

P2D1 – Battle Rift Meaningful Play Specification

Rules

Operational Rules:

- Battle Rift is a top-down free-for-all shooter.
- Players are greeted with a main menu when they navigate to the game URL.
- At this menu players enter a name, and join the game server.
- The game is made for human vs human interaction and does not include CPU's.
- The game begins with the game map displayed on the screen, and with each player designated to a corner.
 - The top left corner: player one.
 - The bottom right corner: player two.
 - The bottom left corner: player three.
 - The top right corner: player four.
- Players in the game are represented as a top down model of an astronaut, each character model and projectile model has a unique color to distinguish them from other players. (i.e. the red player shoots red projectiles).
- The game start countdown will be triggered when one of the players presses the spacebar.
- The screen displays a 3 second countdown. When the countdown reaches 0 the game begins.
- Players will be unable to move or fire projectiles before the countdown hits 0 seconds.
- Players move around the map using the WASD keys.
 - W moves a player up.
 - A moves a player left.
 - S moves a player down.
 - D moves a player right.
- Players will use the mouse to aim projectiles and will use left click to fire projectiles.
- Players will not be able to see opposing player health, this will require players to pay attention to everything that is going on during the game.
- Projectiles will fire from the center of the character model in the direction of the cursor at the time the left click was pressed.
- The left click can be held down to fire shots once every .5 seconds.
- Players will be able to teleport to a random location on the map by pressing the spacebar.
- When the player presses the spacebar to teleport their current character model will disappear and then after a short delay it will reappear at some random location on the map.
- Players will be able to teleport once every 3 seconds.
- The game is a free for all, meaning that any given player is allowed to attack all other players with projectile shots.

- Projectiles from multiple players will be able to intersect with each other and continue on their expected path.
- Power ups will spawn at random times and at random locations in the map throughout the game. These power ups will give players special abilities for 10 seconds.
- Power ups will have a noticeable rectangular model, and will be attainable by all players.
- There will be multiple types of power ups available to players, distinguished by a symbol on the power up model.
 - Movement speed power up, icon with an 'M'. This will double a player's movement speed during the 10 second powerup duration.
 - Attack speed power up, icon with an 'A'. This will double a player's attack speed during the 10 second powerup duration. (From .5 seconds per shot, to .25 seconds per shot).
 - Increased damage power up, icon with a 'D'. This will double a player's attack damage during the 10 second powerup duration. (From 10 damage per shot, to 20 damage per shot).
- Power ups are picked up by a player when they use the WASD keys to navigate their character model over the power up model.
- Power ups are activated as soon as a player picks one up.
- Players are allowed to have at most one power up active at any given time.
- If a player has a power up active they will be unable to pick up any other power ups.
- A player's character model will take on a black outline when under the effects of a power up.
- When a player takes damage from a projectile attack their character model will quickly flash to indicate damage being taken.
- The only keys with functionalities in the game are the WASD keys, the spacebar, the mouse, and the left click.
- A game is completed when there is only one player left alive or when the one minute timer hits 0, whichever takes longer.
- If the one minute game timer expires with more than one player left alive then a sudden death will begin.
- There is no timer in sudden death.
- In sudden death, if a player gets hit by one projectile they are eliminated from contention.
- The last player standing in sudden death wins.
- Once the game has ended a screen will show up displaying the name of the winner of the game.
- Once a game has completed any player may press the spacebar to start a new game.

Constitutive Rules (concerned only with the internal functioning of the game logic):

- 2 to 4 players will be spawned into a 1250 pixel by 850 pixel map (?).
- Game can not start unless at least 2 players are connected to the game server.
- Players will be unable to move or fire projectiles before the game has started.
- Each player starts the game with 100 health.

- Projectiles remove 10 health from a player that they hit.
- Mouse clicking outside of the map, or pressing keys other than WASD and spacebar will have no effect on gameplay
- A projectile will continue across the map until it hits an enemy, hits the border of the map, or hits an obstacle within the map.
- A player with 0 health will be removed from the map.
- Players will not teleport onto obstacles or outside of the map.
- If a player teleports and is hit by their own projectiles they will not lose any health.
- Powerups will not spawn in areas of the map that are unreachable by players, on obstacles, or outside of the map.
- A player will not be able to move their character outside of the boundary of the map, or through map obstacles.
- Players will be able to move their character model through other player's character models.
- Players will not be able to join a game already in progress.

Implicit Rules:

- The program will not have any lasting effect on the system the game is played on.
- A player needs internet access to access the game, and connect with other players.
- Do not team up on other players. It is a free for all game, every player should fend for themselves.
- As this is a competitive shoot-em up game, players should make an attempt to engage in conflict within the game.
- The game will be played using the Chrome browser, and requires the player to navigate to the URL in the chrome browser to connect to the game.
- Players will need a keyboard with the WASD keys and a spacebar. They will also need a mouse with a functional left click.
- Players should not exploit any bugs they find in the game to their advantage.
- If a player exits out of their browser during the middle of the game they will be removed from contention and will not be able to join back until the current game is over.

Core Mechanics

- Moving
 - Player will need to consistently and strategically move to have any chance at success in this game. Players will use the WASD keys to move which will help the player avoid being hit by projectiles, and increase the player's aim which in turn results in them hitting opponents with more projectiles.
- Shooting
 - Players only action/tool that lowers the opponent's health is by shooting projectiles.

- It is impossible for a player to win without shooting a projectile.
- Players will constantly be shooting projectiles in hopes of hitting and damaging other players.
- Aiming
 - Player will need to aim if they want any chance of hitting an opponent as the players are moving around the map.
 - Player will need to keep adjusting the aim constantly towards the opponent as they move and as their opponents move.
- Teleporting
 - Players will need to strategically use teleports in order to find success while playing Battle Rift.
 - Teleports will often create inner conflict for Battle Rift players, as they will consistently be faced with scenarios where they need to decide whether or not they should use their teleport.
 - Many times a game of Battle Rift is won by the player who used their teleports at the smartest and the most strategic times.

How are the relations between actions and outcome discernable?

The actions players can make in Battle Rift include: aiming, shooting, teleporting, picking up power ups, and moving.

Players will use the mouse to aim their gun. When aiming, the cursor on screen will move location to show where the player is currently aiming. The player's character will rotate to where their gun aims in the same direction as cursor/mouse location.

Players will use the left mouse click to fire their gun. When shooting, the audible click of the mouse along with a projectile firing towards the player's cursor informs the player that they have fired a shot. There will also be a sound effect unique to shooting the gun. The projectile color will be the same as the player's character, so they will notice when their character has fired a shot, and can easily follow their projectiles movement across the map.

Players will use the spacebar in attempt to teleport. When they press the spacebar a sound effect will go off. The player will hear two possible sounds, one for when the teleport is on cooldown and can not be performed, and one for when the teleport is not on cooldown and is successful. The two sounds will be discernable from each other. Visually, when a player's teleport is not on cooldown, the player's character will disappear from their current position, and reappear at a new, random location on the screen.

Players will use the WASD keys to move around the map. When moving, players will visually see their character moving around the map. The orientation of the keys maps to the direction the player will move when pressing them. (W: up, A: left, S: down, D: right).

Players will pick up powerups by moving their character model over them. There will be a sound effect that notifies players that a power up has been picked up and the player who picked up the powerup will have a temporary black outline. In addition, when a player is under the effects of a powerup, such as a movement speed powerup, their character will be visibly faster than the other characters in the game.

What is Battle Rift, and how do the previous items lead to meaningful play?

Battle Rift is a top down free-for-all shooter, that engages players in compelling, high speed action. The number one goal for a player in a game of Battle Rift is to be the last man standing at the end of the game. 2-4 players will start the game by spawning in one of the maps 4 corners. After a 3 seconds countdown, battle begins

Players in a game of Battle Rift will be constantly interacting with each other through using the core mechanics of shooting, moving, aiming, and teleporting. Players must move around the map in order to dodge shots being fired at them by their opponents, and they must return fire of their own towards their opponents in hopes of damaging them. Players must carefully aim their shots, so that their opponents don't easily dodge them and potentially corner them against one of the obstacles. Players will use teleports in many scenarios throughout a game of Battle Rift. Some of these scenarios include: attempting to beat a player to a powerup that spawned closer to an opponent then it did to them, attempting to prevent opponents from pinning them up against in game walls/obstacles, and attempting to dodge projectiles fired from an opponent with an attack speed or increased damage powerup.

In regards to teleporting, players will have the ability to teleport to a random location on the map once every three seconds. This ability allows each player to have their own unique playstyle in a game of Battle Rift. For example, some players might teleport a lot, anticipating their new location and trusting their aim and reaction time. Whereas players who are a little more cautious will avoid using too many teleports in fear that it could put them in a bad position.

Throughout a game of Battle Rift powerups will spawn at random times and locations throughout the map. These powerups will offer players one of three possible buffs: increased speed, increased rate of fire, and increased projectile damage. Due to their influence in the outcome of a game of Battle Rift, powerup spawns will encourage even the most cautious of players to engage in combat with each other.

A player wins a game of Battle Rift when they are the last player standing, and all other players have been eliminated. There is a one-minute timer, and if the timer reaches zero then the remaining players are placed into a sudden death. In sudden death all players are brought back to an even playing field, as the game is now one shot one kill. The thought of sudden death will encourage players to actively engage in combat during the original one minute of game time, so that their fate doesn't end up being decided by a single shot.

Decisions

Throughout a game of Battle Rift players will often be faced with many tough decisions. The first decision they must make before the game starts is whether they plan on taking an aggressive approach to the game or a defensive approach. Players that trust their ability to accurately shoot projectiles while dodging projectiles from opponents will typically take the aggressive approach, whereas new players will typically decide to play more passive.

During a game of Battle Rift players will need to make strategic decisions when using their teleports. Although the teleport location is random, players will need to decide when it is a good time and when it is a bad time to teleport. For example, if a player is being cornered by another player it would be smart to teleport in attempt to create distance from the attacking player. In contrast, if a player has a good attacking position it would be a bad decision to teleport and potentially lose their advantageous positioning.

When a power up spawns players are left to make a few quick decisions. Power ups in Battle Rift are extremely powerful and will play a big role in helping players win the game. When a power up spawns a player must weigh the pros and cons of attempting to secure it. Opposing players will be expecting other players to approach the power up, so they will be able to predict player movements much more accurately. This could lead to a player getting hit by many projectiles in route to a power up, causing it to not be very beneficial for that player in the long run. If a player believes that they have a lot less health than opposing players then it would probably be a good decision to try and activate the power up, in attempt to get an advantage in the game. Players who have teleports available when a powerup spawns will have to make the decision on whether or not they should use their teleport to approach the power up. Using the teleport could potentially put the player in a bad position, such as the corner of the map, or it could lead to a great position right by the power up allowing them to quickly activate it. Thus, players will have to decide if they want to risk trying to teleport near the power up.