

Kinect-enabled Interactive Application

SM3603 final project

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1 Introduction

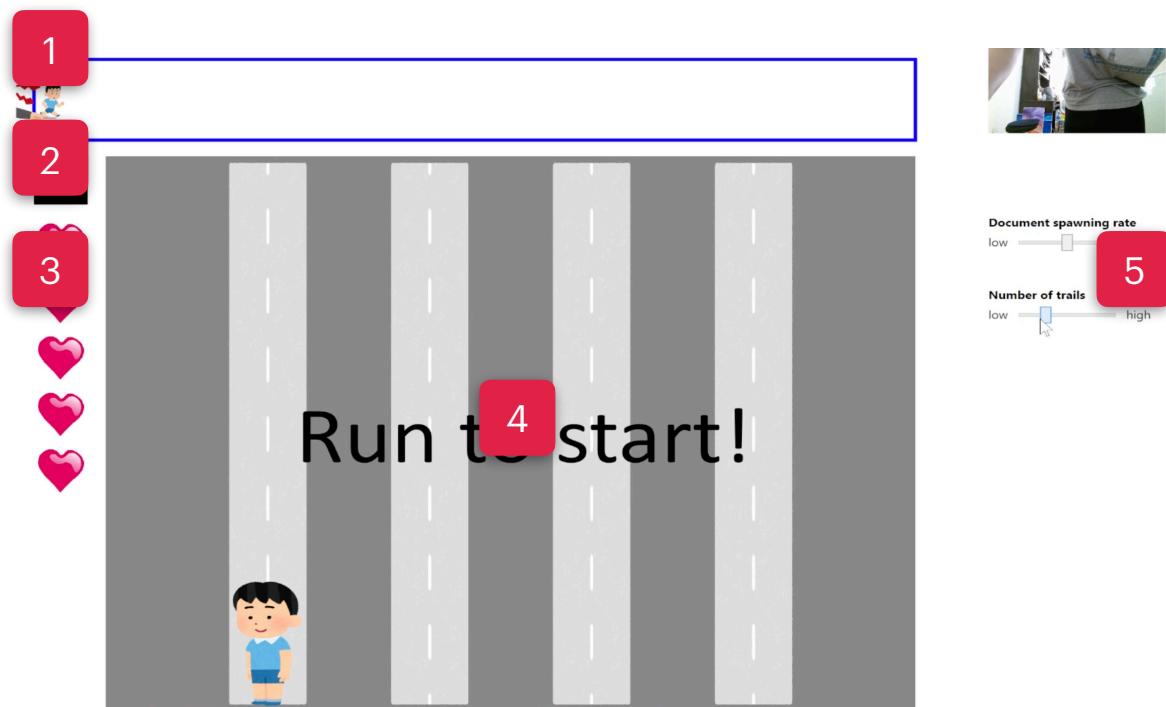
Gesture recognition is mainly exploited in this project. Inspired by the phase of “Corporate Slave”, I develop the game that people can escape from their boss.

2 Overview

2.1 Game Objective

Throughout the game, the player has to run (to escape from the boss) and gain as many scores as possible to obtain a better grade. To gain more scores, the player can collect comics and avoid losing the game too early.

2.2 UI



2.2.1 Progress Bar



In this game, one of your objective is to escape from your boss. The progress bar shows the chase between the player and the boss. Once the game starts, the boss will start chasing the player. The player can “run” to escape from the boss. If the player is catches by the boss, the game will be ended. If the

player reaches the right-end of the bar, special bonus (+score) will be given and the game will also be ended.

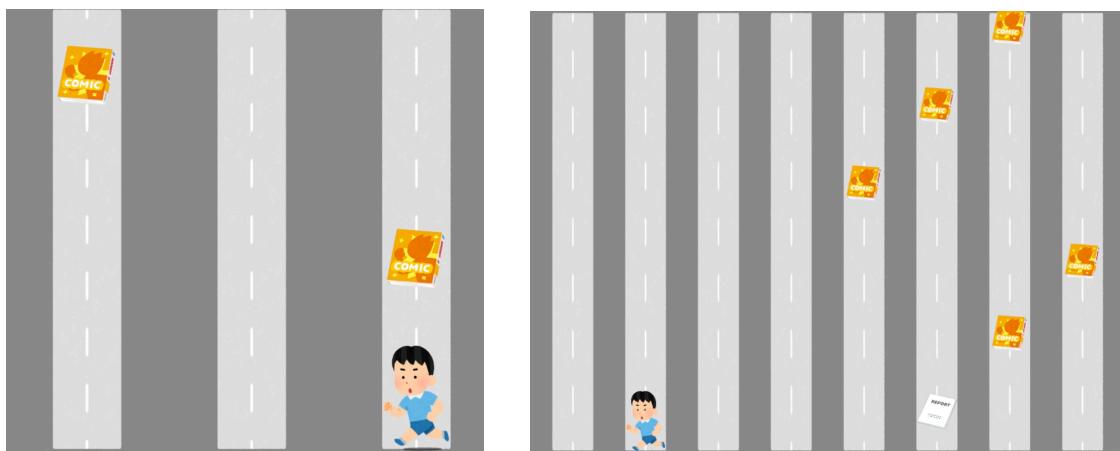
2.2.2 Score Bar

It shows the score player gains in a game. If player collect a comics, one score will be added. The final score (settled once the game is over) determines the grade player gets in a game.

2.2.3 Health Bar

It shows the health of the player. Once there is no heart at the bar, the player is indicated as being exploited to work beyond their capability and thus becomes a corporate slave. The game is therefore ended. The number of heart will be deducted by one if the player collects one document.

2.2.4 Main game



In this region, a number of trails and the game character of player are shown. Once the player is “running”, items {document, comics} are spawned on the top-end of random trails. The character is also running toward the items (assuming that the camera is keep following the players. Therefore, all the item on the trails are like dropping from top to bottom on the screen). Player can switch their position from one trail to another one by “half-raising” the

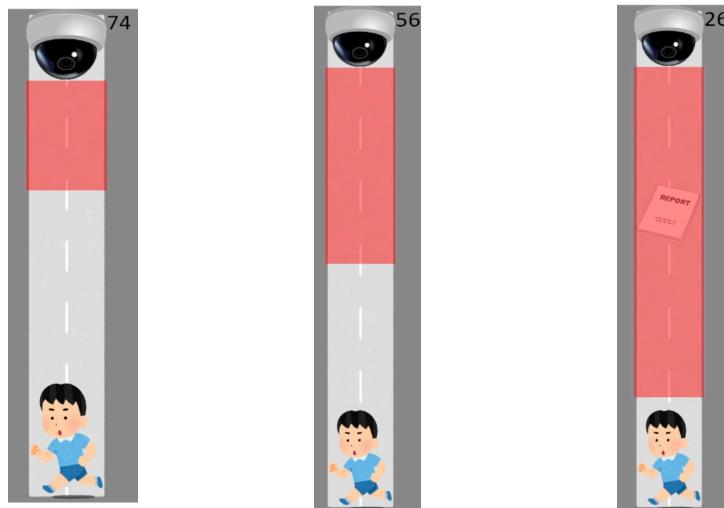
hands. If the player “half-raising” the left hand, the character will move to the left trail. Oppositely, it will move to the right one if the player “half-raising” the right hand.

2.2.5 Setting

There are two setting using slide bars to modify the game difficulty. Document spawning rate can be adjusted. High document spawning rate will increase the proportion of document in the trails.

2.3 Special Event

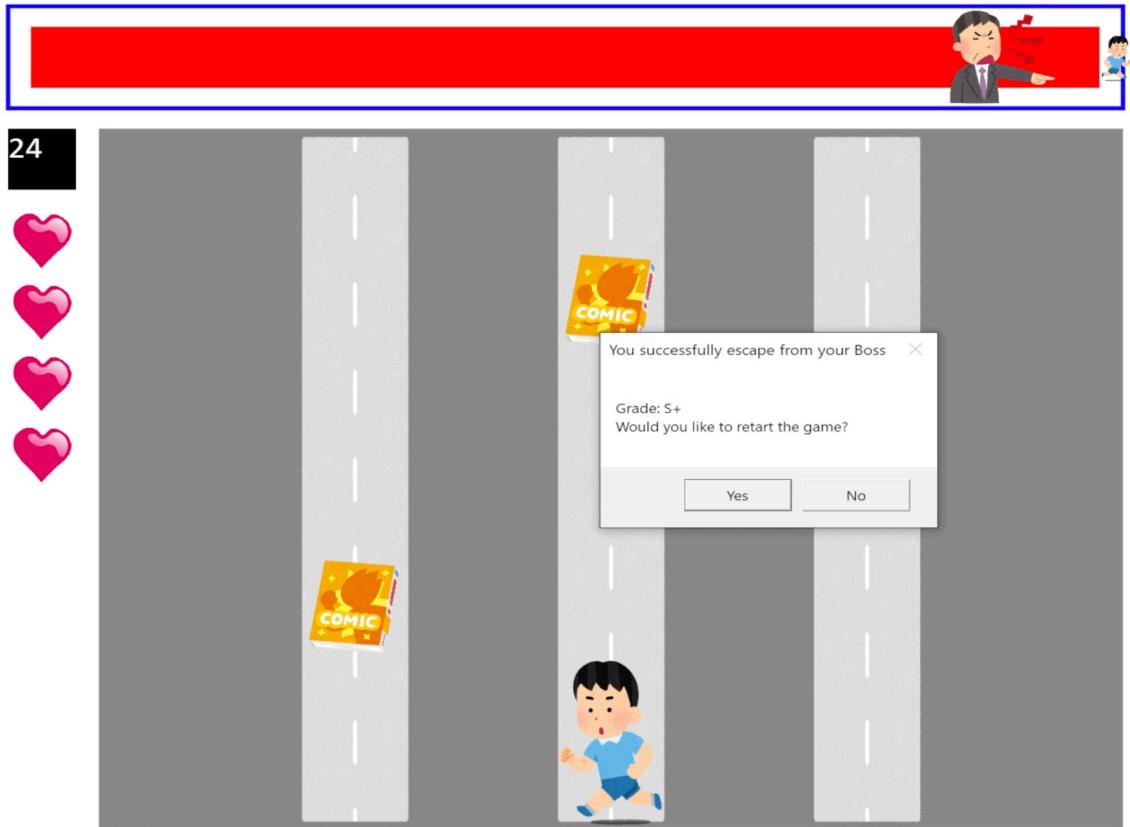
2.3.1 CCTV



CCTV is spawned in every 8 second at random trail. The red area is represented as the detection zone of the CCTV. If the player intersects with the zone, he will lose the game.

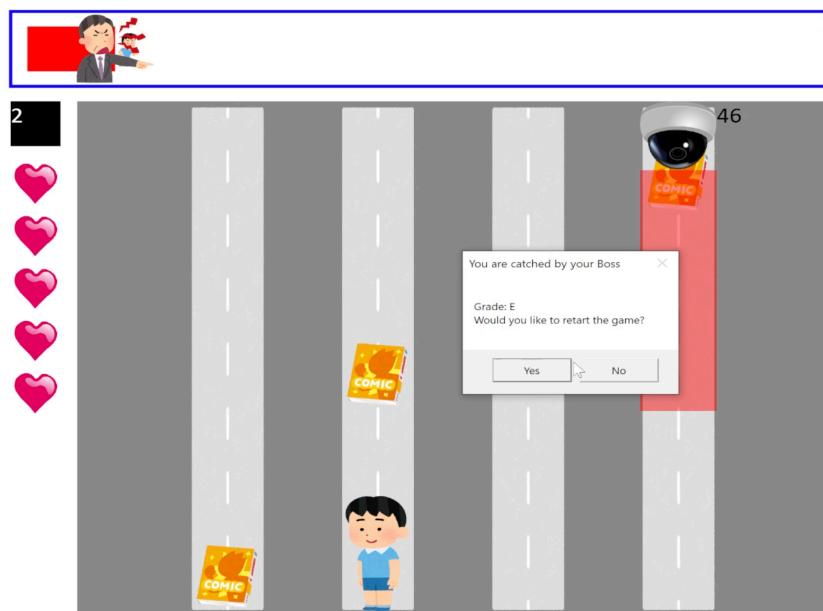
2.4 Winning & Losing

2.4.1 Escape the Boss



If the player reaches the right-end of the progress bar, he will win the game and gain bonus score. Additionally, a special grade of “S+” will be unlocked, which can be achieved when the player collects enough amount of comics.

2.4.2 Chased by Boss



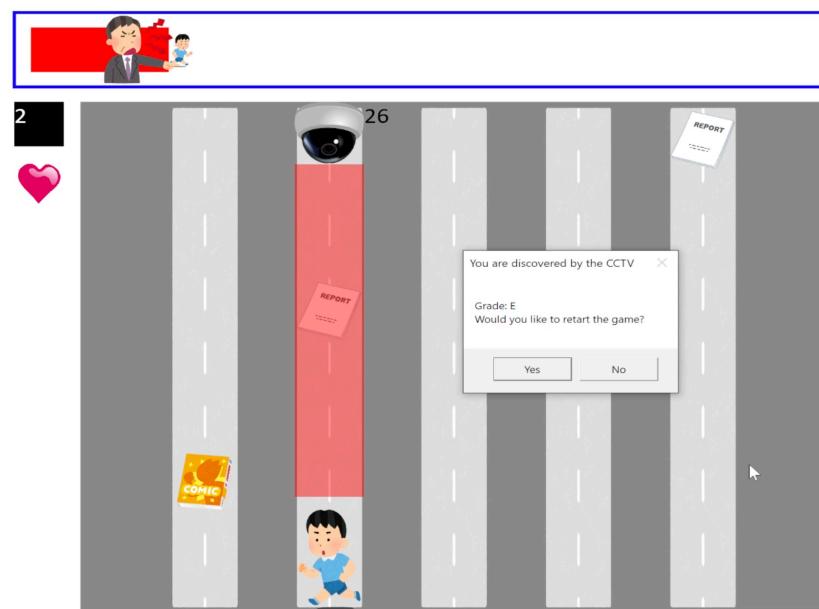
If the player is chased by the boss, he loses the game. Grade will be settled immediately.

2.4.3 Corporate Slave



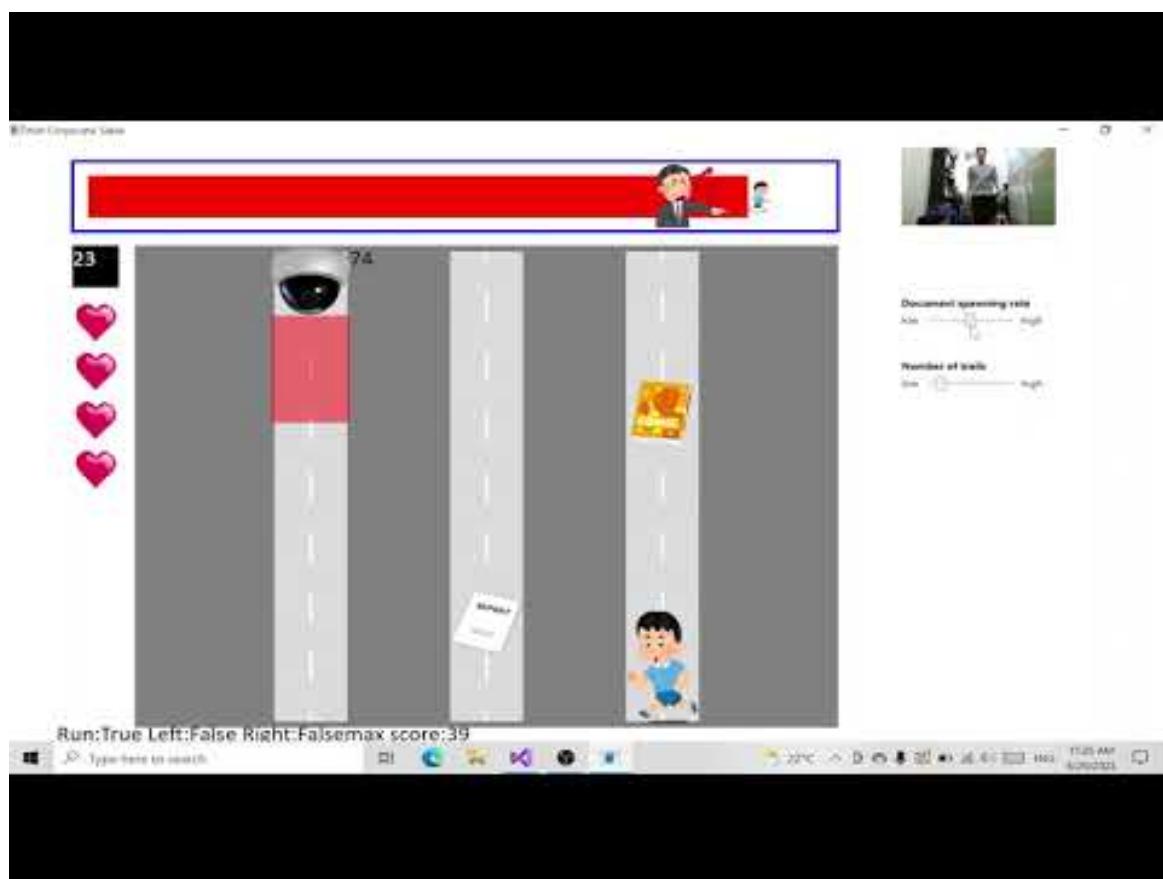
If there is no heart at player's health bar, the player loses the game. Grade will be settled immediately.

2.4.4 Monitored by CCTV



If the player enters the detection zone of the CCTV, he lose the game. Grade will be settled immediately.

3 Demo



Link: youtu.be/MO--Z5MhU2Y

4 References

4.1 code

T9_GesturesRecognition

T8_PoseMatching

T4_BlobDetection

4.2 Image

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