Project Idea: Doodle Jump

By: Viraj Goyal, Ria Rajan, Brian Yang, and Aaryan Jain

Game Final Idea: Doodle Jump is a platforming game in which the user must have their character jump as high as possible without falling. Our game is unique from the original Doodle Jump because there is a separate finite Bubba boss level where the Doodle Jump character will be able to shoot ink at Bubba and defeat him. In addition, our Doodle Jump game has enemies, powerups, and novel character skins. One of our character skins will be a version of Bubba, and in terms of power-ups, we plan to include a flying cap, trampoline, and shield. As for the enemies, we plan to have a mix of stationary and moving enemies, where the stationary enemies will stay in one place until the player shoots them, and the moving enemies will translate across the screen from side-to-side.

Features:

(5-Point)

Feature	Dependencies	Estimated Time
Create textures for platforms, character, background	• None	5 hours
Have a high score leaderboard (different depending on gamemode)	• Need a scoring system for the game	4 hours
Emergency Pause Button	• Must create a pause screen • Also implement a dynamic user interface	2.5 hours
Object collision algorithm	• Need game objects • Also need textures for game objects to determine location of each object	4 hours
Realistic jump	• Must have basic game physics	4 hours
Implement enemies/hazards (stationary)	• Create enemy textures • Re-use hit testing algorithm for enemy objects	3.5 hours
Start (home) and end (game over) screens	• Create textures for start and end screens	3.5 hours

(10-Point)

Feature	Dependencies	Estimated Time
Custom character texture/color	• Saving mechanism • Dynamic user interface • Character that's able to move and jump	3 hours

	• Ability to load user-created files and textures	
Allow the player to fire ink projectiles	• Textures for bullet • Sound effects for bullet • Dynamic user interface • Animations for bullet firing • Hitboxes for bullets (ex. Collision with enemy)	4 hours
Different power ups (ex. Shield, flying cap, trampoline, etc.)	• Hitboxes for powerups • Textures for powerups • Must implement algorithms for what each power up does (ex. The shield protects the player from enemies) • Game physics for some power ups (ex. The flying cap and trampoline) • Character jump (realistic) • Platform collision	5.5 hours
Moving hazards and enemies (Bubba)	• Implementation of stationary enemies	3 hours

(15-Point)

Feature	Dependencies	Estimated Time
Gameplay synchronized with music	• Have in-game music	3 hours
Randomly generated platforms	• Character jump physics • Textures for platforms • Hitboxes for platforms	4.5 hours
Infinite gameplay map that keeps generating until the player gets a game over	• Random platform and hazard generation that the player can still overcome • Scoring system based on relative height above player's starting platform	5 hours
Bubba spawning in infinite map and hurting player after certain periods of time. Bubba	• Algorithms for Bubba's movements	4 hours

can eliminate the player by touching them	• Infinite world map with randomly generated platforms • Texture for Bubba	
Custom difficulty depending on the character chosen and dynamic difficulty throughout the game	• Multiple character textures • Randomized platform/enemy generation	4 hours

Timeline:

- January 4th – Game Design and Feature List
- January 29th - Playable version synced to main branch
- February 1-5th - 30-minute appointment meeting with mentor and Mrs. Kankelborg
- February 22nd - Final version finished and submitted to GitHub
- *Testing will constantly be done throughout the development of our game*