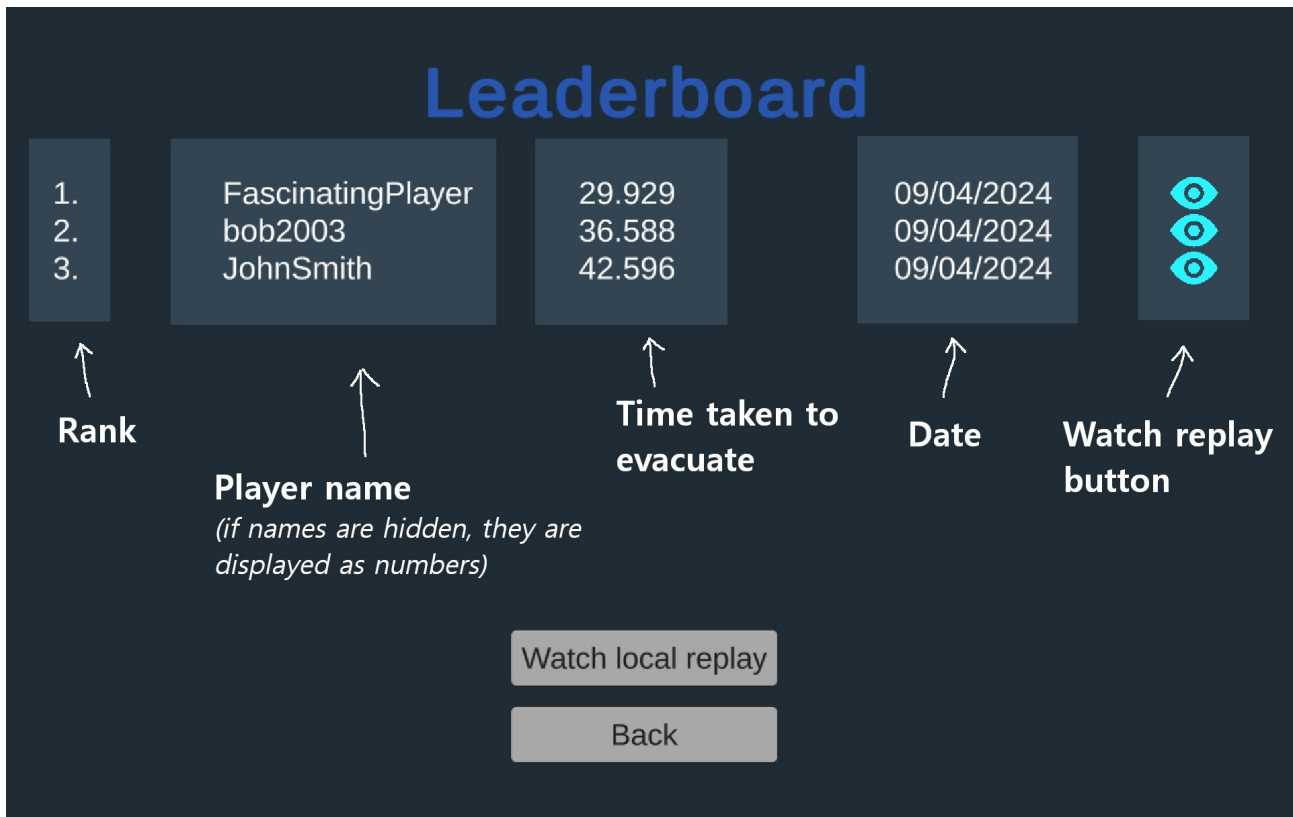
Fig 5. The leaderboard

Online connection

The game operates around online functionality to work properly. If for some reason there are problems communicating with the server on launch, the game will forcefully enter offline mode. Offline mode is triggered in situations where:

- The server is not reachable through HTTP and ICMP communication. The firewall on client's or network provider's end may block these connections
- The flood-evac-game-uoe.com domain name not being reachable
- The server is down
- Communication with the server has expired after June 1st, 2024

Note that connection issues may happen in online mode, such as the leaderboard not loading, or replays not uploading or downloading. This may happen due to network communication delays, parts of communication being blocked, issues authenticating the player, or problems on the server end. The simplest solutions are to verify connection with the domain, test the game on a different network, or try again later.

Concluding thoughts

Thank you for checking out the game.

For more information, visit flood-evac-game-uoe.com