

Forge Frontier



CS 307

Sprint 1 Planning Document

Team 19 - Joseph Miller, Meet Patel, Bhavesh Pareek, Isaac Fleetwot,
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Sprint Overview:

For sprint one, we are planning to set up the fundamental systems of the island and generator systems as well as get started on the base frameworks for advanced stories such as bosses, global market, and gear/stats.

For the website, we are planning to set up the basic frameworks, design a UI, create skeletons for the base webpages, and implement basic user authentication. We are also planning to set up the link feature between player profiles and accounts as well as the database and required connections.

Scrum Master:

Aditya Behrani

Scrum Schedule:

All Team Meetings (30-60 min)

SAT 1:00 pm

Minecraft Sub team Meetings (15 - 30 min)

TUE 5:30 pm

THU 5:30 pm

Website Sub team Meetings (15 - 30 min)

TUE 5:30 pm

THU 5:30 pm

Risks & Challenges:

1. Underestimating time to create functional GUIs with Spigot.
2. Difficulty in integrating custom gear into shops.
3. Difficulty in consistent means of transferring player stats among different plugins
4. Difficulty in maintaining a centralized MC plugin that performs database access.

Category 1: Minecraft

User Story 1:

As a user, I would like to be able to run and use the /is command so that I can create and go to my island.

#	Task	Time	Owner
1	Setup the MC server alongside the BSkyblock framework.	2 hr	Isaac
2	Register the /is command in the plugin.yml and create and register a CommandListener for the command.	1 hr	Isaac
3	Create the base GUI framework for abstract GUI creation	3 hr	Isaac
4	Create the Island GUI that is opened when the player executes the '/is' command.	4 hr	Isaac

Acceptance Criteria:

1. Given I do not currently have an island, running the /is command opens a GUI that has a button to create a new island.
2. Given I have an island, running the /is command opens a GUI that has a button that allows me to visit my island.
3. The GUI that is opened from running the /is command appropriately handles unexpected behavior including exiting the GUI by pressing Escape, clicking on items that aren't buttons, etc.

User Story 2:

As a user, I would like to be able to buy generators from a shop and place them down onto my island.

#	Task	Time	Owner
1	Create the abstract class structure for generators (based on the design document)	6 hr	Isaac
2	Create specific generators and upgrade paths for the resource progression of the game.	2 hr	Isaac
3	Create a command and associated CommandListener for the generator shop.	1 hr	Isaac

4	Create a shop to buy generators from.	2 hr	Isaac
5	Create the Island GUI that is opened when the player executes the '/is' command.	3 hr	Isaac

Acceptance Criteria:

1. Given I do not currently have an island, running the /is command opens a GUI that has a button to create a new island.
2. Given I have an island, running the /is command opens a GUI that has a button that allows me to visit my island.
3. The GUI that is opened from running the /is command appropriately handles unexpected behavior including exiting the GUI by pressing Escape, clicking on items that aren't buttons, etc.

User Story 3:

As a user, I would like to be able to interact with generators in the world and access their inventory, which includes being able to view their information, collect their generated revenue, and pay for upgrades.

#	Task	Time	Owner
1	Write and read the generator information in a SQL database to be accessible after restarts.	4 hr	Isaac
2	Create an efficient format for storing generator instances such that one can efficiently lookup locations and quickly determine which generator is being interacted with.	1 hr	Isaac
3	Create a GUI for viewing generator information and interacting with them	5 hr	Isaac
4	Create appropriate listeners for interacting with the generators	1 hr	Isaac

Acceptance Criteria:

4. Given I am interacting with a generator, a GUI opens up to show the generator information.
5. Given I am viewing a generator, when I click on the button to collect generator resources, I receive the resources and the generator updates to not have the resources collectable anymore.

6. Given I am viewing a generator, I can pay for an upgrade that increases the speed at which the generator runs.
7. Given I am not interacting with a generator, nothing happens. (i.e. There are appropriate checks to determine if I am interacting with a generator, with absolutely no false positives.)

User Story 4 (Partial):

As a user, I would like to be able to trade resources with other players through a global market (in GUI).

#	Task	Time	Owner
1	Set up currency plugin and GUI shop for global market	5hr	Meet
2	Allow for the shop to remain consistent (create storage structure) upon restart.	3hr	Meet
3	Allow for integration that connects with SQL database	4hr	Meet
4	FUTURE: Be able to make buy/sell orders	5hr	Meet
5	FUTURE: Be able to filter the shop or view multiple categories of items	3hr	Meet

Acceptance Criteria:

1. Given NPC or command interaction, clean GUI display with filterable options must be viewable.
2. Given shutdown of the server, shop status should be the same upon restart.
3. Given market data, allow for SQL integration (i.e. connection to database and relevant market schema)

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4. Given user currency, users should have their currency change upon interacting and placing orders on the market
5. Given orders, we should be able to buy/sell a custom amount
6. Given various category buttons, the button should display items based on their categories.

User Story 5:

As a user, I would like to be able to buy unique gear and tools from a shop using the materials I have collected.

#	Task	Time	Owner
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1	Create custom shop GUI that allows gears/tools to be bought with materials and gold/currency	7hr	Meet
2	Allow for configuration and set up NPCs to buy from the shop	4hr	Meet
3	Log transactions	2hr	Meet

Acceptance Criteria:

1. Given interaction with shop GUI, players should be able to select items they wish to buy with materials and currency.
2. Players should be able to click on items from GUI and receive the item if they have enough of either currency or material.
3. Shop buy prices can be changed through editing values within the plugin's configuration file.

User Story 6:

As a user, I would like to be able to obtain unique upgradable items and gear from monsters and bosses.

#	Task	Time	Owner
1	Create basic gear class	4hr	Joseph
2	Allow for custom gear to be dropped by specific monsters	4hr	Joseph
3	Allow for custom gear to modify incoming and outgoing attacks	2hr	Joseph

Acceptance Criteria:

1. Given the gear is custom, when viewed in game then gear displays expected values.
2. Given the monster is custom, when statistic values are updated then the monsters in-game should have the correct defense and attack values.
3. Given the monster is custom, when the monster is killed then only the specific gear can be dropped by specified monsters at a fixed drop-rate.

User Story 7:

As a user, I would like to be able to inspect other player's stats, gear, and their tier.

#	Task	Time	Owner
1	Create class to store statistics and modify player values	5hr	Joseph
2	Create custom command to inspect another player	2hr	Joseph
3	Allow for statistic values to be dependent on equipped gear	3hr	Joseph

Acceptance Criteria:

1. Given the player exists on the server, when the inspection command is run then the correct tier and statistics should be displayed.
2. Given the gear is custom, when it is equipped by the player then the gear modifies player statistics as expected.
3. Given the player exists on the server, when its statistics are updated then the player values of attack, defense, health, etc. should be updated as expected.

User Story 8 (Partial):

As a user, I would like to be able to challenge interesting bosses with functionality far beyond normal Minecraft.

#	Task	Time	Owner
1	Extend CustomMonster interface to make a CustomBoss interface	3hr	Joseph
2	Implement custom behavior functionality	5hr	Joseph
3	Create an instance of a potential tier 1 boss	2hr	Joseph

Acceptance Criteria:

1. Given the boss is in-game with custom behaviors, when interacting with the player then it should behave in accordance with the custom behaviors as expected.
2. Given the boss has different attack types, when attacking the player then each attack's damage should be affected differently based on the boss' statistics.
3. Given the player is fighting a boss, the player can see the health of the boss through a visible health bar.

User Story 9:

As a user, I would like to be able to reroll the stats on a piece of gear/weapon so that it better suits what stats I want.

Task #	Task	Time	Owner
1	Create GUI & callbacks for gear reroll	4hr	Meet
2	Allow for constraints on rerolls and configuration file	3hr	Meet
3	Create integration that works with gear system allowing for various rerolls depending on rarity	4hr	Joseph

Acceptance Criteria:

1. Given GUI & Gear item, upon press callback will be called to reroll the inserted item.
2. Given gear reroll constraints, reroll functionality will adhere to these constraints by reading gear data, such as rarity.
3. Given a configuration file, reroll functionality will change depending on configured values.

Category 2: Website

User Story 10:

As a user, I would like to be able to view my website on Desktop/Mobile

#	Task	Time	Owner
1	Set up frontend	2hr	Bhaves
2	Set up backend/APIs	2hr	Bhaves
3	Have a communication setup with frontend/backend	2hr	Bhaves
4	Design UI and create mockup	6hr	Aditya
5	Create skeleton website	6hr	Aditya
6	Design/Create Landing Page	6hr	Aditya/Bhaves

Acceptance Criteria:

1. Given a user enters the web address to our website, they will be greeted with a landing page.
2. Given the user presses the Login or Sign up button, they will be redirected to a skeleton page.
3. Given the user interacts with the website on Desktop/Mobile the website will look different and adjust to the device.

User Story 11:

As a user, I would like frequent updates of my progress to be synced to my profile without much delay.

#	Task	Time	Owner
1	Design/Setup SQL Server	5hr	Bhaves
2	Design/Create a Profile Page	6hr	Aditya/Bhaves

Acceptance Criteria:

1. When I send a query to the SQL, It will return the proper data. (Users cannot interface directly with the SQL Database)
2. When I send a request from the webapp, the SQL server will send the data back and the webapp will have access to it.

3. Given a user clicks on the profile page button, they will be directed to a profile page.
4. When a user clicks on the profile page, the application will request the profile data from the SQL server and populate the webpage with that data.

User Story 12:

As a user, I would like to be able to create an account through that is associated with my Minecraft account.

#	Task	Time	Owner
1	Design/Create Login and Signup pages	5hr	Aditya
2	Implement error states and Authentication Layer	3hr	Bhaves
3	Create http request handlers frontend	3hr	Bhaves
4	Create REST APIs for backend	3hr	Bhaves

Acceptance Criteria:

1. Whenever the user accesses the website, they can go to a login page (without being logged in).
2. Whenever the user tries to create an account, the user is able to create an account using authentication.
3. Given the user has created an account, the user is able to login with their existing account.

User Story 13:

As a user, I would like to be able to run the /link command to generate a code, and would like to be able to use that code on the website

#	Task	Time	Owner
1	Generate code for player profile on MC Server	2hr	Aditya
2	Create /link command on MC server that generates the code	2hr	Isaac
3	Design/Create Profile Sync Page	2hr	Aditya
4	Connect Player Account from OAuth to MC Account	6hr	Bhaves

Acceptance Criteria:

1. Given the user runs the /link command in minecraft, they are given a code that allows them to connect their minecraft account with their website account.
2. Given the user has used the code on the website, if they run the /link command again, they will be told that the minecraft account has already been linked and they cannot use another code.
3. Given the user has used the code on the website, the user is able to login to account after connecting and view basic player data (to show that their account and profile is connected)

Remaining Backlog

Crossed out stories will be completed, red stories will be partially completed.

- ~~1. As a user, I would like to be able to run and use the /is command so that I can create and go to my island.~~
2. As a user, I would like to be able to manage my island and give other people permission to interact with my island.
3. As a user, I would like to be able to interact with other people's islands.
4. As an administrator, I would like to be able to interact with and visit any island I choose.
5. As a user, I would like to be able to buy blocks and items from a GUI shop, with the ability to select the specific number of items I want to buy.
- ~~6. As a user, I would like to be able to obtain unique upgradable items and gear from monsters and bosses.~~
7. As a user, if time allows, I would like to be able to gain achievements and get rewards for completing achievements.
- ~~8. As a user, I would like to be able to buy generators from a shop and place them down onto my island.~~
- ~~9. As a user, I would like to be able to interact with generators in the world and access their inventory, which includes being able to view their information, collect their generated revenue, and pay for upgrades.~~
- ~~10. As a user, I would like to be able to buy unique gear and tools from a shop using the materials I have collected.~~
11. As a user, I would like to actively collect materials through mining.
12. As a user, I would like to actively collect materials through fighting monsters.
- 13. As a user, I would like to be able to challenge interesting bosses with functionality far beyond normal Minecraft.**
14. As a server admin, I would like all trades and transactions to be logged and stored to be able to backtrace cheating.
- 15. As a user, I would like to be able to trade resources with other players through a global market (in GUI).**
16. As a user, I would like to be able to trade items with other players, and also put my unique items for sale in an auction house.
17. As a user, I would like to be able to tier up in rank after defeating a boss.
18. As a user, I would like to fight a dungeon after the first area/tier. (First Area Boss).

19. As a user, I would like to fight a challenging second tier boss that is very different from the first area; I would like this boss to have very different mechanics from the first boss.
20. As a user, I would like to be able to reset the game by ascension and gain unique upgrades and cosmetic rewards, so that the game is replayable.
21. As a user, I would like to be able to upgrade items with skills and attributes and cosmetics.
22. As a user, I would like to be able to inspect other player's stats, gear, and their tier.
23. As a user, I would like to be able to use skills that enhance the combat experience.
24. As a user, I would like for my gear and bosses to have visually appealing particle effects.
25. As a user, I would like to have a gear stat level that allows for dynamic difficulty.
- ~~26. As a user, I would like to be able to reroll the stats on a piece of gear/weapon so that it better suits what stats I want.~~
27. As a server admin, I would like to have an interface or easy settings file to modify stat roll chances so that I can easily balance the game.
28. As a server admin, I would like to have a settings interface to easily disable game features or abilities so that I can stop players from abusing exploits.
29. As a user, I would like to have a tutorial feature that will guide me through the basics of the game.
30. As a user, I would like to have a readable resource on the website to help answer any questions of the game.
31. As a developer, I would like to be able to easily add new bosses to the game through a high quality abstraction layer.
32. As a server admin, I would like to be able to easily add new NPCs to the game through an interface inside the game.
33. As a server admin, I would like to be able to easily add new generators through an interface inside the game.
34. As a user, I would like to be able to gain gear and materials through a fishing mechanic
35. As a user, I would like to view my generator's status on the homepage of my website with the option to collect resources by clicking a button.
36. As a user, I would like to be able to view the global market through the website.
37. As a user, I would like to be able to view graph data for items within the global market.

- ~~38. As a user, I would like to be able to run the /link command to generate a code, and would like to be able to use that code on the website~~
- ~~39. As a user, I would like to be able to create an account through gmail that is associated with my Minecraft account (oauth).~~
- 40. As a user, I would like to be able to see other players profiles on my website
- ~~41. As a user, I would like to be able to view my website on Desktop~~
- ~~42. As a user, I would like to be able to view my website on Mobile~~
- ~~43. As a user, I would like frequent updates of my progress to be synced to my profile without much delay.~~
- 44. As a user, I would like to be able to buy ranks to speed up my progress in game
- 45. As a server admin, I would like a way to securely access premium shop transaction logs to ascertain players are getting the ranks and items they paid for.
- 46. As a user, I would like to be able to have loot crates that I can open for gear and materials.
- 47. As a server admin, I would like to make sure the server is frequently backing up the data in case we need to recover it
- 48. As a user, I would like the game to have security features to prevent cheaters.