

SOFTWARE DEVELOPMENT

Project Topic: Hangman

Assignment 1

-Vision, Project Plan and Iterations

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3. Vision

General Information: The given project is based on a game called 'Hangman'. Hangman is a fun guessing game which can be played by one or more players and it is not age-restricted. In this game, a person thinks of a word or a phrase of text in his mind and the player must guess that word or phrase. There are limited number of chances or guesses for the user to make, depending on how many parts are used to hang the man (ground, vertical pole, horizontal pole, head, body, left arm, right arm, left leg and right arm or similar). The user guesses each letter from the word at a time. The word or the piece of text to be guessed is in the form of empty blanks or special characters like *, _, etc. If the user guesses the correct letter the number of chances remains the same and the special characters are replaced by letters at its respective positions in the word. The user can guess the letter irrespective of the case. On the other hand, if the user guesses the wrong letter, the number of chances decrease by one and the image of a man getting hanged will be formed step by step after each incorrect guess. The letters guessed by the user are also displayed. For example, the word to be guessed is "Diagram" and the number of chances the player has is eight. The word is shown as _ _ _ _ _ _ _ . If the player's first guess is 'a'. Then it is displayed as _ _ a _ _ a _ and the number of chances is still eight. If he guesses 'c', which doesn't exist then the number of chances become seven and the guessed letters are displayed separately. The first part of the hangman image is formed. If the user guesses all the letters of the word correctly within the limited number of guesses, he wins the game but if he fails to make the right guess then the complete image of a hanged man is formed which indicates that he lost the game or is hanged.

Our Task: There are four iterative process but the task of the assignment 1 is to create the first iterative process of the Hangman game. We need to complete the documentation first so that implementation goals are met. We need to implement an idea and make a skeleton code for the project to work with. However, the main functionality that we will implement in these iterations is to add different ideas to the project. Each iteration has a task which adds new features to the code and develops it incrementally.

4. Project Plan

Assignment 1 should be submitted on 8 February 2019. The assignment is based on creating a game called Hangman. The Software Technology course has three themes. All themes have an assignment attached to it. We will be using the concepts from each theme to complete its respective assignment. Theme 1 is based on Process and Planning. This will be used as a part of the assignment 1. In assignment 1 we should create a documentation of the project and add the first iteration which is to implement an idea to develop the game and some skeleton code for the project to work with.

4.1 Introduction

Throughout the course, a game of Hangman will be developed. The game is programmed individually and not in groups and we are strictly intended to use the programming language studied in the previous courses like Java or Node or Java Script. The game is not being developed on a commercial grade and the focus is on documentation.

4.2 Justification

The project deals with the usage of different themes for different assignments. The theme of Process and Planning will be practically implemented in this assignment which can enhance the learning experience.

The code used is very important to determine the working of the game.

The idea is to learn to make high quality software with the course.

4.3 Stakeholders

User: Plays the Hangman game designed by the developer. The user is given a limited number of chances to win the game.

Developer: Designs the game by constructing the code. Tests the functionality of the code and can add features like user registration, time limit, multiplayer etc, as well as remove them.

4.4 Resources

The resources available to complete the development process are:

4.4.1 Man- Power

- Role: Implementer
- Worker: 1
- Responsibility: Everything

4.4.2 Tools

- JDK version 11.0.1 and Eclipse is used to construct the code and compile it.
- Study material from MyMoodle.

4.5 Hard- and Software Requirements

4.5.1 Hardware

- A PC consisting an Operating Systems with a decent RAM and processor.

4.5.2 Software

- Eclipse or Java Script or Node

4.6 Overall Project Schedule

- The deadline for assignment 1 is 8 February 2019.
- The deadline for assignment 2 is 21 February 2019.
- The deadline for assignment 3 is 8 March 2019.

4.7 Scope, Constraints and Assumptions

This project plan applies to achieve the following requirements:

1. Construct a by game using simple graphics.
2. The theme of Process and Planning will be practically implemented in this assignment which can enhance the learning experience.
3. The idea is to learn to make high quality software with the course.

5. Iterations

The development phase follows the iterative process principles. Iterations is a fine-grained plan on what is to be done in each iteration and with what resources. In total there will be 4 iterations. The goals of each iteration are described in detail.

- The first assignment is to complete iteration one.

5.1 Iteration 1 (Personal planning, Vision and Project Plan)

- Creating a project plan along with some degree of implementation.
- The documentation should be completed first so that the implementation goals are met in code.
- An idea and some skeleton code need to be implemented for the project to work with.
- Create a vision for the plan.
- Create a time log containing the time estimates for each task to be dealt with.

5.2 Iteration 2

- In this iteration some features need to be added to the game after having first modelled them using UML.
- All diagrams need to be included in the project documentation and should be implemented in the way modelled.

5.3 Iteration 3

- Additional features may be included to the game in this iteration. The main focus is on testing.
- The aim is to plan, perform and document the tests in this iteration.

5.4 Iteration 4

- The outcome of this iteration is the complete game.
- The steps in iteration 1 – 3 must be reiterated for a set of new features.
- The developer must view the project as a whole and not only its parts.

6. Risk Analysis

All projects face risks that make it important to prepare for what might happen. Below is a list of risks that I might face in the course of this project. The strategies to deal with them are also discussed.

6.1- 6.2 List of risks and Strategies

1. This project is limited to only one person. It might sometimes be difficult for me to finish up all the tasks on time.
 - Effect: The assignment might become a failure and I would not get the expected grade.
 - Occurrence level: Medium
 - Solution: Stick with the deadlines and plan the work.
2. It can also be quite challenging to find errors during the testing process or to implement new ideas to the code as there is no peer.
 - Effect: I might overlook a few errors in the code and my code might lack transformation.
 - Occurrence level: Medium
 - Solution: None
3. I have never programmed before in Eclipse and I have another course to study.
 - Effect: It might be time consuming to learn the concepts of Java and implement them in my project to test their functionality.
 - Occurrence level: High
 - Solution: The deadline for the other course assignments must be considered when planning the schedule

7. Time Log

The time log contains the date, time and the task to be performed. It covers the overall time taken to learn and understand a problem as well as plan, implement and reflect a specific task.

Tasks

1. Task: Vision
Start Date: 4 Feb 2019
Estimate Time: 30 min
Actual Time: 1 hr
End Date: 5 Feb 2019

2. Task: Project Plan
Start Date: 5 Feb 2019
Estimate Time: 1 hr
Actual Time: 1 hr 30 min
End Date: 5 Feb 2019

3. Task: Iterations
Start Date: 6 Feb 2019
Estimate Time: 40 min
Actual Time: 1 hr
End Date: 7 Feb 2019

4. Task: Risk Analysis
Start Date: 7 Feb 2019
Estimate Time: 15 min
Actual Time: 30 min
End Date: 7 Feb 2019

5. Task: Reflections
Start Date: 7 Feb 2019
Estimate Time: 30 min
Actual Time:
End Date: 8 Feb 2019