

Ball of the Wild

Team 8 - Backlog

Alex Bolinger, Nathan Simon, Andrew Thomae, Wes Turnbull, Henry Wellman

Problem Statement:

Burnout, lethargy, and other such emotions have long since plagued people causing a general lack of productivity and feelings that could lead to depression. We seek to develop a strategic multiplayer sports game to combat these feelings and foster an experience that can be a release from the troubles that come with a person's day-to-day life. Our game will be a class-based multiplayer sports game based on the rules of handball providing a unique set of game mechanics and playstyles to provide a one-of-a-kind experience capable of eliminating feelings of burnout and general exhaustion. The players will be able to choose from a list of different animal classes like the lion class or the penguin class, which will have special abilities and different status attributes, changing how the player moves around the field and enabling different team builds depending on the preferred play style of the users.

Background Information:

Audience:

Despite a larger gaming industry than ever before, there is a clear and distinct lack of strategic multiplayer sports games that are not overtly pay-to-win or platform restricted. Additionally, many sports games fail to innovate beyond the core game in which they are emulating. We seek to create a game for those looking for a unique sports-based experience with different strategies and classes to choose from.

Similar Projects:

Our main inspiration for the gameplay of *Ball of the Wild* are the sports games *Rocket League* and *Mario Super Strikers*. We also are pulling ideas about the class system from games like *Overwatch* and *Battlefield*. The basic idea for the rules of the game come from a mixture of handball and ultimate frisbee rules.

Limitations:

While similar projects have delivered excellent gameplay and mechanics, one of the major problems facing them is a lack of replay-ability. Game one of *Mario Super Strikers* does not feel that different from game one thousand of *Mario Super Strikers*. In addition to having different animal classes to choose from with special stats and abilities to give the player far more ways to play the game and strategize, we will also give the player access to change certain aspects of the game. Some examples of these changes would be ball size, field size, number of players, etc.... This should help each game feel different from the ones that came before it, and help the player feel like there is still much to be done after game one thousand.

Functional Requirements:

1. As a user, I want to be able to create an account.
2. As a user, I want to be able to login to my account once I have created it.

3. As a user, I want to be able to reset my password.
4. As a user, I want to be able to delete my account.
5. As a user, I want to be able to update my information.
6. As a player, I want to be able to navigate the menus easily.
7. As a player, I want to be able to change the resolution the game runs in.
8. As a player, I want to be able to add users as friends to my account.
9. As a player, I want to be able to challenge my friends to private games.
10. As a player, I want to be able to join the same lobby as my friends before a game.
11. As a player, I want to be able to play online with strangers.
12. As a player, I want to be able to choose the time duration of my games.
13. As a player, I want to be able to choose the size of the teams in my games.
14. As a player, I want to be able to choose the size of the ball in my games.
15. As a player, I want to be able to choose the size of the field in my games.
16. As a player, I want to see who scored a goal in the game.
17. As a player, I want an assist system to see who helped the player who scored a goal.
18. As a player, I want an experience system with different levels to progress through.
19. As a player, I want to gain experience from completing a game, with extra experience if I win.
20. As a player, I want to gain experience from things like the amount of time I held the ball, or number of goals/assists scored.
21. As a player, I want an overtime match in the game if the timer runs out and the score is tied.
22. As a player, I want to have a sandbox mode to train my skills offline.
23. As a player, I want to have a digestible tutorial to learn the rules of the game.
24. As a player, I want to be able to unlock achievements.
25. As a player, I want a ranking system when I play online.
26. As a player, I want a way for other players to view my ranking.
27. As a player, I want to enjoy the soundtrack.
28. As a player, I want to be able to unlock new characters and abilities as I get better at the game.
29. As a player, I want to be able to easily see a scoreboard with a timer during gameplay.
30. As a player, I want to be able to see my in-game abilities and see the cooldowns if I have already used them.
31. As a player, I want different classes to have different stats and abilities.
32. As a player, I want to be able to play as multiple different player classes.
33. As a player, I want a way to communicate with my teammates.
34. As a player, I want customizable game modes with rules like when you miss a shot, you also lose a point.
35. As a player, I want to be able to swap out key mappings.
36. As a developer, I want a time limit on how long a player can hold the ball to encourage teamwork.
37. As a developer, I want shots with the ball to be more powerful if consecutive passes were recently made.
38. As a developer, I want there to be a limit on how often and how long a player can sprint.
39. As a developer, I want characters to be modular so they can be added, removed, or edited later.
40. As a developer, I want developer tools built into the game (frame rate, usage, etc) to monitor performance.
41. (if time allows) As a player, I want to have character customization.
42. (if time allows) As a player, I want to play a game offline with AI bots.
43. (if time allows) As a player, I want my matches to be made based on player skill.

44. (if time allows) As a player, I want to have a challenge mode where I have to complete difficult tasks.
45. (If time allows) As a player, I want to gain experience after completing a challenge in challenge mode
46. (if time allows) As a player, I want a king of the hill mode, where a team needs to keep the ball within a limited area on the field for a determined amount of time to win.
47. (if time allows) As a player, I want controller support.

Non-Functional Requirements:

Performance: We will be using Unreal Engine to build the server and client of our project. We'd ideally like our game to be able to run at 720p at 30 frames per second even on low-performance hardware from as much as five years ago. With that being said, since we will be supporting online multiplayer, we would also like to keep any delays or ping between clients less than 200ms. We can monitor this by using the built-in stat-profiles mechanics of Unreal Engine to continuously see the delay between every game thread, frame time, caching front, and other key metrics to ensure quick identification of bottlenecks during development or testing.

Usability:

We are trying to make the gameplay not overly complicated, so anybody can pick up and play the game. The menu system should work similarly, so a player can start a game easily and quickly. There will be a tutorial that we will make available at any time, and it should give the player all the information necessary to start. Our goal is to also make the game not overly computationally intensive, so you could smoothly run our game with hardware from several generations ago, or without even needing a dedicated graphics card.

Security:

We will be using Epic Games for authentication, which should be a safe system for all players to use. Epic Games is an industry leader in encrypting user's data and uses all standard practices and protocols like multi-factor authentication built into the platform. We will also not allow for any endpoint exceptions or exposures when connecting to our database by using Unreal Engine's built-in networking rulesets tool.

Scalability:

A main goal of *Ball of the Wild* is to deliver consistent and high-quality features to the players. In order to achieve this, we will be using different class structures with varying levels of inheritance, so creating something like a new custom animal class would be far easier for developers than needing to have a class per character. Furthermore, we will have our codebase organized to have dedicated classes for things like each game mode. By adding this modularity, it will be easier to find any bugs quickly and add on more content without obfuscating the original files due to very large amounts of code or too many features within any given file