Software Development Plan

Statement of Purpose

* What the application will do (described at high level)

The application will allow users to destress from their work day by playing a competitive 2 player game. The game runs provides the users to select from a menu the game they want to play, update their names and check their board through utilising a ruby gem and using the arrow keys to select the menu options. The games randomly generate a number between certain values which the users select and it creates a score by calculating either the number of wins or by reducing the number of available attempts by the number of attempts they used.

The menu uses a while case statement to keep the user going back to the menu until they choose the exit option.

* Identify the problem it will solve and why I am developing it

People work hard these days and occasionally need to take a break from their daily grind to allow their brains to refocus. This game provides algorithmic challenges to stimulate the user’s brain while on their downtime. One game will allow them to use mathematics to concisely reduce the number of available options until it reduces down to a single number unless chosen otherwise which is great for brain development and the other game allows them to utilise the same skillset but to choose not to reduce the numbers too much so the other player has to in order for them to both not fail the game.

* Identify target audience

The target audience is for people who want to keep their mind sharp but also appreciate downtime. Anyone who enjoys brainteasers such as sudoku, crossword puzzles, chess, etc, will enjoy this game.

* How a member of target audience will use it

The target audience will use the game by calculating the most appropriate guess in order to either guess the number fastest or to keep their opponent unlikely to win the game while keeping their own chances high. They will work through the menu choosing whether to play the game, update their name or check the leader board. They will enter in the range of numbers using the keyboard and their subsequent guesses in the same manner until either the game completes with no winner or a victor is found.

List of features – approx. 100 words each – use of variables & variable scope – loops – conditional control structures – error handling

Feature 1 updating user details

Utilising a global hash for each user, a key and value is stored for their name and score for each of the games. These variables are utilised throughout the game by mentioning the user by name and referencing them on the leader board. Utilising a global variable allows the information to be updated directly within the methods for the game and across the various classes. Upon updating the username it will loop back to the menu where they will be able to choose to update the other user’s name.

Feature 2 menu

The menu itself is a class and has subclasses for the main menu and the username update menu. The classes link together through the require\_relative("./page-name.rb") feature and through referencing the classes such as: class User\_menu < Menu which allows the subclass to inherit the superclass features. The initialize feature was utilised to keep the workflow of the program capable of running previously defined work. The menu starts with a while loop that then initiates options dependent on which subclass is calling it where it will run a case statement from an array given to it from that class. By keeping the users options limited to the options provided, it prevents errors from taking place.

Feature 3 Games

The games run while if loops that ensure valid input is entered and will prompt the user to re-enter information if their input is not a valid option or notify them and penalise them for inputting data which is not the directed information. The games utilise the users information and use variables that hold integers to calculate scores and remaining cycles before the loop is broken. If selecting an option

Diagram that shows control flow of application

Implementation plan

* Outlines how each feature will be implemented and checklist of each tasks for each feature
* Trello included

Help Documentation which includes instructions on how to use and install application – steps to install, dependencies required by application to operate, system/hardware requirements