

# Requirements and Analysis Document for the (insert project name here) project (RAD)

**Version:** 1.0

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This version overrides all previous versions.

## 1 Introduction

This is a physics game where you as a black hole float around in space and eat planets and other objects.

### 1.1 Purpose of application

The project aims to create a physics based eat-em-up game that provides entertainment for the user.

### 1.2 General characteristics of application

The game is a physics based android game, controllable by touch controllers. It is single player.

The player moves a black hole swallowing objects until he dies. If the black hole dies, it is respawned and a life is used up. This goes on until the player has run out lives, then it's game over. The black hole dies when it is eaten by another black hole. These other black holes are controlled by some kind of AI. There are no time constraints.

Once the player has eaten enough objects, the next level will start.

### 1.3 Scope of application

There is only one player, and enemies are controlled by an AI. The application saves the high scores. It is not possible for the player to edit and make their own levels.

### 1.4 Objectives and success criteria of the project

It should be possible to play the game for as long as the player is still alive, there is no "final level". Stages are generated dynamically if necessary to keep the game going. The game should be playable on an android mobile/pad of any size.

### 1.5 Definitions, acronyms and abbreviations

Eat-em-up game - A game where the main goal for the player is to swallow objects in the level.

## 2 Requirements

## **2.1 Functional requirements**

The player should be able to:

1. Set the language. The set language of the GUI should be the current language of the mobile.
2. Start a new game
3. Play the game
  - 3.2 Move around
  - 3.3 Collide with other objects
4. When the game is over, the player should be able to save high score.

## **2.2 Non-functional requirements**

### **2.2.1 Usability**

As the application is a game it should be very easy to use, it should be easy to understand how to use and not take long to start playing. An instructions option should be accessible before start and a tutorial when beginning a new game. There should also be a language option, at least for Swedish and English. Tests should be performed to verify and ensure the applications usability. The results from the test will be part of the final documentation.

### **2.2.2 Reliability**

NA.

### **2.2.3 Performance**

The players action should receive immediate feedback from the system and in worst case response time should not exceed 1 sec. Longer response time would mean a high risk of the game not functioning properly(in the meaning that lag will make it impossible to avoid enemy/obstacle/larger planet).

### **2.2.4 Supportability**

The application should be implemented in a way that supports modification for use on web and other mobile platforms. Also, the game should be implemented in a way that makes it easy to locate reported faults and fix them.

### **2.2.5 Implementation**

The application is written in the java programming language for use in an android environment. This makes it easy to run it on any android device as well as on the web. Devices that uses other languages than java won't be able to run the application without an android emulator.

### 2.2.6 Packaging and installation

The application will be available for download on Google play store.

### 2.2.7 Legal

NA

## 2.3 Application models

### 2.3.1 Use case model

See Appendix: Use case diagram

### 2.3.2 Use case Priority

|         |  |
|---------|--|
| High:   | Move<br>PowerUp<br>Collision<br>SwallowEntity          |
| Medium: | GameOver<br>PlayerSwallowed<br>Enemy Move<br>Game Play |
| Low:    | NextLevel<br>Main Menu                                 |

### 2.3.3 Analysis model

See Appendix: Analysis model

### 2.3.4 User interface

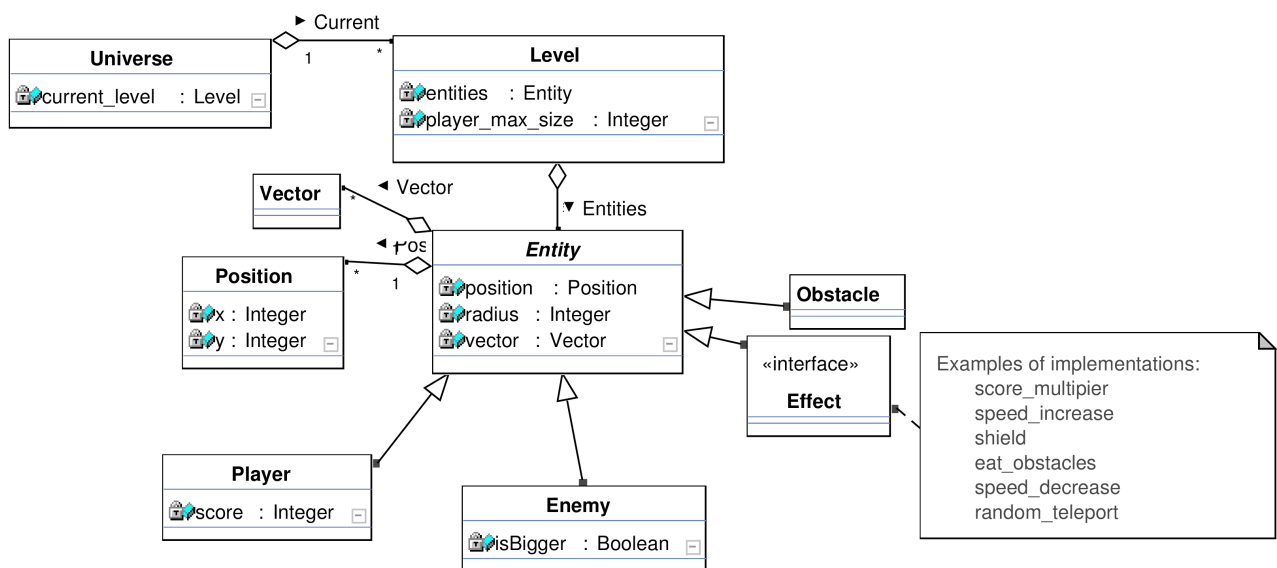
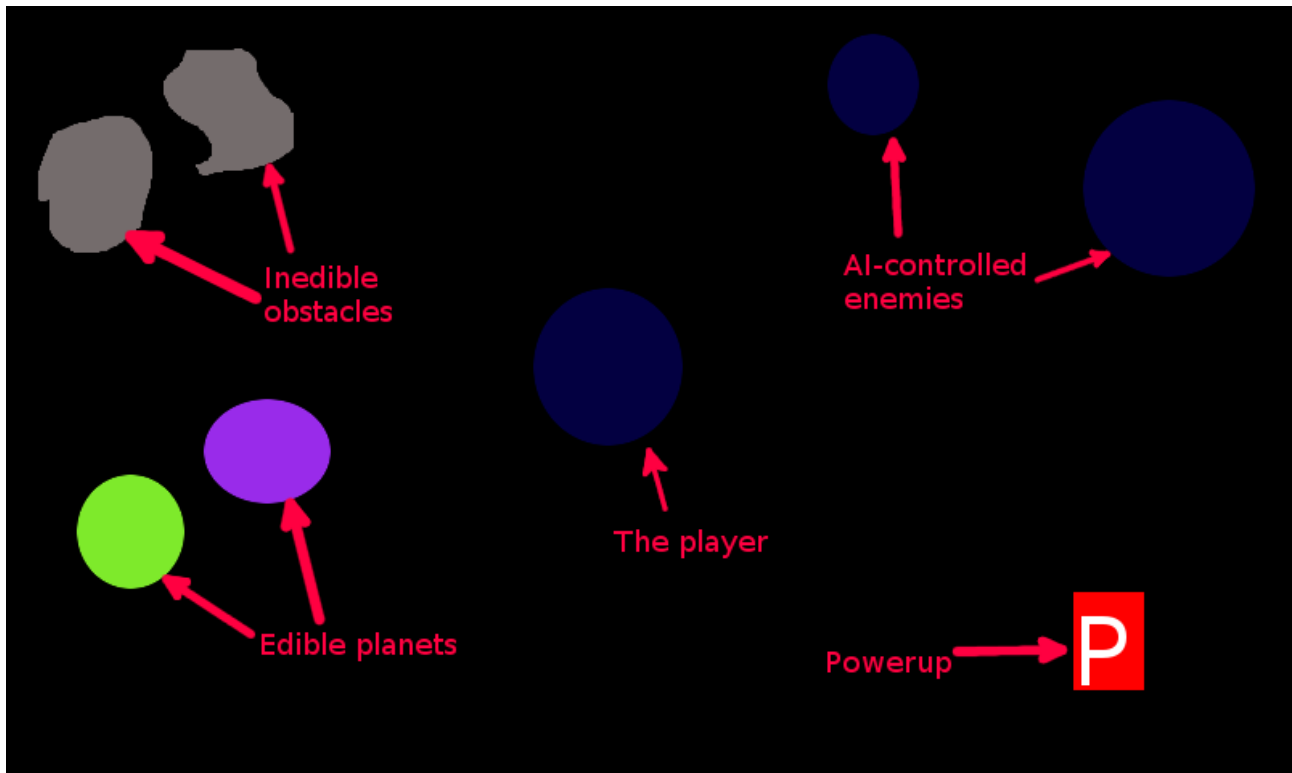
As this game is made for use on android devices, it needs to be playable on a wide variation of screen sizes(e.g **example**). The applications GUI will be fixed (you can't change the skin or theme).

## Appendix

### Use cases

See the odt files in the Document branch of the repo. Their names all start with “user\_case”.

## GUI Sketch



## Analysis Model