SpheresTD Game Manual

Submitted as part of the requirements for:

CE818 High-Level Games Development

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Date: 16 December 2017

Abstract. The quick overview of the game's mechanics, controls and functionality.

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1 Controls

Player input in managed through the "node" system in-game. To interact with the game and build the structures, the player must first select a desired node in the game, which transitions the shop menu to the respective panel which shows what structures the player can purchase and build. Clicking the button builds the structure if the player has enough gold. Furthermore, if the node already has a structure on it, the shop menu provides the possible upgrade options or an option to sell the structure for 80% of its initial cost.

The camera can be moved by either using "wsad" keys or simply dragging the mouse cursor to the edges of the screen. It can also be zoomed in/out using the mouse scroll wheel. In addition to that, the camera control can be turned off/on by pressing the "c" key. In other words, this locks the camera in its current position.

2 Game Modes and Difficulties

The game has two main play modes: classic and survival. Survival game mode provides with the challenge to clear as many minion waves as the player can before ultimately losing all its health. The ultimate "defeat" is ensured via the game mode mechanic where every single wave's minions increase in both, amount and strength (hit points). The classic game mode features three difficulties settings (Easy, Normal, Hard) which sets the minion health scare appropriately. This game mode provides with the classical tower defence challenge – defeat all the set minion waves which vary in both, the minion types and their strength. Each level has 10 waves and defeating all 10 of them transfers the player to the next level until the last wave of the last level is cleared and the player wins the game.

3 Shop Menu

As mentioned above, to use shop menu, the player must first select the desired node. Afterwards the menu is updated with the viable options for that node (build new turret, upgrade, sell) with their respective prices. If the player clicks on one of the buttons and he has enough gold, the structure is built and the menu changes to show the

upgrade options for that structure. Every structure can be sold for 80% of its initial cost using the same shop menu.

4 Structures' Specifications

There are three basic structures, each having separate upgrade tree.

4.1 Turret

Basic long range turret with medium damage and fire rate. Upgrades into either Advanced Turret (even longer range, higher damage and fire rate) or Rocket Launcher (slow, long-range weapon firing explosion missiles which deal medium area damage).
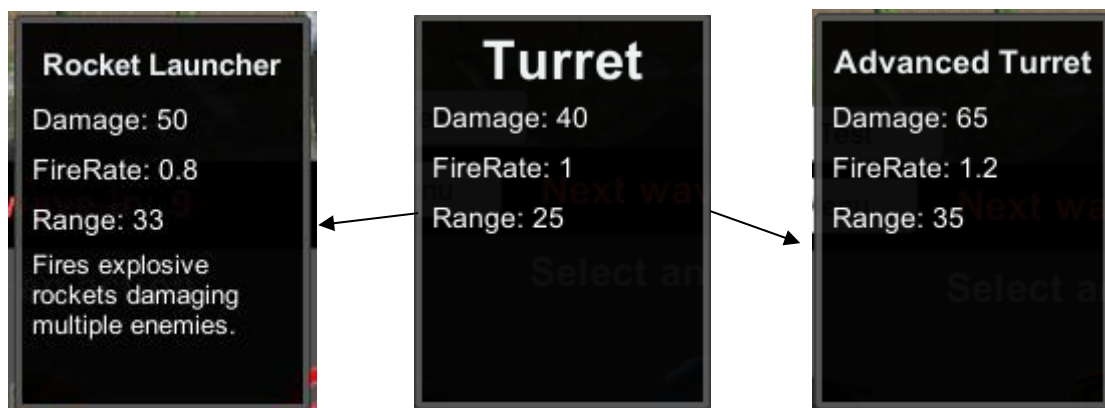
4.2 Gunner

Basic short range weapon with high fire rate and medium damage. Upgrades to either Advanced Gunner (low-medium range, higher damage and superior fire rate) or Blaster (relatively quick, short range weapon firing explosion missiles which deal high area damage).

4.3 Freezer

Utility weapon to slow down enemies. Does no damage, but instead emits a laser beam slowing the enemy. Upgrades to Insta Killer (slow, short range weapon machine with insane damage).

5 Gameplay

The gameplay is quite linear. The main mechanics are simply managing your gold efficiently to build structures in such a way, that their different properties would be fully utilised. For instance, building a Freezer near Blaster to allow Blaster to hit multiple enemies more times, or placing the Rocket Launcher at the middle of the game field to fully utilise its long range. The only source of income is killing the enemies which adds their set bounty to your gold fond. The gold and turrets are not transferred between levels, but your current Health amount is. Therefore, Health points are precious and losing them all results in the loss. To add a bit of uncertainty to the challenge of the game, three kinds of pickups spawn randomly on the enemy path, providing different boosts to the enemy which collects them. 1. Green Pickup: restores 85% of enemy's missing hitpoints over 2s. 2. Blue Pickup: increases the enemy's speed by 75% for 2s. 3. Orange Pickup: makes the enemy invincible for 2.5s.