Final Game Project Proposal – Samurai Against the Underworld

Section 1. Concept/Theme

1. Upgrade System/Wave-based Combat
    a. The game mechanic I plan to develop is a detailed upgrade system. I want the player to be able pick-up special power ups that drop at designated times that enhance the players abilities. This should make the player feel like they are consistently becoming stronger, which is crucial in my game that is planned to be a rouge like bullet hell. I want the player to feel overwhelmed by enemies but strong enough to fight them all off with the right strategy. Along with this upgrade system is a wave based combat mechanic that will escalate in difficulty overtime as more enemies begin to spawn in during later rounds.

Section 2. Target Audience

1. I want the **target audience** of my game to appeal to entry-level to mid-level gamers, who are most likely in the age range of 16 to 24. I want the game to be simple to pick up, but the more you play the more strategy you need to put into it. When it comes to gaming preferences, the player should enjoy action and enjoy the challenge that comes with the overwhelming enemies in wave like progression. Gamers who have played and enjoyed games such as Returnal, Vampire Survivors, and Risk of Rain would enjoy my game and that is the audience I will be targeting.

Section 3. Visual Style

1. The **visual style** of the game will be sharp pixel art. The player will be a blue samurai who fights off red enemies that came from the Underworld. As development progresses the enemies should have visual similarities to ensure the player knows they are the 'bad guys' but enough differences to showcase enemy variety. Lastly, the visuals of the attacks will be emphasized to really add extra bang to each of the players attacks, with some upgrades coming with new visuals that truly make the player feel powerful.

Section 4. The Scope of the Demo (I want these systems to be implemented by Demo Day… + the main mechanics)

1. Movement
    a. The Player will control an animated 2D sprite across a game world in the Up, Down, Left, and Right directions. The Player will use W, A, S, and D, for inputs. W will correspond to up, A will correspond to left, S will correspond to right, and D will correspond to right.
2. Combat
    a. The Player will be using two weapons throughout the game, a melee weapon with the left click, and a range weapon with the right click. Each successful hit will deal a certain number of damage to the enemy, the player must use their mouse cursor to aim at the enemy for a successful ranged attack to land. For a melee attack to land the enemy must be within range of the melee weapons hitbox (see figure 6 for an example).
    b. Enemies combat as of right now will be purely melee. They will have to be near the player to land a hit. Each attack from any enemy will deal one heart of damage to the player (this may change).

   c. The combat will run off of a health heart-based system, meaning each attack will take away a certain number of "hearts" from the enemy before eventually the enemy reaches zero hearts and dies. The player will have 3 hearts, and thus cannot take more than 3 hits from enemies.
   d. I am currently thinking the base katana will deal 3 hearts, and the shuriken will deal 1 heart. The weakest enemy will probably have around 8 hearts with the strongest being around 18 hearts.
3. Health
   a. As described above the health system is a heart-based system. The player starts with three hearts and will not *naturally* regain any hearts during the course of the game.
   b. The number of hearts an enemy has will vary depending on what type of enemy they are.
4. Enemies
   a. As of right now there will be four main variations of enemies that will spawn during each wave. They vary in strength.
      i. Red Beast – The strongest of the four, will have the highest number of hearts and will deal the most damage if I introduce variable enemy damage into the game.
      ii. Cyclops – The second strongest of the four but will have a moderate decrease in the number of hearts from the Red Beast. This is too emphasize the Red Beast's strength.
      iii. Red Skull – The third strongest of the four and will have a significant decrease in the number of hearts in comparison to the Red Beast and Cyclops. This is for the Red Skull to be used as a filler enemy.
      iv. Red Spirit – The weakest of the four and will have many of the same qualities as the Red Skull. Used as a filler enemy/distraction from bigger threats.
5. Weapons
   a. There will be a few different weapons in the game for the player to choose from during their playtime. However, they will be tied directly to the unique and detailed upgrade system that comes at the end of each wave. More on that later. For now, it is important to note that the player will start with the weakest weapons, the katana as a melee, and a shuriken as a ranged, this is to encourage them to upgrade to better ones later in the playthrough.
6. Environment
   a. The environment will be very simple, the player starts in the middle of the map (see figure 3) where enemies will not be able to spawn hence the name safe zone. It will most likely be a flat grassy plains that connects to the four regions listed on the map. Each region is unique in its environment and will spawn the enemies that fight the player. Varying environments should encourage the player to explore, however it is important I keep the map small overall as to not take away from the action.
7. Main Menu
   a. A simple screen on start-up, presented in figure 2.

Section 5. Mechanics:

1. Upgrade System
    a. Summary - The first of the two main mechanics I will be exploring, utilizing, and expanding on in my game is a unique but thorough upgrade system. The upgrade system I want to create will affect all aspects of gameplay, from the weapons the player can use, to how much damage they do, and even affect enemies. More specifically, at the end of each round, a player will select from three upgrades. The game will not progress, and a new round will not start until the player has chosen an upgrade. The inter-round screen will look something like figure 1. The upgrade system will also have a rarity system within it, where each upgrade is assigned a tier from III to I. Tier III upgrades will be the worst, usually more simple and small upgrades that won't power the player up too much. Tier II upgrades will be a bit more sophisticated, while Tier I upgrades will be the best of the best and have the power to really turn the tide in combat.
    b. Detailed – After a round has ended the player will be presented with a choice, to choose one of three random upgrades that have spawned in front of them. Some upgrades will be simple (but have fun and creative names to add some distinctiveness), the following are planned to enter the game as Tier III upgrades.
        i. Quick Hands – Reduces cooldown in between shots from your ranged weapon (Reduces cooldown between right click attacks by 10%, can stack)
        ii. Strong Slash – Increases damage on melee attacks (Increases left-click attacks by one heart, can stack)
        iii. Regenerative Heart – Regenerate one heart (Does not stack, can only regenerate a heart if the player has lost one)
        iv. Nimble Feet – Increases player's movement speed by 10% (can stack)
        v. Far-Sighted – Zooms the player's camera farther out so they can see more of the map (Does not stack)
    c. Tier II abilities will be rarer but will be stronger. These abilities have unique properties beyond just upgrading the player's base stats. These will certainly

make the player feel much more powerful, perfect for when the waves start to become more difficult. I plan to add the following abilities…

i. Firebender – Replaces the base shuriken with a fireball that deals extra damage and has a larger hit radius (The fireball will probably do 3 hearts instead of the base shuriken damage of 1 heart).
ii. Master Wielder – Replaces the base katana with a lance that deals extra damage and has a larger hit radius. (The lance will probably deal 5 hearts of damage instead of the base katana damage of 3 hearts).
iii. Slow the World – Enemies movement speed is permanently reduced by 5% (Can stack)
iv. Puff of Wind – Increases projectile speed on ranged attacks by 10% (Can stack)

d. Tier I abilities will be the rarest of the rare but will have the most influence on the game. I want player's to always want to choose this upgrade if it randomly spawns in.
   i. Protection from the Gods – Increases maximum health by 2 hearts and automatically regenerates any health the player has lost.
   ii. Lightning Summoner – A successful hit, either ranged or melee, has the chance to spawn in a lightning bolt on the hit enemy that deals an extra 2 hearts of damage.
   iii. Divine Influence – Your ranged weapon is taking into the hands of the divine, it now automatically fires to the nearest enemy.
e. As of right now this is all the abilities I have in mind and would like to implement all of them by the time of Demo Day.
f. As for programming the upgrades they will be done through a technique called The Strategy Pattern. At least for the ones that programming strategy can be applied too.

2. Wave Based Combat
   a. The second system that will be used in my game is wave-based progression. The player will start at wave 1, and the game will end by wave 10. Wave 1 starts off relatively simple, easing the player into the game's combat and mechanics, giving them time to learn the new world they are in. However, the game quickly picks up the pace and as the waves progress the difficulty will become exponentially harder. This is referenced in figure 5. All enemy types will appear on each wave unless I have time to add a special stronger enemy at the end on wave 10, what will mainly determine the difficulty of the wave is how many enemies are spawning in at once and attacking the player. Changing the enemies stats/abilities depending on the wave is not a feature I plan to implement at this time.
   b. Enemies will come from all four sides of the map and descend upon the player. The enemy AI will be relatively smart, forcing the player to engage in smart fights and strategize their next move.
   c. Information pertaining to the wave will be displayed on the player's HUD, referenced in figure 4. The top left of the player's screen will feature a small box with information on what wave the player is on, and how many are left (i.e. "wave 4 out of 10"). Underneath will show how many enemies are left to kill before the

wave is officially over and the player moves into the inter-wave section of the game where they choose their upgrade before starting the next wave.

d. Other information in the HUD that is relevant to the game but not to this specific mechanic is in the top right which showcases how much health the player has left. In this case it is three hearts, and a heart will disappear and be left unfilled if the player is hit by an enemy. It can be refilled in if the player regains health. Lastly, there are two gray boxes near the bottom of the player's screen that shows what weapons the player is currently utilizing. The left box will show the melee weapon as it is the left click attack. The right box will show the ranged weapon as it is the right click attack.
e. Main goal of the user interface/HUD is too keep it simple and uncrowded while giving the player important information regarding the game mechanic of wave based combat.
f. Overall, the wave-based mechanic/combat will allow me to pace the game efficiently while introducing difficulty escalation when needed. It works perfectly with the upgrade system as time between waves allows the player to choose the upgrade they want and have time to make the choice.

Figure 1

Figure 2

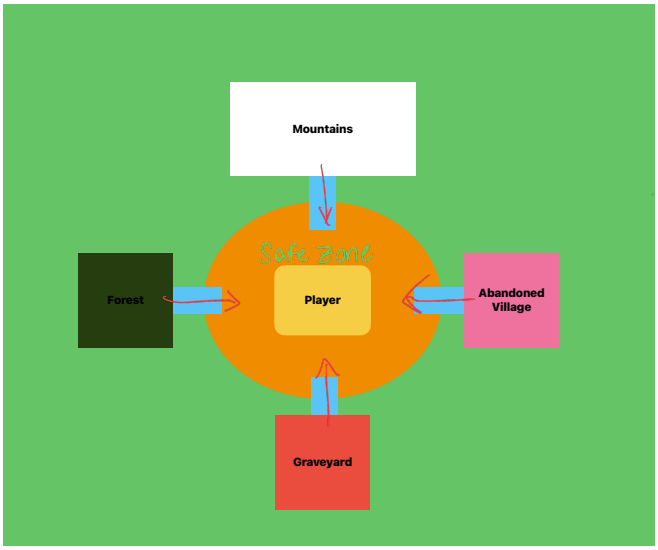

Figure 3

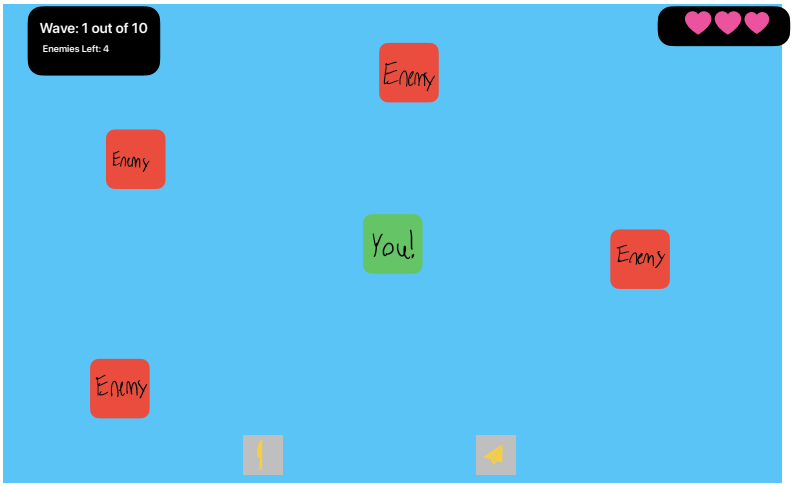

Figure 4

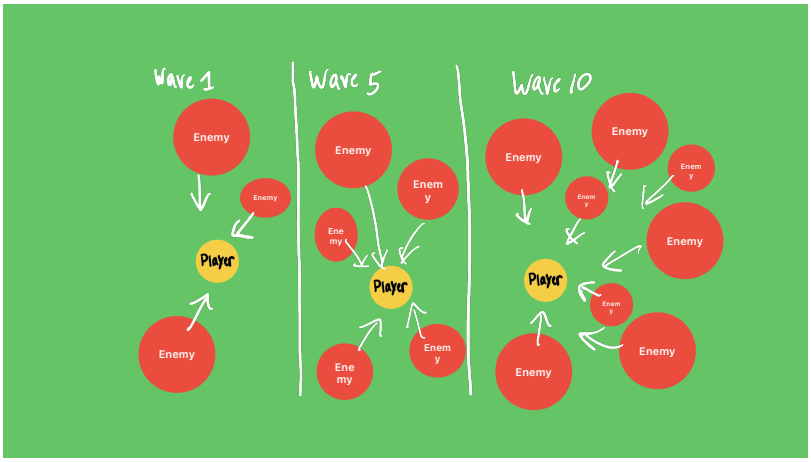

Figure 5

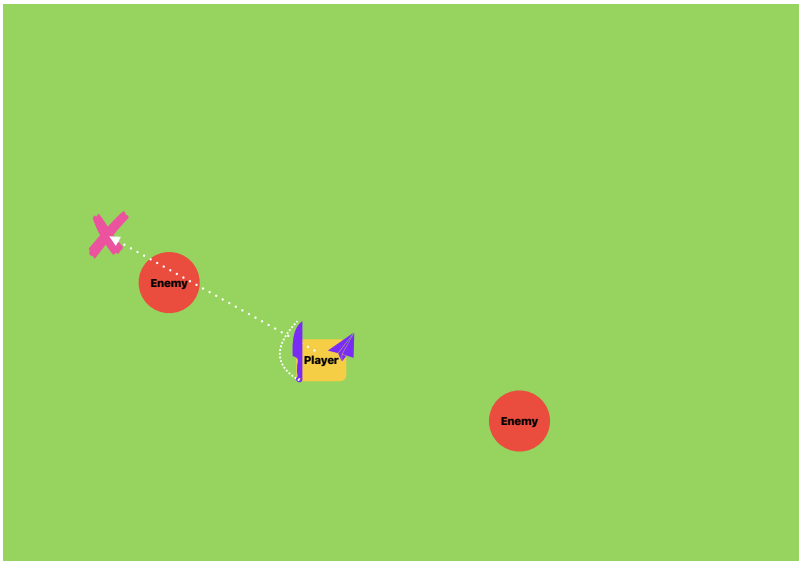

Figure 6