

**Design Document for:**

**Battle for the Galaxy**

“Unite and Join the Fight”

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COMP-3770

Game Design, Development, and Tools

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Version # 1.00

Wednesday, November 10, 2021

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# **Game Concept**

The game we are creating is called Battle for the Galaxy. It’s a first/third-person shooter capture the flag style game and is being developed using Unity 3D Universal Render Pipeline. The inspiration for creating this game came from our shared love of first and third-person shooters however, we didn’t want this to be the only aspect of the game. We wanted our game to have another objective, capture the flag.

The primary location for our game is in outer space, somewhere in the milky way galaxy. The main map will consist of two ships connected by a debris field. The player is going to be put right in the middle of a galactic battle and must choose a side, either the Galactic Saviours or the Alien Invaders. Depending on the side they choose, they will be put on that team's ship and must successfully steal the other team's power source to win the game.

There will be four player classes to choose from, heavy gunner, light gunner, assault, and sniper. With each one offering a different skill set, the player has the option to choose the one that best fits their style of gameplay. The player will have control over the character they choose and must work together with their team to beat their opponent.

The game will consist of 10, 5-minute rounds, and the player’s main focus will be capturing the opponent’s power source and successfully bringing it back to their base to win. To succeed, the player will have to fight off the enemy team, avoid death zones, navigate through buildings, and make their way across the debris field to the enemy ship, all while defending their own power source from the opposing team.

# **Genre**

Our game is a Multiplayer online battle arena (MOBA) where player vs player (PvP) and team play is prioritized. Our game also allows the player to toggle between first-person and third-person gameplay making it both a first-person shooter (FPS) and a third-person shooter (TPS) for the ultimate immersive experience.

# **Game Flow**

When our game is first launched, it loads up the start screen. From here the player can select start and is brought to the main menu. In the main menu, the player can navigate through options, where they can adjust in-game settings like the game volume. The player will also be able to view their previous match history statistics from this main menu. Finally, the player will be able to start a game as a host or join a game as a client. If the player chooses to start the game as a host then once the other players join their game, they will be able to start the match. If the player chooses to join a game as a client, then they must wait for the host to start the match. Once the match is started, the player will be taken to the team selection screen where they will choose their team and player classes. After all of the players have selected a team, the game will start with a 10-second countdown timer and the match will begin. Players will then be able to navigate through the map and will try to capture their opponent’s power source to win the round. Once the round completes, the players will load back at their initial spawn point and wait for the 10-second timer before the next round begins. This will repeat until one team wins 10 rounds total. Once achieved, the winning team will have a “winner” pop-up on the screen and the losing team will have a “defeated” pop-up on the screen. The game will conclude and players will return to the host's party screen where they will have the option to leave the game or wait for the host to start a new game. If they choose to leave the host's party, they will be brought back to the main menu screen where they will have the option to quit the game.

# **Features**

Our game contains many features to give the gameplay a unique feel for the player and to aid them in battle. The game contains an immersive map with 3D graphics making the look and feel of the game as realistic as possible. The 3D rendered playable characters include Aliens, Soldiers, and robots which the player can choose from. Our game features four different types of player classes that the user can choose at the beginning of the game. Each of these classes pertains to a certain playstyle and can be chosen out of player preference. The 4 player classes in this game include:

1. **Heavy Gunner:** The player will start the game off with a high damage shotgun that is most effective at close range. Since the heavy gunner is equipped with heavy armour, the player’s movement speed is reduced. To compensate for the slow movement speed, the Heavy Gunner class is also equipped with a shield. In exchange for its slow movement speed, the Heavy Gunner class deals high damage.
2. **Light Gunner:** The player starts off with a low damage power blaster containing infinite ammo. In contrast to the Heavy Gunner class, this class has the fastest movement speed but deals the least amount of damage.
3. **Assault**: This class is the jack-of-all-trades. The player begins with a medium-range power blaster making this the most balanced class.
4. **Sniper:** The player starts off with a long-distance sniper rifle and is equipped with an invisibility power-up at the start of the game. This is a deadly combination for players who can shoot quickly and accurately. They will be able to pick enemies off the arena without being seen.

The game also has a multiplayer aspect, allowing for one person to host the game while the other three players join the server as clients. Chatting between players in-game takes place through the respective team chat and global chat boxes.

# **Game Mechanics**

***Rules***

The objective of the game is to try to steal the flag from the opposing team's base and bring it back to your own. There are two equal teams, each with two players. Each round is a maximum of 5 minutes long but ends as soon as one team successfully captures the opponent’s flag. If no team captures the opponent's flag within the 5 minutes, the round will result in a tie, and each team will receive a point. The game ends when one team wins 10 rounds total. You get one point for each flag you bring back to your own base from the opponent’s, and the first team to 10 points wins the game. Once a player picks up the opponent’s flag only a secondary handheld weapon may be used until the flag is dropped.

***Controls***

In the game, the player can move the character left, right, forward, and backward using the WASD or the arrow keys. Holding down the Shift button allows the player to sprint and pressing the Ctrl button will make the player switch from a standing position to a crouching position. If the player holds down the Ctrl button while moving forward, the player will be able to silently crouch walk. Sprinting by using Shift+[W or (up arrow key)] from a crouched position, will cause the player to jump up to a standing position and run. The player will move their mouse in order to rotate the camera in the environment. While pressing the spacebar, the player will jump and if they hold it down, their jetpack will activate, accelerating them upwards. Players will right-click on the mouse to aim and left-click on the mouse to shoot.

***Actions***

In this game, there are numerous hotkeys that the players will use to control various aspects of gameplay. To pick up items such as weapons and the opponent's flag, players will press E on their keyboard. If a player already has a weapon in their inventory, they will have the option to swap it with the weapon they’re standing over. A player will automatically pick up health, ammo, and power-ups when they walk over them. The power-ups will activate automatically once collected. It is possible to pick up more than one item of the same kind (e.g. grenade). Picking up multiple powerups will result in a time increase for that powerup. For example, if a player picks up 2 invisibility powerups, they will be invisible for a total of 40 seconds.

***Objects***

Throughout the course of the game, there are various objects that can be picked up and used on the map. These objects can range from powerups to guns and will give the player a slight advantage. Some of the objects that can be found throughout the map include:

1. **Invisibility:** A glowing blue potion that grants the player 20 seconds of invisibility.
2. **Health Pack:** Gives you 75+ health and each player is given a different max HP corresponding to their selected class.
3. **Shield:** Allows the user to sustain five hits without losing health points. You will see a blue bar with five segments depicting how many shield points you have remaining. While playing the game, the shield bar will be displayed over the red HP bar at the bottom left of the screen.
4. **Generic Ammunition Crates:** refills player ammunition to the maximum amount a class can carry (i.e. Sniper will refill bullets to 50)
5. **Unstoppable Rounds:** Doubles the damages dealt from the player’s gun for 10 seconds. Especially useful for the Light Gunner who deals the lowest damage from his blaster.
6. **Shockwave Bomb:** Creates a 20-meter blast radius stunning all players within the radius for 5 seconds.
7. **Flashbang:** A bright flash of light explodes causing temporary blindness to the player and their movement is slowed down. However, players will still be able to shoot and use items but the mini-map and inventory bar displayed on the player’s screen will disappear until the side effects wear off.
8. **Incinerating bomb:** Causes an instantaneous fireball to combust on impact killing all enemies within the radius.
9. **Adrenaline Shot:** Grants the player increased speed and they take less damage due to them being able to shrug off their wounds. Players will be able to jump further and will be able to take an extra melee attack before they die. Most melee attacks one-shot a player but while using Adrenaline Shot the player will die after two attacks.

Other objects that can be found throughout the map include death zones, traps, and jetpack fuel. Death zones and traps can range from falling off the map into the void of space, moving walls, or electricity zones. These death zones will instantly kill the player and respawn them at their own base. The jetpack fuel is used to fuel the jetpack. When the game starts, the jetpack that is automatically equipped for each player is empty. By collecting the various fuel tokens throughout the map, the player will be granted access to the jetpack.