

Sprint 3 Planning

CS 307 Group 16 | Kyle Day, Jason Seeley, Stefan Gerber, Yuchuan Huang

Sprint 3 Overview:

The final sprint will involve finishing up and polishing the features of the game in order to create our uniquely engaging gaming experience. It will involve balancing game features, creating new ways of interacting with the map, and a refinement of creature movements.

SCRUM master: Yuchuan

Weekly Meetings:

With Project Coordinator: Standup meeting every Tuesday 6PM - 7PM & Thursday 7:30PM-8:30PM

Without Project Coordinator: Open discussion and programming every Tuesday Starting 7PM & Thursday Starting 8:30PM

Risks and Challenges for this sprint:

The main challenges for this sprint will be implementing the destructible terrain, updating the path finding algorithms to accommodate for the destruction of terrain, and allowing proper light propagation throughout the map.

Current Sprint Detail

Game Engine:

1. As a user, I would like to see animated sprites and textures. (Stefan 15 hrs)

Number	Description	Estimated Time	Owner
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1	Refine the AJAX message protocol to include all performable actions	3hrs	Stefan
2	Create unique animations for object interactions	3hrs	Stefan
3	Create unique animations for creature movements	3hrs	Stefan
4	Create unique animations for item and ability usage	3hrs	Stefan
5	Create unique animations for attacks	3hrs	Stefan

Acceptance Criteria:

- Given that a player is playing the game, when they perform any in-game action (attack, use ability, use item, interact with object, or move), then there should be a corresponding visual cue that the action has occurred.
- Given that a player is playing the game, when they encounter a creature, then it must have a unique sprite corresponding to its creature type
- Given that a player is playing the game when they wish to turn animations, then they are able to toggle the animations within the settings menu
- Given that a player is playing the game, when they wish to reduce their field of view, then they are able to toggle this within the settings menu to any odd value
- Given that a player is playing the game, when they have started to break any breakable terrain, then there should be some damage indication displayed for the remaining health of the terrain

2. As a user, I would like the ability to change textures, meaning edit player and mob sprites as well as the map components. (Stefan 15 hrs)

Number	Description	Estimated Time	Owner
1	Create texture changing menu	2hrs	Stefan
2	Create lighting effects <ul style="list-style-type: none"> - Create css lighting gradient framework - Create colored lighting ambient effects 	5hrs	Stefan
3	Create xss rules	2hrs	Stefan
4	Create caching policy	2hrs	Stefan

5	Create default texture template	1hr	Stefan
6	Optimize code base Test page load times and server response times	3hrs	Stefan

Acceptance Criteria:

- Given that a player is playing the game when they open the settings menu then they are able to open a texture changing menu to toggle between different textures, lightness modes, and backgrounds.
- Given that a player has toggled some texture altering settings, when the page has been closed, then the settings are persistent amongst the browser
- Given that a player has toggled some of the texture changing settings, when they wish to restore the default settings, then they are able to press the reset button
- Given that a player is playing the game, when they have initiated an action, then the server responds with a response time less than 400ms on average.
- Given that a player is playing the game, when they are within a level, then light should appear to propagate naturally from any light sources.

Level Generation:

3. As a user, I would like there to be changes in the map textures based on the different level biomes. (18 hours)

Number	Description	Estimated Time	Owner
1	Generate game objects using biome class - Dynamically interpret proper game objects needed for level generation	7 hours	Kyle
2	Integrate new objects into generation algorithm	5 hours	Kyle
3	Find different textures for biomes	2 hour	Kyle
4	Test each level generates desired game objects	4 hours	Kyle

Acceptance Criteria:

- Given the textures on level corresponding to a biome, when the player steps on a staircase that leads to a new biome, the textures are visually different.

- Given a biome has a list of possible game objects, when a new biome is reached, then the biome has different game objects generated from the previous biome.
- Given multiple playthroughs, when a player traverses multiple levels, then there are the same visual differences between levels across each playthrough.
- Given different textures for terrain in a biome, when a player interacts with the same types of terrain, then terrain has the same function. (the changes for each biome terrain only impact texture and not function)

4. As a user, I would like to have an overall score that increases with defeating monsters, collecting items. As a user, I would like the score to be displayed that will be displayed within the game and on a competitive leaderboard (12 hours)

Number	Description	Estimated Time	Owner
1	Generate an algorithm to calculate a score based on multiple player attributes	5 hours	Kyle
2	Connect this score to current leaderboard implementation	4 hours	Kyle
3	Display the current score throughout the game playthrough	2 hour	Kyle
4	Test the score is displayed and works correctly	1 hour	Kyle

Acceptance Criteria:

- Given a game playthrough, when a player progresses through the game, the score is displayed visually in a constant spot.
- Given a player has a set of statistics, when some of these statistics change (like items gained), then the displayed score changes.
- Given a completed game playthrough (death or win), when the user goes to the home screen, the score from the completed game is added to the competitive leaderboard.

Entity Intelligence:

5. As a user, I would like flying creatures can fly over lava, and others will avoid lava. (Yuchuan 12hrs)

Number	Description	Estimated Time	Owner
1	Interpret which creatures are flying	1hr	Yuchuan
2	Add additional path finding algorithm to allow for additional flying mobility	4hrs	Yuchuan
3	Add additional path finding algorithm to move with altered map lighting changes	5hrs	Yuchuan
4	Test path finding in different lighting conditions	2hrs	Yuchuan

Acceptance Criteria:

- Given that a player is playing the game, when they have the flying ability, then they are able to avoid lava and pits
- Given that a player is playing the game, when they encounter a creature that has the flying ability, then the creature may be able to pathfind over terrain that might otherwise be hazardous
- Given that a player is playing the game, when they do not have access to the flying ability, then lava and pits will deal damage to the player
- Given that a player is playing the game, when they encounter a creature that does not have access to the flying ability, then the creature will not pathfind through hazardous terrain

6. As a user I would like certain mobs to have the ability to destroy the terrain. (Yuchuan 18hrs)

Number	Description	Estimated Time	Owner
1	Interpret if creatures should destroy terrain	2hrs	Yuchuan
2	Interpret if a terrain is destructible	3hrs	Yuchuan
3	Add terrain breaking interaction for the player	5hrs	Yuchuan
4	Add terrain breaking to the creatures path finding ability	5hrs	Yuchuan
5	Test if user is able to break proper terrain types	3hrs	Yuchuan

- Given that a player is playing the game, when they interact with a destructible wall, then it should be damaged

- Given that a player is damaging a wall, when the hp of the wall dropped to 0, it should break.
- Given that a player is playing the game, creature will interpret if there is a more optimal way for the creature to reach the player by breaking destructible wall
- Given that a creature find there is a more optimal way by breaking walls, then the creature will break the wall instead of goes around
- Given that a player is playing the game, when they interact with a non destructible wall, then he will be warned.

Game Content/Balancing:

7. As a user, I would like there to be an overarching narrative/story that is presented to the user through text (boxes and screens), so that I understand why I am going through the dungeon and defeating enemies.
(Jason 15hrs)

Number	Description	Estimated Time	Owner
1	Fill in and modify game object creatures to utilize the objects	4hrs	Jason
2	Fill in and modify game object items	4hrs	Jason
3	Fill in and modify game object abilities	4hrs	Jason
4	Create all story texts	1hr	Jason
5	Test creature attributes	2hrs	Jason

Acceptance criteria:

- Given that a creature spawns, it will have unique stats from another kind of creature
- Given that a spell or technique scroll spawns, it may have one of many spells or techniques attached to it
- Given that a player is playing the game, when they encounter a multi-tiled creature, then it is displayed as one cohesive creature
- Given that a player is playing the game, when they encounter a multi-tiles creature, then they are able to interact with any piece of it
- Given that a player is attacking a multi-tiles creature, when the creature has been defeated, then a corpse is only placed on the main tile of the creature

8. As a user, I would like there to be non-playable characters with optional dialogue. The NPCs will talk with the player by displaying text on the screen if the player chooses the option to talk.
(Jason 15hrs)

Number	Description	Estimated Time	Owner
1	Create NPC decor and allow for them to be generated within rooms	3hrs	Jason
2	Implement shop interaction logic in the backend <ul style="list-style-type: none"> - Player can sell any collected items to the shop - Player can buy any stuff from the shop 	5hrs	Jason
3	Create NPC story telling dialogues	2hrs	Jason
4	Create NPC UI and animations	3hrs	Jason
5	Test NPC interactions	2hrs	Jason

Acceptance Criteria:

- Given that an NPC spawns, it will have an inventory of items
- Given that a player is within the neighboring tiles, they will be able to interact with an NPC
- Given that a player interacts with an NPC, then they can buy items, sell items, or talk to the NPC
- Given that a player talks to an NPC, it will display relevant story text
- Given that an NPC decor has been generated upon the map, when the player makes a turn, then the NPC will not move or be affected by creature attacks
- Given that a player is interacting with a shopkeeper NPC, when they have decided to buy or sell something from the shop, then the respective amount of currency will be updated from their inventory

Summary of Efforts

Member Name	Focus	Effort in Hours
Stefan	Game Engine	30
Kyle	Level Generation	30
Jason	Player Statistics	30
Yuchuan	Enemy Movement	30

Gantt Chart:

3. Remaining User Stories: Backlog

- (a) Include all the other user stories from your Product Backlog document.

All backlog user stories will be completed upon the end of Sprint 3.