Video Update #1 - <https://youtu.be/VhM_cugFWdc>

Video Update #2 - <https://youtu.be/qNTcP4xhPYk>

Video Update #3 - https://www.youtube.com/watch?v=HMBdDUWpZGE

**Video Update #4 -**

1. For the last three weeks, we had planned to get a large amount of the basic art assets, player functionality, weapon functionality and some enemy functionality done. We also had time assigned to getting Unity collaborate setup for all of us. For the second three weeks, we had planned to work on the enemy ai, getting the pickup/swap weapon functionality done, work on the procedural level generation, work on the UI, and work on the animations.For the third three weeks, we planned to keep working on the enemy AI, finish the swapping and equipping system for weapons, start working on passive items, finish the procedurally generated levels, work on the UI, have it so the player and enemy can be killed, and get more animations done. **For the fourth three weeks, we planned to get the UI done, have the player/enemies health and damage system done, get the rooms generating enemies as the player ventures through, get a boss done, have more passive items and weapons completed, and have the enemy ai work in the generated rooms.**
2. Jack has been working on getting the player, camera and weapon functionality done, including lots of the scripting and organization necessary for these components. ~8 hours. In the second milestone, Jack has been working on the weapons and the pickup/drop weapon script, with a bit more work needed due to having to scrap some of the old work. ~5 hours.In the third milestone, Jack has finished the swapping/equipping weapons system, and started doing code for the passive items. ~5 hours. **In the fourth milestone, Jack has worked on the lighting system and added a minimap. He has also made it so rooms generate as question marks on the minimap before the player enters them. ~8 hours.**

Asher has been working on getting art assets including animation done and helping with the scripting of the player and weapon. ~8 hours. In the second milestone, Asher has been working on the procedural level generation including making room presets to be loaded randomly. ~5 hours. In the third milestone, Asher has finished the necessities of the procedural level generation and added some sprites for passive items. ~4 hours. **In the fourth milestone, Asher has worked on the lighting system, player animations, and level art. ~8 hours.**

Kyler has been working on getting the enemy functionality done, including the scripting for the pathfinding the enemies will be using. ~3 hours. In the second milestone, Kyler has been working on the UI for the health bar and helping Steve when possible with the enemy ai. ~3 hours**.** In the third milestone, Kyler has added in an enemy spawner and worked with adding it to the room prefabs. ~4 hours. **In the fourth milestone, Kyler has added a play button for the start of the game. ~1 hour.**

Steve has been having issues with getting collaborate to work but will be focusing on getting UI assets and functionality done. In the second milestone, Steve has been working on the enemy ai including separate algorithms for melee and ranged enemies. ~5 hours.In the third milestone, Steve has refined the enemy AI so ranged enemies shoot projectiles. ~5 hours. **In the fourth milestone, Steve has continued working on the enemy AI and introduced the damage system so that player and enemies can die/kill. ~7 hours.**

1. 1. We have gotten the player to be able to move, collide with walls, shoot projectiles from a weapon which collide with walls, and rotate around depending on where the mouse is located. We have also gotten the camera to extend a bit as the player moves and follow the player. We have been able to make the player have animations. We have been able to spawn a weapon at a certain coordinate. We have been able to make art for the level, weapons, and player. The player now has a health bar which can go down and can equip/fire weapons which are lying on the ground. The levels can now be randomly generated and will always connect and be explorable. There is now separate AI for melee and ranged enemies which act differently.The procedural levels now always generate in a coherent way, with a football in place of the boss in the last room. The weapon equip/swap system works completely. Enemies can attack the player. Enemies can be spawned in with the enemy spawner objects. Passive items have been implemented and can be expanded on greatly. **There is now a fully functioning lighting system, minimap, levels show question marks over rooms and keep them in the dark until the player enters them. There is now a small tutorial in the starting room. Enemies now have improved AI. The player’s animations are now completed. The player can now start the game with a play button and returns to it when they die.**

2. Solutions we have come up with to problems have been most successful when we break problems down into small parts and prioritize thinking more what our code needs to be doing rather than how we need to write it. Our decision to split up work at the start of the milestone and have everyone identify things they wanted to work on/try to get done before the end was successful, with each person getting work in on their parts. Setting up work into weekly milestones allowed us to get work done in concrete steps. **Working on getting something done each day has allowed us to keep steady progress towards getting the game finished.**

3. Our workflow with pushing and pulling very often using the collaborate feature did not work well at first, because we were often accidently changing components from the same parts of the game, which would end up with one person’s work being overwritten. We didn’t run into any huge roadblocks for the second milestone, so there wasn’t anything major of note that we tried which did not work.Nothing to note of that we tried which did not work well, but more time may be needed to get the project to a finished state by the end of the last milestone (so more about things we did not do). **Having each person set things they need to get done at the end of the week is no longer working very well, as there is not enough motivation for each person to follow through with the goals they set. Progress has devolved into going in and looking for anything that needs to be finished to get the project done.**

1. 1. We have had challenges with getting the unity collaborate to work, and with programming. The collaborate feature has lots of bugs with syncing up the work to one version, and only initially allows three seats with the free teams plan. This presents issues for us when we are using it as our primary form of version control, and we have four people working on the project. The main problems for us programming wise have been with getting the enemies to work as intended and with implementing a weapon system. Challenges have been less on the technical side for the second milestone, having to do more with time management and motivation. We have all been getting very busy with school/life, especially with midterms coming up, and focusing on this project has gotten more difficult. We have also had some problems continuing to be motivated when dealing with reoccurring issues.We have overcome the biggest challenges in terms of coding, but now we need to refine things vastly. Our most prevalent problems at this point come in terms of time because we will need some extra work to get the game done by the end, but we will certainly have lots of class work to also focus on. **As mentioned, our previous idea of setting goals each week and accomplishing them has proved to be too taxing, and progress is left up to everyone to make sure they are contributing what they need to on any given week. We have had many technical/coding challenges as we move through all the things we need to get done.**

2. We devised a more careful approach to collaborate in terms of making sure people are not working on the same thing and we are not constantly pushing our changes. One of the primary fixes we came up with was to have multiple scenes so each person could mess with their own scene as they needed, as the scene was causing lots of problems. We are also going to be more cautious in general with pushing features to the latest version. We managed to add another seat to our collaboration team on unity with funds granted by Mike Borowczak. We pushed through our time issues by giving ourselves less free time and knowing exactly what we wanted to get done for the milestone, but we expect to have to change our approach a bit more to completely deal with them. We pushed through the motivation issues by encouraging and assisting each other whenever we run into dead ends.Once again, with time being the biggest problem we simply had to take away time from other activities to focus on this project. We’ve had various small programming issues, and we best push through those by discussing them in a collaborative manner to overcome them. **We have overcome all our coding problems by working together or putting as much time in as we need to get past them, especially seeing that we do not have much time left to complete the project. We have no solution for our challenges completing goals besides ignoring goals and just getting as much as we can every day done.**

3. Our programming problems are still present, but we are making progress by talking things out with each other and following guides from people who have made similar features. The technical challenges in terms of coding complicated features like ai and procedural generation are not fully completed, but we have made a good deal of progress on them. The time issue remains in that we don’t have many times we can all meet, and we will be very busy the first week or two of the next milestone.We anticipate the biggest problem moving into the final weeks will be pulling all our work together, as right now we have all been focusing on very different issues. In the last couple weeks we will need to bring everything together and we hope it will be relatively painless. **Looking forward, the biggest challenge to overcome is the time limitation. There is only so much we can add before we will need to pull everything together, but we should have some kind of final product ready to play at the end.**

4. As mentioned, Mike has already helped us out a lot by giving us the funds we needed to make sure we could all collaborate seamlessly with Unity. We will likely need more help down the line, but the programming issues we have at the present are things we should be able to figure out on our own. Coming out of the second milestone, we don’t need help with anything, our weekly meetings with our mentor Mike are enough to push through our problems at the moment.Moving into the fourth milestone, the help we may need would come in the way of coordinating our efforts to bring all the pieces we’ve been working on together. This is something we can discuss with our mentor, Mike, in our weekly meetings. **We may need some help figuring out our priorities as we move towards our deadline, especially with figuring out what we may need to cut out to get a final presentable product.**

v. Plan has gone as expected for the most part, with us making some slight alterations to our workflow and falling a bit short on where we wanted to be scripting wise. One of the major changes we have planned out going into the second three-week period is how we plan out the work. We will be changing from a system where any person can pick out whatever they want, to having a meeting where we will discuss the big accomplishments each person should be trying to get done before the status update deadline. Plan went for the most part as expected through the second milestone, but with a bit too much work done last minute. To account for this, we will make another adjustment to our process where we will dedicate a part of our weekly meetings to have each person discuss where they are at with their work and how/when they plan to get it done. In the third milestone, we got most of what we decided our plan would be done. Some of the pieces that did not go as planned were the extra animations, and a more complete UI system. These will have to be points we get more work done on in the fourth milestone, as they will be necessary to have a complete game. **The furthest we have gone from our plan in the fourth milestone is simply doing as much work as we can each day rather than thinking about reaching any goals we set, which is hopefully letting us get more done.**

vi. Our goals for the next three weeks include:

Prevent any more bugs with the Unity Collaborate system.

Determine what we need to change (and change it) to get the weapon system fully functional.

Get an enemy working (meaning pathfinding after the player and attempting to attack).

Implement a health system that the player and enemies can use.

Finish the animations for the player model we are currently using and for some weapons.

Get a UI in place so the player can track information about what is happening in the game.

Our goals for the third three weeks include:

Continue refining the enemy AI.

Complete the swapping and equipping functionality for weapons.

Introduce a passive items system which will be separate from the weapons.

Finish the procedurally generated level system.

Get UI much closer to finished.

Player and enemies can be killed.

Get more animations in the game.

Our goals for the fourth three weeks include:

Get the UI finished.

Have the player and enemies health/damage system finished.

Sync the enemy spawning system with the room generation system, so enemies appear as the player ventures through the level.

Get at least one boss done.

Get more passive items and weapons completed.

Have all the rooms generated include functionality for the enemy AI.

Some other miscellaneous tasks to get everything synced up.

**Our goals for the fifth and final milestone include:**

**Get at least one boss done**

**Get more items done (weapons/passive)**

**Have rooms lock and generate enemies as the player enters them**

**Have additional UI done**

**Have sound design done**

**Have a fully functioning start menu**

**(anything else we may have forget here necessary for finishing the game)**

vii. First Milestone:

Asher: 5

Jack: 5

Kyler: 5

Steve: 5

Group Average: 5

Second Milestone:

Asher: 5

Jack: 5

Kyler: 5

Steve: 5

Group Average: 5

Third Milestone:

Asher: 5

Jack: 5

Kyler: 5

Steve: 5

Group Average: 5

**Fourth Milestone:**

**Asher: 5**

**Jack: 5**

**Kyler: 4.999**

**Steve: 5**

**Group Average: 5**