



CS 30700
SPRINT 1 PLANNING DOCUMENT

Admiral Radar

Utkarsh Agarwal
Ramsey Ali
Sam Buck
Panagiotis Kostouros
Delun Shi

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1 Sprint Overview

In this sprint we intend to build the very basic functionality of the game. On the server side, this will include the relational database structure and the interface software inside the Java server to connect to it. On the client side, we will implement the graphical user interface in a basic fashion, without many of the advanced graphics and user experience additions that will be present in the final version. The backend side of the interface will allow control of the GUI in a way that allows us to test functionality, but does not necessarily allow full playability of the game. Finally, the backend of the client will be able to connect to the basic server and interface with the login features.

SCRUM Master: Sam Buck

SCRUM Meetings Monday and Thursday, 8pm

There are several risks or challenges which we foresee in this sprint. The most obvious are technical: ensuring the git works with all users' development environments, that the server implementation properly interacts with the database software, and that we're able to properly use all APIs which the project requires. Coordinating the user interface and the backend could also be challenging, as the MVC paradigm we've designed the client under expects the controller classes to interact properly with several different aspects of the code, each written by different members. The final significant task is interpersonal: while our team has come together as a working unit, we have not yet worked on writing software together, and may face issues when attempting to work together when writing integrated software.

2 Sprint Detail

1. As a user, I would like to be able to login using an id and password

Task	Description	hrs	Owner
1	Implement Login GUI	3	Sam
2	Connect server to database	3	Ramsey
3	Connect Client to Server	5	Pano

Table 1: User Story 1

Acceptance Criteria:

- Given successful player authentication, the player's relevant game statistics are displayed.

- Given successful player authentication, the player should be able to change his password.
- Given invalid login credentials, the client should notify the user of an unsuccessful login attempt.

3. As a user, I would like to be able to start, join, and end a game when I like

Task	Description	hrs	Owner
1	Implement protocol for player exiting from the game	3	Utkarsh
2	Implement a lobby system for players to gather while awaiting a new game	6	Delun
3	Implement an option for a player to start a game that allows other to join	5	Pano

Table 2: User Story 3

Acceptance Criteria:

- Given a player on a team leaves mid-game, that server will automatically force the team to forfeit the game.
- Given a player starts a game in the lobby, when other players login and arrive in the lobby, they should be able to see that game and have the option to join it.
- Given a game has less players than the minimum required, when a player attempts to start the game, they should be shown error message and the game should not start.

6. As a user, I would like to be able to play on a turn based mode

Task	Description	hrs	Owner
1	Have the server provide the option for real-time or turn-based games	1	Sam
2	Implement a method to distinguish the logic for the two game modes	4	Delun

Table 3: User Story 6

Acceptance Criteria:

- The first user to join the lobby determines the upcoming game's mode.
- Given that the game is in turn-based mode, when it is not a user's current turn, the user's team should be unable to perform another turn immediately.
- Given that the game is in turn-based mode, appropriate game logic must be applied to the start of various player roles (such as mine detonation, etc.)

34. As a developer, I would like to be able to store game information in server

Task	Description	hrs	Owner
1	Have the server keep track of turn number	4	Delun
2	Have the server keep track of player roles	2	Delun
3	Have the server keep track of ship locations and paths	3	Pano
4	Have the server keep track of asteroids and mine locations on map	3	Pano

Table 4: User Story 34

Acceptance Criteria:

- Given a current game, the server will assign the proper GUI to the client.
- Given a current game, the server will correctly indicate if the next location requested will result in a collision (with an island, mine, border, etc.).
- Given a current game, the server will correctly keep track of what the current game state is.

35. As a developer, I would like to be able to communicate between server and client

Task	Description	hrs	Owner
1	Have multiple clients interact with the server at a time	5	Utkarsh
2	Utilize Java Socket Programming	5	Utkarsh

Table 5: User Story 35

Acceptance Criteria:

- Given that there are multiple clients running, when they send commands or messages to the server, the server should be capable of handling and responding to all of them.
- Given that a command is received from the client, the server should be able to accept and properly interpret the command.
- Server should be able to notify clients about the constantly updating game objects.

36. As a developer, I would like to be able to have a database for user profile

Task	Description	hrs	Owner
1	Implement a database structure that reflects the data being stored	3	Ramsey
2	Implement a database that stores images for user avatars	6	Ramsey

Table 6: User Story 36

Acceptance Criteria:

- Given the database exists, the database should be able to store all information provided by users or games into tables.
- Given that an image is stored in the database, the database can retrieve said image and provide it to requested client.
- Given that a player has an avatar, when the player logs in, the avatar image is properly displayed on the client.

41. As a Developer, I would like the server to receive all inputs from each of 4 clients before executing the team's move.

Task	Description	hrs	Owner
1	Implement proper listening constraints for the server	3	Utkarsh
2	Implement client sided listeners to await further instructions from server	4	Utkarsh
3	Implement proper messaging for each client from the server	2	Utkarsh

Table 7: User Story 41

Acceptance Criteria:

- The server should wait for response from Captain, Engineer and First Officer before updating the Ship object.
- Given that the server has received all inputs from the clients and the server hasn't given the go ahead to the clients for further inputs yet, the clients should not be able to change game state.
- Given that a team is performing an action, when the server receives all necessary inputs from clients and then executes it, it should send updates to all teams about a move made, also, it should notify the executing team that their action is complete.

43. As a Developer, I would like each player’s client to be distinct and separate. No player role should be able to perform actions of other team members for them.

Task	Description	hrs	Owner
1	Implement client/user roles	3	Delun
2	Implement distinct client/user communication	2	Delun
3	Implement player turns for each action	3	Delun

Table 8: User Story 43

Acceptance Criteria:

- Given that the player has a certain role (e.g. Captain), when he/she interacts with the GUI, they should only be presented with the actions related to his/her specific role.
- Clients should not be able to send nor receive peer-to-peer communication.
- If an action is currently being performed by another player, the other players must wait until the end of turn before performing another action.

45. As a Player or Developer, I would like communications with the login server to be encrypted and secure. Each player should only be able to access their own account.

Task	Description	hrs	Owner
1	Implement a Hash Function	1	Ramsey
2	Implement Database User Privileges	2	Ramsey

Table 9: User Story 45

Acceptance Criteria:

- Given packet is intercepted, no private user information should be able to seen by other users
- A user can’t modify the database for aspects outside of his or her role
- Given that a user has already created an account with their email, they cannot create another account with that same email, since each user should only create one account per email address.

46. As a user, I would like to interact with the game using a Graphical Interface

Task	Description	hrs	Owner
1	Implement GUI object skeleton and interaction model	5	Sam
2	Implement GUI graphical design for each required panel	6	Sam
3	Implement GUI arrangements of panels for each role	5	Sam

Table 10: User Story 46

Acceptance Criteria:

- Given the user has launched the program, the GUI will appear.
- Given that the game has begun, the GUI shows different interfaces for each of the roles.
- Given the GUI is displaying a relevant role, the GUI responds to mouse clicks on relevant features.

3 Sprint Backlog

Functional Requirements

User Stories to be implemented in this sprint are shown in *italics*.

General

1. *As a user, I would like to be able to login using an id and password.*
2. As a user, I would like to be able to have an avatar and customize my profile
3. *As a user, I would like to be able to start, join, and end a game when I like.*
4. As a user, I would like to be able to select a team and position on my team
5. As a user, I would like to be able to select a map from variety of maps
6. *As a user, I would like to be able to play on a turn based mode*
7. As a user, I would like to be able to have a second mode of playing: real-time
8. As a user, I would like to be able to text chat with my teammates in-game
9. As a user, I would like to be able to perform the actions required for a spacewalk

10. As a user, I would like to be able to play the game entirely online, without a desktop client
11. As a user, I would like to be able to play with less than four players by having the computer take over a role

Captain

12. As a user, I would like to be able to send directions to navigate the spaceship
13. As a user, I would like to be able to know when a special ship system is ready
14. As a user, I would like to be able to fire a rocket, drone, the radar, or mines.
15. As a user, I would like to be able to deploy the ship's boosters.
16. As a user, I would like to be able to fire a remotely-detonated mine.
17. As a user, I would like to be able to know when a system is disabled
18. As a user, I would like to be able to get information about the enemy spaceships supposed position from the radio operator
19. As a user, I would like to be able to begin a spacewalk.
20. As a user, I would like to be able to see where my team has laid mines

First Mate

21. As a user, I would like to be able to charge a system on every move
22. As a user, I would like to be able to deploy the Sonar or a Drone.
23. As a user, I would like to be able to monitor the total health of the ship

Engineer

24. As a user, I would like to be able to keep track of which systems are disabled and which get repaired
25. As a user, I would like to ask the captain to follow a certain course to repair a system
26. As a user, I would like to select a component to be disabled after a movement.

Radio Operator

- 27. As a user, I would like to be able to get the courses of enemy spaceships
- 28. As a user, I would like to be able to click on different areas and plot supposed paths
- 29. As a user, I would like to be able to keep tracks of mines, both ours and enemies
- 30. As a user, I would like to be able to advise captain on when to deploy mine
- 31. As a user, I would like to be able to keep track of disclosed locations of enemy
- 32. As a user, I would like to be able to adjust predicted enemy courses based on information received

Developer

- 33. As a developer, I would like to be able to make a separate server (REMOVED FOR REDUNDANCY)
- 34. *As a developer, I would like to be able to store game information in the server*
- 35. *As a developer, I would like to be able to communicate between the server and client*
- 36. *As a developer, I would like to be able to have a database for user profile*
- 37. As a developer, I would like to be able to have accommodation for real-time play

Non-Functional Requirements

- 38. As a Player, I would like to keep GUI input delays low.
- 39. As a Player, I would like all communications (text chat, notifications, etc.) between clients and the server to have low latency, especially in real-time mode, for enjoyable gameplay.
- 40. As a Player I would like the audio feedback to be synced with the visuals.
- 41. *As a Developer, I would like the server to receive all inputs from each of 4 clients before executing the team's move.*
- 42. As a Developer, I would like each team's clients to only receive information that they are entitled to know. (e.g. they should not receive the other team's location)
- 43. *As a Developer, I would like each player's client to be distinct and separate. No player role should be able to perform actions of other team members for them.*
- 44. As a Player or Developer, I would like the game to be capable of handling more than 2 teams (8 players) (if time allows).

45. *As a Player or Developer, I would like communications with the login server to be encrypted and secure. Each player should only be able to access their own account.*
46. *As a user, I would like to interact with the game using a Graphical Interface.*
(NEW USER STORY)