

IT-SEP4C-S18 – Serious Game

Project Report

# The Frangovers

## 

## Karolina Beliharova

## Marek Löwy

## (253810)

## (253652)

# Supervisors

## Kasper Knop Rasmussen

## Jakob Knop Rasmussen

Table of Contents

[Introduction 5](#_Toc515473116)

[Requirements 6](#_Toc515473117)

[Analysis 7](#_Toc515473118)

[Use case diagram 7](#_Toc515473119)

[Use case description 8](#_Toc515473120)

[Domain model 9](#_Toc515473121)

[Design 10](#_Toc515473122)

[Implementation 11](#_Toc515473130)

[Test 12](#_Toc515473131)

[Results and discussion 13](#_Toc515473132)

[Conclusions 14](#_Toc515473133)

[Project future 15](#_Toc515473134)

[Source of information 16](#_Toc515473135)

# Abstract

*The customer is the Insight Games, a Danish company that focuses on developing fun and educational games for use in companies as well as schools and universities. The company required a serious game for memorization training that will be developed for both mobile and pc platforms. The system is user-friendly and can be used by anyone who wants to play the simple lightweight game. A user can choose between playing a random level or the specific one. After the user starts the game, he runs around the maze and finds statues or specific doors and gets access to different minigames for brain training. After the user finishes the minigame he will get a key and can continue in the maze until he finishes the level.*

# Introduction

A game which can be used for educational purposes or spare time enrichment, has been known since around 2600 BC.

The project presented is based on a requirement from the Ensight Games company which came with a demand for a serious game for memorization thinking. They focus and develop fun and educational games for use in companies as well as schools and universities. The purpose is to create a user-friendly game that would help people with training their short-term memory. It should be in a form that is both entertaining and appealing to young people.

Main features of the game must include simple controls and clear rules. The game must be able to run on both PC and mobile platform.

# Requirements

1. A user should be able to use application on both PC and mobile platform.
2. The system should contain procedurally generated mazes.
3. The system should have different types of memory games for brain training.
4. The system should contain statues.
5. A user should be able to move by using game controllers.
6. The user should be able to access minigame by statues.
7. The system should have pexeso minigame.
8. The system should have Simon says minigame.
9. The system should have hidden object in room minigame.
10. The system should have Sailor puzzle minigame.
11. A user should be able to launch the application through the menu.
12. The user should be able to exit the labyrinth through the exit in the centre.
13. The system should have smooth animations to change scenes.
14. The system should have a least one character.
15. The user should have view from third person.
16. The system should be optimized.
17. A user should be able to easily quit from the game.
18. The system should have a story.
19. The system should have nice skybox.
20. The system should have more levels.
21. The system should give instructions to the player.
22. The system should have sound effects.

# Analysis

## Use case diagram

The following figure represents the Use Case Diagram for the system based on the above mentioned important requirements.

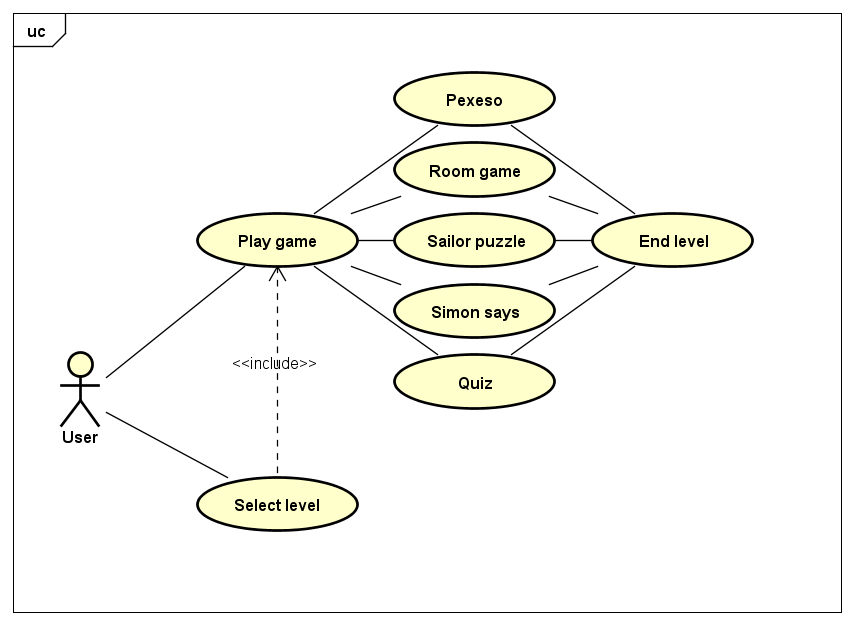


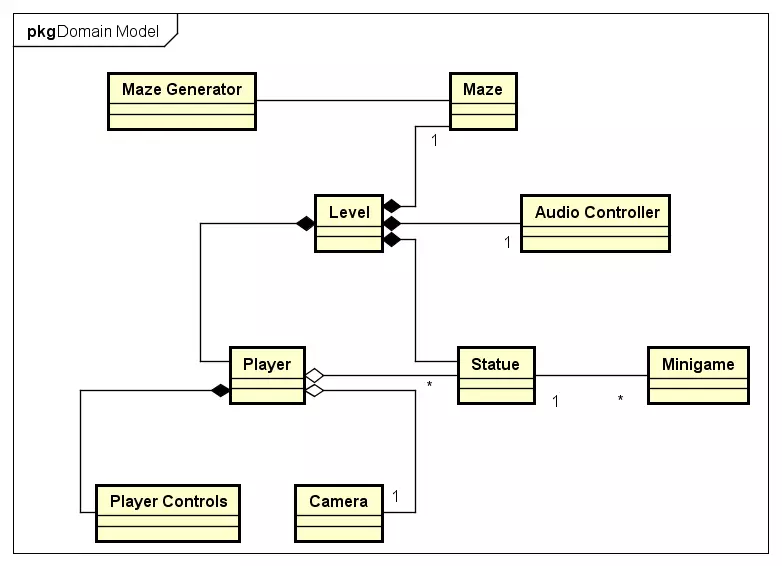
Figure : USE CASE DIAGRAM

When a user decides to play the game, the first level is loaded. In the game, the player navigates the labyrinth. While searching through the maze, the player encounters various statues, which lead to one of five minigames. One fire point is gained for completing each of the minigames. The player cannot end level until 5 fire points were collected.

## Use case description

## Domain model

The game will contain player, which will be controlled by the user and will contain the camera. The player can interact with statues, through which access to minigame is granted. Labyrinths will be generated using Maze Generator. The level contains Player, Maze, and the audio controls.



# Design

We have decided to make a game, which will be appealing to young people and will convince them to train their memory. We will use Unity 5 to implement it since it is game engine we are most familiar with and will suffice our needs. We will make a 3D game with third-person controls. We have decided to do so because this type of games is quite popular in young generations and will help us in engaging them to play.

## Architecture

## Technologies

## Design patterns

## Class diagrams

## Interaction diagrams

## UI design choices

## Data model

# Implementation

# Test

# Results and discussion

# Conclusions

# Project future

# Source of information