

# Typing Speed Test App

## Project Documentation: Typing Speed Test App

**Overview:** The Typing Speed Test App is a web application that allows users to measure their typing speed and accuracy. Users type a given passage within a set time limit, and the application calculates their typing speed in words per minute (WPM) and accuracy percentage. Built using HTML, CSS, Bootstrap, and JavaScript, the app is designed to be responsive and user-friendly on all devices.

### Features:

**Text Passage:** Provides a passage of text for the user to type.

**Timer:** Counts down from a set time limit (e.g., 1 minute).

**Typing Area:** Allows users to type the provided passage.

**Typing Speed Calculation:** Calculates and displays typing speed in WPM.

**Accuracy Calculation:** Calculates and displays typing accuracy as a percentage.

**Error Highlighting:** Highlights errors in the user's typing in real-time.

**Result Display:** Shows the results of the typing test (WPM, accuracy, and errors).

**Reset Test:** Allows users to reset the test and try again.

**Responsive Design:** Ensures the application is fully functional and visually appealing across all devices, including mobile phones, tablets, and laptops.

### Technologies Used:

**HTML:** For creating the basic structure of the web page.

**CSS:** For styling the user interface and enhancing the visual appeal.

**Bootstrap:** For responsive design and pre-built components.

**JavaScript:** For handling user input, timing, and calculating results.

### Implementation Details:

#### Text Passage:

The application provides a static or dynamically generated passage of text for the user to type.

The text is displayed prominently on the screen for easy reference.

#### Timer:

A countdown timer starts when the user begins typing.

The timer is set to a specific duration (e.g., 1 minute) and is displayed on the screen.

#### Typing Area:

A text input area is provided for users to type the given passage.

The input area captures and tracks user keystrokes.

**Typing Speed Calculation:**

Typing speed is calculated in words per minute (WPM).

WPM is calculated as **(total characters typed / 5) / (time in minutes)**.

The calculation is updated in real-time as the user types.

**Accuracy Calculation:**

Accuracy is calculated as the percentage of correctly typed characters.

Accuracy is calculated as **(number of correct characters / total characters) \* 100**.

Errors are highlighted in real-time, and accuracy is displayed at the end of the test.

**Error Highlighting:**

As the user types, any incorrect characters are highlighted in real-time.

Correctly typed characters remain unmarked, while errors are marked with a different color (e.g., red).

This provides immediate feedback to the user about their typing accuracy.

**Result Display:**

At the end of the test, the application displays the user's typing speed (WPM), accuracy percentage, and total errors.

Results are shown prominently to provide clear feedback.

**Reset Test:**

A reset button allows users to clear the current test and start a new one.

The timer, text passage, and typing area are reset to their initial states.

**Responsive Design:**

The application is designed to be fully responsive, providing a seamless experience on different devices.

Bootstrap ensures the layout adapts to various screen sizes, maintaining usability and visual consistency.

**Note:** The provided implementation details offer a foundational structure that can be customized and expanded upon. You may need to make changes to the project or this entire documentation as per the specific requirements asked by the placement team.

## Source Code:

### Index.html:

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Typing Speed Test</title>
  <!-- Bootstrap CSS -->
  <link href="https://maxcdn.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css" rel="stylesheet">
  <link rel="stylesheet" href="styles/styles.css">
</head>
<body>
  <div class="container my-5">
    <br><br>
    <h1 class="text-center mb-4">Typing Speed Test</h1><br>

    <!-- Text Passage Display -->
    <div id="text-passage" class="bg-dark text-light p-3 rounded border mb-3">
      click start test button to Start Your test
      <!-- Dynamic text will be inserted here -->
    </div>
    <br>

    <!-- Typing Area -->
    <textarea id="typing-area" class="form-control mb-3" rows="4" placeholder="Start typing here..." disabled></textarea>
    <br>

    <!-- Timer and Results -->
    <div class="d-flex justify-content-between align-items-center mb-3">
      <span id="timer" class="badge badge-primary p-2">Time: 90s</span>
      <span id="wpm" class="badge badge-success p-2">WPM: 0</span>
      <span id="accuracy" class="badge badge-warning p-2">Accuracy: 0%</span>
    </div><br>

    <!-- Buttons -->
    <div class="text-center">
      <button id="start-btn" class="btn btn-primary mr-2">Start Test</button>
      <button id="submit-btn" class="btn btn-success mr-2" disabled>Submit</button>
      <button id="reset-btn" class="btn btn-danger">Reset</button>
    </div>
  </div>

  <p class="copyr">Copyright &copy; 2024 &amp; Powered by <a class="ab"
href="https://www.linkedin.com/in/abhinavsaiannam/">Abhinav Sai</a></p>

  <!-- Bootstrap JS and Custom JS -->
  <script src="https://code.jquery.com/jquery-3.5.1.slim.min.js"></script>
  <script src="scripts/script.js"></script>
</body>
</html>
```

### styles/styles.css

```
*{
  box-sizing: border-box;
  margin: 0;
  padding: 0;
}
```

```

/* General Styles */
body {
  font-family: Arial, sans-serif;
  background: #fffefed5;
}

/* Text Passage */
#text-passage {
  font-size: 1.2rem;
  line-height: 1.6;
  height: 100px;
  overflow-y: auto;
}

/* Typing Area */
#typing-area {
  resize: none;
  font-size: 1rem;
}

/* Highlighting Errors */
.error {
  color: red;
  text-decoration: underline;
}

/* CSS for Footer Alignment */
.copyr {
  position: absolute;
  bottom: 5px; /* Distance from the bottom of the viewport */
  width: 100%;
  text-align: center;
  font-size: 0.9em;
  color: #333;
  background-color: #f9f9f9;
  padding: 5px 0;
  border-top: 1px solid #ccc;
}

/* Ensure the body stretches to the full height */
html, body {
  height: 100%;
  margin: 0;
  display: flex;
  flex-direction: column;
}

.container {
  flex: 1; /* Make container take up remaining space */
}

.text-success {
  color: green;
}

.text-danger {
  color: red;
}

/* Media Queries for Tablets (768px and below) */
@media (max-width: 768px) {
  #text-passage {
    font-size: 16px; /* Reduce font size for readability */
    padding: 2rem 1rem; /* Adjust padding */
  }
}

```

```

}

textarea#typing-area {
  font-size: 14px; /* Smaller font size for input area */
  height: auto; /* Adjust height for better fit */
}

.badge {
  font-size: 14px; /* Adjust badge font size */
  padding: 0.5rem 1rem; /* Adjust padding for badges */
}

.text-center button {
  width: 100%; /* Buttons take full width */
  margin-bottom: 10px; /* Add spacing between buttons */
}

h1 {
  font-size: 1.8rem; /* Reduce the heading size */
}
}

/* Media Queries for Mobile (480px and below) */
@media (max-width: 480px) {
  #text-passages {
    font-size: 14px; /* Further reduce font size */
    padding: 1.5rem 0.8rem; /* Smaller padding */
  }

  textarea#typing-area {
    font-size: 12px; /* Smaller font size for input */
    height: auto; /* Adjust height */
  }

  .badge {
    font-size: 12px; /* Smaller badge size */
    padding: 0.4rem 0.8rem; /* Smaller padding */
  }

  .text-center button {
    font-size: 14px; /* Adjust button text size */
  }

  h1 {
    font-size: 1.5rem; /* Smaller heading size */
  }
}

```

## scripts/script.js

```

// JavaScript for Typing Speed Test App

// Variables
let timer = 90; // Timer set to 90 seconds
let interval = null;
let textPassage = "";
let totalChars = 0;
let correctChars = 0;
let incorrectChars = 0;

// Elements
const textPassageElement = document.getElementById("text-passages");

```

```

const typingArea = document.getElementById("typing-area");
const timerElement = document.getElementById("timer");
const wpmElement = document.getElementById("wpm");
const accuracyElement = document.getElementById("accuracy");
const startButton = document.getElementById("start-btn");
const resetButton = document.getElementById("reset-btn");
const submitButton = document.getElementById("submit-btn");

// Sample Texts
const passages = [
  "Practice makes perfect. Typing speed tests improve your efficiency. Keep typing!",
  "The quick brown fox jumps over the lazy dog.",
  "HTML, CSS, and JavaScript are essential tools. Learning to code is a valuable skill.",
  "Hypertext Markup Language (HTML) is the standard markup language for documents designed to be displayed in a web browser.",
  "Python is dynamically typed and garbage-collected. It supports multiple programming paradigms, including structured (particularly procedural), object-oriented and functional programming.",
  "Java Script is a High level Programing Language that is primarily used to enhance the interactivity and dynamic behaviour of web sites. It is known as Scripting Languages for websites.",
  "Lorem ipsum dolor sit amet consectetur, adipisicing elit. Ratione impedit aliquam assumenda omnis quas blanditiis commodi neque, nemo ipsa quae cumque, corporis autem.",
  "Cricket is a bat-and-ball game played between two teams of eleven players on a field, at the centre of pitch with a wicket at each end, each comprising two bails balanced on three stumps.",
  "It is often assisted by technologies such as Cascading Style Sheets (CSS) and scripting languages such as JavaScript, a programming language",
  "A computer is a machine that can be programmed to automatically carry out sequences of arithmetic or logical operations (computation).",
  "Modern digital electronic computers can perform generic sets of operations known as programs."
];

// Functions

// Generate a random text passage
function generateText() {
  textPassage = passages[Math.floor(Math.random() * passages.length)];
  textPassageElement.textContent = textPassage;
}

// Start the typing test
function startTest() {
  resetTest(); // Ensure everything is reset
  generateText(); // Generate a new text
  typingArea.disabled = false; // Enable typing area
  typingArea.focus(); // Set focus to typing area
  submitButton.disabled = false; // Enable submit button

  // Start the countdown timer
  interval = setInterval(() => {
    timer--;
    timerElement.textContent = `Time: ${timer}s`;

    if (timer === 0) {
      endTest(); // End test when timer reaches 0
    }
  }, 1000);
}

// End the typing test
function endTest() {
  clearInterval(interval); // Stop the timer
  typingArea.disabled = true; // Disable typing area
  submitButton.disabled = true; // Disable submit button
  calculateResults(); // Finalize results
}

// Highlight errors in real-time
function highlightErrors() {

```

```

const typedText = typingArea.value;
const highlightedText = textPassage.split("").map((char, index) => {
  if (index < typedText.length) {
    return typedText[index] === char
      ? `<span class="text-success">${char}</span>`
      : `<span class="text-danger">${char}</span>`;
  }
  return char;
}).join("");
textPassageElement.innerHTML = highlightedText;
}

// Calculate WPM and accuracy
function calculateResults() {
  const typedText = typingArea.value;
  totalChars = typedText.length;

  correctChars = 0;
  incorrectChars = 0;

  // Compare typed text with the corresponding part of the passage
  for (let i = 0; i < totalChars; i++) {
    if (typedText[i] === textPassage[i]) {
      correctChars++;
    } else {
      incorrectChars++;
    }
  }

  // Calculate WPM and Accuracy
  const timeSpent = 90 - timer; // Time elapsed in seconds
  const minutes = timeSpent / 60; // Convert to minutes
  const wpm = Math.round((correctChars / 5) / minutes) || 0; // WPM formula
  const accuracy = totalChars === 0 ? 0 : Math.round((correctChars / totalChars) * 100); // Accuracy formula

  // Update the UI
  wpmElement.textContent = `WPM: ${wpm}`;
  accuracyElement.textContent = `Accuracy: ${accuracy}%`;
}

// Submit the typing test
function submitTest() {
  endTest(); // Stop the test and finalize results
  alert(`Test Complete!\nWPM: ${wpmElement.textContent}\nAccuracy: ${accuracyElement.textContent}`);
}

// Reset the typing test
function resetTest() {
  clearInterval(interval); // Stop the timer if running
  timer = 90; // Reset timer to 90 seconds
  totalChars = 0;
  correctChars = 0;
  incorrectChars = 0;

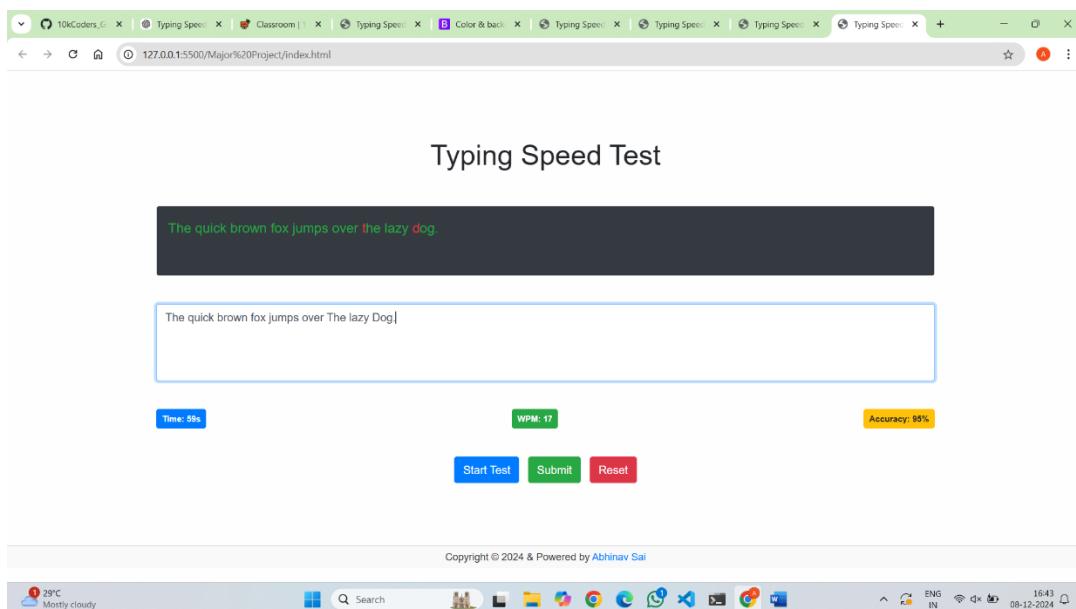
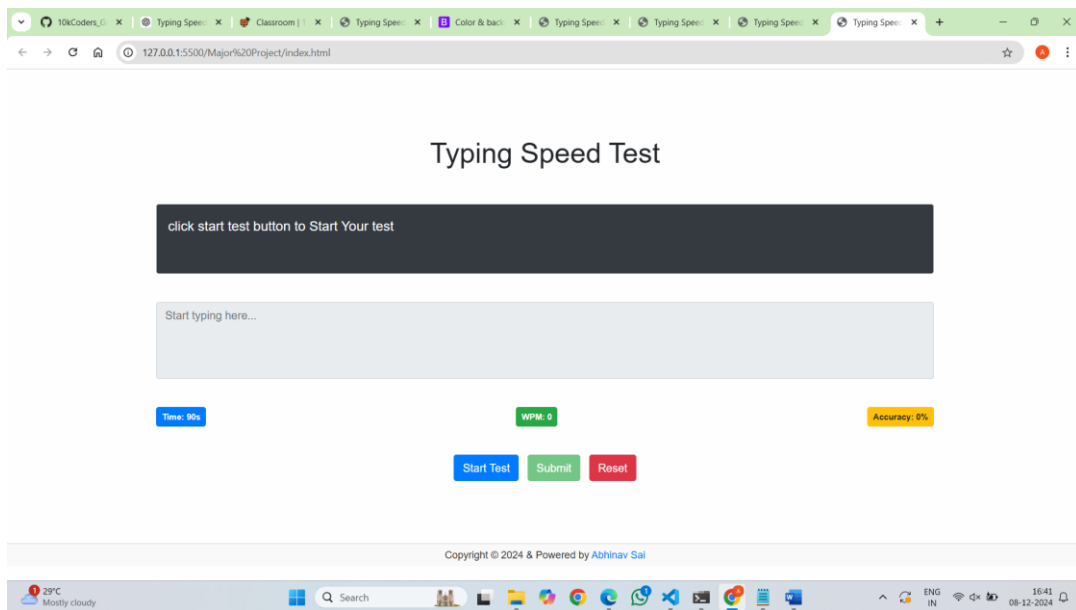
  // Reset UI elements
  timerElement.textContent = `Time: ${timer}s`;
  wpmElement.textContent = `WPM: 0`;
  accuracyElement.textContent = `Accuracy: 0%`;
  textPassageElement.innerHTML = "Click 'Start Test' to begin.";
  typingArea.value = "";
  typingArea.disabled = true; // Disable typing area
  submitButton.disabled = true; // Disable submit button
}

// Event Listeners
startButton.addEventListener("click", startTest); // Start test

```

```
resetButton.addEventListener("click", resetTest); // Reset test
submitButton.addEventListener("click", submitTest); // Submit test
typingArea.addEventListener("input", () => {
  highlightErrors(); // Highlight errors as the user types
  calculateResults(); // Update WPM and accuracy
});
```

## OUTPUT:





10kCoders\_C X Typing Speed X Classroom X Typing Speed X Color & back X Typing Speed X Typing Speed X Typing Speed X Typing Speed X

127.0.0.1:5500/Major%20Project/index.html

127.0.0.1:5500 says  
Test Complete!  
WPM: WPM: 14  
Accuracy: Accuracy: 95%

OK

The quick brown fox jumps over the lazy dog.

The quick brown fox jumps over The lazy Dog.

Time: 64s

WPM: 17

Accuracy: 95%

Start Test

Submit

Reset

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Mostly cloudy

Search

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