Catch The Fingers

Game Design Document

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Overview

“Catch the fingers” is a 2D Game built using pygame and the simpleGE module

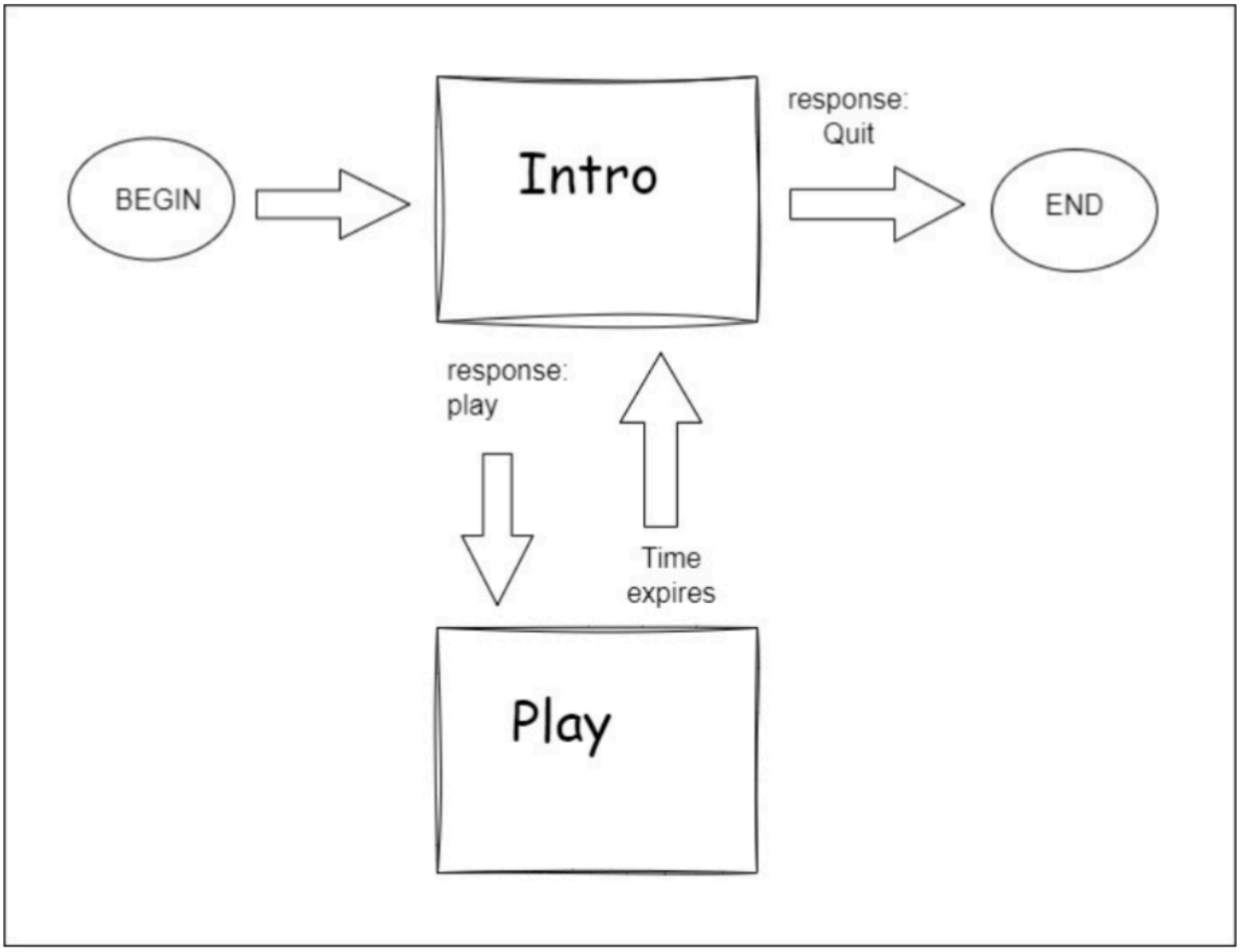
Heres the idea behind the game: Your character will be a sprite called “Yuji Itadori”. Your character will be on the bottom of the screen with shibuya from the show the character is from as a the background. You will be able to move the sprite from left to right using the left and right arrow keys, but I will also implement the ability for A and D to move left and right. Fingers will fall from the “Top” of the screen (Which is actually the bottom based on pixels) and the fingers will be in random positions for the x but the same position for the y. The Fingers will be sprites from Sukuna from a show jujutsu kaisen The coins will fall at different pixel speeds. Sound effect will play if your player touches a coin (undetermined right now). If a finger falls to the bottom without being caught, set back to the top with a different speed. Game will have a set time of around 10 to 15 seconds.

Game starts with an intro screen explaining the lore behind the game idea and how to play. Two buttons taking you to play or quit after explaining.

Black Belt Idea

May add a high score button that is saved to a json to show all the high scores that uses input to save the user name and fingers captured.

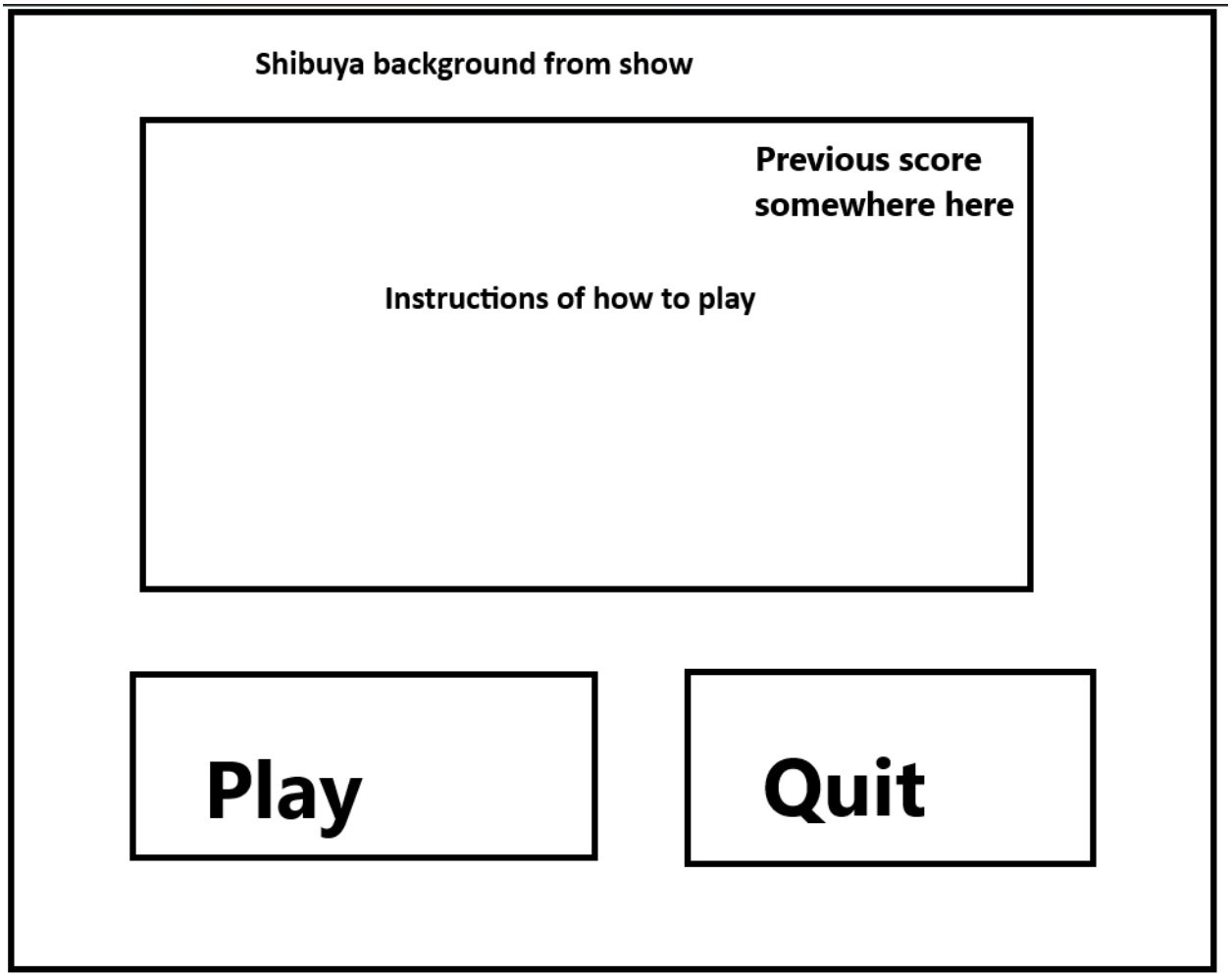
State Transition Diagram (Provided by andy but game will follow same structure)



The two main classes will be the intro and play that are apart of the simpleGE screen. You will start at the intro that will have two buttons with instruction listed on how to play the game. The response based on button click is saved as a variable to load the new scene. Additionally, I may add a leaderboard scene (if its too much work wont be added)

Instructions

How the game works



This is a scene with simpleGE that will be first shown when loading the game. It has 5 main things shown

Background - basic, just use a jpg from the show and set it as the background for both the instruction scene and gameplay scene

Instructions - Some type of black box in the middle of the screen explaining the instructions.

Last Score - just pass a parameter value and make the text display that value

playButton - When clicked it will start the game Scene

quitButton - When clicked end the program

init(score):

Set the background to our sprite “Shibuya.jpg”

Make a response variable

Create the instructions text

Center the instructions text

Make scoreText and set it equal to the previous score from the parameter

Position the scoreText at the top right of the instructions label

Make playButton

Make the playButton text say “Play”

Position it to where it is in the image

Make quitButton

Make the quitButton text say “Quit”

Position it where it is in the image

process():

If the playButton is clicked:

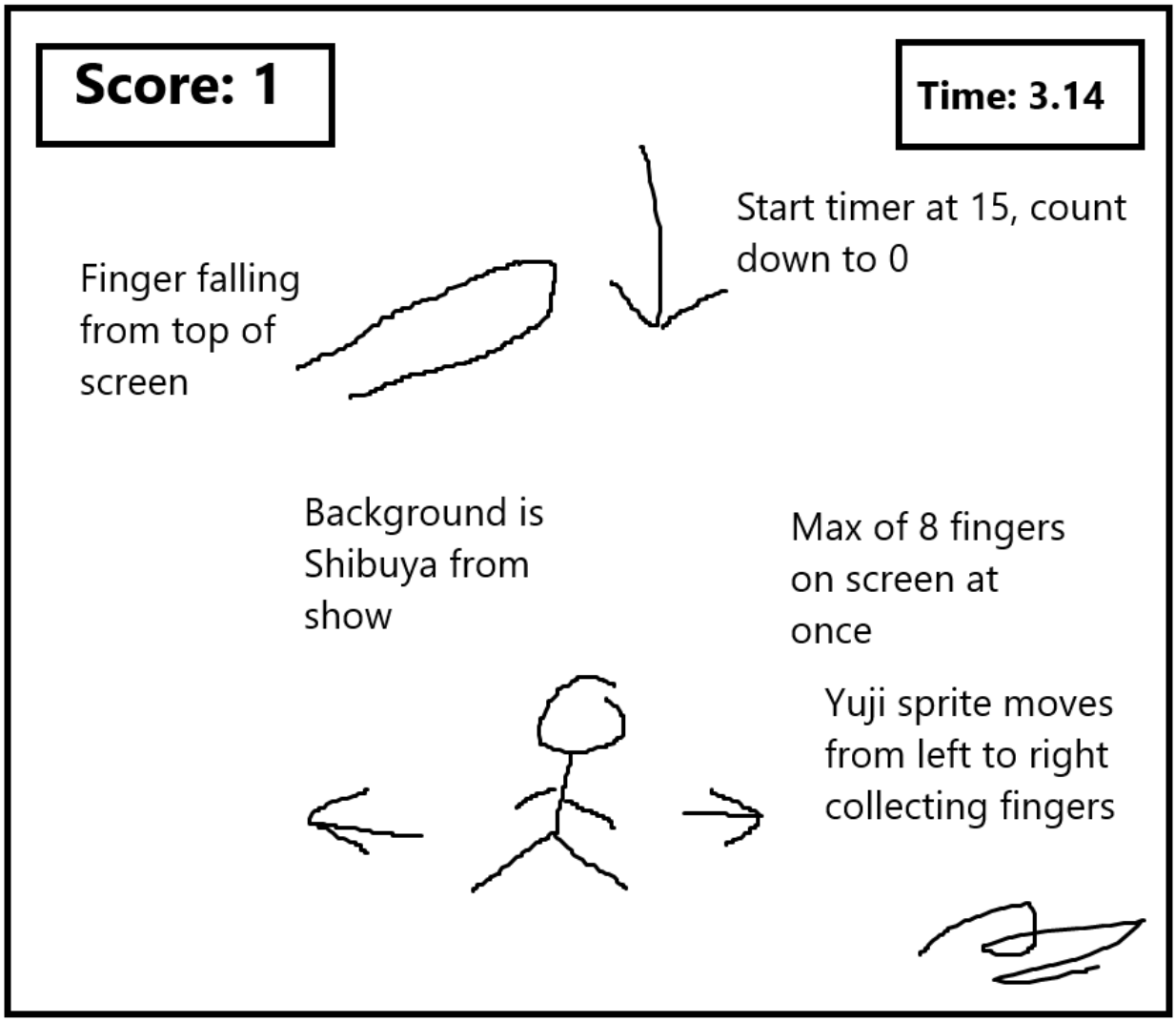
Response is play and will run the game scene and quit the current scene

If the quitButton is clicked:

Response is quit and quit the scene

Game Class

The game, runs if play button is clicked



The sprites in this scene will be the Yuji sprite, or our character that is controlled, the other sprite is the fingers that will fall from the sky at random speeds. When the fingers fall to the bottom reset their x position and send them back, no more than 8 fingers at a time

Init():

Set the background image to our “Shibuya.jpg”

Make a variable for the timer called gameTimer and set it to 15

Make a score variable called gameScore and set it to 0

Add a sound effect for the finger

Make a list of 8 that will contain the 8 fingers

Make the text for timer and score and set the text to their respected variables

We can import time and sleep for 1 second then subtract 1 to the timer

process():

For finger in finger list:

If finger collidies with yuji:

Add one to gameScore

Randomize the coins x position and put at top of screen

Update the text label

If timer is less than or equal to 0 then stop the game and save the score variable

Yuji Sprite

Size is around 125,125

The image for this sprite is yuji itadori from the show jujutsu kaizen

Movespeed starts at 5

Init:

Set image to Yuji.png

Make the size 125x125

Set position to (400,400)

Make movespeed start at 5

Use the process() method to make him move

Process:

If left key is pressed

Subtract movespeed from x

If right key is pressed

Add movespeed to x

If a is pressed

Subtract movespeed from x

If d is pressed

Add movespeed to x

Finger

This sprite will be an image of sukunas finger from the show jujutsu kaizen

Fall speed is random of 3 to 10

Finger starts at the top and falls to the bottom

If at bottom of screen reset to top

No more than 8 fingers at a time

Init:

Set image to Finger.png

Set size to 50x50 (may be changed if determined too big/small)

Reset:

Set y to screen height

Set x to random value from 0 to screen width

Set dy to random value from 3 to 10

textScore

Says the player score

Should start saying “Score: 0” but the 0 is equivalent to the variable gameScore

textTimer

Text that says the timer

Starts saying Time Left: 15

main()

Main will run the main loop to check for scene changes

I will use keepGoing for the general boolean variable

There will also be instructions and game which are both scenes

Make keepgoing and set to true

While keepgoing:

Start the instruction scene

When instructions ends we check for a response

If response is play:

Run the game scene

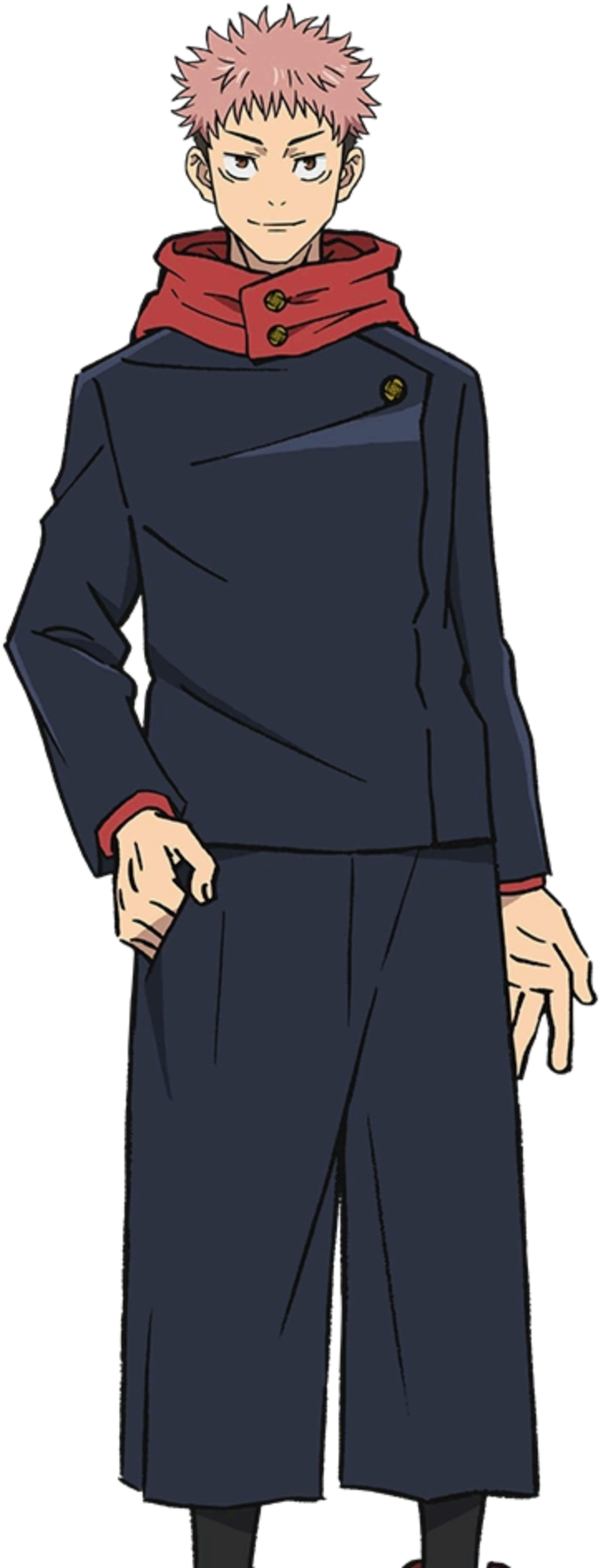
When game ends we save latest score and pass it to score

If response != play:

Keepgoing = false

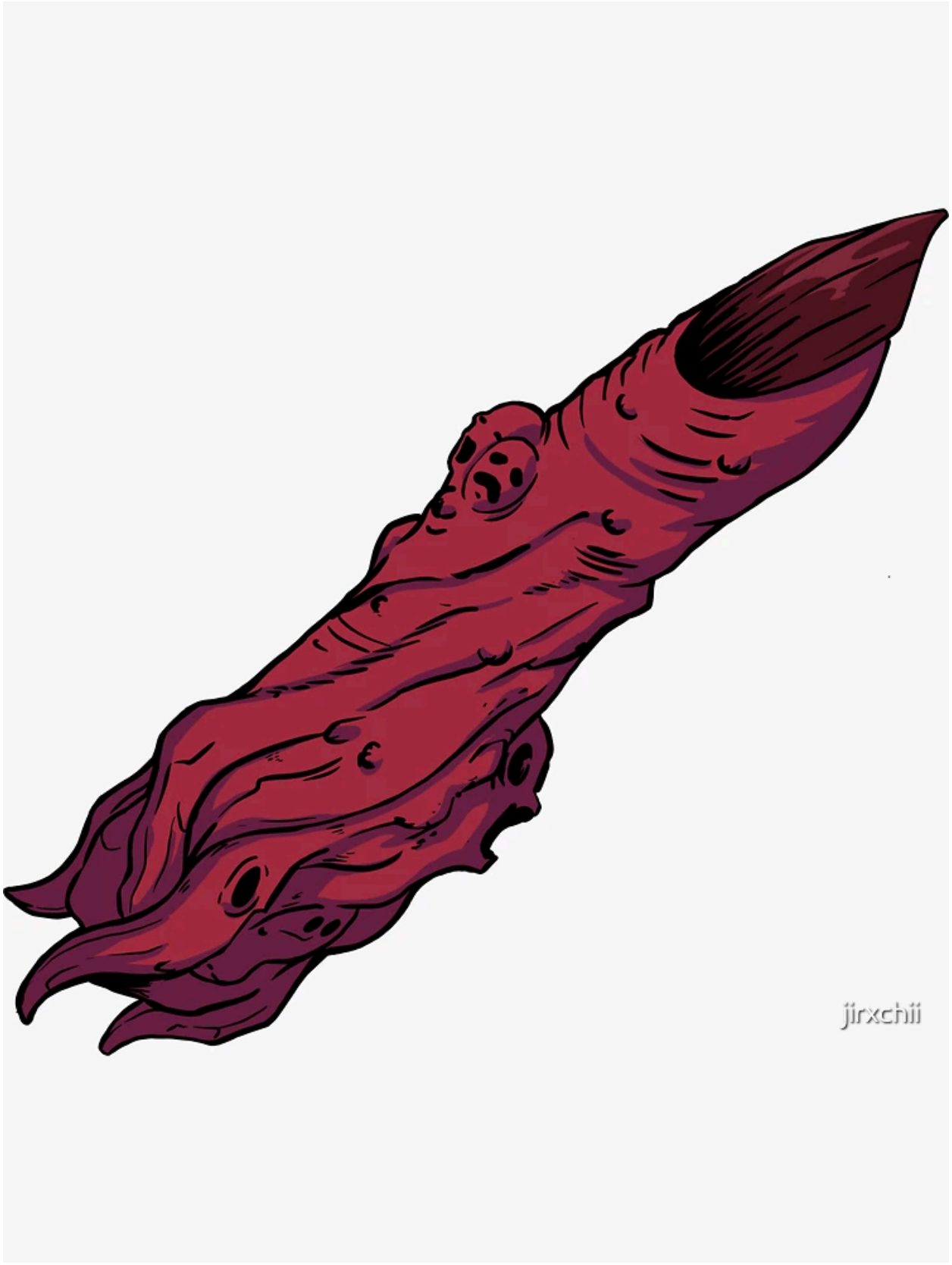
Assets

Yuji.png



Shibuya.png

Finger.png (will be made transparent for the game)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