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Mini Project on

TYPING SPEED

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Project Guide

Prof. Vidyashree Kokane

DECLARATION

I hereby declare that the Mini project work entitled "TYPING SPEED" is an authentic record of our own work carried out in B. Tech degree in Computer Science and Business System Engineering from, JSPM's RAJASHRI SHAHU COLLEGE OF ENGINEERING, Pune under the guidance of Mrs Vidyashree Kokane during August to December 2023, All the information furnished in this mini project report is hased on our own intensive work and is gemine.

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CERTIFICATE

This is to certify that the declaration statement made by the student is correct to the best of my knowledge and belief He/She have completed this Mini Project under my guidance and supervision. The present work is the result of his/her original investigation, effort and study. No part of the work has ever been submitted for any other degree at any University. The Mini Project in fit for the submission and partial fulfillment of the conditions for the award of B. Tech degree in Computer Science and Business system from JSPM's RAJASHRI SHAHU COLLEGE OF ENGINEERING, Pune.

NAME: Mrs Vidyashree Kokane

JSPM's RAJASHRI SHAHU COLLEGE OF ENGINEERING,
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TABLE OF CONTENTS

INTRODUCTION

The Typing Speed Test Project is a Python-based application designed to assess and improve users' typing skills. Typing speed is a fundamental skill in today's digital era, and this project aims to provide a user-friendly and engaging platform for individuals to enhance their proficiency.

Objectives

1. **Skill Assessment**: The primary objective is to evaluate the typing speed of users. By presenting random paragraphs for users to type, the project measures their words per minute (WPM) typing speed.
2. **Skill Improvement**: Beyond assessment, the project serves as a tool for users to actively practice and enhance their typing skills. Regular usage of the application is intended to contribute to increased typing speed and accuracy.
3. **User Engagement**: The project is designed to create an interactive and enjoyable experience. Engaging users through a competitive element, where they can compare their typing speeds with others or their own previous records, adds a motivational aspect to the learning process.
4. **Randomized Content**: To provide a diverse and challenging environment, the project generates random paragraphs with varied combinations of subjects, verbs, adjectives, and objects. This ensures that users are exposed to different word combinations, enhancing their adaptability.
5. **Measurable Progress**: The project aims to provide users with tangible and measurable progress metrics. By recording and displaying their typing speeds, users can track improvements over time and set personal goals for further development.
6. **Accessible and User-Friendly**: The application is designed to be accessible to users of all skill levels. A straightforward interface and clear instructions make it user-friendly, allowing both beginners and experienced typists to benefit from the program.

In conclusion, the Typing Speed Test Project combines skill assessment, active practice, and user engagement to create a comprehensive typing improvement tool. By addressing the objectives outlined above, the project strives to contribute to the development of efficient and accurate typing skills in users.

PROBLEM STATEMENT: Typing Speed Project

Background

Typing speed is a crucial skill in today's digital landscape, with various professions and daily activities requiring efficient keyboard use. However, many individuals struggle with slow typing speeds, leading to reduced productivity and increased frustration.

Problem

The Typing Speed Test Project addresses the following key problems:

1. **Lack of Skill Assessment**: Many individuals are unaware of their typing speed and accuracy. Without a reliable assessment, they may not recognize the need for improvement or track their progress over time.
2. **Limited Practice Resources**: While there are typing practice tools available, there's a need for an engaging and accessible platform that provides randomized and diverse content. Existing resources might not offer the level of interactivity and variation required for effective skill development.
3. **Motivational Element**: Typing practice can be monotonous, and individuals may lose interest without a motivating factor. The lack of a competitive or self-improvement element may hinder consistent and dedicated practice.
4. **Difficulty Adapting to Varied Texts**: Typists may excel in specific contexts but struggle when faced with different word combinations. The project aims to address this by presenting users with randomly generated paragraphs, challenging them to adapt to various content types.
5. **Ineffective Progress Tracking**: Without a systematic way to track their progress, users may not have a clear understanding of their improvement. A lack of measurable results can lead to a sense of stagnation and reduced motivation.

Project Aim

The Typing Speed Test Project seeks to provide a comprehensive solution to these problems by offering a user-friendly platform for assessing, practicing, and improving typing skills. By creating a motivating and varied environment, the project aims to address the challenges associated with typing speed development and contribute to the enhanced proficiency of users.

Methodology for Typing Speed Test Project

Overview

The Typing Speed Test project focuses on assessing and enhancing users' typing skills. The approach involves several steps, each contributing to the overall functionality and user experience.

1. Content Generation

Objective:

- Generate a dynamic and engaging paragraph for the typing test.

Activities:

- Define categories (subjects, verbs, adjectives, objects) to create diverse sentences.
- Utilize the **random** module to select a random combination of words for each category.
- Construct a paragraph using the chosen words.

2. Typing Test Implementation

Objective:

- Create an interactive typing test interface.

Activities:

- Design the user interface to display the generated paragraph and instructions.
- Record the start time when the user begins typing.
- Capture the user's typed words and record the end time.
- Calculate typing speed using the formula: (Number of words / Elapsed time) * 60.

3. User Interaction

Objective:

- Facilitate user interaction during the typing test.

Activities:

- Prompt the user to start the typing test.
- Display the randomly generated paragraph for the user to type.
- Record the user's typed words and calculate typing speed.
- Provide immediate feedback on the typing speed.

4. Performance Comparison

Objective:

- Compare typing speeds between multiple players.

Activities:

- Implement a function to conduct typing tests for multiple players.
- Store the typing speeds of each player in a list.
- Determine and print the winner or declare a tie based on the comparison of typing speeds.

5. Main Function

Objective:

- Serve as the entry point and coordinator of the typing test.

Activities:

- Initialize an empty list to store typing speeds.
- Loop through the range of players to conduct typing tests.
- Store the typing speed of each player in the list.
- Compare and declare the winner or a tie.
- Display a motivating message to encourage further improvement.

Tools and Technologies

- **Programming Language:** Python
- **Modules:** **time** (for time-related functions), **random** (for generating random content)
- **User Interface:** Console-based interaction
- **Development Environment:** Any Python-supported environment (e.g., IDLE, Jupyter Notebook)

SOURCE CODE:

```
import time
import random


def generate_random_paragraph():
    subjects = ['The cat', 'A dog', 'My friend', 'A mysterious stranger']
    verbs = ['runs', 'jumps', 'sings', 'sleeps', 'eats']
    adjectives = ['quick', 'lazy', 'happy', 'sad', 'colorful']
    objects = ['on the mat', 'under the table', 'in the garden', 'with joy']
    paragraph = f"{random.choice(subjects)} {random.choice(verbs)} {random.choice(adjectives)} {random.choice(objects)}."
    return paragraph

def calculate_typing_speed(start_time, end_time, typed_words):
    elapsed_time = end_time - start_time
    words_per_minute = (len(typed_words.split()) / elapsed_time) * 60
    return words_per_minute

def typing_test(player):
    target_words = generate_random_paragraph()
    print(f"\nPlayer {player}, type the following words:")
    print(target_words)
    input("press enter to start...")
    print("")
   # Record the start time
    start_time = time.time()

    # Prompt the player to type the words
    typed_words = input(f"Player {player}'s typing: ")
```

```
    # Record the end time
    end_time = time.time()

    # Calculate typing speed
    speed = calculate_typing_speed(start_time, end_time, typed_words)

    # Display the typing speed
    print(f"\nPlayer {player}'s Typing speed: {speed:.2f} words per minute")

    return speed
def main():

    speeds = []

    for player in range(1, 3):
        speed = typing_test(player)
        speeds.append(speed)

    if speeds[0] > speeds[1]:
        print("\nPlayer 1 wins!")
    elif speeds[0] < speeds[1]:
        print("\nPlayer 2 wins!")
    else:
        print("\nIt's a tie!")
    print("KEEP WORKING ON YOUR TYPING SKILLS")

if __name__ == "__main__":
    main()
```

RESULT & ANALYSIS

Overview

The Typing Speed Test project aimed to assess the typing skills of two players by generating random paragraphs for them to type. The project recorded the time taken by each player and calculated their typing speed in words per minute (WPM). The winner was determined based on the comparison of typing speeds.

Results:

Player 1:

- Generated Paragraph: "A dog jumps sad with joy."
- Typing Speed: 35.70 words per minute

Player 2:

- Generated Paragraph: "My friend eats quick in the garden."
- Typing Speed: 40.20 words per minute

Analysis:

Player Comparison:

- Player 2 demonstrated a higher typing speed compared to Player 1.
- Player 2 wins the typing speed competition.

CONCLUSION

The Typing Speed Test project has successfully accomplished its primary goal of assessing and comparing the typing speeds of two players. The project utilized randomly generated paragraphs, challenging players to type accurately and swiftly. The key findings and contributions can be summarized as follows:

Key Findings:

1. **Individual Performance:**
   - Both Player 1 and Player 2 were provided with distinct paragraphs, fostering a fair comparison of their individual typing capabilities.
2. **Typing Speed Calculation:**
   - The project implemented an accurate method to calculate typing speed in words per minute (WPM) based on the time taken to type the given paragraph.
3. **Interactive Experience:**
   - The interactive nature of the project engaged players by presenting random paragraphs, prompting them to type in a timed environment.
4. **Competition Outcome:**
   - A clear winner was determined by comparing the typing speeds of Player 1 and Player 2, adding a competitive element to the typing assessment.

Contributions:

1. **Skill Assessment:**
   - The project contributes to the assessment of typing skills by providing a quantitative measure of typing speed, encouraging players to enhance their proficiency.
2. **User Engagement:**
   - Through the interactive typing test, the project promotes user engagement and participation, making the process of improving typing skills more enjoyable.
3. **Competition Dynamics:**
   - The introduction of a competitive element fosters a sense of challenge and accomplishment, motivating users to compete and improve.

Future Considerations:

While the current project focuses on typing speed, future iterations could consider the following enhancements:

- **Accuracy Measurement:**
  - Implement a feature to measure typing accuracy, providing a more comprehensive evaluation of typing skills.
- **Feedback and Improvement Suggestions:**
  - Offer detailed feedback on typing errors and provide suggestions for improvement, creating a more educational experience.
- **Graphical User Interface (GUI):**
  - Develop a GUI for a user-friendly interface, making the typing test accessible to a wider audience.

The Typing Speed Test project lays the groundwork for a broader typing assessment tool, and its findings encourage users to continue practicing and refining their typing abilities. The inclusion of user feedback and additional features will contribute to the evolution of a more comprehensive and effective typing improvement platform.

GitHub Link: https://github.com/Sannnu/SDL-MINI-PROJECT

THANK YOU!!