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| [Captain games] |
| Alien Invasion Design Document |
| Tower Defense Mobile Game |
| Version #01  All work Copyright © 2020 by Captain Games.  All rights reserved. |
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# Version History

* First Commit to Github:
  + Contains prototypes for enemies and buildings
  + Prototype level is created.
  + Basic menu interaction implemented
* Levels and UI:
  + Added GameOver Scene + UI
  + Added MainMenu Scene + UI
  + Added Instructions Scene + UI
  + Added TextMesh Pro to project
  + Added Prefab Folder and moved prefabs there
  + Added Sounds Folder
  + Added a scene switching script and added it to buttons
  + Added new scenes to the build
* Update Level UI:
  + Added Wave Counter
  + Added Health Counter and script to SpacePort
* Rename TestButton, Update EGD
* Touch, Enemy, UI Update
  + Attempted Raycast Touch Control
  + Enemies now move and collide Added GameController Monobehaviour to control UI and win/lose state
* Wave Control and Win Condition
  + Waves now increase when all enemies are destroyed and increase maximum enemies.
  + You win at maximum wave reached.
* Added Cost to buildings
* Turrets now fire, with an option for autofire
* Turret, Enemy and Health Rework
  + Reworked Health to have gameobject dependent death actions
  + Added Hard Enemy
  + Added Increasing wave difficulty
* Sounds
  + Added Sounds to main menu and instruction Added Sounds to Turret Attack and Death Added Sounds to Enemy Attack and Death All Sounds from Sonniss Free Sounds Pack GDC 2020

# Game Overview

The goal of Alien Invasion is to amass resources from the game world, unlocking more advanced technologies and subduing the native inhabitants. The user can complete levels on the game world to unlock passive resource income.

# Game Play Mechanics

The user purchases building using a resource pool to fend off waves of aliens. Users have to balance purchasing defense turrets and resource earning factories. As aliens are defeated, the wave level increases and the enemies get increasingly difficult with different types starting to appear. The buildings have health, including the Space Port. If the Space Port dies, the player has failed the level.

# Camera

The camera is static top down in landscape.

# Controls

Touch input will be the main control, for purchasing and placing buildings. A build button and fire button will switch the user between building and controlling turrets.

# Saving and Loading

The game should automatically hold all progress when the game is closed. The save data includes:

* the current wave on a level
* the resources available on a level
* the placement of buildings on a level
* tech tree progress
* world progress (which levels are completed)

Loading the game will load all of the saved data and add the resources farmed passively since the application was last closed

# Interface Sketch

# Menu and Screen Descriptions

The Title screen will simply show some art and have a start and instructions option. The Title screen will lead to a world overview map where the levels can be selected and which are completed. Tech unlock menu will also be available from this screen. This menu will have the same appearance as the in-level menus seen in the interface sketch section minus the fire mode.

# Game World

The game world is a sci fi setting where the player represents a large corporation mining a random world for its resources while defending from the native inhabitants.

# Levels

Each individual level will have a wave level associated with them. Harder levels will begin at higher wave levels.

# Game Progression

As players complete levels, they will begin to earn World-Resource which will allow them to upgrade, making harder levels beatable and starting a level easier.

# Enemies

Enemies will spawn off screen and move in a straight line towards the SpacePort. The enemies have 3 forms:

* Hulk: slow, big, high health, high attack
* Splicer: fast, small, low health, low attack
* Spitter: med speed, med size, med health, mild low attack, attacks from range

# Weapons

The player defends against enemies by buying and controlling turrets. There are 3 main turret types currently:

* Basic: (average damage, manual targeting)
* Laser: (low damage, auto targeting)
* Missile defense: (high damage, manual targeting/ auto with upgrades)

# Buildings

The player collects resources by buying factories. Factories are expensive but provide a passive income.

# Scoring

There are 2 resource pools, one is local to each individual level, and the other is the overall score for the world. The World-Resource is used for permanent upgrades in the World screen. The Level-Resource is used to purchase buildings in the individual levels. Once a level is completed, it will begin adding it’s resource to the world resource pool.

# Art / Multimedia

# Future Features

* Future Levels
* Future Worlds
* More Tech
* More Enemy Types