A

Project Report

On

Rapid Writer Test

Submitted by

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Roll No.: 23359

MCA–I SEM-I

Under the guidance of

Prof. Anjali Landge

For the Academic Year 2023-24

Sinhgad Technical Education Society's

Sinhgad Institute of Management

Vadgaon Bk Pune 411041

(Affiliated to SPPU Pune & Approved by AICTE New Delhi)

Date:

CERTIFICATE

This is to certify that Mr. Sunil Sambhaji Shinde has successfully completed his project work entitled **"Rapid Writer Test"** in partial fulfillment of MCA – I SEM –I Mini Project for the year 2023-2024. He has worked under our guidance and direction.

Prof. Anjali Landge
Project Guide

Dr. Chandrani Singh
Director, SIOM-MCA

Examiner 1

Examiner 2

Date: Place:

Pune

DECLARATION

I certify that the work contained in this report is original and has been done byme under the guidance of my supervisor(s).

- The work has not been submitted to any of this Institute for any degree or diploma.
- I have followed the guidelines provided by the Institute in preparing the report.
- I have confirmed to the norms and guidelines given in the Ethical Code of Conduct of the Institute.
- Whenever I have used materials (data, theoretical analysis, figures, and text) from this sources, I have given due credit to them by citing them in the text of the report and giving their details in the references.

Name and Signature of Project Team Members:

Sr. No.	**Seat No.**	**Name of students**	**Signature of students**
1	23359	**Sunil Sambhaji Shinde**	

ACKNOWLEDGEMENT

It is very difficult task to acknowledge all those who have been of tremendous help in this project. I would like to thank my respected guide **Prof. Anjali Landge** for providing me necessary facilities to complete my project and also for their guidance and encouragement in completing my project successfully without which it wouldn’t be possible. I wish to convey my special thanks and immeasurable feelings of gratitude towards **Dr. Chandrani Singh, Director SIOM-MCA.** I wish to convey my special thanks to all teaching and non-teaching staff members of **Sinhgad Institute of Management, Pune** for their support.

Thank You

Yours Sincerely,

Sunil Sambhaji Shinde

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1. CHAPTER 1: INTRODUCTION

1.1 Abstract:

The Rapid Writer Test System is a cutting-edge web-based platform designed to revolutionize typing assessments, providing a seamless and user-friendly experience. Tailored to meet the needs of users at various skill levels, including test administrators, assessors, and test-takers, this innovative system aims to streamline the typing evaluation process. Leveraging advanced technology, the Rapid Writer Test System optimizes the workflow of typing tests, promotes collaboration, and enhances overall efficiency in assessing and improving typing skills. Through intuitive features and a robust framework, this system is poised to redefine typing evaluations in a rapidly evolving digital landscape.

1.2 Existing System and Need for System:

The prevailing approach to conducting typing tests, often referred to as Rapid Writer Tests, typically involves manual administration using physical keyboards or basic digital platforms. Test takers are required to type a given set of texts, and their performance is manually evaluated based on speed and accuracy. However, this manual process is time-consuming, prone to human errors in assessment, and lacks the comprehensive data analysis needed for detailed insights.

The need for a dedicated Rapid Writer Test system arises from the increasing demand for efficient and technologically advanced typing assessments. As keyboard proficiency becomes a critical skill in various professional and academic settings, there is a growing need for a streamlined and automated system that can administer, grade, and analyze typing tests with precision. The implementation of such a system would not only save time but also provide a standardized and objective evaluation of typing skills, allowing for more targeted training and skill development.

1.3 Scope of System:

The scope of the Rapid Writer Test system is tailored for individual users seeking to improve their typing skills. The system will offer a user-friendly platform with features including diverse typing tests, personalized user profiles for progress tracking, real-time feedback on speed and accuracy, customization options for test parameters, and supplementary training modules. The emphasis is on providing a comprehensive and accessible tool that allows users to monitor their typing proficiency, set goals, and enhance their skills at their own pace. The system aims to empower users with a technology-driven solution for precise and efficient typing assessments, contributing to their overall proficiency and adaptability in various personal and professional contexts.

1.4 Operating Environment Hardware and Software:

Hardware Requirements:

Processor- Intel core i3 or above

RAM- 4 GB or Above

Software Requirements:

Operating System- Windows 7 or

AboveFront End- HTML,CSS

Back End-JavaScript,MongoDB

1.5 Brief Description of Technology used:

For the Rapid Writer Test project, the technology stack includes HTML and CSSfor the graphical user interface (GUI) components, Java for application logic, MongoDB as the relational database management system, and Local Server for connecting the Web application to the MongoDB database. HTML and CSS provide the foundation for creating a visually intuitive and interactive user interface, while Java serves as the programming language for implementing the application's functionality. MySQL, a widely used relational database, is employed to efficiently store and manage data related to user profiles, test results, and system configurations. Local Server facilitates seamless communication between the Java application and the MongoDB database, ensuring the smooth retrieval and storage of data. This technology stack combines the versatility of Java with the reliability of MongoDB to create a robust and efficient Rapid Writer Test system.
Top of Form

CHAPTER 2: PROPOSED SYSTEM

2.1 Feasibility Study:

In conducting a feasibility study for the Rapid Writer Test project, various aspects are considered to assess the viability and potential success of the system.

Economic Feasibility:

The economic feasibility involves a thorough analysis of costs and benefits associated with the development and implementation of the Rapid Writer Test system. This includes assessing development costs, maintenance expenses, and potential revenue streams. The study aims to determine if the system promises a positive return on investment, taking into account both short-term and long-term financial implications.

Technical Feasibility:

The technical feasibility of the Rapid Writer Test system is evaluated by analyzing the technical requirements, encompassing both hardware and software aspects. This involves assessing whether the system can be developed and deployed within the given technical constraints, ensuring compatibility with existing infrastructure and adherence to industry standards. The study aims to confirm that the chosen technologies, including Swing, AWT, Java, MySQL, and JDBC, can effectively support the intended functionality.

Operational Feasibility:

Operational feasibility is assessed by evaluating the practicality of implementing and using the Rapid Writer Test system. This includes a comprehensive analysis of user requirements, user acceptance, and training needs. The study aims to determine if the system is user-friendly, intuitive, and easily integrable into existing processes. Addressing potential challenges related to user adoption and ensuring a seamless integration into the workflow are key considerations in determining the operational feasibility of the project.

2.2 Objectives of the proposed system:

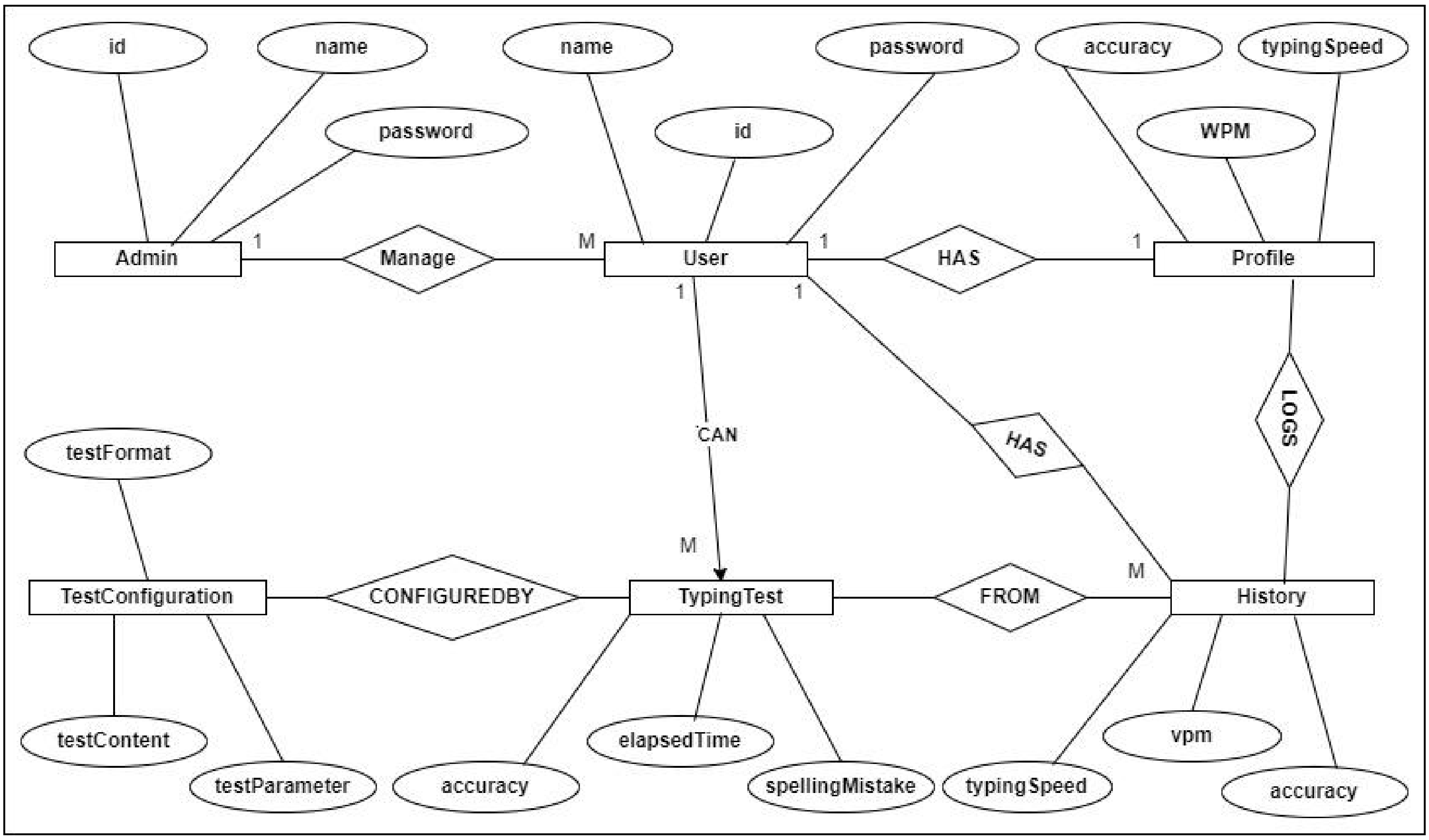
The proposed Rapid Writer Test system aims to deliver a comprehensive and effective platform for users to enhance their typing skills. Key objectives of the system include:

- **Accurate Typing Assessment:** The system should provide users with precise and reliable typing assessments, evaluating both speed and accuracy during typing tests.
- **User-Friendly Interface:** The system should offer an intuitive and user-friendly interface, allowing users to easily navigate through various features, customize test parameters, and access their performance history.
- **Progress Tracking**: Users should have the ability to monitor their typing progress over time, enabling them to set goals and identify areas for improvement.
- **Secure Data Storage:** The system should ensure the secure storage of user profiles, test results, and other relevant data, prioritizing user privacy and data integrity.

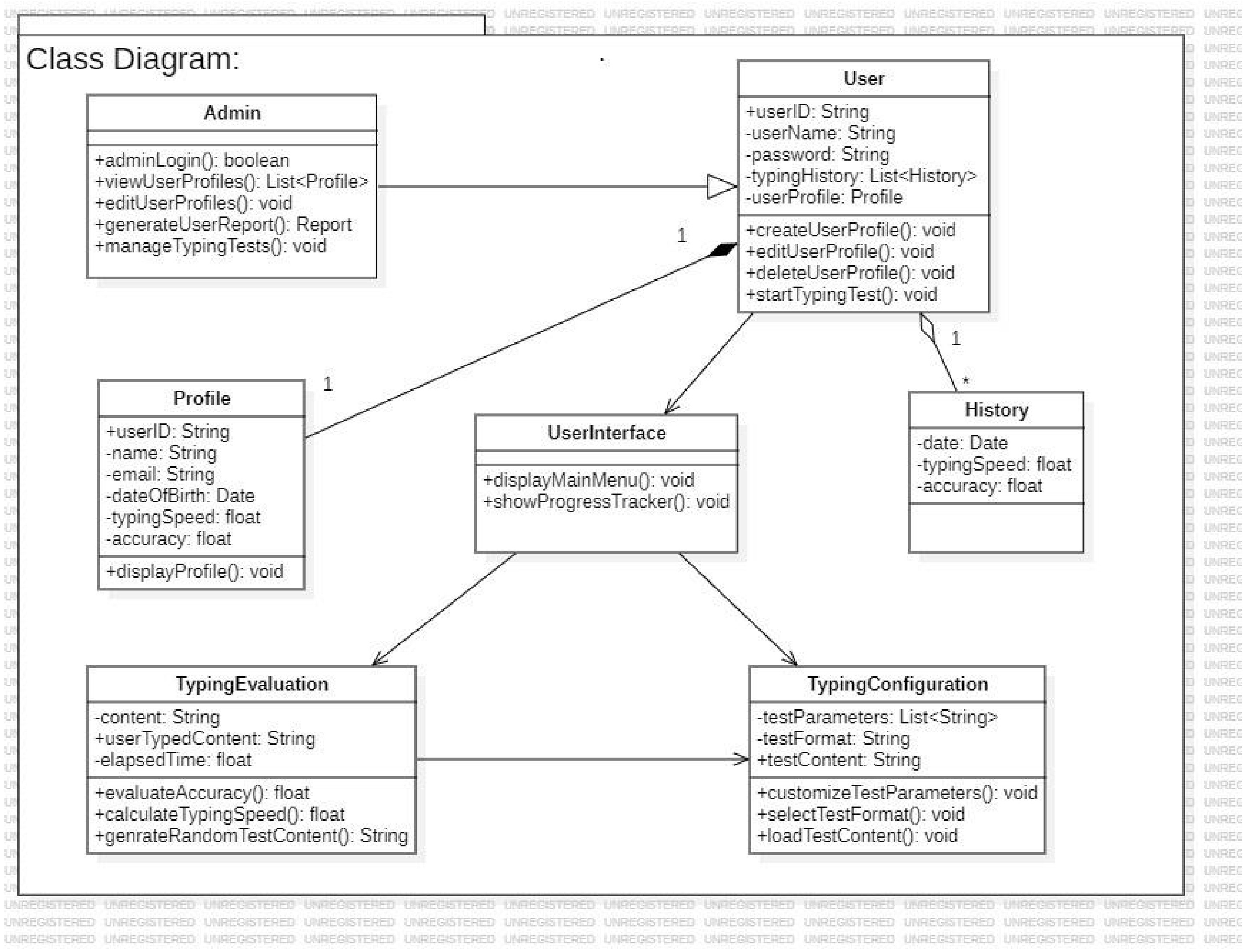
In summary, the primary objective of the proposed Rapid Writer Test system is to empower users with a reliable, user-friendly, and technologically advanced platform for honing their typing skills, contributing to their overall proficiency and adaptability in various personal and professional scenarios.

CHAPTER 3: ANALYSIS AND DESIGN

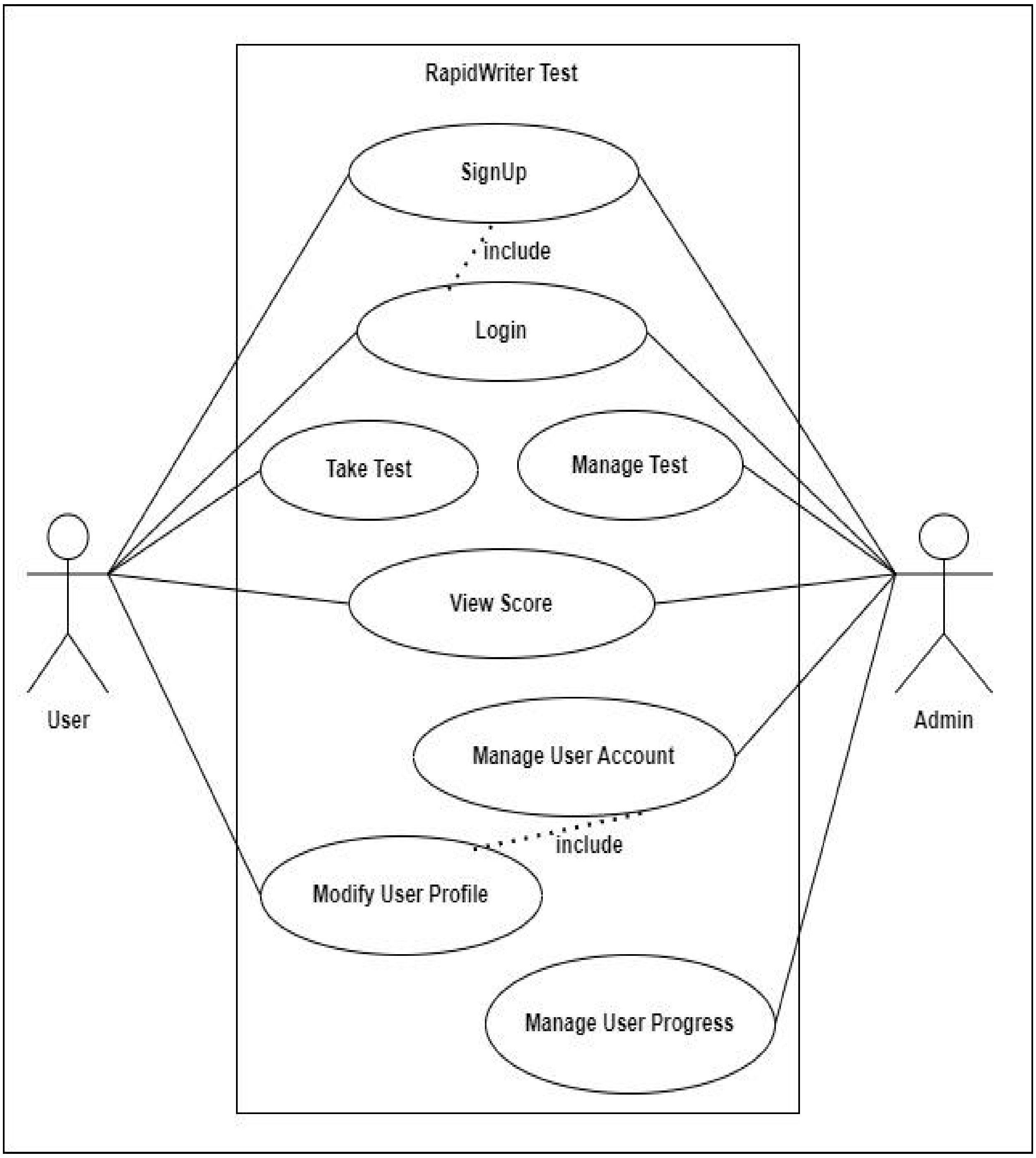
3.1 Entity Relationship Diagram (ERD)



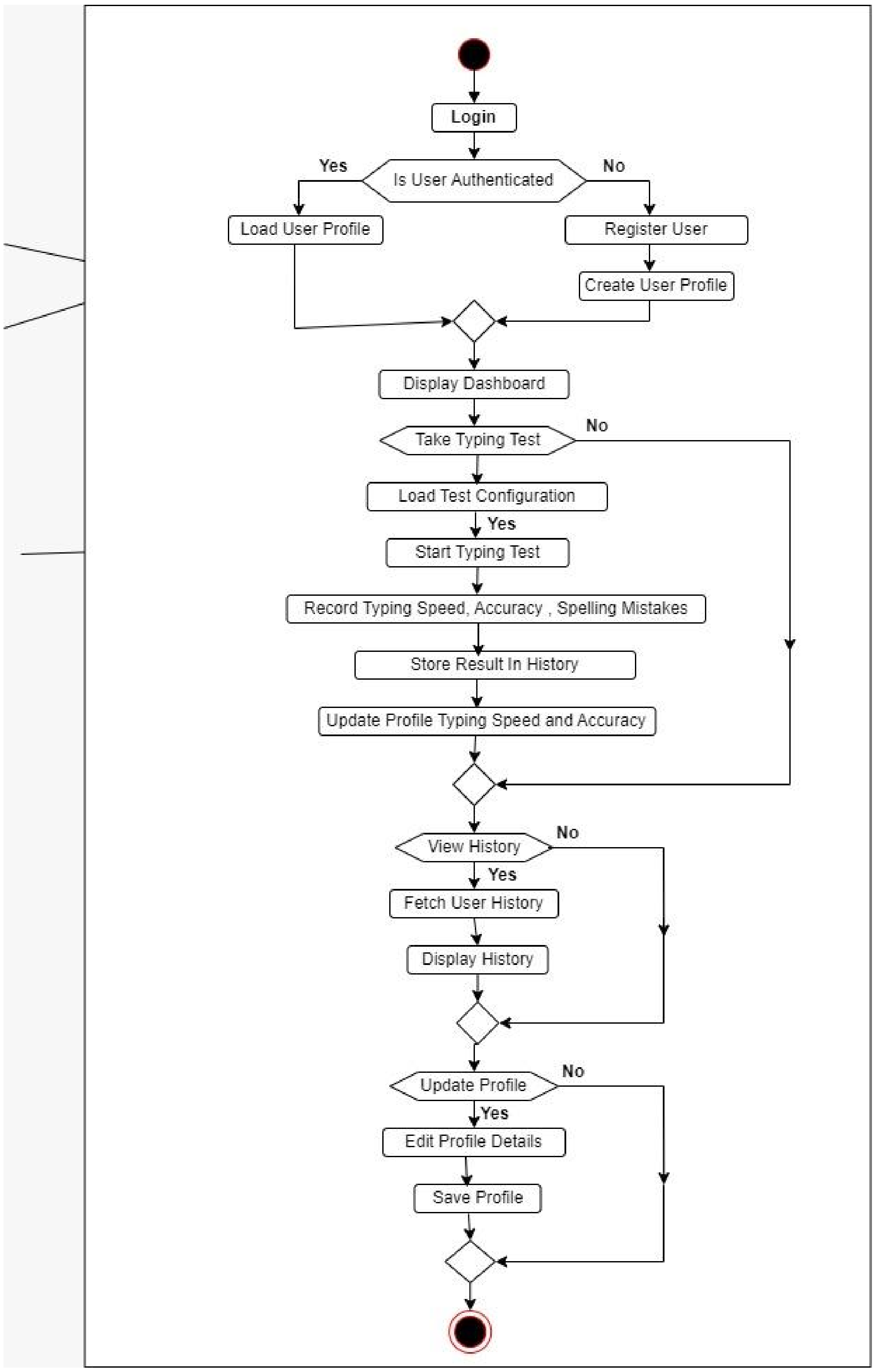
3.2 Class Diagram



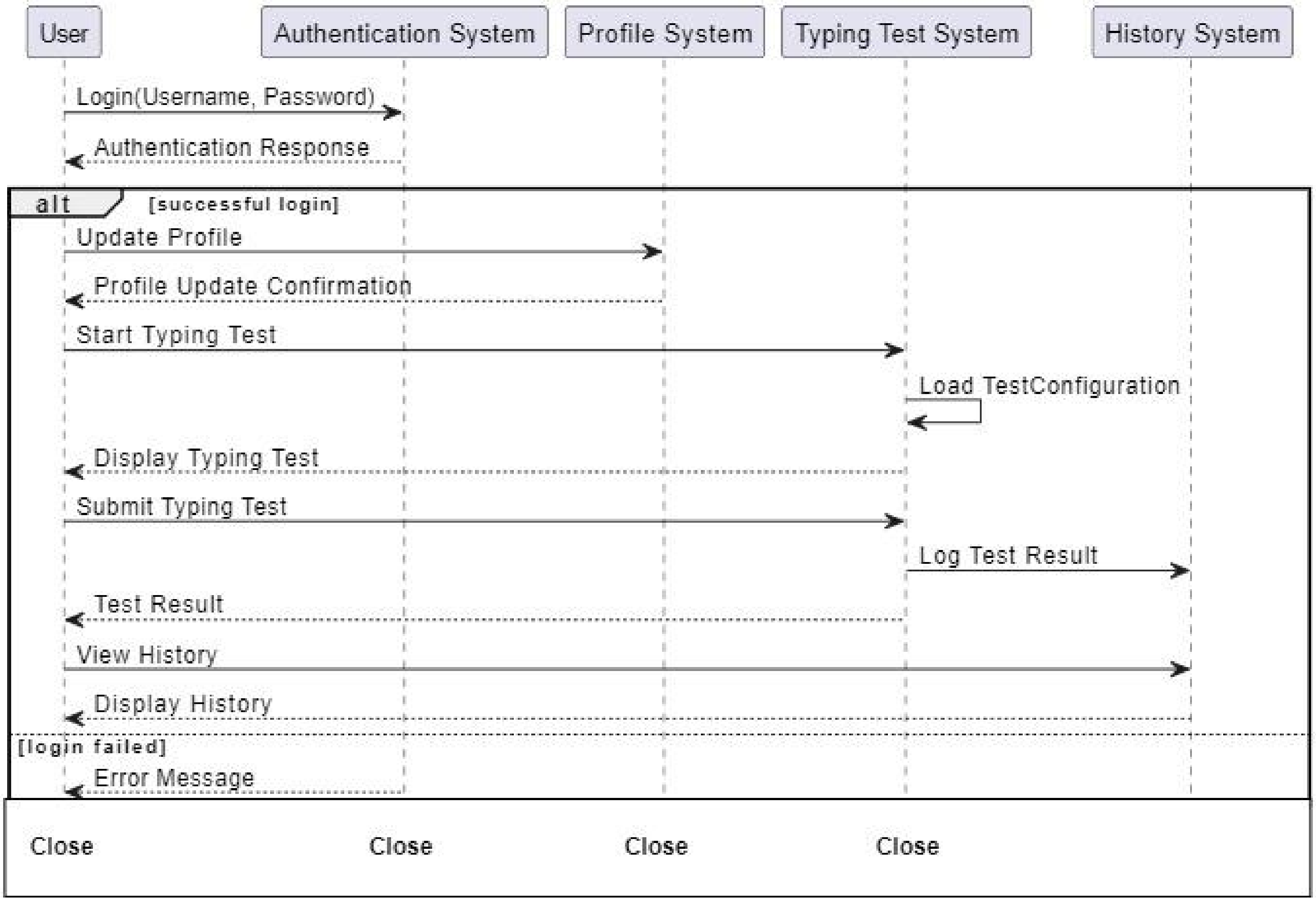
3.3 Use Case Diagrams:



3.4 Activity Diagram:



3.5 Sequence Diagram:



3.6 Component Diagram:

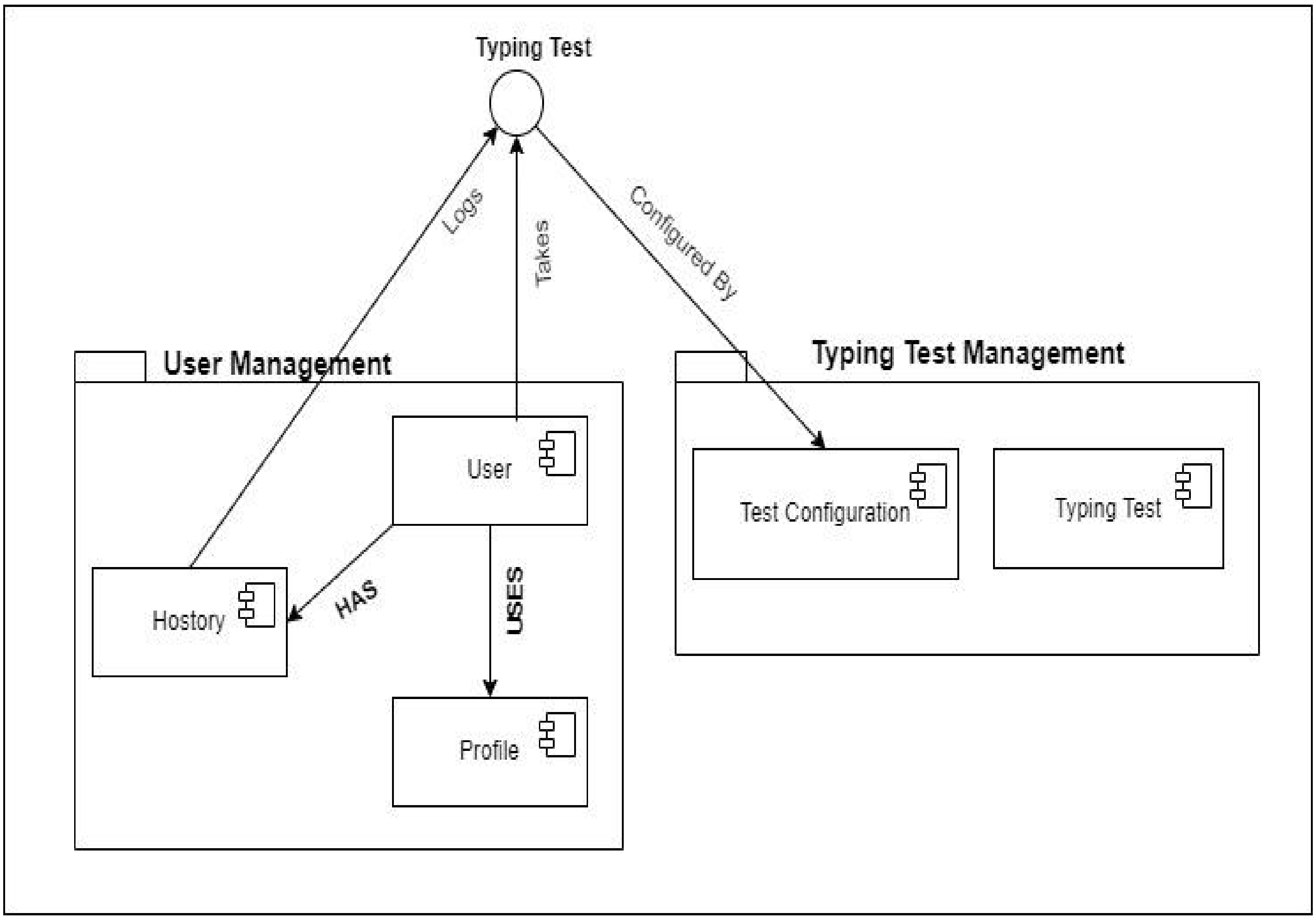
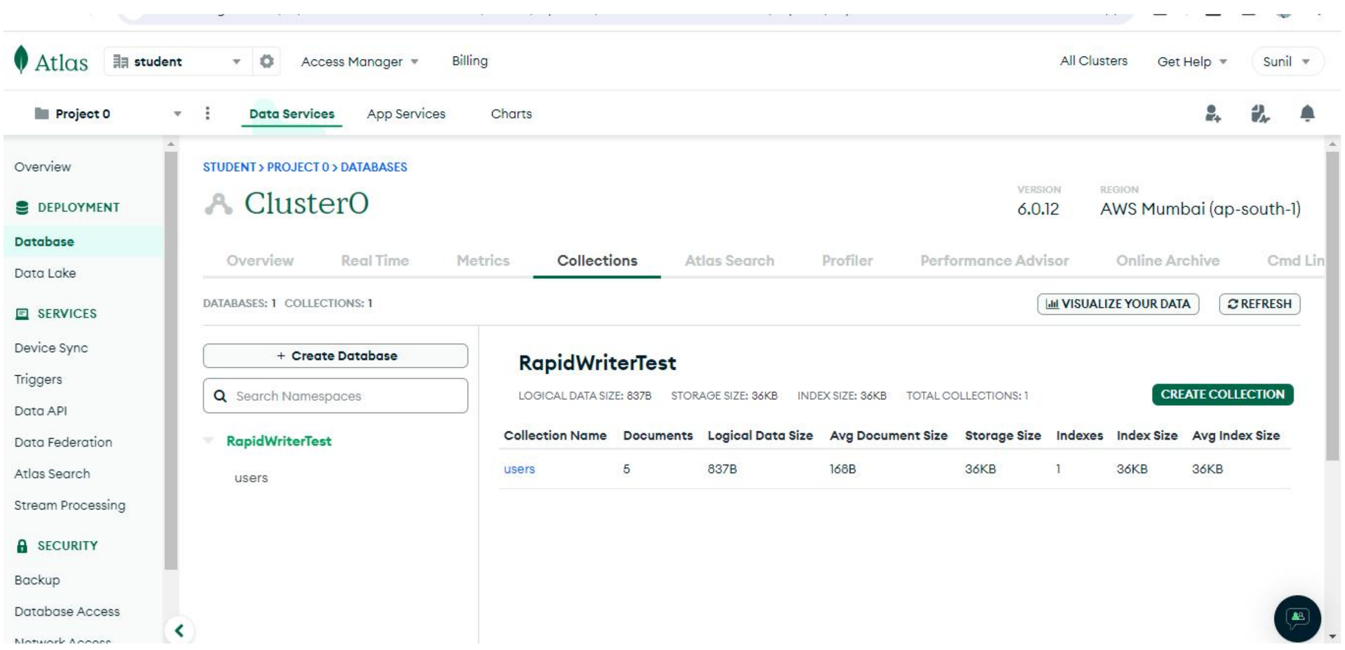


Table Design:

Database name : **RapidWriterTest**

Collections: **users**



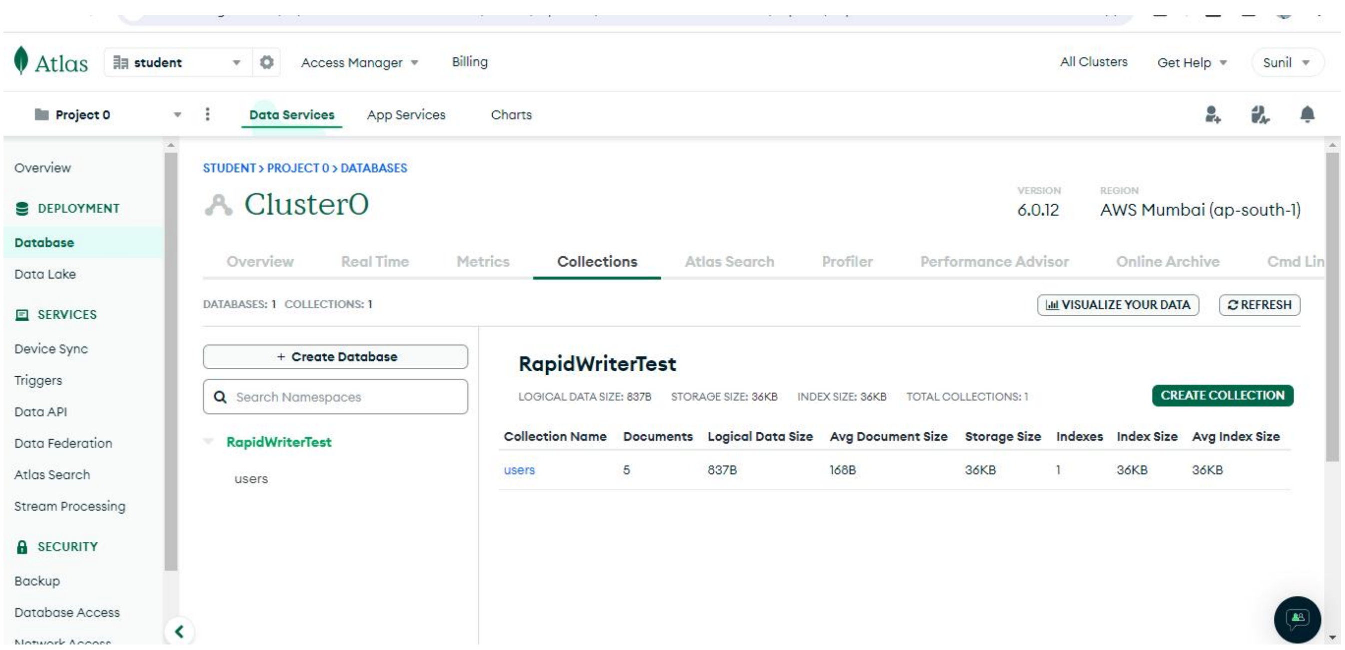
VERSION 6.0.12 REGION AWS Mumbai (ap-south-1)

DATABASES: 1 COLLECTIONS: 1

RapidWriterTest

LOGICAL DATA SIZE: 837B STORAGE SIZE: 36KB INDEX SIZE: 36KB TOTAL COLLECTIONS: 1

Collection Name	Documents	Logical Data Size	Avg Document Size	Storage Size	Indexes	Index Size	Avg Index Size
users	5	837B	168B	36KB	1	36KB	36KB



RapidWriterTest

LOGICAL DATA SIZE: 837B STORAGE SIZE: 36KB INDEX SIZE: 36KB TOTAL COLLECTIONS: 1

Collection Name	Documents	Logical Data Size	Avg Document Size	Storage Size	Indexes	Index Size	Avg Index Size
users	5	837B	168B	36KB	1	36KB	36KB

CHAPTER 4: CODING SAMPLE CODE

```html
<!DOCTYPE html>
<html lang="en">

<head>
   <!-- Meta Tags -->
   <meta charset="UTF-8">
   <meta http-equiv="X-UA-Compatible" content="IE=edge">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">

   <!-- Linking Assets -->
   <link rel="shortcut icon" href="assets/images/timer.png" type="image/x-icon">
   <link rel="stylesheet" href="assets/css/index.css">
   <link href='https://unpkg.com/boxicons@2.1.4/css/boxicons.min.css' rel='stylesheet'>
   <link rel="stylesheet" type="text/css"
      href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/5.15.1/css/all.min.css">

   <!-- Title -->
   <title>Typing Test : Test and practice your typing skills</title>
</head>

<body onresize="display()" class="index">
   <!-- Navigation Bar -->
   <nav>
      <div class="navbar">
         <!-- Website Brand/Logo -->
         <div class="brand">
            <a href="./index.html" class="brand-name">Typing Test</a>
         </div>
         <!-- Navigation Links (Centered) -->
         <div class="navigation">
            <ul class="main-menu">
               <li class="nav-item"><a href="practice.html" class="nav-item-link"><i class="fas fa-keyboard"></i>
                     Practice</a></li>
               <li class="nav-item"><a href="about.html" class="nav-item-link"><i class="fas fa-info-circle"></i>
                     About</a></li>
               <li class="nav-item"><a href="profile.html" class="nav-item-link"><i class="fas fa-user"></i>
                     Profile</a></li>
            </ul>
         </div>
         <!-- Github Repository Link -->
         <div class="github-icon">
            <a href="https://github.com/arpitghura/typing-test" class="nav-item-link"><i
                  class='bx bx-sm bxl-github'></i></a>
            </div>
            <!-- Mobile Navigation Icon -->
            <div class="mobile-nav">
                <div class="bar1"></div>
                <div class="bar2"></div>
                <div class="bar3"></div>
            </div>
        </div>
    </nav>
    <!-- End of Navigation Bar -->

    <main>

        <!-- Webstie Description -->
        <section id="hero">
            <div class="left-section">
                <h1>Master Your Typing Skills in 1 minute</h1>
                <p class="subtitle">We have large variety of test and practice sessions which you can perform to
                    practice and test your typing skills. Based on your performance your report will be generated.</p>
                <!-- <a href="./practice.html" class="heroBtn test"> Test Skills <span>&RightArrowBar;</span></a> -->
                <a href="./practice.html" class="heroBtn practice"> Practice </a>
            </div>
            <div class="right-section">
                <img src="./assets/images/heroImage.jpg" alt="Women Typing on the computer. Image by christina
morillo">
            </div>
        </section>
        <!-- End of Website Description -->

        <!-- Features -->
        <section id="features">
            <div class="feature">
                <img src="./assets/images/timer.png" alt="Time Based Practice Sessions">
                <h3>Time Based Practice</h3>
                <p>You can quantify your skills in a certain interval of time by using timed practise and testing
                    sessions.</p>
            </div>
            <div class="feature">
                <img src="./assets/images/file.png" alt="Paragraph Based Practice Sessions">
                <h3>Paragraph Based Practice</h3>
                <p>You can assess your typing abilities without any time constraints with a paragraph-based session.
                </p>
            </div>
            <div class="feature">
                <img src="./assets/images/growth-graph.png" alt="Difficulty and Case Selection Sessions">
                <h3>Difficulty and Case Selection</h3>
                <p>There are several alternatives available to test your typing abilities based on the amount of
                    difficulty you choose.</p>
            </div>
        </section>
        <!-- End of Features -->
    </main>

    <!-- Footer -->
    <footer>
        <!-- Copyright -->
        <p>
            Made with &hearts; by Sunil Shinde. All Rights Reserved &copy; <span id="copyright"></span>
        </p>
    </footer>
    <!-- End of Footer -->

    <!-- Scripts -->
    <script>document.getElementById('copyright').appendChild(document.createTextNode(new
Date().getFullYear()))</script>
    <script src="assets/js/index.js"></script>

</body>

</html>
```

User.routes.js

```
const express = require("express")
const { UserModel } = require("../model/user.model")
const jwt = require("jsonwebtoken")
const bcrypt = require("bcrypt")

const userRouter = express.Router();

userRouter.post("/register", async (req, res) => {
  const { name, email, password, address } = req.body
  const findemail = await UserModel.find({ "email": email })
```

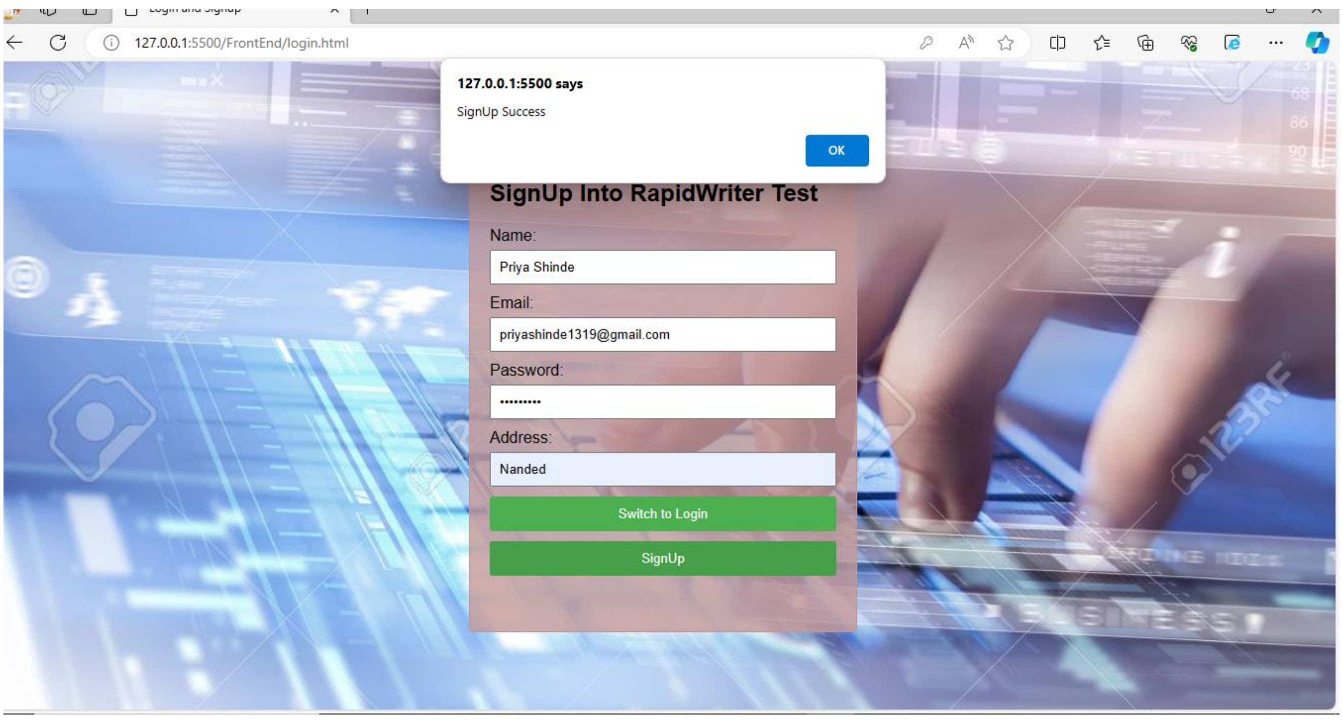
```
 if (findemail.length > 0) {
   res.send({ "msg": "User already exist please login" })

 } else {
   try {
     bcrypt.hash(password, 5, async (err, hash) => {
       if (err) {
         res.send({ "msg": "Something went wring", "error": err.message })
       } else {
         const user = new UserModel({ name, email, password: hash, address })
         await user.save();
         res.send({ "msg": "New User register" })

       }
       // Store hash in your password Data Base.
     });

   } catch (err) {
     res.send({ "msg": "Something went wrong", "error": err.message })
     console.log(err)
   }
 }

})
userRouter.post("/login", async (req, res) => {
 const { email, password } = (req.body)
 try {
   const user = await UserModel.find({ email })
   console.log(user)
   if (user.length > 0) {
     bcrypt.compare(password, user[0].password, (err, result) => {
       if (result) {

         const token = jwt.sign({ userID: user[0]._id }, 'masai');
         res.send({ "msg": "Login sucess", "token": token, "user": user[0].name })

       } else {
         res.send({ "msg": "Incorrect password" })
       }

     });

   } else {
     res.send({ "msg": " Email not found" })
   }
 }
 catch (err) {

   res.send({ "msg": "Something went wrong", "error": err.message })
   console.log(err)
```

```
  }
})
userRouter.put("/updateprofile", async (req, res) => {
  const { userID, name, email, password, address } = req.body;

  try {
    // Check if the user exists
    const user = await UserModel.findById(userID);

    if (!user) {
      return res.status(404).send({ "msg": "User not found" });
    }

    // Update user data
    user.name = name || user.name;
    user.email = email || user.email;
    user.city = address || user.address;

    if (password) {

      bcrypt.hash(password, 5, async (err, hash) => {
        if (err) {
          return res.status(500).send({ "msg": "Something went wrong", "error": err.message });
        }
        user.password = hash;
        await user.save();
        return res.send({ "msg": "User profile updated successfully" });
      });
    } else {
      // If no password provided, save without updating the password
      await user.save();
      return res.send({ "msg": "User profile updated successfully" });
    }
  } catch (err) {
    return res.status(500).send({ "msg": "Something went wrong", "error": err.message });
  }
});

// implementation of logout route

userRouter.post("/refresh-token", async (req, res) => {
  const { refreshToken } = req.body;


  const newToken = jwt.sign({ userID: "someUserID" }, 'masai', { expiresIn: '1h' });

  res.send({ "token": newToken });
});
```

```
userRouter.post("/logout", async (req, res) => {
  const { token } = req.body;

  try {

    const isTokenBlacklisted = await BlacklistTokenModel.exists({ token });

    if (isTokenBlacklisted) {
      return res.status(401).send({ "msg": "Token is already blacklisted" });
    }

    // Blacklist the token
    await new BlacklistTokenModel({ token }).save();
    res.send({ "msg": "Logout successful" });
  } catch (err) {
    console.error(err);
    res.status(500).send({ "msg": "Something went wrong" });
  }
});

module.exports = {
  userRouter
}
```

Sample Input and Output:

Registration Page:



127.0.0.1:5500/FrontEnd/login.html

127.0.0.1:5500 says

SignUp Success

SignUp Into RapidWriter Test

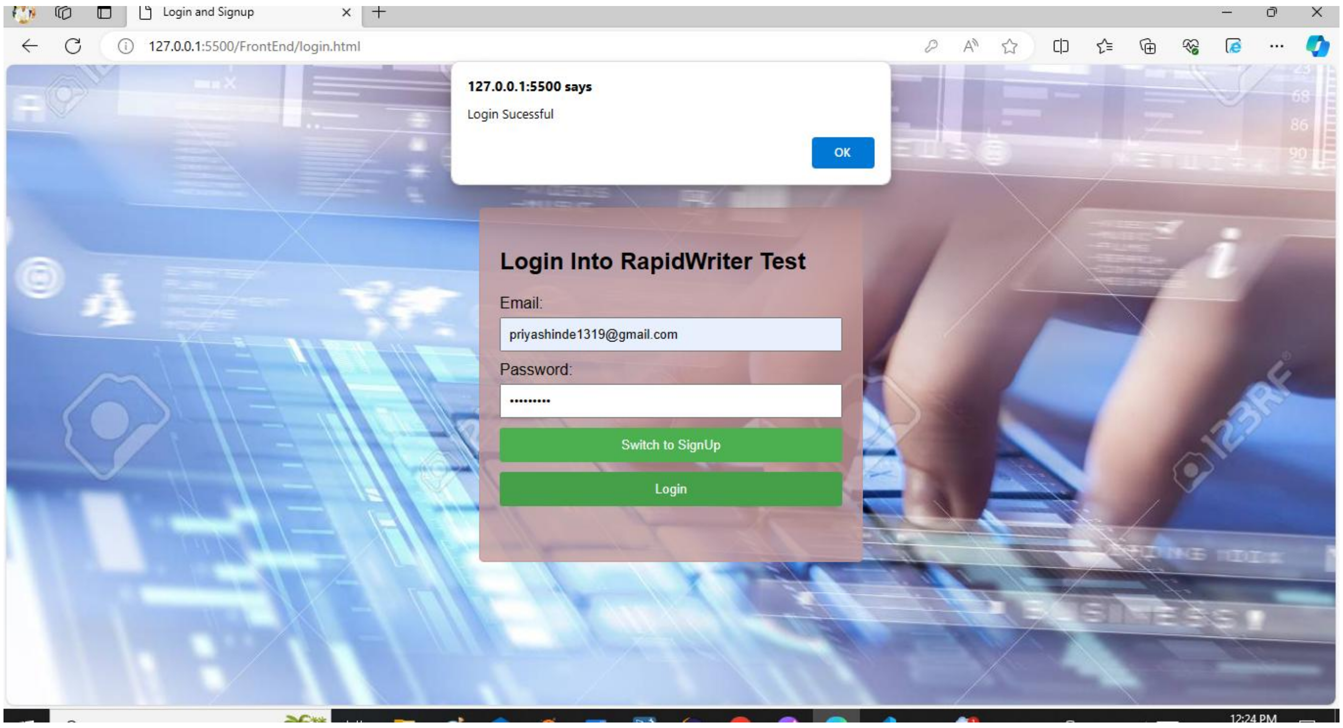
Name: Priya Shinde

Email: priyashinde1319@gmail.com

Password: •••••••••

Address: Nanded

Login Page:


Login and Signup

127.0.0.1:5500/FrontEnd/login.html

127.0.0.1:5500 says

Login Sucessful

OK

Login Into RapidWriter Test

Email:

priyashinde1319@gmail.com

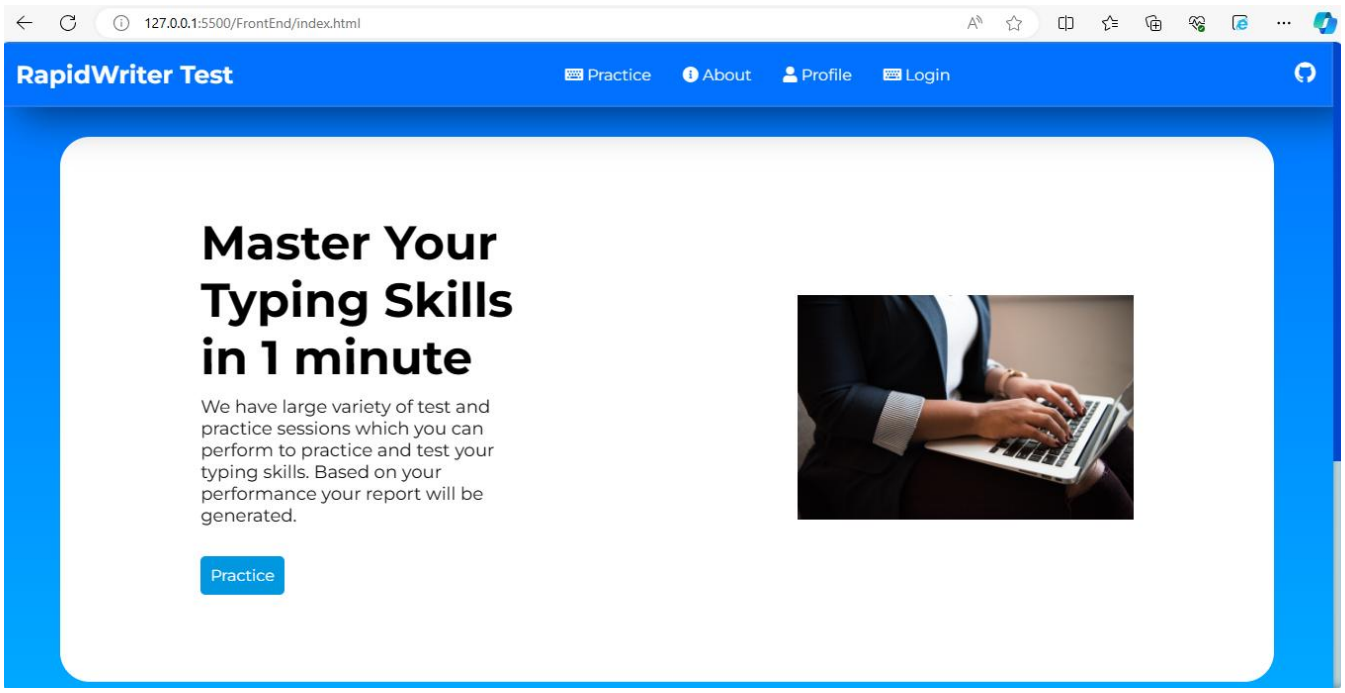
Password:

•••••••••

Switch to SignUp

Login

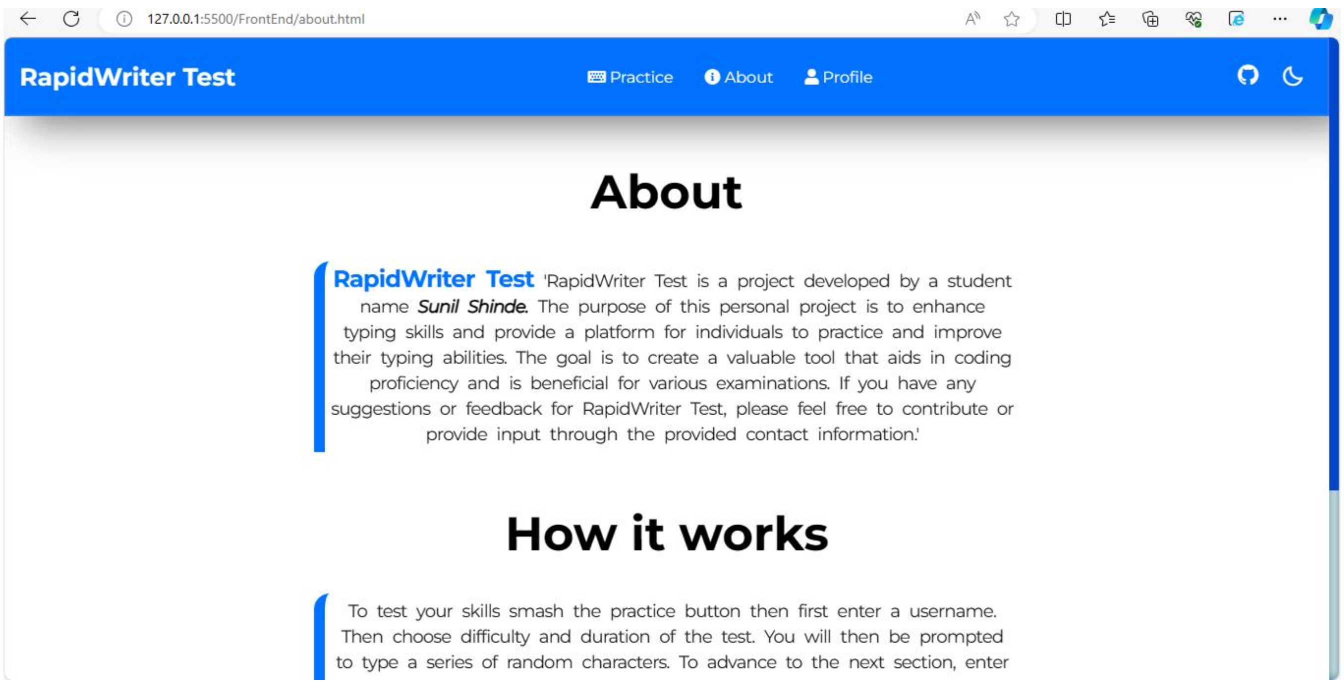
Index Page:



Master Your Typing Skills in 1 minute

We have large variety of test and practice sessions which you can perform to practice and test your typing skills. Based on your performance your report will be generated.

About Page:



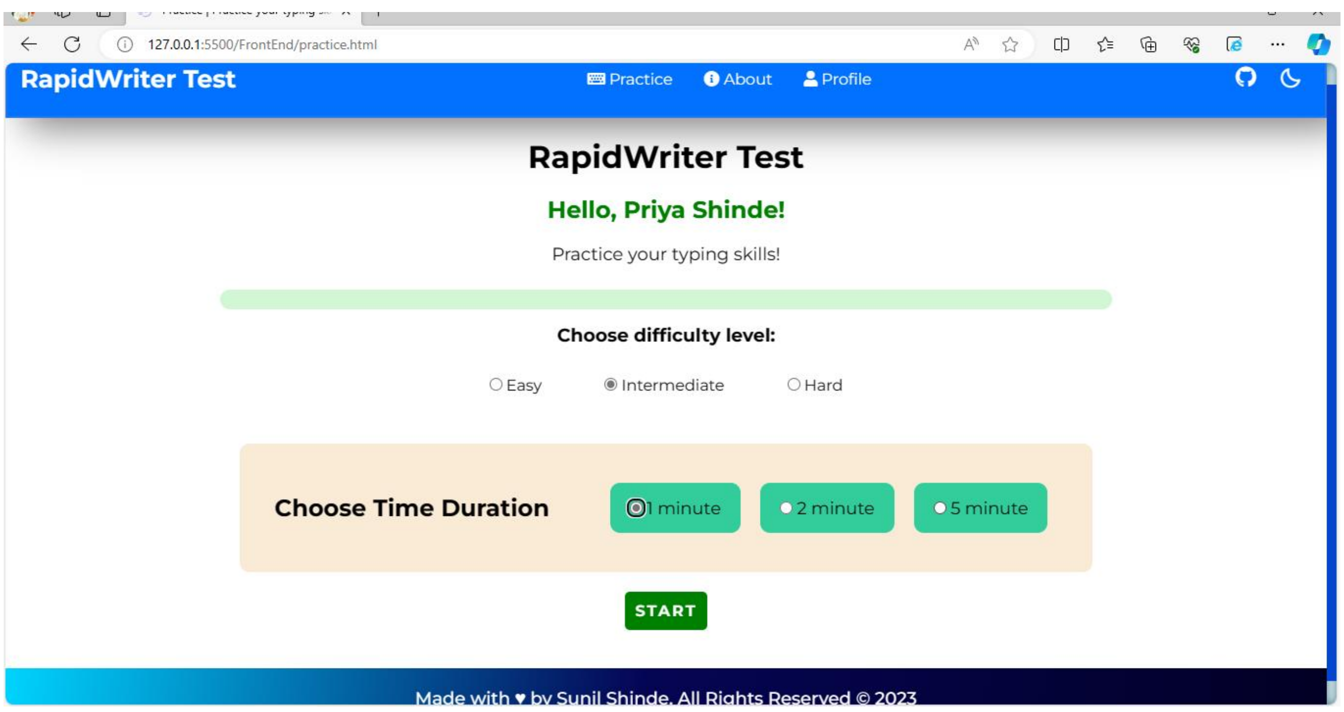
About

RapidWriter Test 'RapidWriter Test is a project developed by a student name *Sunil Shinde*. The purpose of this personal project is to enhance typing skills and provide a platform for individuals to practice and improve their typing abilities. The goal is to create a valuable tool that aids in coding proficiency and is beneficial for various examinations. If you have any suggestions or feedback for RapidWriter Test, please feel free to contribute or provide input through the provided contact information.'

How it works

To test your skills smash the practice button then first enter a username. Then choose difficulty and duration of the test. You will then be prompted to type a series of random characters. To advance to the next section, enter

Practice Level Choose Page:


127.0.0.1:5500/FrontEnd/practice.html

RapidWriter Test

Hello, Priya Shinde!

Practice your typing skills!

Choose difficulty level:

Easy [✓ Intermediate] Hard

Choose Time Duration

[✓ 1 minute] 2 minute 5 minute

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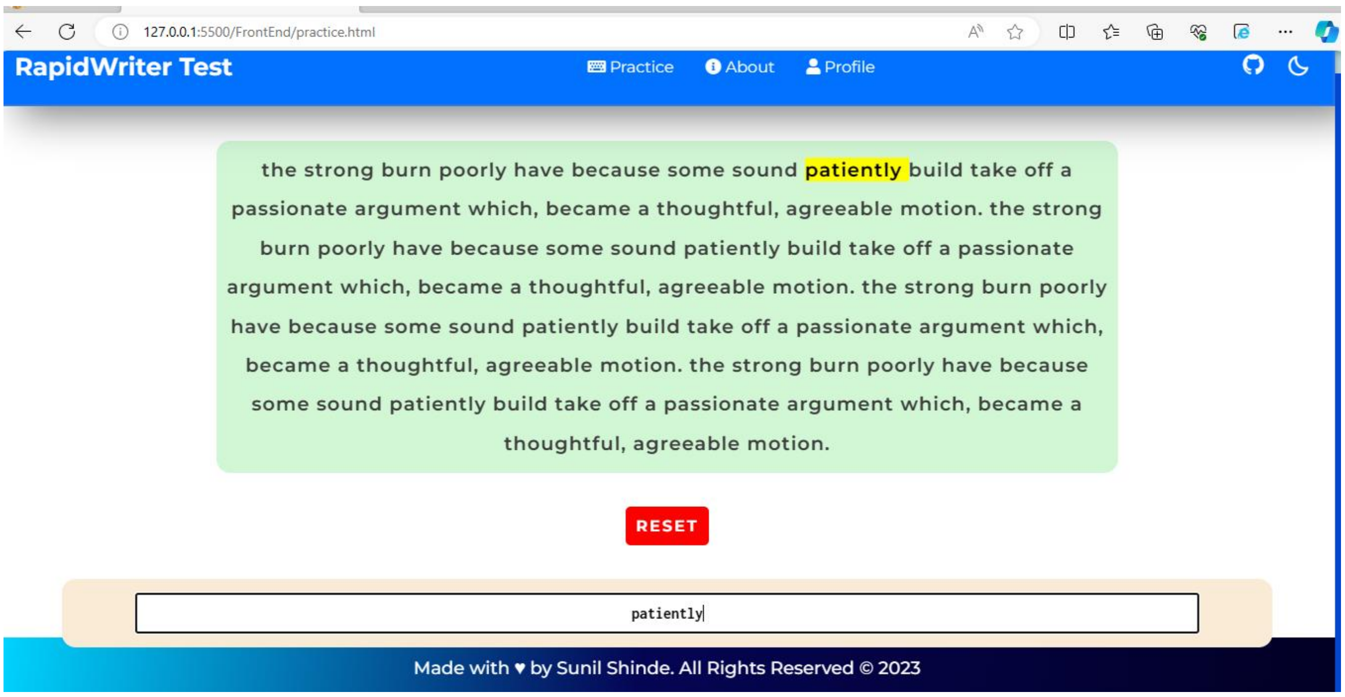
Practice UI:



the strong burn poorly have because some sound patiently build take off a passionate argument which, became a thoughtful, agreeable motion. the strong burn poorly have because some sound patiently build take off a passionate argument which, became a thoughtful, agreeable motion. the strong burn poorly have because some sound patiently build take off a passionate argument which, became a thoughtful, agreeable motion. the strong burn poorly have because some sound patiently build take off a passionate argument which, became a thoughtful, agreeable motion.

patiently

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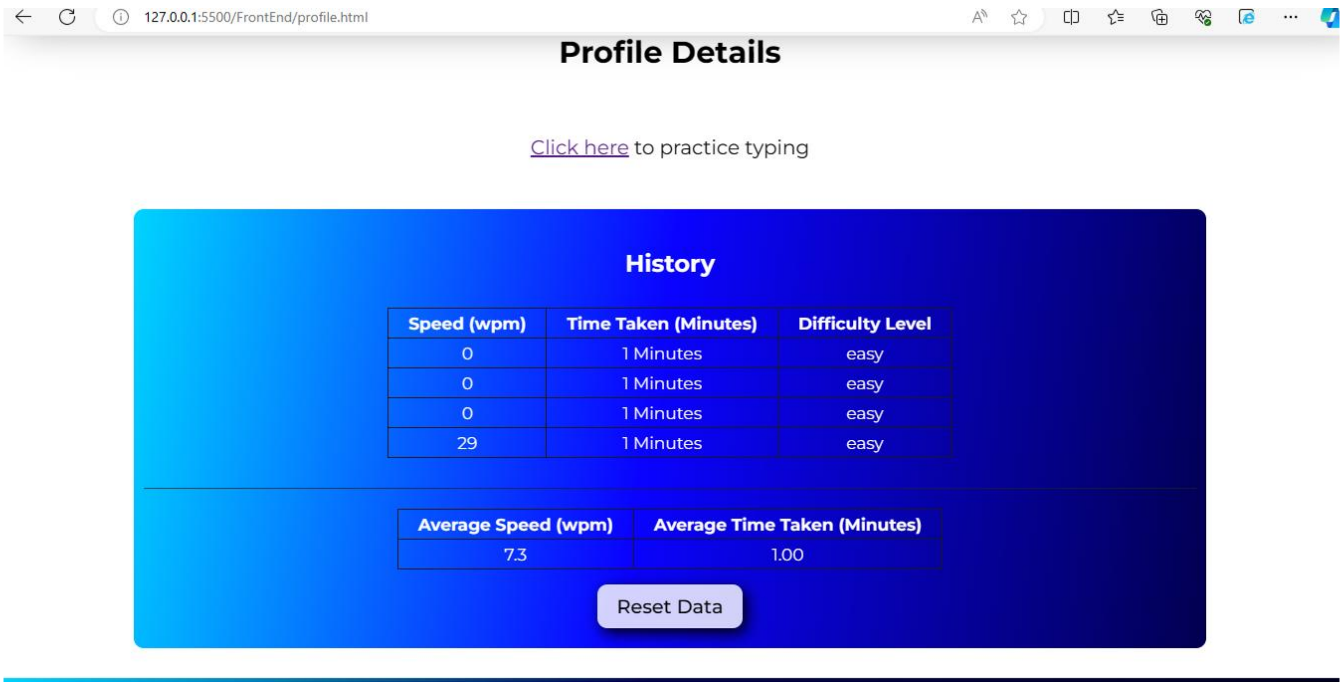
Profile Details Page:


127.0.0.1:5500/FrontEnd/profile.html

Profile Details

Click here to practice typing

History

Speed (wpm)	Time Taken (Minutes)	Difficulty Level
0	1 Minutes	easy
0	1 Minutes	easy
0	1 Minutes	easy
29	1 Minutes	easy

Average Speed (wpm)	Average Time Taken (Minutes)
7.3	1.00

CHAPTER 5: LIMITATIONS OF SYSTEM

In considering the utilization of the Rapid Writer Test system, it is imperative to acknowledge its inherent limitations. The system's web-based nature necessitates a stable internet connection, potentially hindering accessibility in areas with limited connectivity. Device compatibility becomes crucial, with users facing limitations if their devices do not meet specified technical requirements. Scalability challenges may arise during peak usage, affecting performance, and security concerns underscore the importance of robust measures to protect user data. Limited training modules and potential browser compatibility issues further contribute to the system's constraints. Recognizing these limitations is vital for users and administrators to make informed decisions, implement necessary mitigations, and optimize the overall user experience.

CHAPTER 6: PROPOSED ENHANCEMENTS

Several key enhancements are proposed to elevate the functionality and user experience of the Rapid Writer Test system:

Interactive Training Modules: Introduce more interactive training modules, including gamified exercises and adaptive learning paths, to provide users with a dynamic and engaging environment for improving their typing skills.

Real-time Performance Analytics: Implement real-time performance analytics to offer users immediate insights into their typing speed, accuracy, and areas for improvement during and after each typing test. This feature aims to provide more actionable feedback for continuous skill enhancement.

Integration with Learning Management Systems: Explore integration capabilities with learning management systems (LMS) commonly used in educational institutions or corporate settings. This would facilitate seamless incorporation of typing assessments into existing learning and training workflows.
Overall These proposed enhancements aim to not only augment the existing capabilities of the Rapid Writer Test system but also to cater to diverse user needs, fostering a more engaging, inclusive, and effective environment for improving typing skills.

CHAPTER 7: CONCLUSION

In conclusion, the Rapid Writer Test system represents a valuable solution for users seeking to enhance their typing skills. This platform offers a user-friendly interface for conducting accurate typing assessments, tracking progress, and receiving real-time feedback. Users can access the system from various devices, promoting flexibility and convenience in their skill development journey. Despite the system's strengths, it is crucial to acknowledge certain limitations, such as internet dependency and potential scalability challenges during peak usage. To address these, proposed enhancements include interactive training modules, real-time performance analytics, multi-language support, collaborative learning features, and integration with learning management systems. These improvements aim to not only mitigate existing limitations but also enrich the user experience, fostering a more engaging and inclusive environment for users to refine their typing proficiency. In conclusion, the Rapid Writer Test system has the potential to significantly contribute to users' skill advancement, and with ongoing development, it can become an even more indispensable tool for individuals and institutions focused on enhancing typing capabilities.

CHAPTER 8: BIBLIOGRAPHY

https://reactjs.org/

https://www.w3schools.com/REACT/react_jsx.asp

https://www.mongodb.com/

https://chat.openai.com/chat

https://www.youtube.com/