**Software Scope Document**

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| **Problem Statement** | **Description** |
| Project Background | * The project being created is a **Hangman Game** * The problem that this project will address and solve is the lack of online hangman games available to play. This game is not that available on the internet, due to the fact that it is mainly a pen and paper game. The lack of online hangman games may make it harder for people on the internet to find a game that they enjoy playing. * I decided that this would be a great opportunity to create a project that solves this issue, as this is a very popular, well known game. |
| Stakeholders | * The stakeholders of this project, meaning those who will be interested in this project, will include computer programmers, young students, internet users, and myself. * The needs of beginner computer programmers would be to have access to a well developed software algorithm that they can use for reference when creating their own projects, and to have a software application that they can use as a base to create a more sophisticated project. Also, game developers who have released games of their own will be interested in my game, because it will be considered as one of their competitors. The needs of these game developers includes examining my game, and based on that, seeing how they should improve their own games. * The needs of young students would be to expand their vocabulary and to challenge their minds by using their problem solving skills. * The needs of internet users would be to have access to a fun, enjoyable game * I am a stakeholder, because I am the developer of this software. My needs are having my game perform exceptionally well, and meeting the needs of my target audience. |
| Users | * The users of this program may include: young students, internet users and other computer programmers. This is quite similar to the stakeholders, because those who are interested in this application tend to be those who actually go out of their way to use it. |
| Risks | * There could be a risk in estimating the time schedule (as done below), as it may take longer than expected to finish the project, which can contribute to higher costs. * The project may not be compatible with all systems, which would make it unavailable to many users with incompatible Operating Systems. * If the project is not appropriately backed up somewhere, then there is an increased risk of the project being lost, and all of its data being deleted. * There may be a security vulnerability for this application * There may be various logical errors and bugs within this application |
| Assumptions | * This software will be fully operable and ready to use in about 14 days. |

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| **Vision of Solution** | **Description** |
| Vision Statement | * The purpose of this project is to create a **Hangman Game**, which is a game where the user must try to guess a random word by choosing letters of the alphabet in order to uncover the letters of the random word. * This project will essentially provide a fun, enjoyable game that is available for all to play, where people can either play by themselves or with friends/family. This project will be quite educational, as it gets people to challenge themselves, and use their problem-solving skills to determine what the mystery word is. It can also be beneficial to young students, as they can learn to recognize new words, based on their length and the positions of key letters. Young students may also begin to discover patterns that occur with common letters existing amongst a variety of words. This would, overall, improve their vocabulary and help them learn new, more complex words. |
| List of Features | * Word Selection: From a large list of words, the program will choose a random word for the user to guess. * Letter Selection: There will be a section of buttons, containing all of the letters of the alphabet (A-Z). The user will be able to guess letters that they believe are in the mystery word by using these buttons. However, once a letter has been guessed, that specific letter will not be able to be guessed again. * Hangman GUI: The classic image associated with the hangman game, which is a man that is hanged up, will be within this game. This image will initially be invisible, but whenever the user guesses a letter that is not within the mystery word, the image will update to reveal a new body part (head, body, arms, then legs). Once the man's full body is revealed on the screen, the user will have lost. * Word Update: There will be a set of dashes, which will represent the letters of the mystery word that have not been guessed yet. Initially, all of the dashes will be blank, but once the user guesses letters that are within the mystery word, the dashes will be updated to reveal the positions of the correctly guessed letters within the mystery word. * Score Count: There will be a section of the GUI that tracks the amount of games won. * Sound Effects: There will be a sound effect that plays after each event occurs. Different sound effects will be used for different events, such as when a correct or incorrect letter is chosen, when a button is clicked and if the user wins or loses. * Different Screens: There will be various different screens in this application, such as a start screen, game screen and win/lose screen, which will enhance the user experience. |
| Features not to be developed | * Animations: Animations throughout the software will not be implemented, due to the fact that they are quite complex to code, and they do not meet the time duration that I have estimated for the completion of this project. * Timer: There will be no time limit for the users to guess the word. This is because this would put a lot of unnecessary stress and pressure on the users, and having a timer will make it seem like a competition or a test. The users simply want to play a game that they can enjoy, so having a timer would not be necessary, and would defeat the purpose of this project, which is to provide a fun, enjoyable game to play for all. |