

PROJECT DESCRIPTION

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IT-SEP4C-S18 ICT ENGINEERING

4TH SEMESTER

17/05/2018

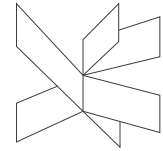
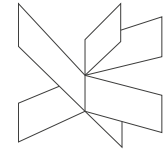


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Appendices (including Group Contract)

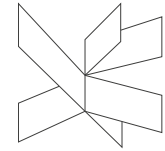


1 Background description

“The art of memorization is a learned skill. Some can do it easier than others, but it does take practice, determination and focus. Memorizing skills are an art of their own, acquired with the desire to improve your ability to recall the information you want to keep, as well as focusing on certain details that may be useful in the near or distant future. The art of memorization is often referred to as ‘mnemonics’, a method of recalling information that may either be difficult to remember, or of great importance. The most vital principle behind mnemonics is to make use of as much of your brain as possible to setting up a code to process the information.” (The Art of Memorization - Memorise, 2015)

For example, the mnemonic technique for the number of days in each month of the Gregorian Calendar. Each knuckle of your hand can be represented as a 31-day month, this making easier not only the memorization of months, but also serves as a great example for how we can use the environment to our advantage for better remembering and other purposes. They help use information already stored in long-term memory to make memorisation an easier task

There are many theories as to how to make memorizing easier, such as purchasing a CD on memory training; employing a memory expert to help you with the basics; or you can take classes in speed reading and other memory techniques. For our project, we have decided to create a “Memorization Training” game based on the concept of using your own environment to remember details, thus reaching certain goals. The process of



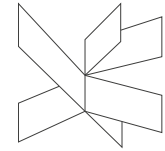
implementation will be further improved by using the well-known Unified Process model for the entire duration of our project.

As described in the previous paragraphs, we want to raise awareness for the fact that memorizing is not as difficult as it may seem if you keep working and training your brain. It requires a certain level of practice and understanding of your mental capacities to fully develop a good memorization mind. The main concept of our game is the following: the player must make his way through a “natural labyrinth” (a maze in a forest or park) to get from one exit to another. Upon reaching the desired destination and completing a random mini-game / cutscene, the player will be asked to return to the original starting position in a very limited amount of time.

2 Definition of purpose

What is the purpose of the project?

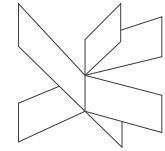
The purpose of our project is to create a Memorization Training activity in the form of an interactive game for phones / tablets. The game is to be created in the Unity game engine and have all the requirements set by our stakeholder Ensign Games.



3 Problem Statement

The main point of interest in this project is finding a way to balance a learning activity with an entertainment activity. We want our player to be put in a position that, in one way or another, simulates an event that may occur in real life. Thus, some questions must be asked about the core mechanics of the game before proceeding with additional information and assets:

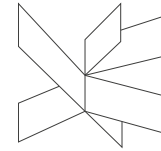
- * How to make the game fun and enjoyable for the user while making it a memorization training activity?
- * How to make the system organized – in a way that we or anyone with C# or Unity experience can understand and modify the classes we've used?
- * How to make the system scalable – e.g. from a set number of already-made levels to a custom / randomized maze every time you start a game?
- * How to improve the quality of the mechanics with interactive gameplay events – e.g. such as being able to leave hints on the ground to remember on your way back?
- * How to estimate an average difficulty level for each map / scene and make it customizable based on own preferences or performance?



4 Delimitation

There are a few considerations that must be put into light before proceeding with the implementation of a game of such concept. As we previously mentioned, the game has to be made in the Unity game engine, with compatibilities focused on existing mobile technology. The target audience also plays a part in the design and philosophy of the gameplay, in our case being on a wider range than anticipated (from children to teens, to elders etc.) and so on. The following delimitations have to be made in this case:

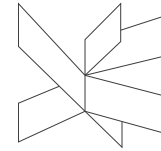
- The game will not be compatible on devices other than phones and tablets (exclusive mobile technology).
- There will be no mid-session saving as each level will vary in duration from 5 to 10 minutes maximum.
- The application will not be giving feedback on player performance or change difficulty automatically.
- We are not inventing new types of gameplay designs, we are just improving already existing ones into one complete package that attracts many different types of users and teaches them useful patterns of memorizing, while making it a fun experience.



5 Choice of models and methods

For this project's purpose, we have decided that combining assets from Ensign Games with our own assets, together with powerful C# code scripts would be a good foundation of the application. We want to be able to solve all the existing issues mentioned in the Problem Statement, thus it is essential to use Unity's capabilities as wise as possible. The game focuses a lot on exploring the maze, analyzing and remembering certain parts of it in order to remember the correct path on your way back to starting zone, so a high level of details is necessary.

<u>Problem Analyzed</u>	<u>Reason of Analyzation</u>	<u>Possible Solution</u>
How to make the game fun and enjoyable for the user while making it a memorization training activity?	This is the core reason as to why we are making this game, thus it is essential in understanding how we can make it work.	The map layout of each level must contain assets that help the player in completing the game. Easy-to-use controls.
How to make the system organized?	It is important to make the code easy to understand	Documentation of code and precise readme file
How to make the system scalable?	We do not want the game to get boring / repetitive	A leaderboard system or randomly generated map
How to improve the quality of the mechanics with interactive gameplay events?	The game must attract the player with well-thought mechanics that challenge the player in many ways	Using C# scripts to have interactive mini-games and charged abilities. A lot of testing required.
How to estimate an average difficulty level for each map / scene and make it customizable based on own preferences?	If the game is too simple, then it will not be helpful in memorizing. If the game is too hard, it will be unplayable and useless in the memorizing scope.	Testing the game before release will be made using debug scenes. Also, the player will be able to choose levels based on difficulty level.

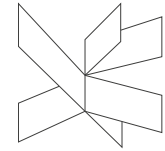


6 Time schedule

The project is planned to take up to 280 working hours (140 per member on average). This will be done by having daily meeting on working days of the week, as well as weekend meetings if necessary. Each task will be evaluated and completed based on different factors, such as time needed to solve the necessity, the difficulty of the task and the amount of theoretical preparation (studying) required beforehand.

<u>Phase name</u>	<u>Starting date</u>	<u>Finish (estimated)</u>
Inception	10/05/2018	17/05/2018
Elaboration	18/05/2018	23/05/2018
Construction	24/05/2018	01/06/2018
Transition	04/06/2018	06/06/2018

Inception phase lasts from 10/05/2018 to 17/05/2018. After that comes the Elaboration phase, which can only be estimated to end on 23/05/2018 and will be followed up by Construction phase. Same as previous phase, its deadline is only estimated to be on 01/06/2018, after which starts the Transition phase, and it will be finished on the final deadline, 06/06/2018.

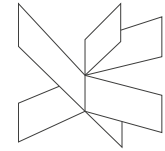


7 Risk assessment

To increase the success rate of the project, every member of the group must be aware of the common risks, likelihood and severity of their actions on correlation to others. We have come up with the following Risk Assessment matrix to help us identify and control these factors.

<u>Description</u>	<u>Likelihood</u>	<u>Severity</u>	<u>Prevention</u>
Member being late or not showing up for a meeting or important deadline	8	5	Making sure everyone knows when and where we are meeting up
Computer errors or unresponsive files (human errors)	6	7	Taking backups of code parts, online documentation
Focus shifting from important deadline assessments to less essential features	5	8	A very precise agenda or time schedule for every meeting
Clash of ideas or misunderstandings That disorder the implementation	7	6	Strong understanding of each other's preferences and ideas by socialization

Note: scale 1-10 (1 lowest,10 highest); Every member is responsible for the risks.



8 Sources of Information

Every source of information other than from our own work will be listed here. These may include book chapters, reports, patents, pdfs, standards, interviews, dissertations, conference proceedings and peer reviewed papers in scientific journals. Due to questions often asked about objectivity, newspaper articles, brochures and web addresses are often used sparingly as well.

Anon 2015. *The Art of Memorization - Memorise*. [online] Available at: <<http://memorise.org/memory-training/art-memorization>> [Accessed 12 May 2018].

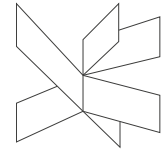
Anon 2018. *Try Your Mind at a Memory Challenge*. [online] Available at: <<http://www.readersdigest.ca/health/healthy-living/try-your-mind-memory-challenge/view-all/>> [Accessed 13 May 2018].

Anon 2018. *Unity - Scripting API*: [online] Available at: <<https://docs.unity3d.com/ScriptReference/>> [Accessed 16 May 2018].

Unity Assets Store (Mendeley access denied)
<https://assetstore.unity.com/>

SGM PowerPoint Slides from Studienet Course Material

Project Description Guide from Studienet



Appendices

Note: all appendices related content will be found in the Appendices folder in our project zip folder (hand-in file on WF)

Group Contract

The group was created under predetermined conditions and rules made by the members.

Group members: Andrei Enoiu, Oleg Eni.

1.1 Group rules and conditions:

1. Always be present when a meeting is arranged, if not hindered by anything serious.
2. Always do the tasks that are assigned to you by the group.
3. If a member of the group need help with any of the tasks assigned to him, he should search for help from the other members.
4. Group member should always actively make suggestions and otherwise strive to improve the project.
5. Always keep in contact with the group via Skype, Facebooks etc.

Andrei Enoiu

Adu

Oleg Eni

Oleg
