

Screen Sketches

Project Name: CyHawk Clash

Group: LM_304

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Actors and Functionality

1. User
 - a. Can create a game.
 - b. Can edit user profile.
 - c. Upgrade weapon stats.
 - d. Join available games.
 - e. Can become Moderator and/or Player-in-game for a particular game
2. Moderator
 - a. Can edit game settings.
 - b. Invite/remove users in the lobby.
 - c. Start a new round after the end of a previous round.
3. Admin
 - a. All user privileges.
 - b. Access/edit developer settings.
 - c. Access/edit database.
4. Player-in-Game
 - a. Play the game.

Non-Functional Requirements

- Achievement system
- Multiple maps
- Multiple game modes
- Multiple weapons
- In game text/voice chat

Database Structure

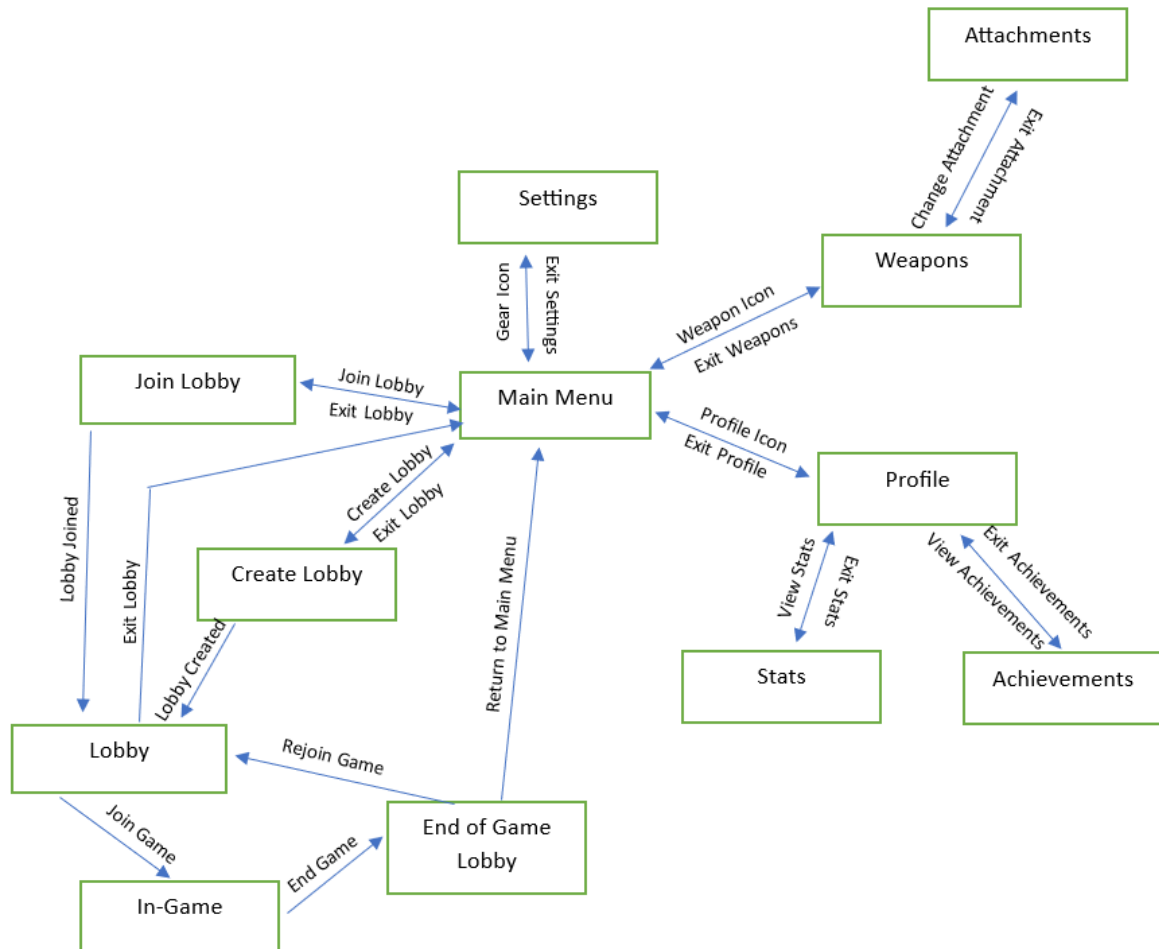
- User
 - user_id - Integer (AUTOINCREMENT, PRIMARY KEY)
 - first_name - String
 - last_name - String
 - email - String
 - phone - String
 - username - String
 - password - String (SHA256 encrypted)
 - pfp - String
 - upgrade_tokens - Integer
- User_Weapon
 - weapon_id - Integer (AUTOINCREMENT, PRIMARY KEY)
 - user_id - Integer (FOREIGN KEY(User.user_id))
 - weapon_type - Integer (FOREIGN KEY(Weapon.weapon_id))
 - fire_rate - Integer
 - num_bullets - Integer
 - num_max_bullets - Integer
 - bullet_size - Integer
 - reload_rate - Integer
 - range - Integer
 - bullet_speed - Integer
 - damage - Integer
 - accuracy - Double
 - is_equipped - Boolean
 - Num_kills - Integer
- Weapon
 - weapon_id - Integer (AUTOINCREMENT, PRIMARY KEY)
 - weapon_name - String
 - base_fire_rate - Integer
 - base_max_bullets - Integer
 - base_bullet_size - Integer
 - base_reload_rate - Integer
 - base_range - Integer
 - base_bullet_speed - Integer
 - base_damage - Integer
 - base_accuracy - Double
 - attachments - List(Integer) (multiple FOREIGN KEY(Attachemnt.attachment_id))

- Weapon_Attachment
 - attachment_id - Integer (AUTOINCREMENT, PRIMARY KEY)
 - weapon_id - Integer (FOREIGN KEY(User_Weapon.weapon_id))
 - attachment_type - Integer (FOREIGN KEY(Attachment.attachment_id))
 - is_active - Boolean
- Attachment
 - attachment_id - Integer (AUTOINCREMENT, PRIMARY KEY)
 - fire_rate - Integer
 - num_max_bullets - Integer
 - bullet_size - Integer
 - reload_rate - Integer
 - range - Integer
 - bullet_speed - Integer
 - damage - Integer
 - accuracy - Double
- User_Statistics
 - stat_id - Integer (AUTOINCREMENT, PRIMARY KEY)
 - user_id - Integer (FOREIGN KEY(User.user_id))
 - stats (1 field for each stat)
- User_Acheivement
 - acheivement_id - Integer (AUTOINCREMENT, PRIMARY KEY)
 - user_id - Integer (FOREIGN KEY(User.user_id))
 - acheivement_type - Integer (FOREIGN KEY(Acheivement.acheivement_id))
 - progress - Double
 - is_unlocked - Boolean
- Achievement
 - acheivement_id - Integer (AUTOINCREMENT, PRIMARY KEY)
 - requirement - String
 - reward - String
 - function - String
- Moderator
 - mod_id - Integer (AUTOINCREMENT, PRIMARY KEY)
 - user_id - Integer (FOREIGN KEY(User.user_id))
- Game
 - game_id - Integer (AUTOINCREMENT, PRIMARY KEY)
 - mod_id - Integer (FOREIGN KEY(Moderator.mod_id))
 - num_people_team - Integer

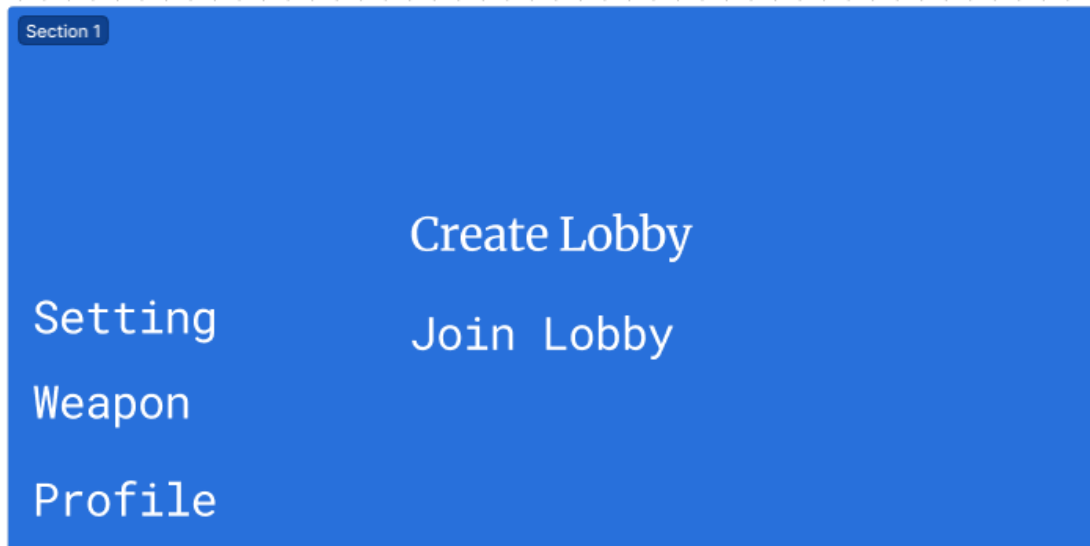
- Team
 - team_id - Integer (AUTOINCREMENT, PRIMARY KEY)
 - game_id - Integer (FOREIGN KEY(Game.game_id))
 - team - Boolean
- Player_in_Game
 - pig_id - Integer (AUTOINCREMENT, PRIMARY KEY)
 - user_id - Integer (FOREIGN KEY(User.user_id))
 - team_id - Integer
- PIG_Statistics
 - stat_id - Integer (AUTOINCREMENT, PRIMARY KEY)
 - pig_id - Integer (FOREIGN KEY(Player_in_Game.pig_id))
 - stats (1 field for each stat)
- Team_Statistics
 - stat_id - Integer (AUTOINCREMENT, PRIMARY KEY)
 - team_id - Integer (FOREIGN KEY(Team.team_id))
 - obj_progress - Double
 - stats (1 field for each stat)
- Bullet
 - bullet_id - Integer (AUTOINCREMENT, PRIMARY KEY)
 - team_id - Integer (FOREIGN KEY(Team.team_id))
 - size - Integer
 - range - Integer
 - speed - Integer
 - damage - Integer
- Game_Statistics
 - stat_id - Integer (AUTOINCREMENT, PRIMARY KEY)
 - game_id - Integer (FOREIGN KEY(Game.game_id))
 - stats (1 field for each stat)
- Game_Map
 - map_id - Integer (AUTOINCREMENT, PRIMARY KEY)
 - game_id - Integer (FOREIGN KEY(Game.game_id))
 - map_type - Integer (FOREIGN KEY(Maps.map_id))
 - map - 2DArray[String]
- Maps
 - map_id - Integer (AUTOINCREMENT, PRIMARY KEY)
 - obj_type - Integer (FOREIGN KEY(Objective.obj_id))
 - map - String
 - map_name - String

- Game_Objective
 - obj_id - Integer (AUTOINCREMENT, PRIMARY KEY)
 - game_id - Integer (FOREIGN KEY(Game.game_id))
 - obj_type - Integer (FOREIGN KEY(Objective.obj_id))
- Objective
 - obj_id - Integer (AUTOINCREMENT, PRIMARY KEY)
 - obj - String
 - function - String

Screen Flow Diagram



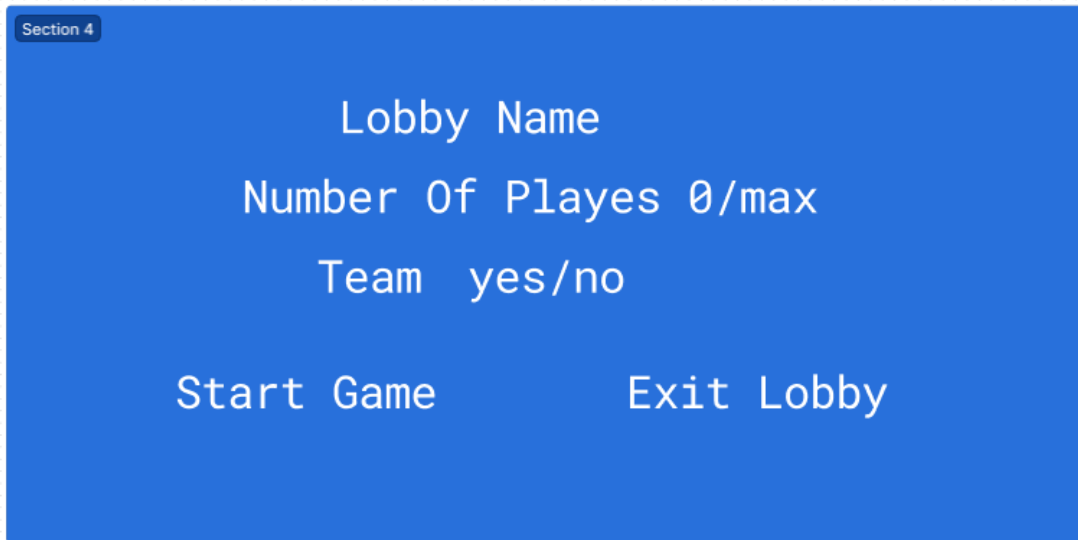
Lobby



(Figure 1 The Lobby)

The Screen is where the user would be after creating an account. This screen includes many functional buttons, and they are the create lobby, join lobby, settings, weapons, and profile buttons. Each of the buttons will take to their respective screen where the user can perform many other actions. This screen is where the user will be before they either choose to create a lobby or join a lobby.

Create Lobby



Section 4

Lobby Name

Number Of Playes 0/max

Team yes/no

Start Game Exit Lobby

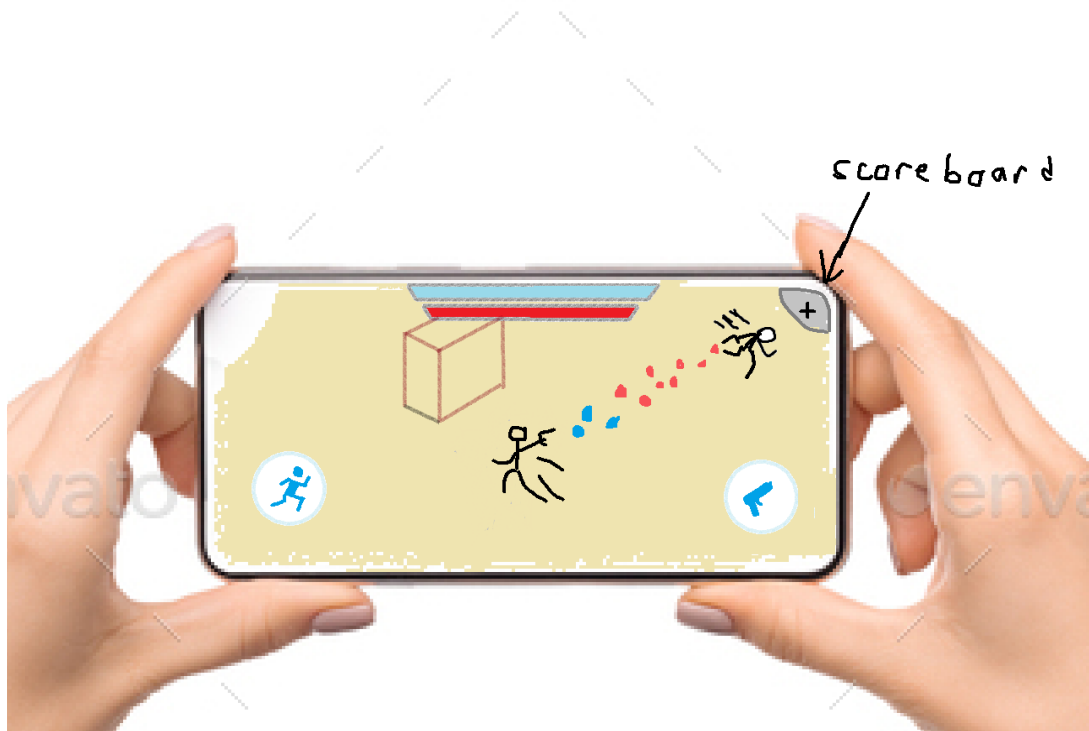
(Figure 2 Create Lobby)

After the users have decided to host their own game. They will click the Create Lobby button which will take the users to the create lobby screen. In this screen it shows the lobby name, the number of players that have already joined out of the max number of players allowed, and if the lobby creator wants to play free for all or teams battle. This screen also includes a start game button, and a Exit lobby button that will take the user back to the main lobby.



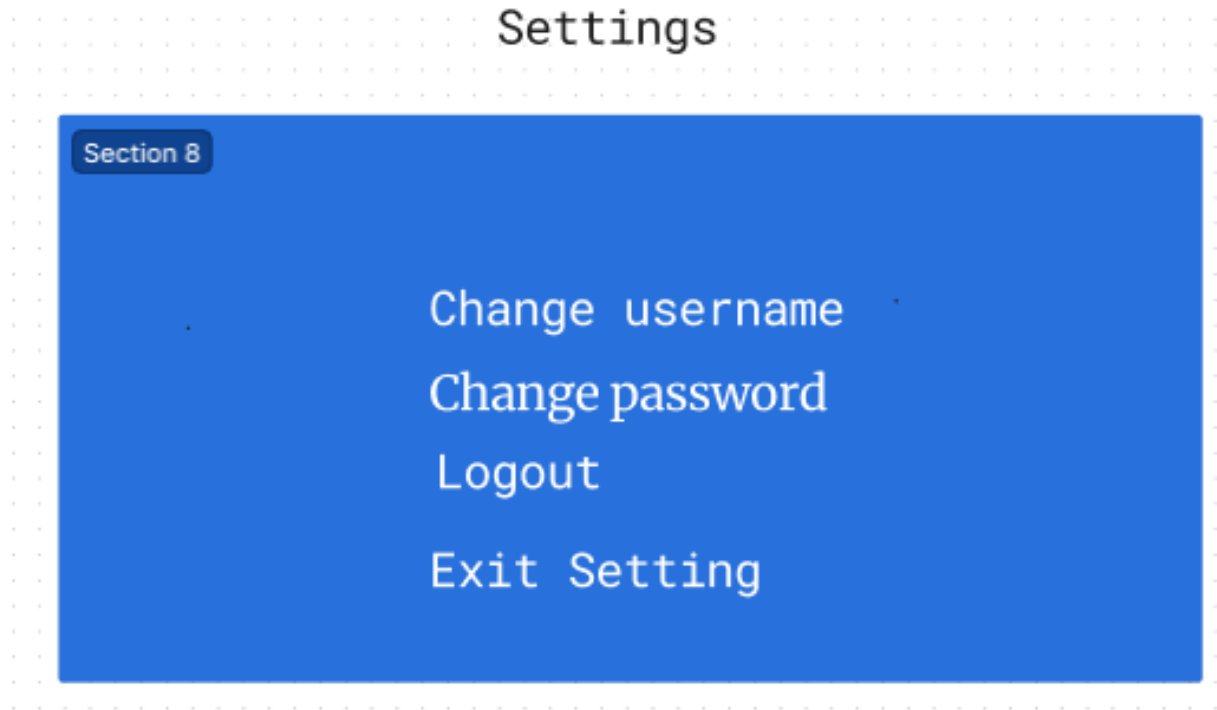
(Figure 3 Join Lobby)

When the user has decided to join a game created by others; the user will click the Join lobby button which will take the user to this screen. This screen allows the user to enter a specific lobby ID when they click the Join By Id button. The user also has a choice of joining a random available lobby. Just under the Join By Id button there is a list of available lobbies the users could join just by clicking on them. This screen also includes an exit button back to the main lobby.



(Figure 4 Game Main)

After the users have started the game they will be directed to the Game Main Screen. This is where all the game action happens. In this screen it will show the time of the game, the users' health bar, the two joysticks, the other players. Each game will have a time limit and once the time runs out the game will end. The users are allowed to be respawned after they Die.



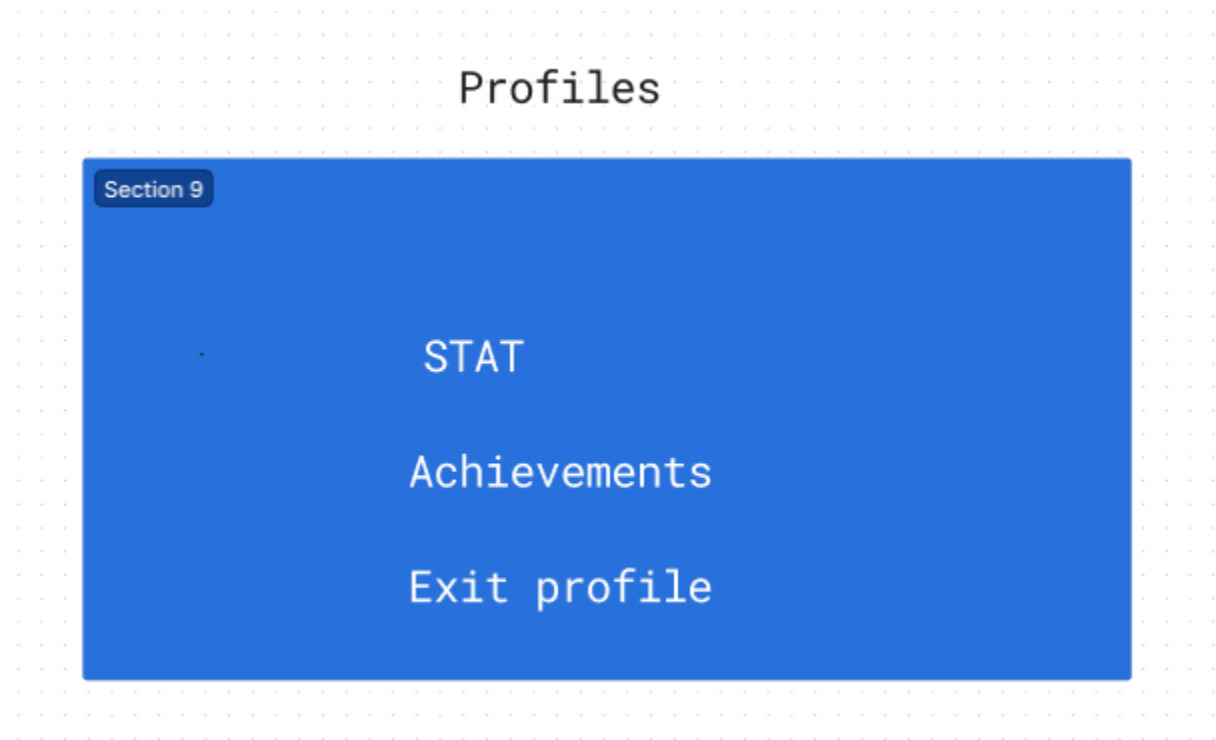
(Figure 5 Settings)

The main function of this screen is for the users to change their username by clicking on the change username button, and change their password by clicking on the change password button. In this screen the user can also logout of their account completely which will take them back to the login screen. The user can also exit the setting screen to go back to the lobby by clicking on the exit lobby button.



(Figure 6 Weapons)

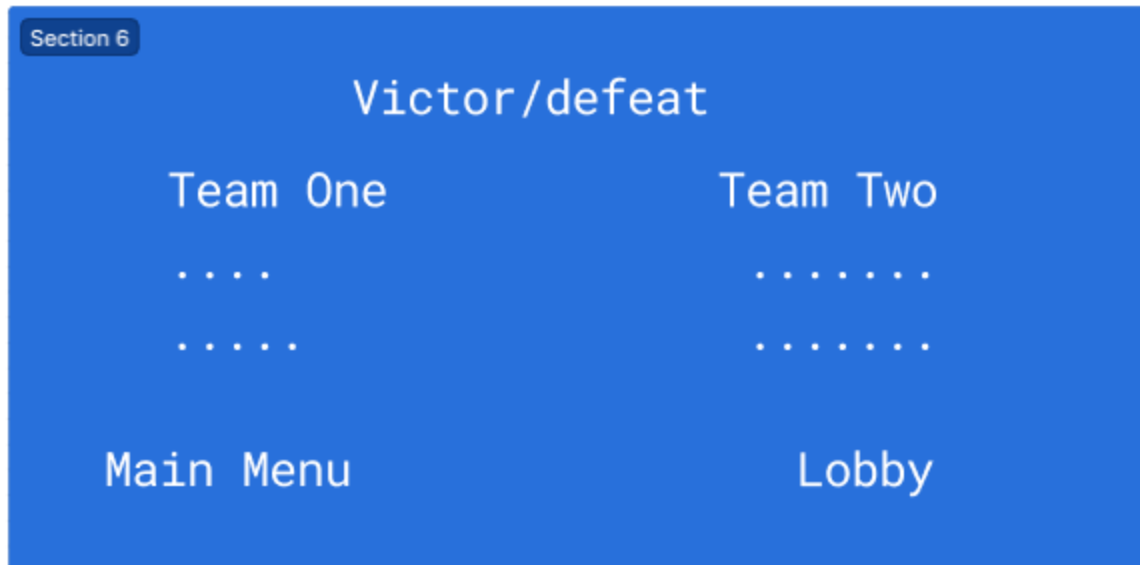
The weapons screen will contain all information about the weapons owned by the user. This information includes the details for the selected weapon and the available attachments for it. The displayed details include the weapon's fire rate, magazine size, and reload_rate. These can be upgraded using upgrade tokens.



(Figure 7 Profile)

The user profile screen will contain the following menus to give information about the user. There will be a STAT screen where the user can see their stats, such as number of kills, number of deaths, damage percentage, accuracy percentage, etc. The second screen will be for Achievements. The user will work their way towards unlocking achievements, this will give them upgrade tokens, new guns, or new attachments. The user will be able to track their progress on the achievements screen.

STATS/ End Screen



(Figure 8 End Game)

This screen will show the user if they have won or lost the game. It will also include both sides of the teams' STAT. For example their number of kills and Death. From this screen the user can either go back to the Main Lobby where they Create or Join a new lobby or they can stay in the current lobby to play the next round.