

HousingBattle

Proposed level of achievement: Gemini

Project scope: A fun online mobile strategy game

Target audience: People who play games on their mobile devices

Motivation: People want games to be fun, fast, competitive, and strategic, but there aren't games that meet all these standards on the market.

Features:

- Simple yet strategic gameplay, but with dynamic elements like randomly spawning power-ups so that the game can be entertaining for mobile gamers.
- Facebook Login, so that users can log into their account by pressing one button, instead of having to type in their username and password.
- Leaderboard with ELO system, so that gamers can compete and try to be the best.

Explanation of the game (What has been implemented):

- The game is set in a 5 by 5 grid. At the start of every game, two obstacles spawn in random locations.
- Players take turns to build houses on empty spaces.
- The aim of the game is to build houses in rows of 3, 4 or 5, or in a square formation to earn points.
- At the end of every turn, power ups have a chance to spawn at a random empty space. Building a house on a power up allows the player to collect the power up. A player can hold only one power up at a time.
- Power-ups:
 1. Hammer -- Allows player to build two houses in one turn
 2. Dynamite -- Allows player to destroy a building, and all other houses linked to that building. The player that owns the building loses points. Can also be used to destroy obstacles.
 3. Mine -- Player can set mine before building a house. A player that attempts to build on a mine will set it off, destroying the house and losing points.
- Game ends when the board is completely filled up and when the current player doesn't have any possible moves.
- The game can now be played on two different devices, but there are still bugs. For example, both devices are able to control both players. These bugs will be fixed before Splashdown.

Testing done:

- Power-ups were tested by setting the spawn rate to 100%, then checking the effects to things like points, buildings, game state and other power-ups.
- For example, when testing the hammer power-up, it was found that the game couldn't end after building the first house. That was fixed after the bug was found to be reproduced.
- Since there are random elements involved, play testing was also involved. The game was played more than 25 times, and if we found any bugs, we would try to find out why that happened, reproduce it, and then fix the bug.

Development plan for Splashdown:

- We will allow testers to play the game and we will debug it based on their feedback.
- Next, we will create a start screen, as well as tutorial screens to help users learn the game.

- We will then implement Facebook login, and normal login with a sign-up screen. A database will have to be created to store user information.
- Finally, we will implement a leaderboard with ELO rating system.

Tools that will be used:

- Unity
- Blender
- Firebase

Overall Development Plan:

Phase 0	Creation of assets	29 May – 4 June
Phase 1	Implementation of prototype (Single player)	4 June – 18 June
	Debugging	19 June – 25 June
Phase 2	Network implementation (including leaderboard)	26 June – 9 July
	Debugging	10 July – 16 July
Phase 3	Final enhancement (e.g. music) and peer team suggestions	17 July – 30 July

Project Log:

Task	Duration (Hours)	
	Xing Kai	Adeeb
Lift-off Day 1	9	9
Lift-off Day 2	9	9
Unity Roll-a-ball tutorial	2	2
Unity Space shooter tutorial	5	5
Unity Tanks tutorial	5	5
Blender tutorial	5	5

Creation of assets	15	15
Storyboarding	5	5
Scripting for buttons in grid (spawn house when button is pressed, and act differently when power-up is used)	10	5
Scripting for game controller (finds patterns of houses, awards points, changes player turn, sends signals to other controllers, etc)	20	5
Scripting for power-ups	6	1
UI Tutorial	8	8
Scripting for UI (player score, current player and game over text)	15	15
Playtesting	15	15
Debugging	15	15
Unity Multiplayer Networking Tutorial	5	5
Photon Unity Networking Tutorial	3	3
Converting game to multiplayer (creating network controller, spawning houses and power ups on both host and client, syncing game state, etc)	30	6
Total	182	134

Story Board:



