Term project Proposal

Project Description

This project is a side scroller game called Go Disney Princess.

Background story
The world is fighting a scary virus that caused a lot of death. To save the world, three brave Disney princesses formed a squad to get the antidote in a castle guarded by a ferocious dragon. On the adventurous way to the castle, they have to fight different enemies and overcome many obstacles; but they work unitedly as a team using the different abilities that they have, and finally reach the destination and beat the dragon.

How it works
In the game, players can play the roles of three Disney princesses: Mulan, Elsa, and Jasmine. Each princess has her own actions: Mulan can attack the enemies with the sword, Elsa can freeze the enemies with her magic, and Jasmine can fly over the obstacles with her magic carpet. All of the princesses can walk, run and jump. Players can switch characters at any point, they have to strategically decide which princess to choose given the different challenges that they encounter. The worlds are full of enemies and platforms, and obstacles. The players have three lives, they can collect lives along the way as makeups for the lost ones, they will lose the game if they lose all of their lives. At the end of the game when they are facing the dragon, the different powers will combine as one, so players can use the different super powers without switching characters.

Competitive Analysis

I explored some side scroller games online including Super Mario, DONKEY KONG COUNTRY Number 10, and also looked at some 112 projects that used pygame.

Similarity: My game will involve some basic features in traditional platformers and side scroller games such as jumping between platformers, collecting rewards, and fighting enemies.

Difference: My game has a special theme about Disney princesses that no one has done before and the background story is interesting. There is also a special feature, which is that players can switch to monitor different disney princesses that have different powers at any time during the game. What's more, unlike most games that

have different modes, this game has only one mode and the difficulty level will increase as the player moves right.

Structural Plan

My game will include three levels. As the player moves right, the game will become more and more difficult.

I will use three files to organize the code and link them together by importing one from another.

1. **Settings.py** is used to store fundamental information such as width and height of the window, width and height of the objects, colors, , images, etc.
2. **main.py** that contains the main game code
   Game Class
   # initialize the game
   new()
   run()
   # update the screen
   update()
   # loop through all the events
   event()
   # draw the sprites
   draw()

3. **Sprites.py** that contains all the sprites classes
   Princesses
   Upper class: Princess
   Inherited class 1: Mulan
   Inherited class 2: Elsa
   Inherited class 3: Jasmine
   Enemies
   Upper class: Enemy

Inherited class 1: QuickEnemy
Inherited class 2: FlyingEnemy
Inherited class 3: Dragon

Platform
Award
Sword
Carpet
Ice
Fireball

I will also create a folder to put all the images, and a folder to put all the sound files.

Algorithmic Plan

Level 1: Jumping, collecting rewards, and fighting enemies, moving forward, platforms will be shorter and the player will die if fall down.
Level 2: Flying enemies that will attack the player with fire, and can dodge attack
Boss: Fiery dragon, can chase the player, can fly, can heal itself, can shoot fireball.

More complex parts:

Boss finding the shortest path to reach the player
Boss predicting player movement
Boss shooting fireball to the player in different angles

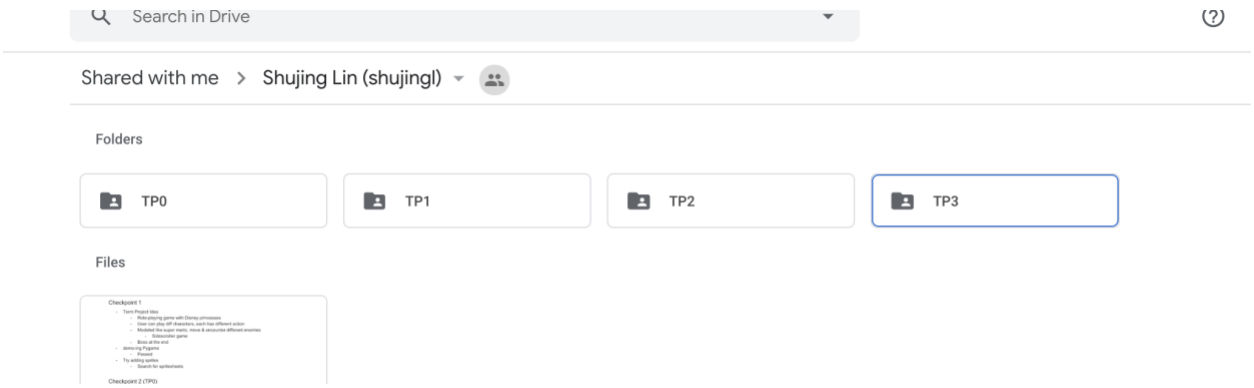
Timeline Plan

Time	CP4/TP1 April 16	CP5 April 20	CP6/TP2 April 23	CP7 April 27	TP3 April 29

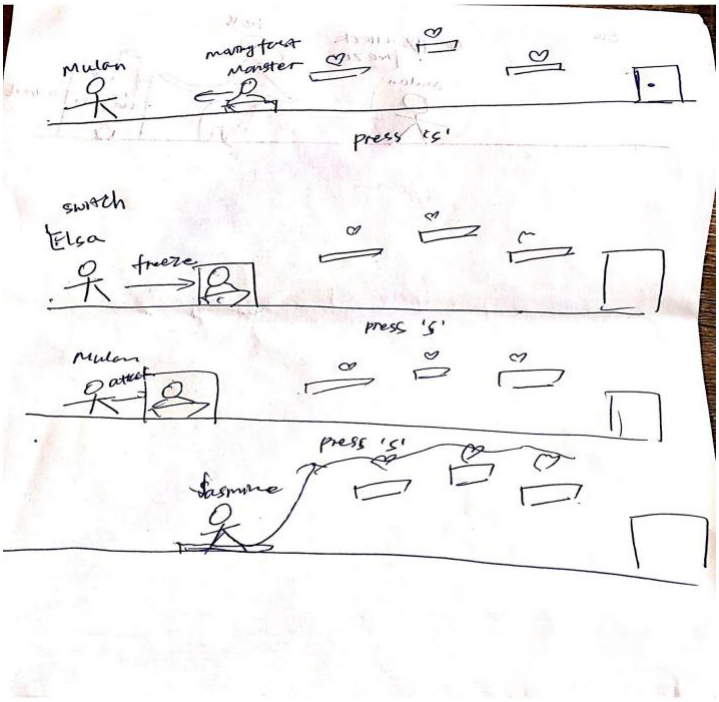
Due	Jumping Collecting Fighting Switching roles	Side scrolling Include All the levels	Finalize all the levels	Add sounds More Intelligent Game AI	Video Demo Final product

Version Control Plan

I will save all my work for each checkpoint into google drive.



Storyboardx4



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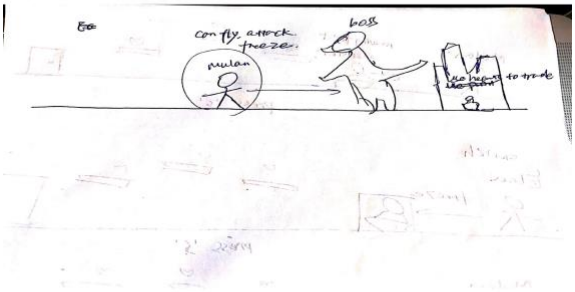

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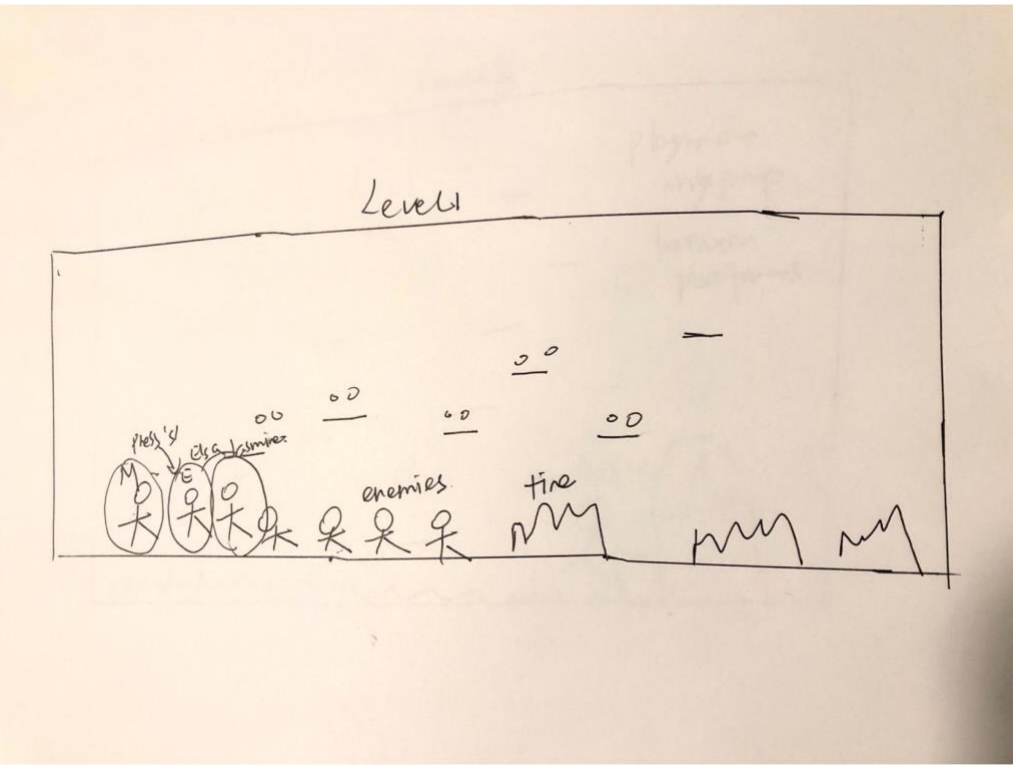
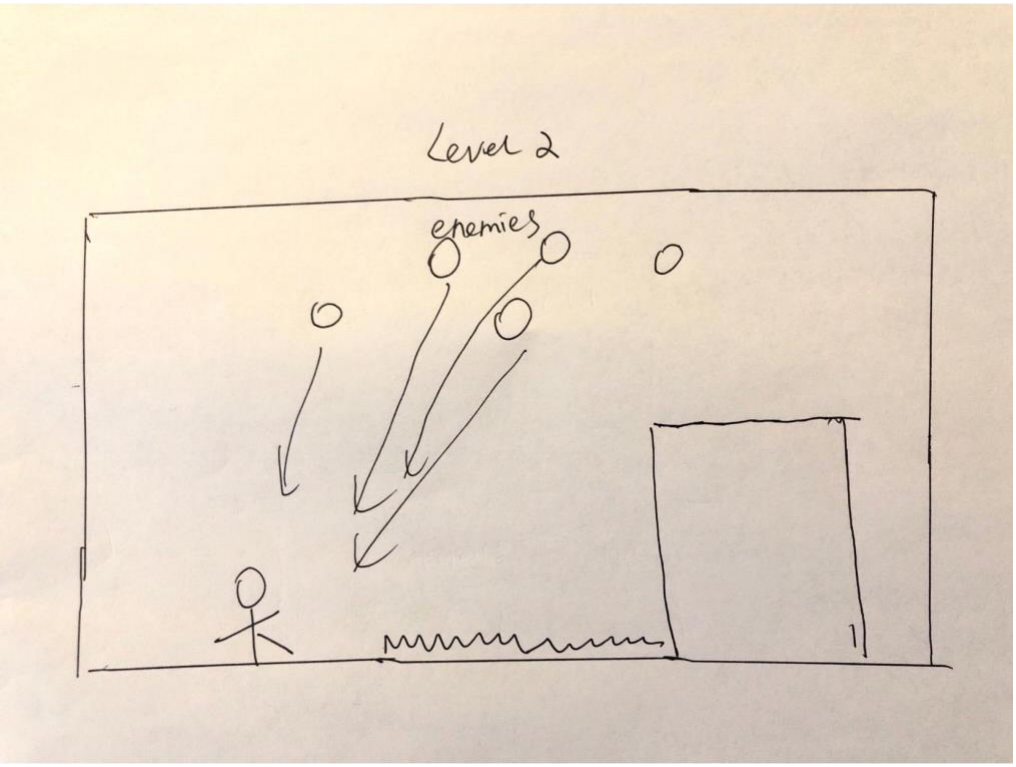
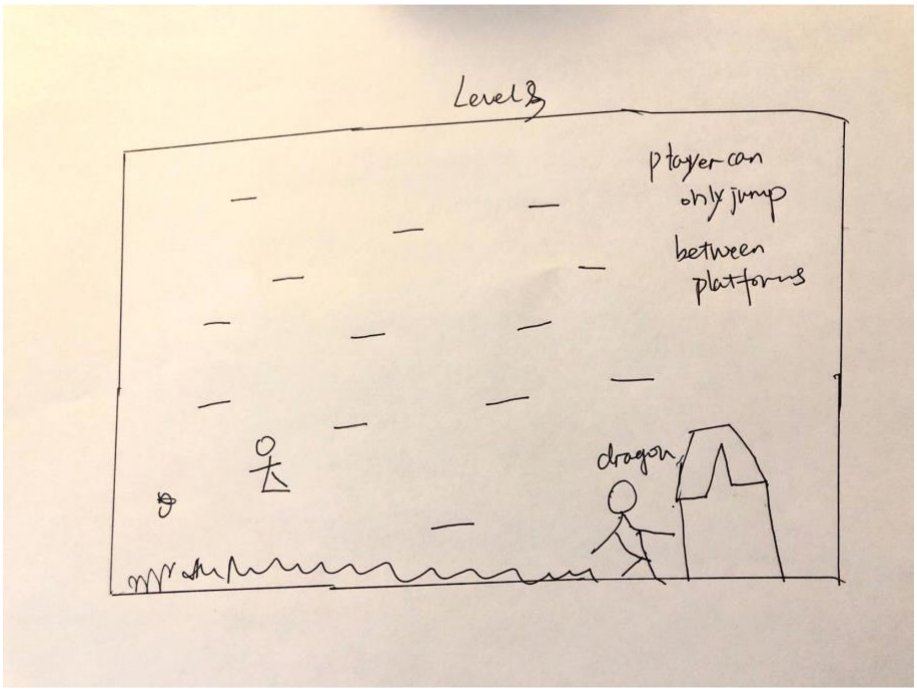

Level 1
enemies
fire


Level 2
enemies


Level 3
player can only jump between platforms
dragon