

# Barnyard Defenders

## Overview:

Barnyard Defenders is a farm themed rouge-lite tower defense hybrid game. The main objective is to harness the unique abilities of your various farm animals and crop styled weaponry, to defend a barn from invading enemies. This is complimented by a randomized choice upgrade system, where players select from a set of randomly presented upgrades, each drawn from a vast pool of available upgrades. There are 3 waves, a wave of short range enemies, a range of long range enemies, and a final boss with both short and long range attacks.

The core gameplay structure is paired alongside various key features. Noteworthy additions include the ability to adjust difficulty through various pickers, in-game currency shop notifications showcasing limited-time deals, and local and cloud storage. All of these elements are seamlessly integrated into a clear navigation system that guides players between their statistics, the main game, the cosmetic store, and the upgrade screens.

## Group Members:

- Olly Love - gituser1034
- Chris Chen - ChrisKHChen
- .Mohammad-mohammad0104
- Omed Zerghune - Omed-Zerghune

## Responsibilities:

**Proposal:**

**Brainstorm:** Everyone

**Formal Writeup of Notes:** Chris

**Writeup Revisions:** Chris, Olly

**Code Design UML:** Mohammad, Olly

**UML Revisions:** Everyone

**Sketch:** Chris, Omed

**Sketch Feedback:** Everyone

**Coding:**

**Defenders + enemies:** Olly, Mohammad

**Attack Class:** Olly

**Main game layout:** Chris

**Screen setup:** Omed

**Login form:** Mohammad

**Settings:** Omed

**First upgrade prep screen/shop:** Chris, Olly

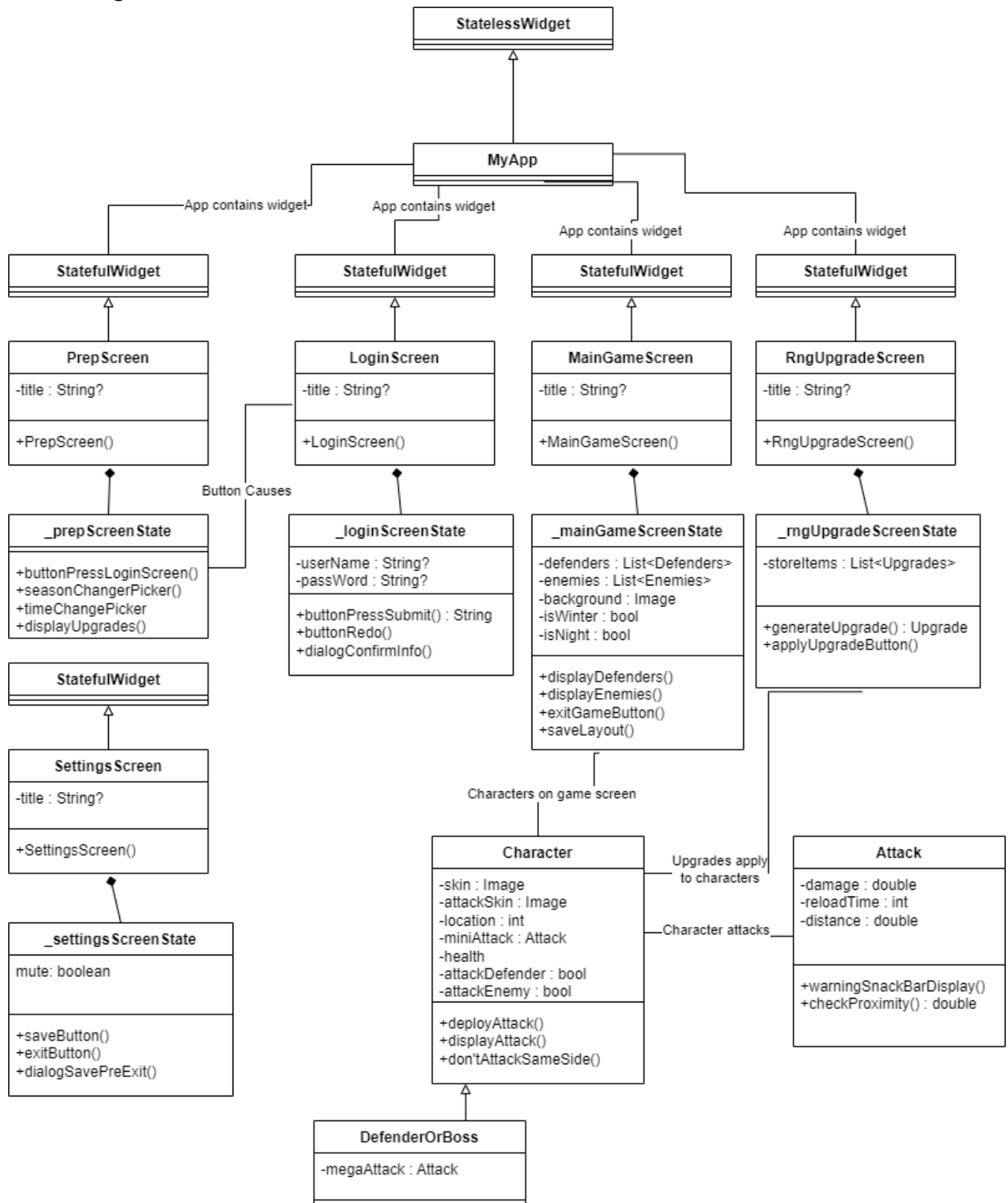
**Rng upgrade system:** Chris

## **Features and Functional Requirements:**

- **Multiple Screens:**
  - A simple navigation system that streamlines access to different parts of the game. Starting at a login screen, the user is then taken to the tower defense map screen. Additional screens are available from there, including the store, the user's game account information, the settings, and an rng upgrade screen that enhances various aspects of the tower defense portion of the game.
- **Pickers:**
  - Pickers allow the user to change the time and date that the game will play in. Depending on the choices, the game's difficulty will alter accordingly.
    - Time Picker: The enemies become tankier the closer it is to midnight.
    - Date Picker: The enemies are tankier in the winter, regenerate health in the spring, faster in the summer, and are default in the fall.
- **Snack Bars:**
  - Snack bars allow the game to alert and inform the user that specific actions are unable to be performed at that time. This comes in the form of not having enough currency to purchase an item from the upgrade screens or the cosmetic store, as well as tapping on an animal's ability when it is still on cooldown.
- **Notifications:**
  - Notifications will be used to inform the user about ongoing events in the game, as well as acting as a reminder for the user to perform specific actions. A notification will be sent under any of the following conditions: a wave has been started, a deal is in the shop.
- **Local Storage:**
  - Local storage allows the game to store data directly on the user's device. In addition to saving the game's progress, the user's preferences in volume and notifications are locally stored.
- **Cloud Storage:**

- Cloud storage allows the game to store data remotely, via the internet. This allows the user to synchronize their game data across multiple devices, and can also act as a backup for their progress and data. An account is required for cloud storage.
- **Leaderboards:**
  - Leaderboards encourage competition among users. When the user has been defeated, a score that is calculated based on difficulty, waves survived, and quality of upgrades taken.
- **Challenges:**
  - Challenges are a way to introduce users to towers, by locking completion behind number of takedowns by a specific tower, under specific difficulty sliders. More advanced challenges will also be implemented, which encourages the user to play under conditions that may be outside of their comfort zone.

## Code Design:



## User Interface:

Randomized Choice Based Upgrade

### Choose an Upgrade

Upgrade Name 1

Upgrade  
Description 1

Upgrade Name 1

Upgrade  
Description 1

Upgrade Name 1

Upgrade  
Description 1

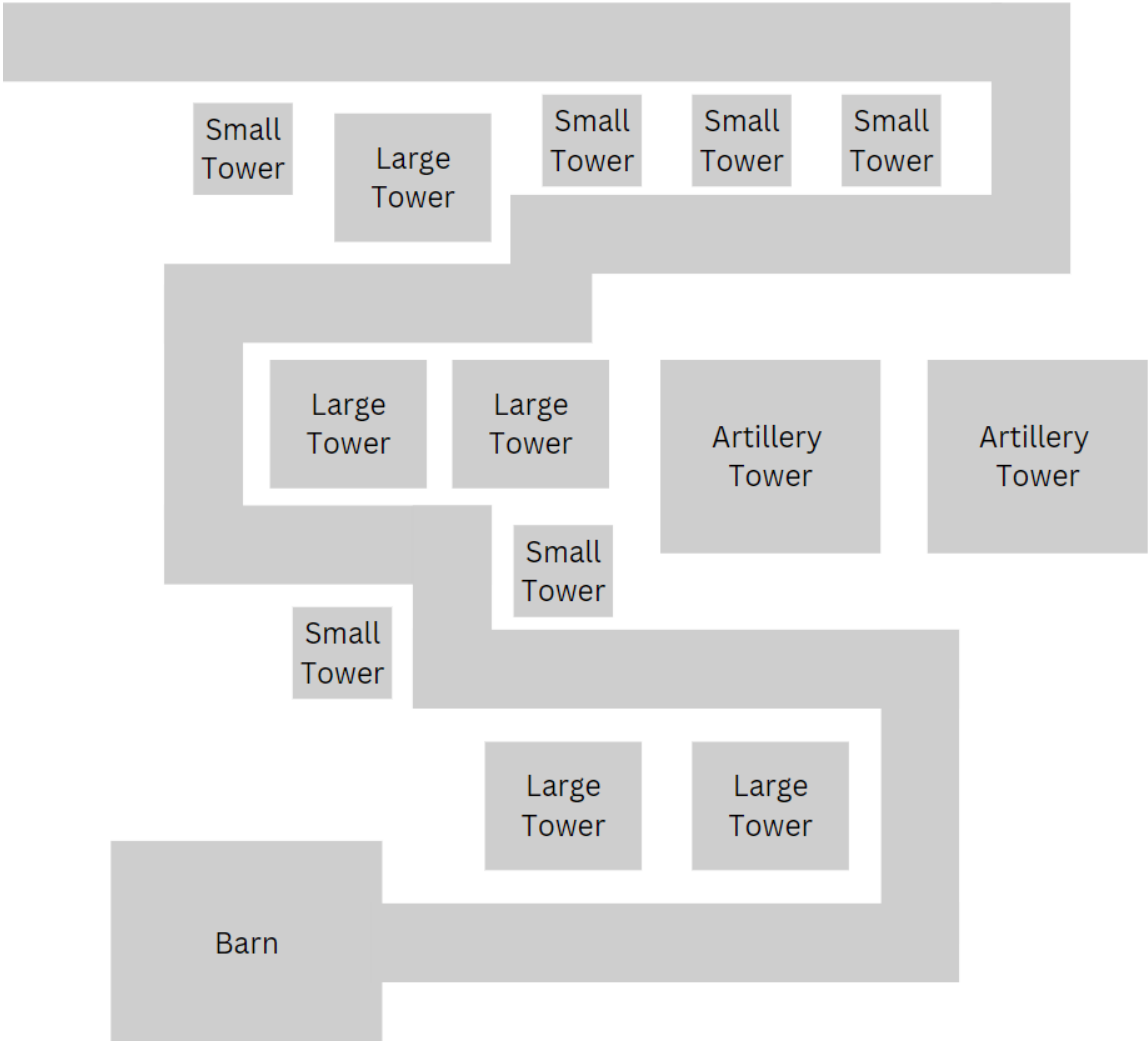
Accept

Skip Selection

---

Tower Defense Map

Account	Upgrades	Defend	Shop	Settings
---------	----------	--------	------	----------



## Settings

Account

Upgrades

Defend

Shop

Settings

Volume:

Notifications:

Yes

No

## Account

[Account](#)[Upgrades](#)[Defend](#)[Shop](#)[Settings](#)

User Banner

Name:

Games Played:

Games Won:

Highest Round:

Highest Score:

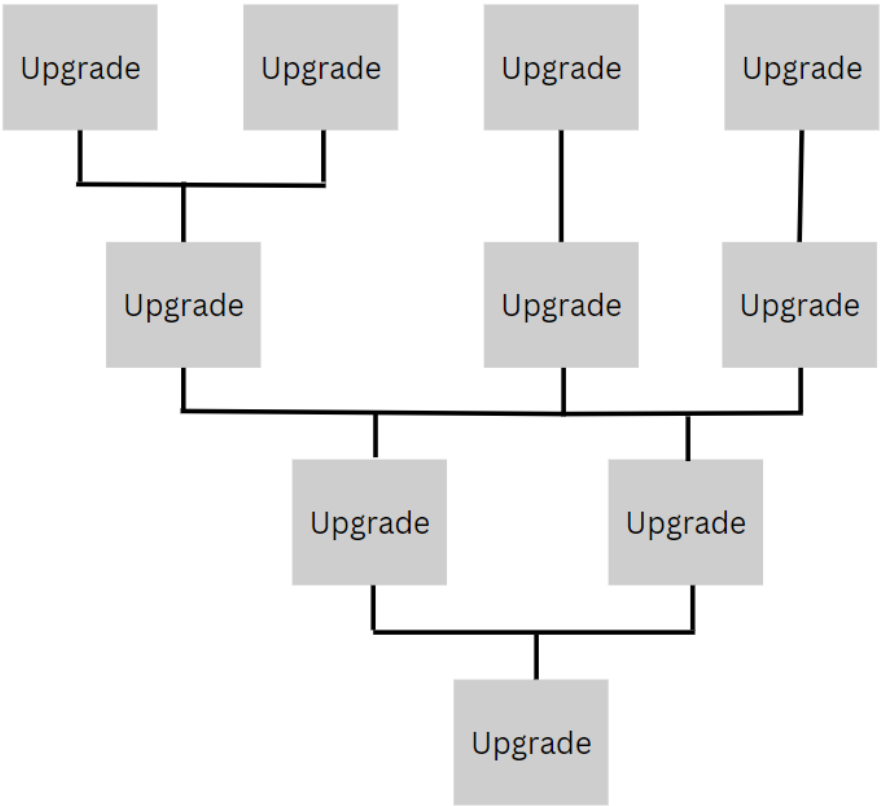
View  
Leaderboard

Log Out



Upgrades

Account	Upgrades	Defend	Shop	Settings
---------	----------	--------	------	----------



Shop

Account	Upgrades	Defend	Shop	Settings
---------	----------	--------	------	----------

Skins



Skin

Cost:



Skin

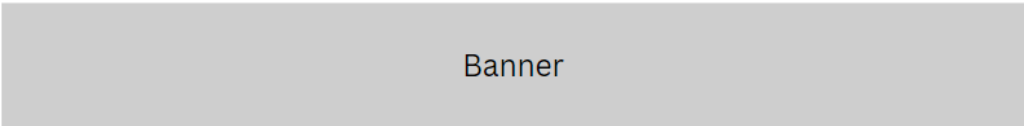
Cost:



Skin

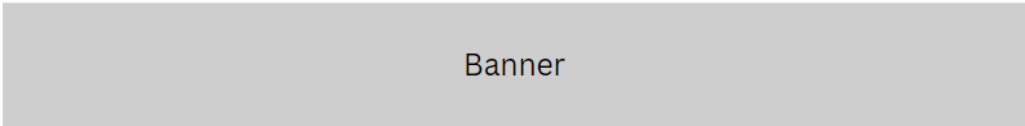
Cost:

Banners



Banner

Cost:



Banner

Cost:

Login

## **Barnyard Defenders**

Username:

Password: