Object Oriented Software Engineering Project

CS - 319

SPACE IMPACT

Final Report

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1.Changes In The Implementation

A. **User Interface Implementation**: The implementation of the user interface is changed from canvas-only to canvas with activities. This change allows the game to be smoother in menu transitions and not to drain battery by running a thread at every stage of the game.

B. **Collision Detection:** We canceled the implementation with a separate collision detection object, instead, every object interprets its own collision inside their classes.

C. State Management: We do not use StateManager anymore since we decided that using activities will be more efficient and easy to implement.

2.Status of The Project

The game lacks some features that will be implemented later. These features are

1.Store
2.Boss Spaceship
3.Sound Management
4.Power-ups
5.Animations
6.Level Generator
7.Collectables
8.Achievements

3.User's Guide

3.1.Installation

As the game is an Android based program, the installation can only be done by extracting the .APK file of the game. The game requires an Android device running at least SDK 23(Android 5.0 Lollipop).

The .APK file can be opened through any file system monitor application. In order to be able to install an application through an application, unknown sources must be enabled in Settings>Security. After enabling unknown sources, the application can be installed by pressing the .APK file.

3.2.Overview of the Game

3.2.1.Game Objects

3.2.1.1 User-Spaceship

In Fig.1 is shown the spaceship which the user controls. The spaceship has its own attributes such as the health, bullet ammo, the height and size of it etc.

Fig.1

3.2.1.2 Enemy-Spaceship

In Fig.2 is shown the enemy spaceship, which has its own speed and size. The enemy spaceship has its own health, so when it is hitted enough will be destroyed by disappearing from the screen.

Fig.2

3.2.2.Controls

Since the game is played in a phone, everything is controlled by touch. In the first screen which is the menu the user selects one of the options by touching it, then again selects one of the levels. The game is played by keeping the finger on the screen and controlling the spaceship without removing the finger from the screen. By keeping the spaceship touched, the player can shoot by touching on the bottom right of the screen a button named “shoot” that will allow the spaceship to shoot towards the enemies. If the finger is released from the screen the game will be paused, a feature which will be implemented later on.

3.2.3.Game Screenshots

In Fig.3 is a screenshot from the opening screen of the game where the options to choose from are shown to the user. The user can start the game, enter the store or read about the game. The store and About options will be implemented later. If the player presses the start game option it will be redirected to another to choose levels from and start the game.

Fig.3

In Fig.4 is shown the screen which appears to the user after “start game” option is selected. In the picture are shown 4 levels for the user to choose from. More levels will be available afterwards.

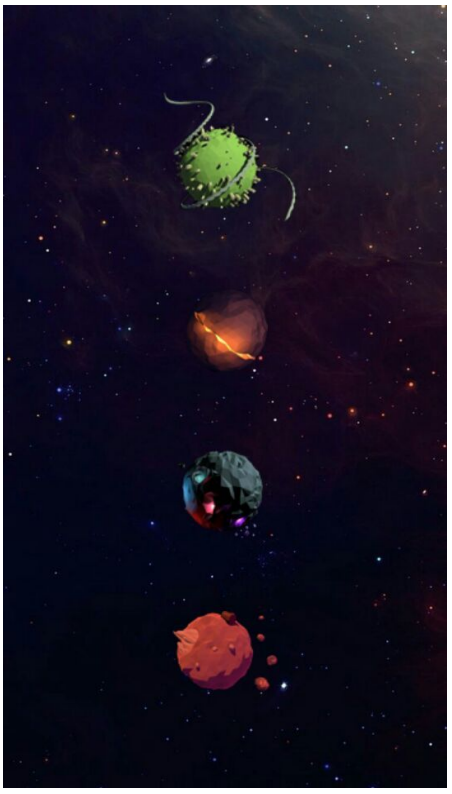

Fig.4

In Fig.5 are shown the screens when a user selects one of the levels to start playing. After the user selects one of the levels to play the game starts.

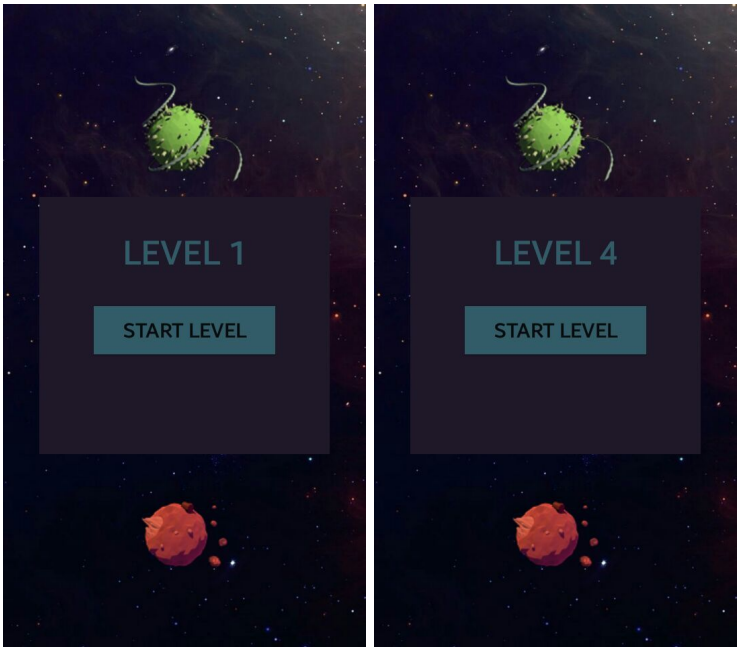

Fig.5

In Fig.6 are shown screens from the actual gameplay. As it can be seen the player has a health of 10 which decreases when a collision with one enemy occurs. When the player hits the shoot button the spaceship shoots bullets and kills the enemies which disappear after

some damage is done to them. The player has also available to him the amount of bullets left which when reaches zero the player cannot shoot anymore.

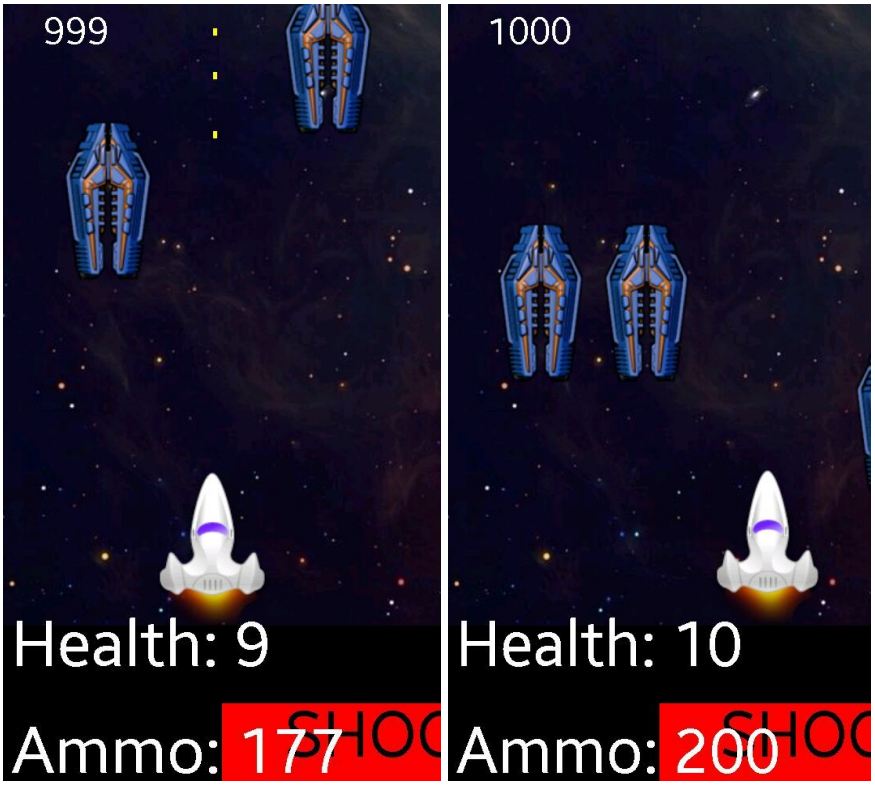

Fig.6