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# Revision History

# Project Description

## Introduction

## Context

## Business Goals

## Domain Model



As can be observed from the model above, our user is a Player. Player can play a Game on a Map of his choice and earn a Score. In a Game, Player purchases and places Structures on the Map. Structures act as defenses: they shoot Projectiles that damage Enemies which move along the Path. When an Enemy is killed, Player earns a given amount of Score Points that he can use to purchase Structures.

There are many types of Structures, Projectiles and Enemies. Each type has specific parameters that make it unique.

Player can also use Map Manager to manage Maps. Player can create, edit or delete Maps.

## Actors

Player is a User who plays the game.

# Functional Requirements

## Overview



## Use Cases

### Use Case: Enter Map Manager

**Successful Outcomes:** Primary Actor successfully enters Map Manager

|  |  |
| --- | --- |
| **Use Case Package** | Map Management |
| **ID** | UC-MM-01 |
| **Use Case Goal** | Primary actor enters Map Manager |
| **Actors** | Primary Actor: Player |
| **Level** | User Goal |
| **Precondition** | User has launched the game |
| **Domain Entities** | User, Player, MapManager, Map |

**Main Success Scenario:**

|  |  |  |
| --- | --- | --- |
| **Step** | Action | Notes |
| 1 | Primary Actor indicates intention to enter Map Manager |  |
| 2 | System launches Map Manager |  |
| 3 | System prompts Player to select desired map management options |  |

**Alternative Flows:**

|  |  |  |
| --- | --- | --- |
| **Step** | Action | Notes |

### Use Case: Create new map

**<<includes>> Enter Map Manager**

**Successful Outcomes:** Primary Actor successfully creates new map

|  |  |
| --- | --- |
| **Use Case Package** | Map Management |
| **ID** | UC\_MM\_02 |
| **Use Case Goal** | Primary actor creates new Map |
| **Actors** | Primary Actor: Player |
| **Level** | User Goal |
| **Precondition** | Primary Actor is using Map Manager (UC-MM-01) |
| **Domain Entities** | Player, Map Manager, Map |

**Main Success Scenario:**

|  |  |  |
| --- | --- | --- |
| **Step** | Action | Notes |

**Alternative Flows:**

|  |  |  |
| --- | --- | --- |
| **Step** | Action | Notes |

### Use Case: Edit map

**<<includes >> Enter Map Manager**

**Successful Outcomes:** Primary Actor successfully edits parameters of a map

|  |  |
| --- | --- |
| **Use Case Package** | Map Management |
| **ID** | UC\_MM\_03 |
| **Use Case Goal** | Primary Actor edits parameters of a map |
| **Actors** | Primary Actor: Player |
| **Level** | User Goal |
| **Precondition** | Primary Actor is using Map Manager (UC-MM-01). Map to be edited is initially valid (business rule). |
| **Domain Entities** | Player, Map Manager, Map |

**Main Success Scenario:**

|  |  |  |
| --- | --- | --- |
| **Step** | Action | Notes |

**Alternative Flows:**

|  |  |  |
| --- | --- | --- |
| **Step** | Action | Notes |

### Use Case: Edit scenery

**<<extends>> Edit map**

**Successful Outcomes:**

|  |  |
| --- | --- |
| **Use Case Package** | Map Management |
| **ID** | UC-MM-04 |
| **Use Case Goal** | Primary Actor edits scenery of Map |
| **Actors** | Primary Actor: |
| **Level** | User Goal |
| **Precondition** | Primary Actor is using Map Manager (UC-MM-01). Primary Actor is currently editing a map (UC-MM-03). |
| **Domain Entities** |  |

**Main Success Scenario:**

|  |  |  |
| --- | --- | --- |
| **Step** | Action | Notes |

**Alternative Flows:**

|  |  |  |
| --- | --- | --- |
| **Step** | Action | Notes |

### Use Case: Edit path

**<<extends>> Edit map**

**Successful Outcomes:** Primary Actor successfully edits parameters of path

|  |  |
| --- | --- |
| **Use Case Package** | Map Management |
| **ID** | UC-MM-05 |
| **Use Case Goal** | Primary Actor edits path |
| **Actors** | Primary Actor: Player |
| **Level** | User Goal |
| **Precondition** | Primary Actor is using Map Manager (UC-MM-01). Primary Actor is currently editing a map (UC-MM-03). |
| **Domain Entities** |  |

**Main Success Scenario:**

|  |  |  |
| --- | --- | --- |
| **Step** | Action | Notes |

**Alternative Flows:**

|  |  |  |
| --- | --- | --- |
| **Step** | Action | Notes |

### Use Case: Save map

**<<extends>> Edit map**

**Successful Outcomes:** Primary Actorsuccessfully saves currently open map

|  |  |
| --- | --- |
| **Use Case Package** | Map Management |
| **ID** | UC-MM-06 |
| **Use Case Goal** | Primary Actor saves currently open map |
| **Actors** | Primary Actor: Player |
| **Level** | User Goal |
| **Precondition** | Primary Actor is using Map Manager (UC-MM-01). Primary Actor is currently editing a map (UC-MM-03). |
| **Domain Entities** |  |

**Main Success Scenario:**

|  |  |  |
| --- | --- | --- |
| **Step** | Action | Notes |

**Alternative Flows:**

|  |  |  |
| --- | --- | --- |
| **Step** | Action | Notes |

### 

### Use Case: Delete map

**Successful Outcomes:**

|  |  |
| --- | --- |
| **Use Case Package** |  |
| **ID** |  |
| **Use Case Goal** |  |
| **Actors** |  |
| **Level** |  |
| **Precondition** | Primary Actor is using Map Manager (UC-MM-01). |
| **Domain Entities** |  |

**Main Success Scenario:**

|  |  |  |
| --- | --- | --- |
| **Step** | Action | Notes |

**Alternative Flows:**

|  |  |  |
| --- | --- | --- |
| **Step** | Action | Notes |

### Use Case: Start new game

**Successful Outcomes:**

|  |  |
| --- | --- |
| **Use Case Package** |  |
| **ID** |  |
| **Use Case Goal** |  |
| **Actors** |  |
| **Level** |  |
| **Precondition** |  |
| **Domain Entities** |  |

**Main Success Scenario:**

|  |  |  |
| --- | --- | --- |
| **Step** | Action | Notes |

**Alternative Flows:**

|  |  |  |
| --- | --- | --- |
| **Step** | Action | Notes |

### Use Case: Select map

**Successful Outcomes:**

|  |  |
| --- | --- |
| **Use Case Package** |  |
| **ID** |  |
| **Use Case Goal** |  |
| **Actors** |  |
| **Level** |  |
| **Precondition** |  |
| **Domain Entities** |  |

**Main Success Scenario:**

|  |  |  |
| --- | --- | --- |
| **Step** | Action | Notes |

**Alternative Flows:**

|  |  |  |
| --- | --- | --- |
| **Step** | Action | Notes |

### Use Case: Play game

**Successful Outcomes:**

|  |  |
| --- | --- |
| **Use Case Package** |  |
| **ID** |  |
| **Use Case Goal** |  |
| **Actors** |  |
| **Level** |  |
| **Precondition** |  |
| **Domain Entities** |  |

**Main Success Scenario:**

|  |  |  |
| --- | --- | --- |
| **Step** | Action | Notes |

**Alternative Flows:**

|  |  |  |
| --- | --- | --- |
| **Step** | Action | Notes |

### Use Case: Start enemy attack

**Successful Outcomes:**

|  |  |
| --- | --- |
| **Use Case Package** |  |
| **ID** |  |
| **Use Case Goal** |  |
| **Actors** |  |
| **Level** |  |
| **Precondition** |  |
| **Domain Entities** |  |

**Main Success Scenario:**

|  |  |  |
| --- | --- | --- |
| **Step** | Action | Notes |

**Alternative Flows:**

|  |  |  |
| --- | --- | --- |
| **Step** | Action | Notes |

### Use Case: Sell structure

**Successful Outcomes:**

|  |  |
| --- | --- |
| **Use Case Package** |  |
| **ID** |  |
| **Use Case Goal** |  |
| **Actors** |  |
| **Level** |  |
| **Precondition** |  |
| **Domain Entities** |  |

**Main Success Scenario:**

|  |  |  |
| --- | --- | --- |
| **Step** | Action | Notes |

**Alternative Flows:**

|  |  |  |
| --- | --- | --- |
| **Step** | Action | Notes |

### Use Case: Buy structure

**Successful Outcomes:**

|  |  |
| --- | --- |
| **Use Case Package** |  |
| **ID** |  |
| **Use Case Goal** |  |
| **Actors** |  |
| **Level** |  |
| **Precondition** |  |
| **Domain Entities** |  |

**Main Success Scenario:**

|  |  |  |
| --- | --- | --- |
| **Step** | Action | Notes |

**Alternative Flows:**

|  |  |  |
| --- | --- | --- |
| **Step** | Action | Notes |

### Use Case: Place structure

**Successful Outcomes:**

|  |  |
| --- | --- |
| **Use Case Package** |  |
| **ID** |  |
| **Use Case Goal** |  |
| **Actors** |  |
| **Level** |  |
| **Precondition** |  |
| **Domain Entities** |  |

**Main Success Scenario:**

|  |  |  |
| --- | --- | --- |
| **Step** | Action | Notes |

**Alternative Flows:**

|  |  |  |
| --- | --- | --- |
| **Step** | Action | Notes |

### Use Case: Load game

**Successful Outcomes:**

|  |  |
| --- | --- |
| **Use Case Package** |  |
| **ID** |  |
| **Use Case Goal** |  |
| **Actors** |  |
| **Level** |  |
| **Precondition** |  |
| **Domain Entities** |  |

**Main Success Scenario:**

|  |  |  |
| --- | --- | --- |
| **Step** | Action | Notes |

**Alternative Flows:**

|  |  |  |
| --- | --- | --- |
| **Step** | Action | Notes |

### Use Case: Exit game

**Successful Outcomes:**

|  |  |
| --- | --- |
| **Use Case Package** |  |
| **ID** |  |
| **Use Case Goal** |  |
| **Actors** |  |
| **Level** |  |
| **Precondition** |  |
| **Domain Entities** |  |

**Main Success Scenario:**

|  |  |  |
| --- | --- | --- |
| **Step** | Action | Notes |

**Alternative Flows:**

|  |  |  |
| --- | --- | --- |
| **Step** | Action | Notes |

### Use Case: Save game

**Successful Outcomes:**

|  |  |
| --- | --- |
| **Use Case Package** |  |
| **ID** |  |
| **Use Case Goal** |  |
| **Actors** |  |
| **Level** |  |
| **Precondition** |  |
| **Domain Entities** |  |

**Main Success Scenario:**

|  |  |  |
| --- | --- | --- |
| **Step** | Action | Notes |

**Alternative Flows:**

|  |  |  |
| --- | --- | --- |
| **Step** | Action | Notes |

### Use Case: View score

**Successful Outcomes:**

|  |  |
| --- | --- |
| **Use Case Package** |  |
| **ID** |  |
| **Use Case Goal** |  |
| **Actors** |  |
| **Level** |  |
| **Precondition** |  |
| **Domain Entities** |  |

**Main Success Scenario:**

|  |  |  |
| --- | --- | --- |
| **Step** | Action | Notes |

**Alternative Flows:**

|  |  |  |
| --- | --- | --- |
| **Step** | Action | Notes |

## User Story Conversion

## Business Rules

### BR type 1

### BR type 2

# Non-Functional Requirements

# Design Constraints

# Glossary

## Business Entities

|  |  |
| --- | --- |
| **Business Entity** | **Description** |
| Player | User of the application able to play games and create or edit maps. |
| Map Manager | System that allows Player to create new or edit existing maps. |
| Singleplayer | System that allows Player to play on existing maps. |
| Game | Description of the progress of Player playing Singleplayer. |
| Map | Visual and logical description of the game world on which Player can play on. |
| Path | Sequence of tiles on Map that Enemies are allowed to move along. |
| Score | Total score achieved by Player while playing Game. |
| Score Point | In-game currency that can be earned by eliminating Enemies and spent on purchasing Structures. |
| Structure | Purchasable defenses placed on Map by Player during Game. Structures shoot Projectiles at Enemies. |
| Projectile | In-game objects that damage and eliminate Enemies thus earning Score Points to add to Player’s Score. |
| Enemy | Physical objects that move along Path on Game’s Map and can damage Player’s base upon reaching it. |

# References