HANGMAN PROJECT

Name: Khalil Mardini
Linnaeus University
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Revision History

Date	Version	Description	Author
2020-02-02	01-200	For making the first iteration, on a different level such as the vision, Personal reflection, project plan, the structure of the hangman game and finely the risk analysis	Khalil Mardini
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General Information

Project Summary	
Project Name	Project ID
Hangman Game	01.200
Project Manager	Main Client
Khalil Mardini	Linnaeus University
Key Stakeholders	
1. Project Manager 2. Developer 3. End-User	
Executive Summary	
The main goal of this project is to construct the hangman game from the scratch, The user needs to select different alphabetical English letters to complete the missing words which is done through multiple attempts of guessing. The player will have to two choices, Play Game or Exit game. If the user wins or lose the score will be displayed based on the correct guesses followed by a congrats message and at the end of the game the player is asked either to play again or exit.	

Vision

Hangman is one the most popular games. It can be created by many different programming languages such as C++, python, JavaScript ,etc. since Java language is the most common programming language that majority of developers use in creating such games, so in this project the java language will be used to achieve the goals of the project.

The whole thing behind this game is that after the developers implement all the fundamental actions of creating the game, the user should guess a certain word by entering various letters. Varies words will be presented to the to the user to guess. Consequently, the user must select the correct letters in order to win the game with the deserved score. As a result, the game will be more exciting and challenging for the user since there are bunch of difficult words to guess.

The game will be already having a loaded list of words in English language, The wordlist contains various collection of words such as easy words (short word length) and long word length
As a result, this will make the user face new challenges every time the game is played with more fun.

Personal Reflection:
Creating the hangman game helped me in improving my way of thinking especially when it comes to planning the scenarios of the game as well as my software design and coding skills. I faced some difficulties at the beginning since it's the first time to deal with such kind of project, and due

to the lack of time and the project process was not clear for me at the beginning. Hopefully by using beneficial resources such as Udemy, Stack overflow, YouTube, and Java API it helped me in improving my way of thinking and in solving certain issues related to coding and designing my software project.

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Project Plan

Hangman project planning will go through 4 different steps. Firstly, game clarification and specification will be illustrated to the reader, by showing how the game works and to provide the rules and the game instruction that need to be followed by the end user. Secondly, its to come up with new ideas and approaches regarding upgrading the game and adding new features apart from the one that already exist in the current version of the game. thirdly, the hangman game will be implemented on language Java, by generating various classes and methods and other programming which leads to accomplish the game basis. The basic idea of Hangman is that the player is going to guess a word by suggesting letter after letter. The player is presented with the number of letters in the word but for every wrong guess, the system builds an element part of a man getting hanged. The number of wrong attempts that the player can commit is six, the scratch figure for the hangman in the system will be displayed using these description and symbols (ground, vertical pole, horizontal pole, head, body, left arm, right arm, left leg and right arm or similar).

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4.1 Introduction

The Hangman game will be manufactured and designed to enable the user to guess the missing correct letters from the pre-defined word list. The player should find the missing letters depending on the luck.

4.2 Justification

The main task of the Software Technology course(1DV600) is to illustrate how the hangman game is being reconstructed and designed as well as to teach the essentials uses of the software development and enhance the planning and coding skills.

4.3 Stakeholders

User: The user will be experiencing all the scenarios of the game and all the provided features by the game developer, to ensure that all the functions are working perfectly
so, the user in either can win or lose.

Developer: The duty of implementing the fundamental features of the game and to test the codes to ensure the stability of the game and to avoid software glitches.

End-User: is the person who utilize the product after it has been modified and developed so he/she can start playing the game and experience it.

4.4 Resources

The game creation will be based on various resources, but mainly it will be Java programming language, since it is easier to create the hangman game using this language and helps in structuring the game events, the platform that will be used is Java API
https://docs.oracle.com/javase/7/docs/api/

4.5 Hard- and Software Requirements

The foremost valuable programming environment is the IDE. So, the program will be made in IntelliJ IDEA.

4.6 Overall Project Schedule

- Iteration 1 – (week 5), 2020-02-02
- Iteration 2 – (week 12), 2021-03-25
- Iteration 3 – (week 21), 2020-05-30
- Final Iteration – (week 12), 2021-03-28

4.7 Scope, Constraints and Assumptions

The primary objective for this task is to make a simple game where the player must fill out the empty blank spaces by picking the missing letters. Therefore, the player will be confronted with two messages toward the start of the program that are "welcome to the Hangman game" and "Are you prepared to start?", that occurs inside the game. Two options will be displayed “Play game” and “Exit game” accessible for client to choose from and to make the game more challengeable and entertaining for the user.

Iterations

The project in this course will be accomplished in 4 different iterations. The developer in this case is required to update and come up with new features and implement them in the hangman game, all that will be covered in the 4 stages of iterations which are mentioned below.
In the last stage, the developer should merge all the stages together so that then it will be ready to be delivered to the client to try the product.

5.1 Iteration 1

In this iteration will be the start point for the project, the project developer is required to the set a plan for this stage and determine how the game will be created.
The necessary classes will help in creating the game that will be implemented. The most essential classes that will be used are the scanner and the array list. Scanner class will enable the user to enter the input for playing the game. The developer will write a code to create welcoming message to the player and ask the user whether to begin the game by selecting in between 2 options (Yes or No). so, to find the missing letters, the developer is required to create a predefined list of words and a list of digits. This can be done by establishing array that contains list of words in English language. More features and modification will be added in the next iterations.

5.2 Iteration 2

In the second iteration, all the fundamental features have been added to the game from the first iterations. So the game will start by showing the welcoming message so that the user will choose whether to play the game by selecting between (Yes or No).if the user chooses yes , then the player will start the game by guessing the correct word through inserting the potential letter in the dotted line represented as (_ _ _ _ _ _), the player will only have 6 attempts for guessing the correct letter , if the player exceeded the 6 attempts the hangman figure will be displayed and built completely with a game over message.
Consequently, after finishing from playing the game, the player will be directed to a stage where the result will be displayed and ask if the player wants to play one rounder.

5.3 Iteration 3

Invoking the test cases to help the developer of the game to ensure that everything is working properly and to avoid worse scenarios by estimating that everything is implemented perfectly.

5.4 Iteration 4

The game will be delivered to the client according to the client wishes and the required specifications.

Risk Analysis

Generally, every project might face risks and obstacles on its way, so the developer should be aware of the worst case, have backup plans and tactics to avoid any potential risk , due to that, the chapter called project management (22) in the Software Engineering book , this chapter illustrate the main risks that might encounters the project and the safety steps that should be followed to avoid the risks, it also provide useful tips to the project managers to minimize the impact of the risk.

6.1 List of risks

Risk identification and management are the main concerns in every software project. Effective analysis of software risks will help to effective planning and assignments of work.

- **Time**: The time required to develop the software is underestimated and can lead to unwanted errors
- **Lack of experience and knowledge**: It is impossible to recruit staff with the skills required, since not all the developers have the same level of knowledge.so that can lead to delay in delivering the project.
- **Tools:** The code generated by software code generation tools is inefficient and Software tools cannot work together in an integrated way
- **Programmatic Risks:** Running out of the fund, changing customer product strategy and priority and Government rule changes all that can badly impact on the development of the project

6.2 Strategies

Prepare for the risks by having strategies for avoiding the risks as well as minimising the impact of them if they do occur.

- **Preparing rescue plan**: saving and uploading all the sensitive data and critical files in a safe particular platform such as (Gitlab), Therefor, it will be easy to retrieve in any worse case.
- **Using Previous experience**: can improve the acceleration of the project process and planning for he project efficiently ,avoiding catastrophic errors and helps in delivering the project at the scheduled time.
- **Defective components:** Replace potentially defective components with bought-in components of known reliability.

Personal Reflection:
The fact that the code is still on its first stages of its implementation so not too many features were included, so based on that, the number of potential risks would not be huge, so the risks and strategies which were mentioned in this report are the most common to occur in the process of building the project. So the way I used to prevent the potential risks is by gaining more experience in the way how to structure the project and to well plan it.

Type	Completion time	Date of completion
Vision	30 min	2020.02.01
Project Plan	5 hours	2020.02.01
Iteration (1)	3 hours	2020.02.01
Risk Analysis	2 hours	2020.02.01
Scope	20 min	2020.02.01

10 Time log

	Actual time dedicated	Assumption	Overview	Deadline
Iteration 1	1 days	2 days	The first plan for structuring the skeleton of the code and a general overview about how to initialize the critical steps for creating the hangman game.	2020-02-02
Iteration 2				
Iteration 3				

Handing in

All assignments have a number of files to hand in. The overall advice is to *keepitsimple*. Make it easy for the reciever to understand what the files are by using *descriptive* file names. Use as *few* separate documents as possible. Always provide a *context*, that is *do not* send a number of diagrams in “graphics format”, but always in a document where you provide the purpose and meaning of the diagrams. Remember that the “reciever” is in reality a customer and as such has very little knowledge of the diagrams and documents – always provide context that make anything you hand in understandable to a non-technical person.

To hand in an assignment, make a git release and hand in the link via Moodle to that release.