

IT-SEP4C-S18 – Serious Game

Process report

# The Frangovers

## 

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# Group Policy

This is the group contract between members Karolina Beliharova and Marek Lowy for their 4th semester project. All statements in this contract are filled, signed and agreed on as a team.

Communication

When the group member does not understand a concept or solution he will ask another group member for help. Group member must communicate with others about any concerns regarding to group work. Each member of the group will be active in all aspects.

Meetings

The meetings will be held either at the university or at one of the group members’ home. The place depends on the agreement from previous session. The time of the meeting will be set during the previous session too. The changes can be made only if the new time and place of the meeting will be announced at least few hours before the meeting. The meeting will be held with specific task in mind.

Deadlines

Each member will work on group task collaboratively and on what he is allotted to do and must respect deadlines. If any member of group is struggling with any task he must say it to the rest of the group. If somebody does not work on the tasks repeatedly, the penalty decided by group members will be given.

The absence

The absence during the meetings will be excused only with the reasonable explanation such as health issues, personal problems, etc. Continuous absence will be discussed in the group and supervisors and the possible consequences are: a member will get yellow card; a member will get red card and therefore will be withdrawn from the group with notifying the supervisors.

# Introduction

The purpose of this project is to develop a game that will help people with training their memory. It should do this in a form that is both entertaining and appealing to young people. The project has been developed by a group of young people interested in games with help of experienced supervisors and on requirement of Ensight Games company. Our group, called The Frangovers, we have worked on this project 20 days almost every day and the time of meetings have been agreed on always one day before. The process of the game has been going well without any troubles.

# Group description

Our group consists of two members, Marek and Karolina. We have decided to work together since we have worked on several projects together already, and we feel like we are compatible together and our strengths complete each other. Marek is great at complex task planning and has a good idea of what is going on, while Karolina boosts overall mood and brings energy with her. Marek is good at programming but sometimes lacks attention to details and aesthetics, for which Karolina has no blind spots. Karolina is great at level designing and ideating, while Marek can always come up with pros and cons for the argument. Marek is also skilled in different frameworks than Karolina, which makes splitting tasks between each other much easier. Our combined skills result in balanced workflow, with both design and effectivity in mind. Our friendship makes teamwork also very easy. Having known each other for two years now, we both know other one's full skill set, which makes evaluating tasks and ability to solve problems easy. Since both Czech and Slovak languages are almost same, we have language advantage in a way that we solve arguments fast, without a need to explain ourselves too much. We are both very optimistic, openminded people, which helps us sustain good group atmosphere. We have also very similar interests, which helps us with time planning; we spend some of our free time together, during which we can discuss project matters without any problems. Having this good of a compatibility boosts our motivation and confidence even more. We know that we can openly discuss any issue without worrying about offending each other. We are both honest and straightforward people, so being able to discuss openly is important for our group work.

# Project initiation

BUSSINES CASE AND STAKEHOLDERS

Ensight Games asked us to develop a serious game for memorization training. We have decided to focus on young people in this project and make a serious game which will make memory training fun to do, while still being effective. Since young people don’t find traditional memory training funny, we will make a game in which they have to explore labyrinths and find their way around. In those labyrinths, they will encounter several tasks they have to solve in order to progress to next level. Those tasks will the memory training part of the game.

PROJECT ORGANIZATION

Our team will consist of two members, Marek and Karolina. We will use SCRUM framework to organize our time during the project. Marek will be the SCRUM master, since he already has experience in being one, and Karolina will be the product owner because she is great at planning and seeing small details which we might not see otherwise.

PROJECT RISKS

There are several risks during this project. One of them is timescale, we will have 20 days to finish a game which might not be enough. Another risk is work, some team members might have less time to attend meetings due having to go to work. We were also asked to make the game for both PC and mobile devices. We have never done mobile game, which could potentially make the project harder than it seems now.

TIMESCALE

We will make this project in 20 days. Those 20 days will be split into 6 three-day long sprints, with 2 days left for beginning planning and finishing touches.

KEY DELIVERABLES

We will deliver a serious game focused on memory training. This game will be made using Unity 5. The game will run on both PC and mobile platform.

# [[1]](#footnote-1)Project description

DEFINITION OF PURPOSE

The purpose of this project is to develop an application that will help people with training their short-term memory. It should do this in a form that is both entertaining and appealing to young people.

PROBLEM STATEMENT

We want young people to have fun in their free time while still getting some benefits in terms of short-term memory improvement.

Today, young people see memory training exercises as boring and unattractive. We need to find a way to change this. We need to find something that will help them train their short-term memory in a fun way. We need to make this solution available for them at almost any time, whether they are home, or bored outside. We need to make this solution appealing to them, while keeping it effective.

DELIMITATION

This solution can be used by only one person at the time. The solution will be made only on computer and mobile devices. The solution won’t necessarily improve long-term memory.

# Project execution

## Product backlog



Figure 1: Product backlog

## burndown chart

## 

Figure 2: burndown chart

## Sprint review 19/05/2018

### 100% work done:

* Algorithm for generating labyrinths has been implemented and tested. Group contract and Abstract were written

### changes and requests: none

### Product Backlog after this sprint:



Figure 3: sprint review 19/05

## Sprint Retrospective 19/05/2018

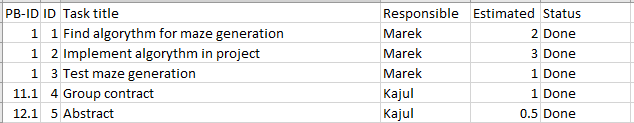


Figure 4: sprint retrospective 19/05

During this sprint we have set up the scrum files. We planned on how to solve problem we were given and decided to create a game where user runs through the maze and can encounter several statues, which will give him one of several types of minigames to train memory. Maze generating algorithm called “Hunt & Kill” has been selected and implemented in the project. Some documents were also written.

## Sprint review 22/05/2018

### 100% work done:

* Maze design finished
* Nice skybox has been added
* Several documents in both project and process report
* Temple in the center of the maze was built to exit the labyrinth
* Pexeso minigame

### changes and requests: none

### Product Backlog after this sprint:



Figure 5: Sprint review 22/05

## Sprint Retrospective 22/05/2018



Figure 6: sprint retrospective 22/05

During this sprint, we have focused on making the labyrinth look nice. We have made walls with a bush like textures and nice pavement on the floor. We have also added nicely looking skybox. We have decided to make an exit from the maze looking like a small temple, which we then made. First of memory training games has been implemented, pexeso. We have decided to use the cards given to us by Ensight games. The last day we have also been working on the documentation part of the project.

## 

## Sprint review 25/05/2018

### 100% work done:

* Fade in and fade out animations
* Statue interactions

### changes and requests:

* Request to leave this sprint almost empty was made, because all team members needed time to work on .Net project.

### Product Backlog after this sprint:



Figure 7: sprint review 25/05

## Sprint Retrospective 25/05/2018



Figure 8: sprint retrospective 22/05

During this sprint, we have implemented fade in and fade out transitions between scenes. Statue interaction script has been implemented also.

We have decided to leave this sprint relatively empty due to .Net project deadline.

## Sprint review 28/05/2018

### 100% work done:

* Simon says minigame
* Find hidden objects minigame
* Sailors puzzle minigame
* Menu
* Third person view
* Use case diagram and description
* Domain model

### changes and requests:

* After discussion at the beginning of the sprint, we have decided to use imported third person character in the final solution, because we thought it will look better. Some time will be saved if we don’t have to redo the game with new first-person view.

### Product Backlog after this sprint:



Figure 9: sprint review 28/05

## Sprint Retrospective 28/05/2018



Figure 10: sprint retrospective 28/05

During this sprint, we have found, and imported Simon says minigame into our game. We came up with an idea to make minigame where the player has to find a route on a map using old sailor’s diary. This idea has been taken from the game The Room 2. We have decided that it will be better to have third person view instead of the first-person view. The menu for the game has been implemented and designed. Minigame to remember and find hidden objects in the room has been implemented. Use case diagram and description with domain model have been made.

## Sprint review 31/05/2018

### 100% work done:

* Design documentation
* Quiz minigame

### changes and requests:

* After supervisor meeting, we have decided to edit some parts of our previously done documentation. We have also decided to reestimate time need in some product backlog items. Besides this, we have implemented quiz minigame and finished design documentation.

### Product Backlog after this sprint:



Figure 11: sprint review 31/05

## Sprint Retrospective 31/05/2018



Figure 12: sprint retrospective 31/05

Introduction and analysis documents were edited during this sprint. Quiz minigame was implemented. All diagrams and descriptions for design documentation were created.

## Sprint review 03/06/2018

### 100% work done:

* Sound effects
* Optimization
* Second level
* Project report documents
* Process report documents
* Testing of requirements

### changes and requests: none

### Product Backlog after this sprint:



Figure 13: sprint review 03/06

## Sprint Retrospective 03/06/2018



Figure 14: sprint retrospective 03/06

During this sprint, we have done all the final touches to finish the project and have it ready for hand in. We have implemented sound effect for the fire in the next level temple. We went through the files in the project and sorted them into corresponding folders. Scripts were checked for following SOLID principles. The second level has been created and implemented. Implementation, testing conclusion and project future parts of project report were written. Initiation and project description from process report was also written. Scrum files from all the sprints were merged into process reports chapter, project execution.

# Personal reflections

## Karolina

This was for the third time I was working on the semester project. Even though I had already worked on projects last years, this one was different. I have decided to work with Marek since I already knew he is skilled, highly motivated and my friend. Our friendship made teamwork easy. We combined our skills and it led to well-going and effective work. I have to say I have learnt a lot from this project. It was for the first time we were developing the game by using Unity. We were supposed to create a serious game for memory training. We agreed on the idea to make a labyrinth together with minigames inside. It was challenging but we were prepared to overcome obstacles. We split tasks between us and worked on it almost every day. When one of us was struggling with some problem or decision, we both looked at it and helped each other. Marek is skilled in programming more than me, so I have asked him several times for advice, then we were able to manage it together and I have learnt from mistakes. However, when none of us knew what to do, the supervisors were always willing to help. Whenever we needed help, get advice or just talk about ideas, they were here for us with great passion.

I really enjoyed generating a random maze when I was creating the second level. Sometimes I could spend a lot of time on working until I am satisfied even when it came only to design. I liked creating those minigames, which are inside the labyrinth since I have learnt some new stuff by playing which is always fun. Besides entertainment from programming, I enjoyed working with my friend. We had a lot of fun while testing and playing around. We met several times for teambuilding as well.

On the other hand, I have found hard to make the game for mobile. First, it seemed like something we could have done in the end quickly but then we struggled with a problem during building the game for mobile. After all, we have found out that we had built errors from scripts we have imported and were crucial for our project. The main problem was the imported third-person character. The project worked fine on the computer, but when we tried to build it for Android, we got some errors we could not solve. It would mean redoing the player, which would require a significant amount of time. We noticed that too late and we have not had enough time to fix it.

In conclusion, I have learnt a lot from this project. I had an opportunity to work on the case for a real company with the specific requirement. I have improved my game development skills and scrum as well. It was a great preparation for bachelor project.

## Marek

This semester I have decided to work with Karolina on semester project. We have worked together since the first semester, so it is natural for me to work with her. We were supposed to make a memory training game. We came up with an idea to mold this requirement into something we could have fun working on, so we oriented our solution on young people. We came up with the idea to make a game which will make training memory fun for young people. Since we also count as young, finding a way to do this wasn’t hard at all. We decided to make a maze solving the game, in which we included 5 minigames aimed at different parts of memory training. I was responsible for finding an algorithm to generate the maze and building the first level. I have done some research on different approaches in maze generation and found one, which I liked, Hunt and Kill. I have built the first maze. It was the time to find some nice assets for our game. We have searched for statues specifically since our maze had bushes as walls. After finding the statues we started implementing all the minigames.

I had a lot of fun during this project. Firstly, because I was working with my close friend and our teamwork is very synchronized. Next reason being the actual game development. I like making games, and this semesters idea was quite fun I think. I enjoyed playing around while testing the game, also, it was a lot of fun when we messed up and something hilarious happened.   
One thing however that I have found hard, was making the game for mobile. At first it seemed as a piece of cake to make it; however, when we finally have gotten to it, we have realized that we had built errors from scripts we have imported and were crucial for our project. Main issues came with the imported third-person character. The project worked just fine on the computer, but when we tried to build it for Android, we got some errors we couldn’t solve. This meant redoing the player, which would require a significant amount of time. We noticed this too late and haven’t had enough time to fix it. And even though we have fixed the build error in the end, the way the camera is made in the imported scripts makes it far too hard to implement joysticks. Therefore, we haven’t made any mobile version.

Overall, I have gained a lot from this project. I had an opportunity to work with scrum and improve my game development skills. I have tried how is it to work on a project for a real company, and how to mold very general task given into real problem formulation, by which I mean turning memory training game into the specifically oriented game with a certain intention.

# Supervision

Throughout the project period, we had 2 meetings with our supervisors - Kasper and Jakob, one meeting with another supervisor - Mona. One meeting was necessary at the beginning since we needed to deeply understand the case and consult our ideas.

In the period of working, we needed to schedule the meeting with supervisors again. We had a lot of questions about our system and documentation as well.

At every meeting, the supervisors were willing to help and give us useful advice for every task. The supervisors were not available all the time, but we could easily communicate with them via email since they responded immediately.

SUPERVISOR MEETING 22/05/2018

The purpose of this meeting was to get feedback on our idea for the game. We received recommendation and opinions about our Analysis part mainly Use Case Diagram and Use Case Descriptions. After this meeting with our supervisors, we were able to start with Design part and start implementing the system.

SUPERVISOR MEETING 31/05/2018

The supervisor gave us advice about format and structure of our documentation. Consultation of Design part and testing. We obtained information how to deal with problems in our documentation.

SUPERVISOR MEETING 06/06/2018

The last meeting with supervisors was basically about presenting our game, talking about problems and implementation. We got some advice what we should improve next time.

# Conclusions

Our group consisted of two members, Marek and Karolina. We have worked on several projects together already and again, during this project, our strengths completed each other. Combination of our skills led to the result of effective and well-going work. Since we are both optimistic, open-minded people, it helped us sustain good group atmosphere. We openly discussed all issues without worrying about any conflicts. We are both honest and neither of us has a problem to admit a mistake, which made our work easier. One problem in our group was, that we both forgot about one more supervisor meeting and we missed advice that we could have gotten. We are both reasonable, so it was not on purpose, but next time, we must keep eyes on a schedule of meetings better.

1. For Project Description see Appendix B in Project Report [↑](#footnote-ref-1)