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4/12/2022

Culmination Proposal

<p align="center">Executive Summary</p>

1. For my Culmination Project I plan to code a 2D side-scrolling platformer game (ex. Mario) centered on changing shapes. I plan to build the game from scratch in the Gamemaker Studio 2 engine for Windows.

2. I was inspired to do this project from my love of gaming and my interest in coding. I decided that the game was going to be a platformer because I've never really created a platformer before on my own and that I've been playing a few platformers recently. I plan on using the GameMaker Studio 2 engine because that is the engine I am most comfortable making games with. I plan on making the special mechanic of the game changing shapes. All the other game mechanics such as enemies, gates, buttons, and bosses will be based around this shape changing mechanic.

3. I am working by myself, so I plan to start early. I plan on using guides and references along the way to bolster my knowledge on GameMaker Studio 2's coding language. I will also be making basic pixel sprite art using Gamemaker Studio's 2D art editor. I will be importing stock sounds for the game.

4. I expect to deliver a completed game by the time this project is due. I expect to learn how to efficiently create a good game within a time constraint. I also expect to learn more about coding in general as that is about 80% of what I am expecting myself to be working on during the process of this project.

5. Completing this project will teach me how to work while making a game. I hope that while working on this project I will learn more about my working methods. I plan to have this game as the base for my career portfolio, as I hope to work in game development.

<u>Project Description</u>

For this project I am planning on making a 2D side-scrolling platformer game, like 2D

Mario, that centers around the mechanic of the player changing shapes. The game's

objective will be that the player reaches the goal area of each level. All of the other

gameplay features will be based around the mechanic of changing shapes.
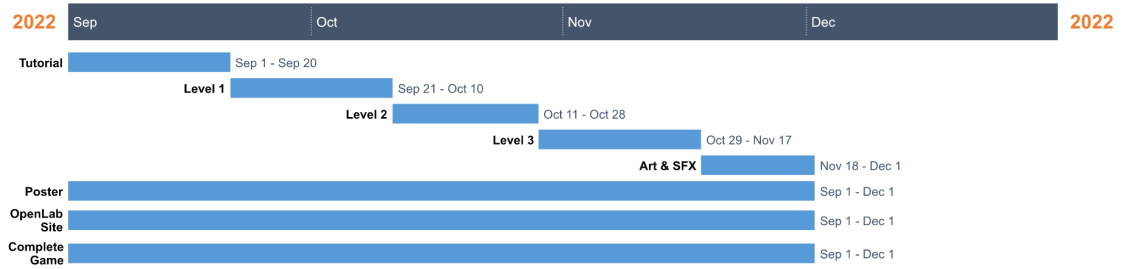
<u>Methods</u>

- Coding
    - GameMaker Studio 2 IDE
- Graphics
    - GameMaker Studio 2 Art Editor

<u>Deliverables</u>

- 1 Finished Game
    - 1 short Tutorial Level
    - 3 Regular Levels with built and designed stages
    - 3 Enemy types corresponding to each of the 3 shapes
    - 1 Player Character
    - 3 shapes
    - 2D sprite art for boss, enemies, player & menus
    - 3 Menus: Start, Level Select & Pause
- Poster
- Openlab Portfolio

<u>Resources</u>

- Internet Connection
- GameMaker IDE Reference
- Computer
- Youtube
- Google

2022	Sep	Oct	Nov	Dec	2022
Tutorial	Sep 1 - Sep 20				
Level 1	Sep 21 - Oct 10				
Level 2		Oct 11 - Oct 28			
Level 3			Oct 29 - Nov 17		
Art & SFX				Nov 18 - Dec 1	
Poster	Sep 1 - Dec 1				
OpenLab Site	Sep 1 - Dec 1				
Complete Game	Sep 1 - Dec 1				

Estimate

Item	Estimate Amount	Total Spent
Sound Effects	$50.00	$0.00
Graphics	$0.00	$0.00
Software	$0.00	$0.00
Estimate	$50.00	
	Total	$0.00

E-Portfolio

- Proposal
- Culmination project agreement
- Game Overview
- Gameplay
- The Coding process

Game Name: Shape-Shift
Game Concept: A 2D, Side-scrolling, Puzzle Platformer
Genre: Side-scrolling, Puzzle, Platformer
Target Audience: E for everyone
Game Flow Summary: A Level Select menu
Look & Feel: Pixel art style, simple art
Scope:
1. 4 different stages 1 for each level
2. 4 levels, 1 tutorial and 3 basic levels
3. 1 player character
4. "Shift Stations" - places where you can shapeshift to different shapes
5. Interactables:
   a. Locked Gates: doors that are locked to all but 1 shape
6. 3 shapes
   a. Square: Can move left, right and can jump. Special - can climb up and down tight corridors
   b. Circle: Can move left, right and can jump. Special - jumps 2x higher than other shapes
   c. Triangle: Can move left, right and can jump. Special - can move up diagonally(NW & NE)
7. 3 enemy types(Square, Circle, Triangle), with unique patrols for each shape
   a. Square: can move through tight corridors
   b. Circle: occasionally jumps during patrols
   c. Triangle: patrols diagonally
Gameplay:
Game Progression: You finish a level once you reach the specified goal area
Mission/challenge Structure:
1. Challenge Structure: Move through the levels avoiding enemies, and solving puzzles using the "Shift Stations" available throughout the map
2. Mission Structure: at the start of each regular level, 3 "Shift Stations" are available
Puzzle Structure: Find "Shift Stations" to change shapes, use this mechanic to avoid enemies and go through locked gates
Objectives: Make it to the specified goal area
Play Flow: Play one level and start the next(Level 1, Level 2, etc.)
Mechanics:
1. Physics: Jumps follow rules of gravity, player character also drops when going over an edge
2. Movement: Left(A), Right(D), Jump(Space)
   a. Square Special - W to move up, S to move down
   b. Circle Special - Space to enhanced jump
   c. Triangle Special - Q to move NW, E to move NE
3. Objects:
   a. "Shift Stations" - Press Enter to interact with and change shape, Stations will hold you previous shape
   b. Gates - if you are the corresponding shape you can pass through a gate, if you aren't you cannot pass through

4. Combat:
    a. Patrols - 3 enemy types(Square, Circle, Triangle), with unique patrols for each shape
        i. Square: can move through tight corridors
        ii. Circle: occasionally jumps during patrols
        iii. Triangle: patrols diagonally
    b. "Insta-death" - when colliding with an enemy of different shape you die, restarting the level
    c. Avoiding - when colliding with an enemy of the same shape you avoid them
5. Screen Flow Chart:
    a. Start Menu > Level Select > Selected Level > Level Select > Selected Level
6. Levels
    a. Tutorial: Shows controls and mechanics of the game
    b. Level 1: Level focusing on using shape-shifting & special movement to get through gates
    c. Level 2: Level focusing on using shape-shifting & special movement to get through gates and avoiding enemies
    d. Level 3: Combination of Level 1 & 2
7. UI
    a. HUD - Shows which shape you are currently, shows Special Movement option, shows current movement
    b. Menus:
        i. Start Menu - Allows player to move to level select menu or to quit game
        ii. Level Select Menu - Allows player to select a level
        iii. Pause Menu - Allows player to quit game or go to level select menu
    c. Controls:
        i. Left - A
        ii. Right - D
        iii. Space - Jump
        iv. Enter - interact
        v. Q & E - Triangle Special
        vi. W & S - Square Special
8. AI
    a. Enemies - Enemies patrol back & forth on a set path
    b. Player Collision:
        i. Terrain - player cannot travel through terrain
        ii. Enemy - if the player is a different shape than the enemy, Player dies and must restart the level, if they are the same shape you avoid the enemy
        iii. "Shift Stations" - when in front of a shift station pressing Enter allows you to shape-shift
        iv. Gates - if the player is a different shape then you cannot pass through, if they are the same the player can pass through