Criteria	TA/Grader	Instructor
Presentation		
Overall		

~ Defender of the Galaxy ~

Aynen

Mert Fidan

İrfan Hakan Karakoç

Umut Arda Filiz

Tolga Han Arslan

Ahmet Orhun Saka

Project UI Design Report

(Version 2.1)

9 April 2022

1. Introduction

Defender of the Galaxy is a space-themed tower defense game in which the player purchases several constructions and special abilities in order to defend the base against stacking enemy waves. In each round, several enemy units will follow a particular path through the map to reach the base. The player must strategically locate his weapons and use the special abilities to defeat the enemy waves. Constructions and abilities are available in the in-game market with different costs according to their powers and features. The player will have a type of in-game currency that can be gained by defeating enemy units or passing to the next round. Also, there will be a pause option for

players to ensure that the gameplay will not be interrupted by outer factors. The player can use the selected unit menu to view the damage, range and fire rate of the selected defender unit. The game control menu allows the player to open the pause menu, directly exit to the starting menu, double the rate of the game, summon the next enemy wave(manually or automatically) and open the in-game market menu. Moreover, players can use the inventory menu to view the number of placeable units and special powers in the inventory and select them to place in the map or use the special powers.

2.   Details

2.1   Starting Menu

The starting menu is the first interface that will be shown when the user enters the game. It contains several options for the players which can be adjusted using this interface. Clicking the play button will start the game and direct the player to the main game interface. The exit button allows the user to quit the game and then exit to the desktop. Besides, the settings button directs the user to the settings interface and allows him/her to adjust the game settings including increasing/decreasing the music and sound volume and selecting through language options.

2.2   Settings
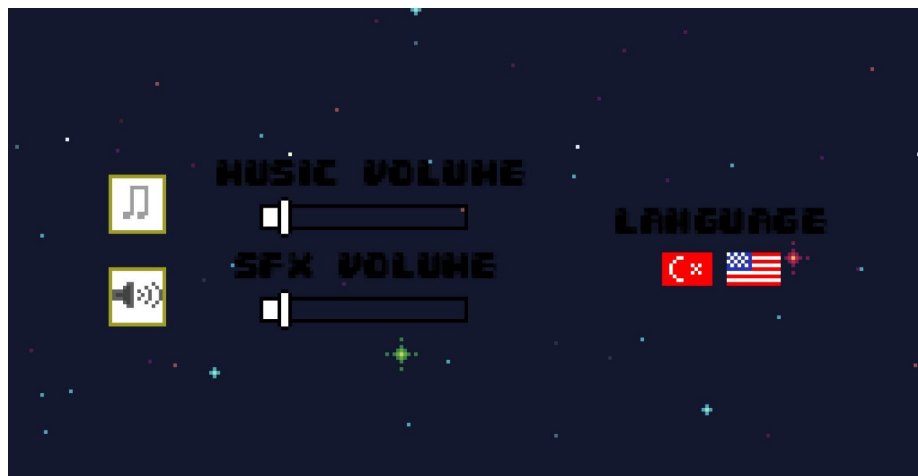
Settings interface can be opened from the starting menu. It will provide options for adjusting/muting the in-game music or SFX sound effects' volumes and selecting the language without exiting to the starting menu. The player will be able to adjust the volume of the music and

SFX sound effects by using the sliders which are provided here. Likewise, the language options are available for the players to choose according to their preferences.

2.3   Main Game

This is the main interface in which the game will be played. Enemy waves follow a certain path, which is predetermined in the design of the map of current level, in order to pass the border of the defense complex. Players should locate their defense entities in which they can gain maximum performance from them. This interface contains operations for opening the pause menu while playing the game, viewing in-game currency instantaneously, opening in-game market(which is another interface), returning back to the starting menu, viewing inventory and current enemy wave count, upgrading selected defense tower entities. This menu is constantly refreshed while the game is running. It allows players to design a defense complex with their own strategy in order to play the game. There are going to be multiple levels in the game, so after finishing the current level, the player will pass to the next level and the path of the enemies and the difficulty will change accordingly.

2.4   In Game Market
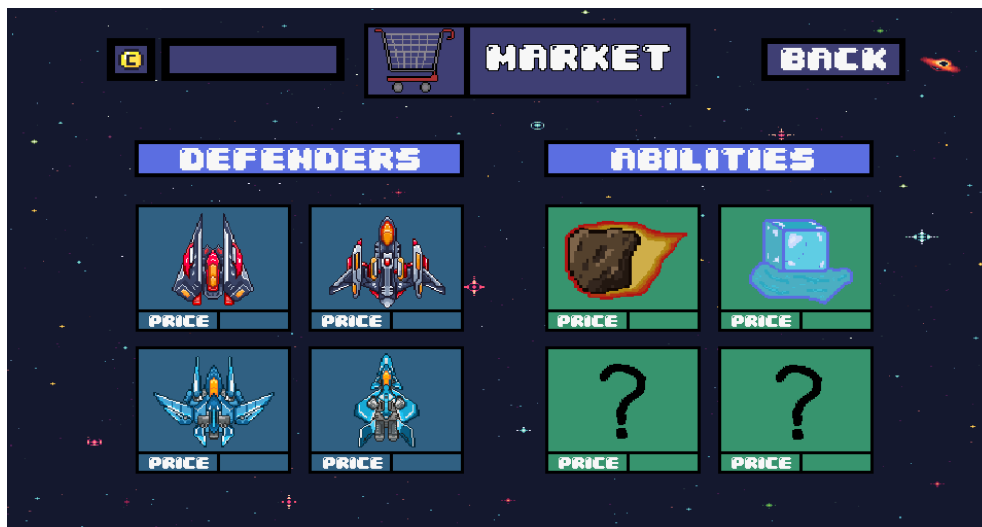
In-game market allows the players to spend their in-game currency (which can be gained from defeating enemy units or passing levels) to purchase/upgrade various defenders (the constructions that can be located throughout the map and are able to attack the enemy units) or special abilities which can be used for different purposes like freezing the enemy units or striking a particular area. The gold bar will be updating while the game runs. Finally, clicking to the back button directs to the main game interface where the game continues.

2.5   Pause Menu

The pause menu is an interface which can be accessed by pressing a specific key on the keyboard. Its main purpose is letting the player take a break. The game freezes when this menu is open. The player can continue the game by pressing the resume button. The player can access the settings interface through this menu by pressing the settings button and the player can return to the main menu by pressing the main menu button in this interface. Also the player can toggle the sound effects and the music through this menu.
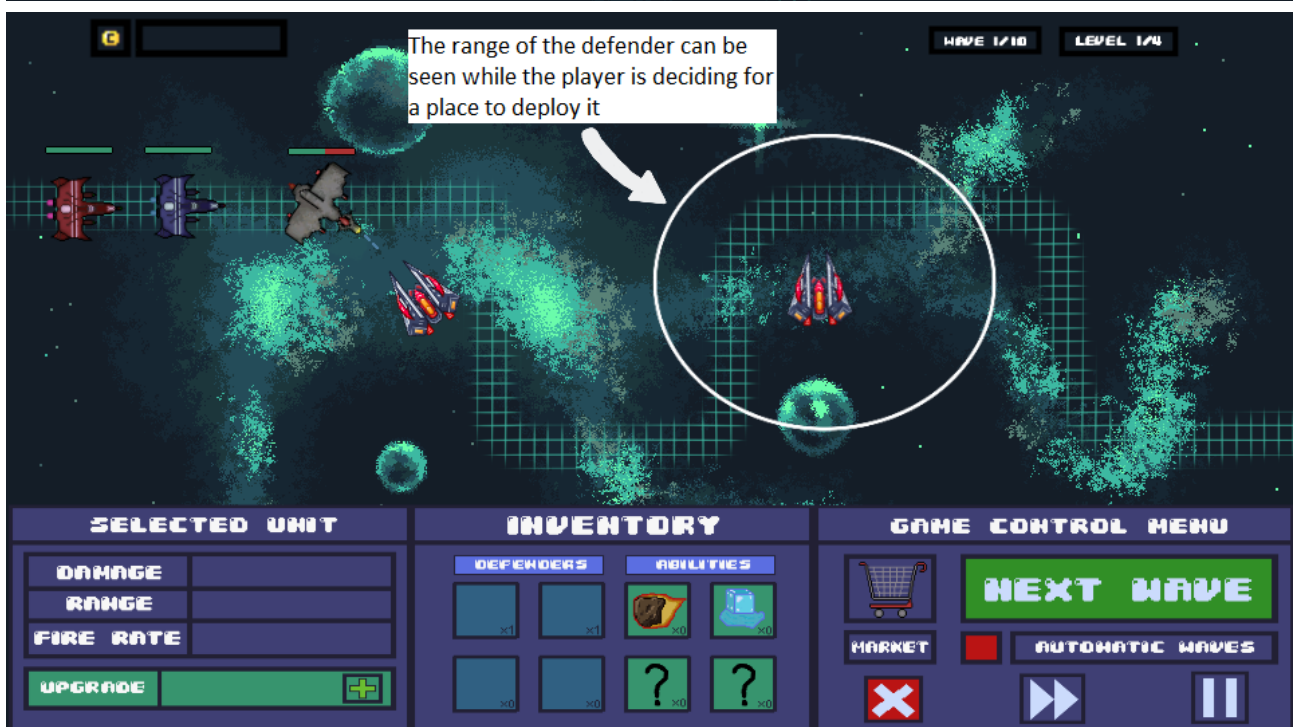
2.6   Enemy Entities

The enemies will come in waves at the beginning of the rounds. As the game proceeds, the enemies will get stronger and increase in number. When a certain number of enemies reach the

base, the player will lose the game. Their stats are going to be dependent on the type of the enemy entity. Some enemy entities will be fast and fragile meanwhile some of them are going to be slow and tanky.

2.7   Defense Tower Entities (Defenders)

The defender that is wanted to be placed will be selected from the inventory

The range of the defender can be seen while the player is deciding for a place to deploy it

The defense towers or in other words defenders are the main tools for defending the base. The player will be able to buy the defenders through the in-game market. Defenders will have different prices depending on their powers. Some of them are going to be weak and they are going to be the cheap ones. However the strong ones will be required as the game proceeds, because the enemies will get stronger each round and the player will need more power to defend the base. The defenders will also have unique features. For example, some of them are going to freeze the enemies. Therefore, particular defenders are strong against certain types of enemy units. So it is the player's decision to determine which defender to select in particular segments of the game. Defenders do not have freeze time, so they will start attacking the enemy right after being placed and they can be placed anywhere in the map except from the path of the enemies.

2.8   Selected Unit Menu
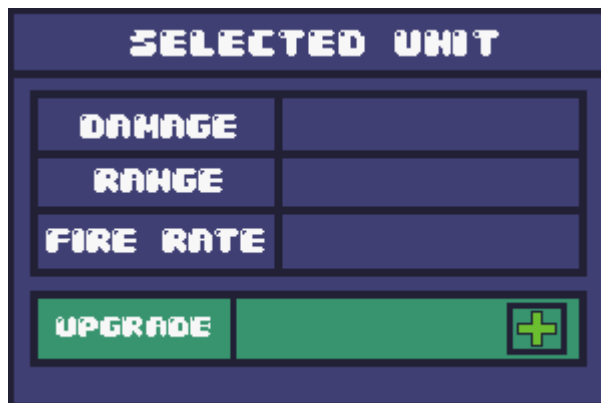
The selected unit menu will appear when the player chooses a certain unit. Its main purpose is viewing the stats of the unit. The player is also going to be able to upgrade the unit through this menu. Before upgrading, when the player brings their cursor to the upgrade button, they will be able to preview the change in the values of the unit before actually upgrading it. There will be a green arrow looking upwards with the value next to it indicating the change if the upgrade is applied.

2.9   Game Control Menu

This menu is in the main game interface in which the game runs. It allows the players to control the game by providing them with various functional buttons. It lets the player open the pause menu, directly exit to the starting menu, double the rate of the game, summon the next enemy wave(manually or automatically) and open the in-game market menu. Users are able to administer the game with numerous adjustments that they prefer by this interface.

2.10 Inventory Menu

The purpose of this interface is viewing the player's inventory which contains all the defenders that can be located on the map and the number of special abilities that are purchased from the market. The player is able to click the buttons in defenders segment to locate their constructions and weapons through the map. Besides, the special abilities can be controlled with the abilities segment by selecting them and utilizing the preferred part of the map.

3.   Summary & Conclusions

This report shows and describes all the graphical interfaces that Defender of the Galaxy game uses. The basics of the game and understandability of the menus are kept as simple as possible so that everyone can enjoy the game without pondering the principles of the game. We are concerned about how we are going to implement the towers and enemies' interaction in a way that is completely stable. We have in mind that the lasers that have been shot by towers one by one will follow the enemies. However, if this fails somehow we may simplify things like constant lasers for example. This sitemap of all the interfaces summarizes the relationship between all the graphical interfaces:

Starting Menu

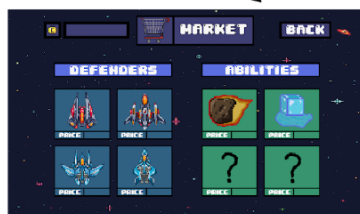Settings

Play button clicked

Main game menu

Selected unit panel

Inventory

Game control menu

In-game Market

Pause menu