**Project Proposal**

**Project : Typing Speed Application**

**Project Overview**

The Typing Speed Test Application is designed to measure users' typing speed and accuracy. Utilizing a simple graphical user interface (GUI) built with the Tkinter library in Python, this application provides a passage of text for the user to type, calculates their typing speed in words per minute (WPM), and assesses the accuracy of their typing. The application also provides feedback on these metrics once the user finishes the test.

**Objectives**

* Develop a functional and user-friendly typing speed test application.
* Measure typing speed and accuracy based on user input.
* Display results to the user in a clear and concise manner.
* Ensure a responsive and intuitive GUI for users.

**Features**

* **Passage Generation:** The application generates a random passage of text for the user to type.
* **Typing Test Interface:** Users can start and stop the test, and type the passage into an entry field.
* **Results Display:** Typing speed and accuracy are calculated and displayed upon test completion.
* **Start/Stop Functionality:** Users can start the test with a button and stop it when done

**Project duration :**

**Day 1: Project Setup and Basic GUI Design**

1. **Project Initialization:**
   * Set up the project repository and organize files.
   * Create the main script file and prepare for Tkinter GUI development.
2. **Basic GUI Design:**
   * Design the initial layout of the GUI with Tkinter.
   * Implement the main window, labels, and entry fields.
   * Create buttons for starting and stopping the test.
3. **Initial Testing:**
   * Test the basic GUI layout to ensure elements are correctly displayed.

**Day 2: Passage Generation and Typing Test Functionality**

1. **Passage Generation:**
   * Implement the function to generate a random passage from a predefined set of words.
   * Display the generated passage in the GUI.
2. **Typing Test Functionality:**
   * Implement the start and stop test functionality.
   * Add event handling for the "Start Test" and "Stop Test" buttons.
   * Calculate elapsed time and manage the start and stop times.
3. **Testing:**
   * Test the passage generation and ensure it's displayed correctly.
   * Verify that the start and stop buttons are functioning as expected.

**Day 3: Calculation of Typing Speed and Accuracy**

1. **Typing Speed Calculation:**
   * Implement the logic to calculate typing speed in words per minute (WPM) based on elapsed time and typed words.
2. **Accuracy Calculation:**
   * Develop the functionality to calculate typing accuracy based on the number of correct words typed compared to the passage.
3. **Results Display:**
   * Update the GUI to display typing speed and accuracy after the test is stopped.
   * Ensure the results are clear and formatted correctly.
4. **Testing and Debugging:**
   * Thoroughly test the calculations and results display for accuracy.
   * Debug any issues related to typing speed and accuracy calculations.

**Day 4: Final Testing and Refinements**

1. **Final Testing:**
   * Perform comprehensive testing of the entire application to ensure all features are working as intended.
   * Test edge cases and error handling, such as stopping the test before starting or entering invalid input.
2. **User Interface Refinements:**
   * Make any necessary adjustments to the GUI for better usability and aesthetics.
   * Ensure that the application is intuitive and user-friendly.
3. **Documentation:**
   * Prepare user documentation including instructions on how to use the application.
   * Write comments and documentation within the code for clarity and maintenance.
4. **Project Review:**
   * Review the overall project and ensure all objectives have been met.
   * Prepare the final project report and any necessary presentations.

#### Expected Outcome

* A fully functional typing speed test application with a user-friendly interface.
* Accurate measurement of typing speed (WPM) and accuracy.
* A responsive and aesthetically pleasing GUI.
* Comprehensive documentation and code comments for future maintenance and enhancements.