Practical Option: Assignment 1 HCI

Project *RoBS*

By Hossain Alinaqi and Daye Fubara

INFR 4350U

UA 2120

Professor: Nour H.

2022-11-25

# Game:

The game chosen was a personal project that Hossain was working on, code named “*RoBS*”. It is a type of game where you control your player object and try to dodge enemy bullets while shooting them down. It is inspired by the *Touhou Project* games and other Arcade Shoot ‘em Ups. There are typically 6 stages and an Extra Stage challenge in *Touhou* games, so the game being worked on is planned to include 6 stages and an ex stage upon completion. There are dialogue boxes and score screens along with menu settings. Since the project is currently in its early stages, there are a lot of place holder art and sound assets. The music for the game was custom made and original, in a complete state.

# Gameplay:

You can move around, shoot, and focus your shot. In the game currently, arrow keys, Space and Shift keys are used to play. Space bar to shoot, Arrow keys to move and shift to slow down for more precise movements. There are plans to have your shots focus down on a narrower section when you hold shift, but currently it has not been implemented. Escape key is used to quickly go back to the main menu. Pressing the “P” key will pause the game, but that feature is currently being worked on.   
  
Alternative Interaction Methods:

There are alternate methods to play a game like this. If we are controlling jets and planes, we can use a flight joystick to control the player object, if we are using a car as the player-controlled object, we can implement steering controls. The game is planned to instead have you control flying characters who are able to use magic, so using these alternative control schemes would be out of place.   
  
 So, we could implement something like a Wii remote, where you point at where you want your character to go, and use buttons on the controller for additional actions, or use eye tracking or body tracking. However, we decided that this would be a more choice, since games like these require precise and accurate movements, and currently, those technologies at an affordable price point, cannot deliver.   
  
 Then we considered touch screen controls. Where the player object follows wherever on the screen you are currently pressing down on. The game would then fire bullets according to whether or not there are enemies on the screen, and it will focus shot automatically when you are underneath the boss. There can be an issue where your hand can be blocking a lower section of your screen, but considering that the player will usually be paying attention to enemies entering from the top of the screen and they would be moving around closer to the bottom, it wouldn’t be a issue. The reason why we had to cross this option out was because our current licence of Game Maker Studio 2 does not support Mobile App Development, as being able to support building for these platforms is much more expensive than buying a license for PC development.

Now we are left with more traditional interactive methods, a console game controller like an Xbox One or PS4 controller, keyboard and/or mouse. We thought that controlling the game with a console gaming controller wouldn’t be different enough in the interaction, since they’d basically be the same in how you can move around in the game and menus. I wanted to create an interactive method that would allow you to play with only one hand. This way you can use your free hand to eat a snack or drink a beverage, which I believe is an under appreciated positive to games that let you play like this. An example of a game that can be played with one hand completely is *Kingdom New Lands*.

Since the game only included keyboard controls for an input, I decided to allow you to you a mouse during gameplay. I believe this is different enough because you only need to use one hand for the alternate control scheme (which would let amputees and other people with physical disabilities play more easily). In addition, the mouse is completely different in how it moves the player.

# Findings:

I initially made it so the player object can only move at a set speed to not make it more powerful than the keyboard, but I decided against it. I did this for 2 reasons, the game isn’t competitive, and it did not feel nice. Waiting for the character to move towards a quick flick motion felt “slow”, “sticky” and “unresponsive”. Now the player object follows the mouse instantaneously, which does feel a lot better to control. In addition, using the mouse feels more precise, responsive, and nicer than the keyboard controls. The only concern I have is that the mouse is much more powerful than the keyboard, since you can move around more easily on the screen. If anything, this will make balancing the game more difficult since the game would have to account for both control schemes.

The gameplay demo shown messing around with the game is on my Personal YT, which includes a more high-quality upload version of the game’s original soundtrack. The discord link points towards a discord server in which I post updates personal game projects and post YT uploads. The game can be downloaded from there.

[Gameplay Video Commentary]: <https://youtu.be/00bhkvY0SNk>

[Gameplay Video No Commentary]: <https://www.youtube.com/watch?v=RL5oIMnjC-w&ab_channel=Halinaqi2>

YouTube channel: <https://www.youtube.com/@halinaqi2194>

Discord Link: <https://discord.gg/GMyZQVp>

Install Link:

<https://drive.google.com/file/d/155zvZ3Tor9T-p4XvqtquQi2urUWk5OAp/view?usp=sharing>