Product Design

Project: Personality Prediction Using Machine Learning

Team: Team Binary

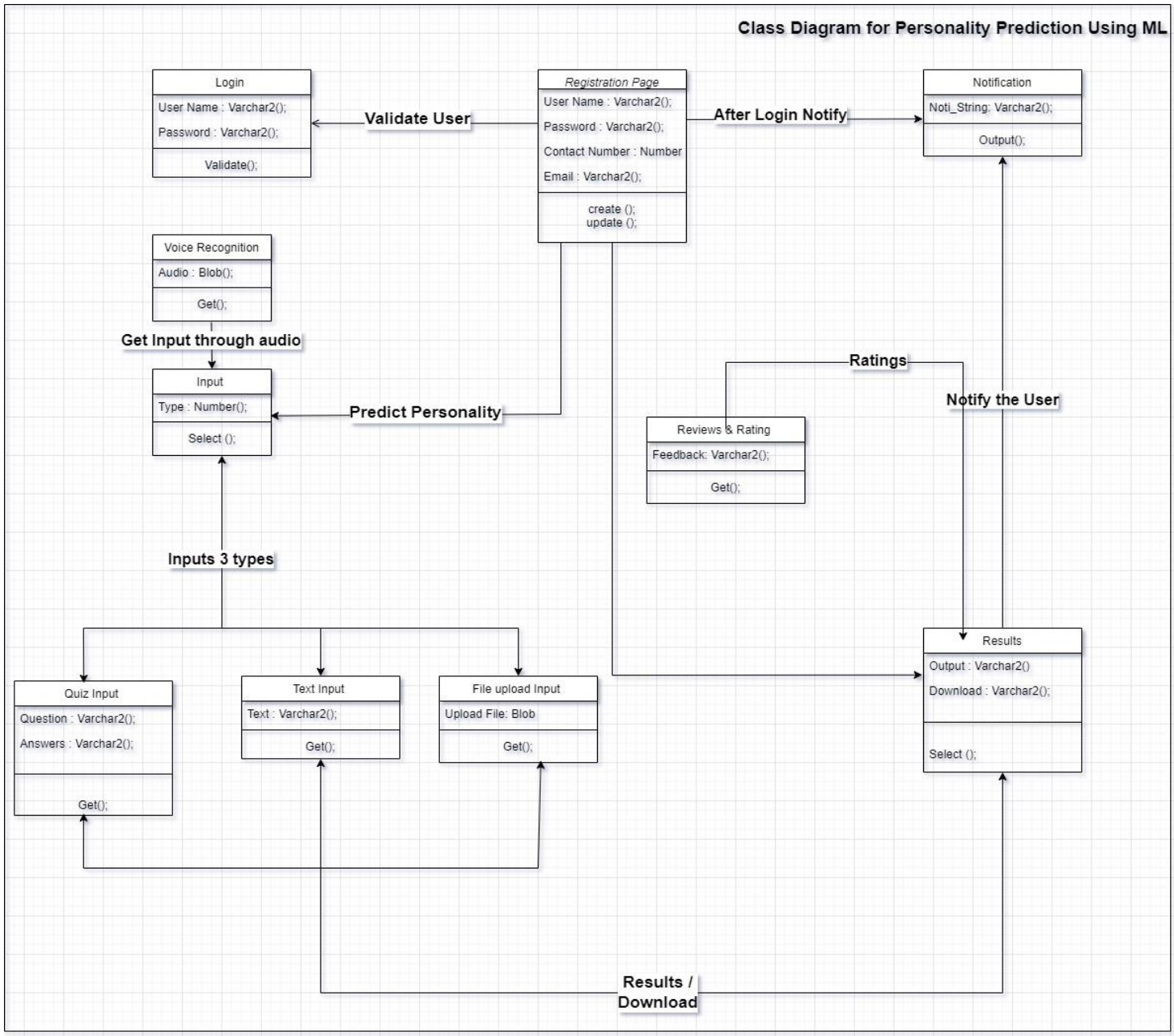
Revision History

Revision Number	Date	Summary of Changes	Author(s)
1.0	09-21-2023	Changes done in Sequence diagram of CSV Data File Import	Bhargavi Chandu
1.0	09-22-2023	Changes done in the UI design of Registration Page	Bhargavi Chandu
1.0	09-23-2023	Changes done in the UI design of Login Page	Bhargavi Chandu
1.0.1	09-23-2023	Changes made in the UI design of Registration Page.	Bhargavi Chandu
1.0	09-24-2023	Changes made in the sequence diagram of update profile	Chandana
1.0	09-24-2023	Changes made in the sequence diagram of ratings and review	Chandana
1.0	09-20-2023	Class Diagram for the Application	Abinesh Haridoss
1.0	09-22-2023	ER-Diagram for the Application	Vinaya Varshini Ravichandran
1.0.1	09-21-2023	Updated the class diagram for Application	Abinesh Haridoss
1.0	09-21-2023	Sequence Diagram for the reCAPTCHA, Designed the UI	Abinesh Haridoss

1.0.1	09-23-2023	Sequence Diagram, Designed the UI,	Abinesh Haridoss
1.0	09-23-2023	Sequence Diagram for the Registration & Login	Vinaya Varshini Ravichandran
1.0	09-22-2023	Information Architecture Diagram, Design Rational	Abinesh Haridoss
1.0.2	09-24-2023	User Interface Wireframe for ReCAPTCHA, download result, ratings and review page	Abinesh Haridoss
1.0	09-24-2023	Sequence Diagram for Notification and the Notification UI	Vinaya Varshini Ravichandran
1.0	09-22-2023	User Interface Wireframe for Chatbot input page and Results page	Vinaya Varshini Ravichandran
1.0	09-22-2023	Sequence Diagram, Designed the UI	Bhanu Gadde
1.0.1	09-22-2023	Sequence Diagram, Designed the UI	Bhanu Gadde
1.0	09-22-2023	Sequence Diagram, Voice Recognition and Text Conversion and for the Designed the UI	Prudhvi Raju Vemula Manda

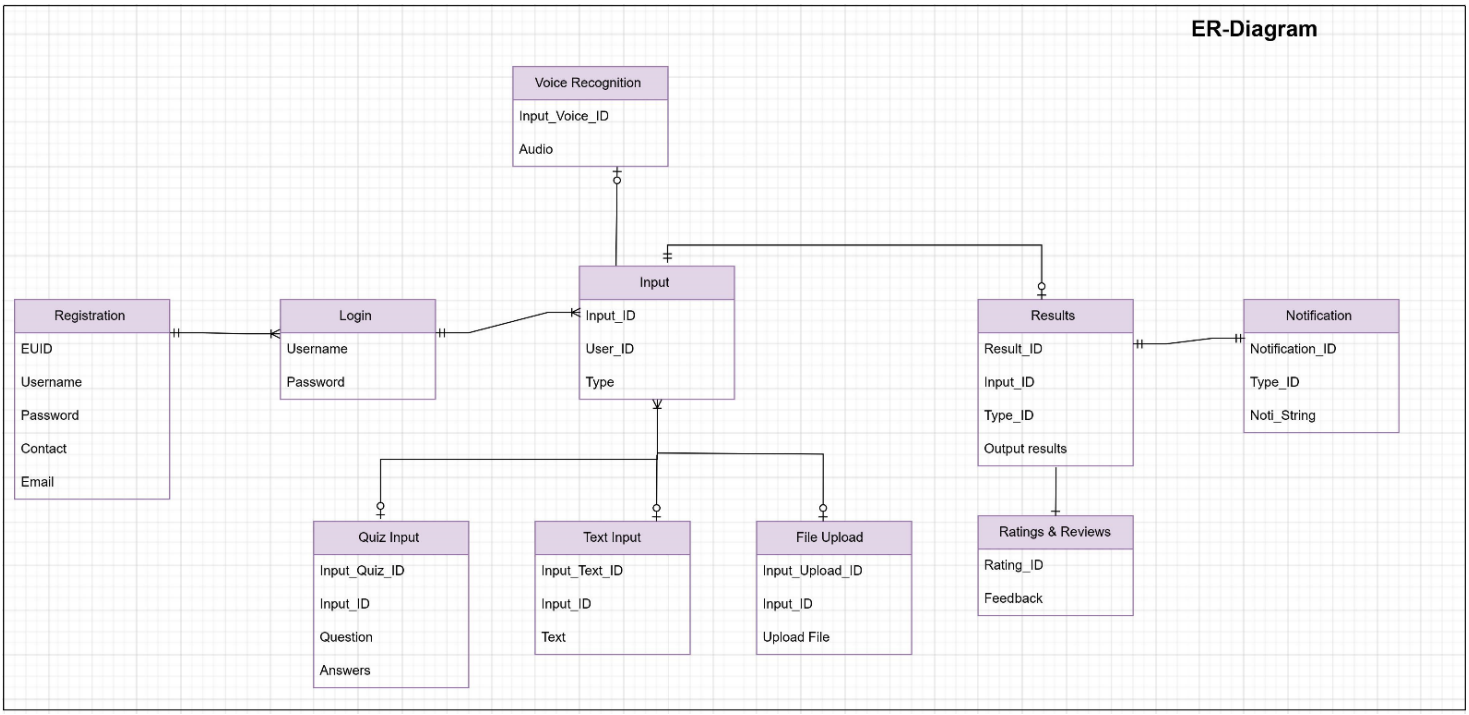
Class Diagram

- **Registration -** This class will create an account for the new users. After successfully creating an account, the user shall be able to access the application, also the user shall be able to update the data.
- **Login -** The Login module will authenticate the user to access the application, every time the user entry will be stored.
- **Input -** The input module is classified into three types, Quiz Input, Text Input, File Upload Input.
- **Quiz Input -** The quiz module will allow the user to answer the set of questions
- **Text Input –** The Text Input allow the user to paste the text messages and previous chat based on that it will categories the values
- **File Upload Input –** The File upload option where the users will be able to upload the datasets from twitter.
- **Results –** The input data will be processed and given in the result will define the person type and on the future update we will visualize it in the chart format.
- **Download –** The user shall be able to download the results which are generated by the system in the PDF format.
- **Notification –** The user get notified based on the type of notification



Class Diagram for Personality Predication

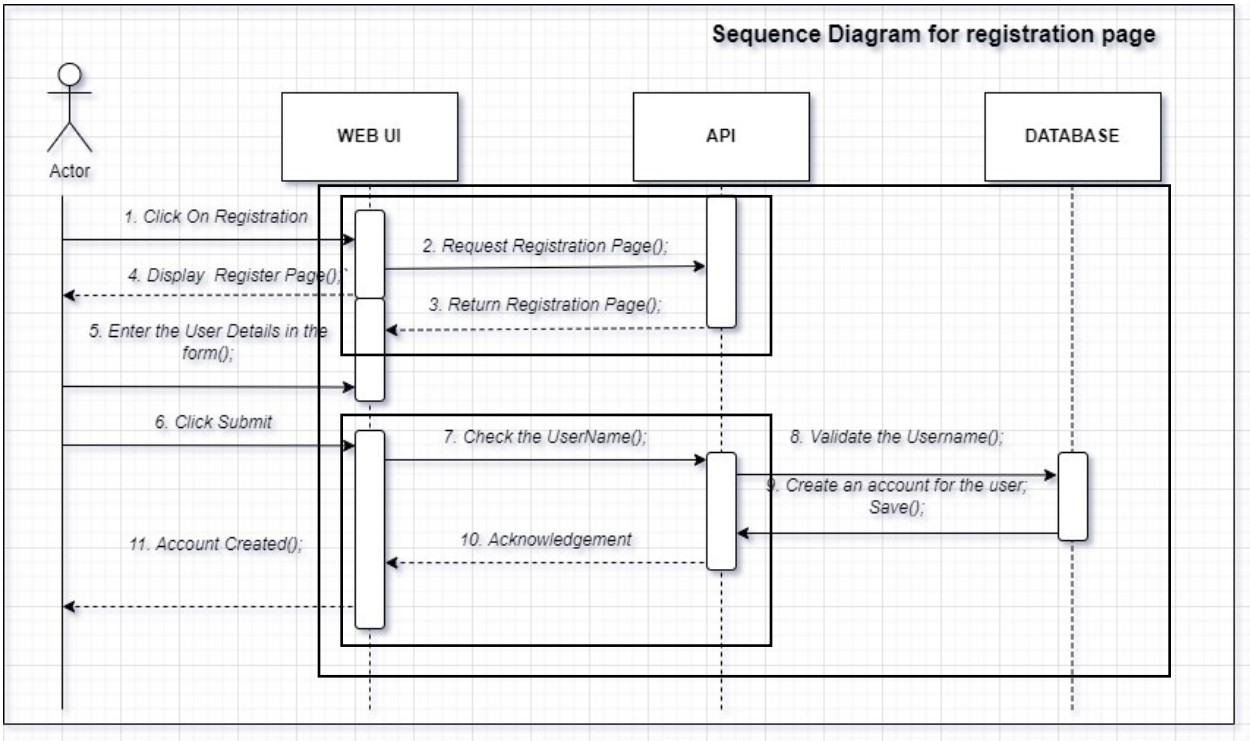
ER Diagram



Entity Relation (ER) - Diagram

Sequence Diagram

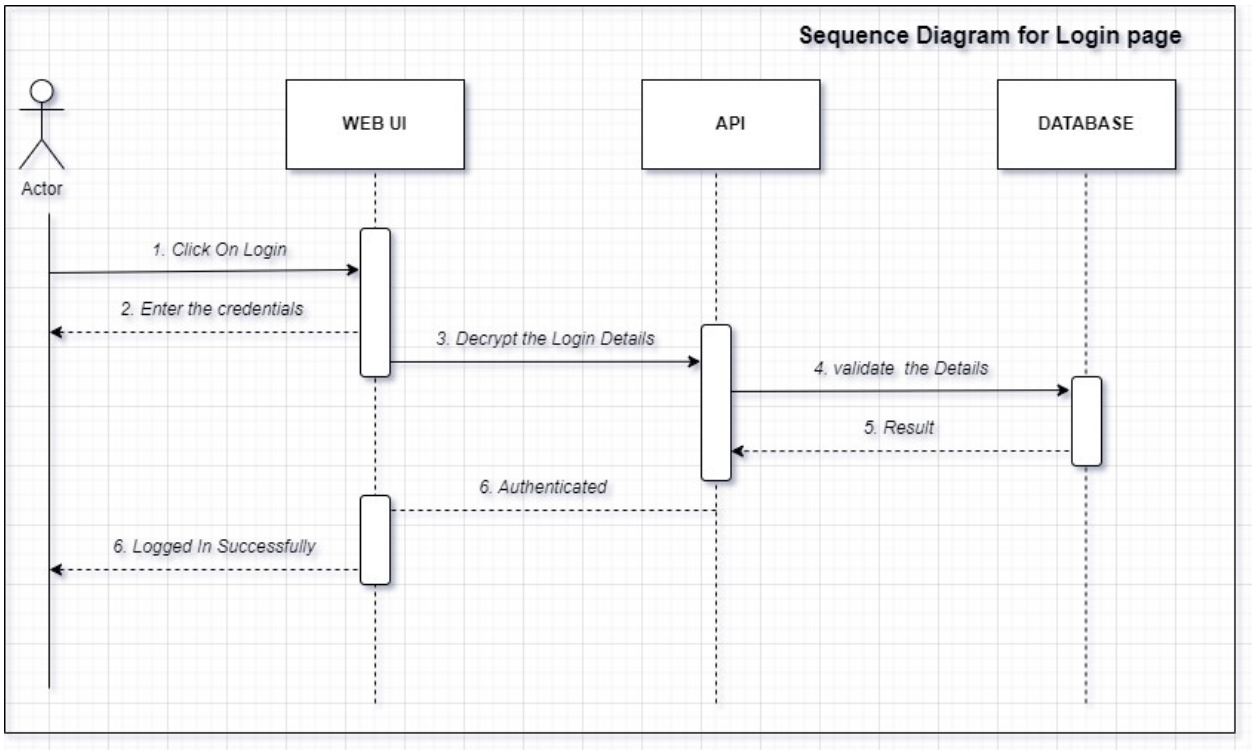
1.Registration



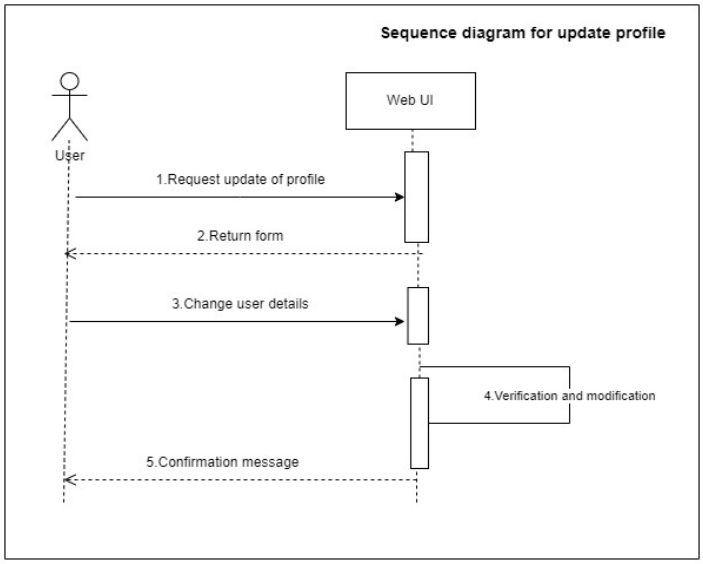
This diagram illustrates the steps involved which will help the user in registering to the website.

2.Login

This diagram outlines the typical steps involved in the user login process on a website**.**



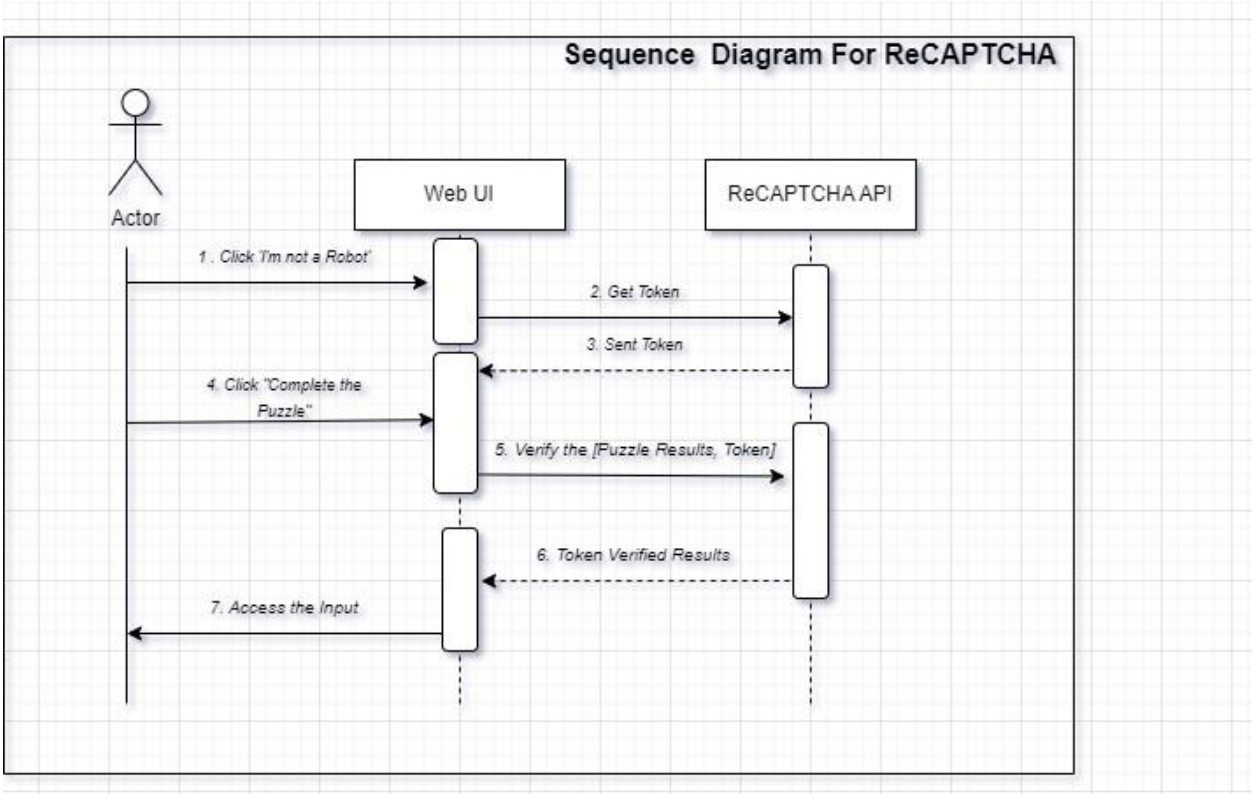
3.Update Profile



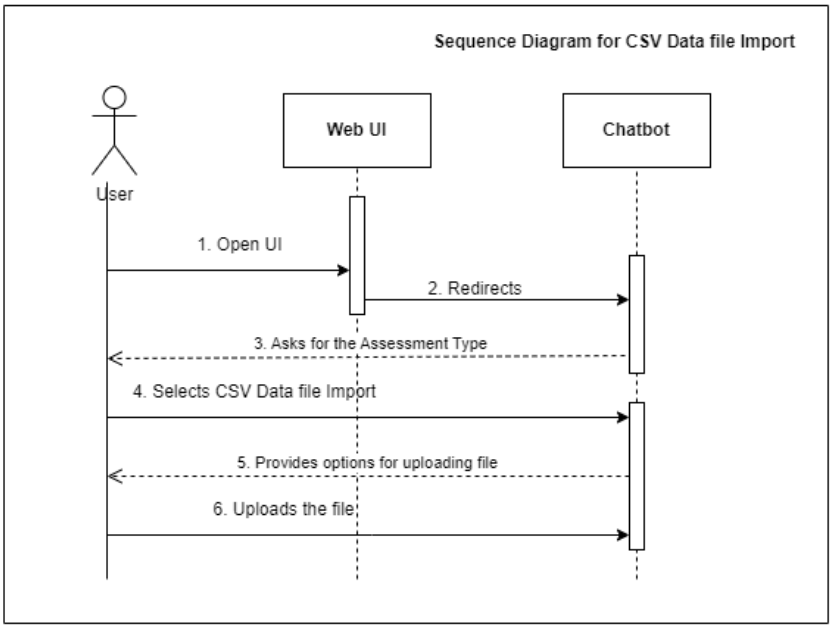
This diagram will describe the flow involved in updating the profile of the user.

4.reCAPTCHA Verification

This module the user shall be verified human or not.



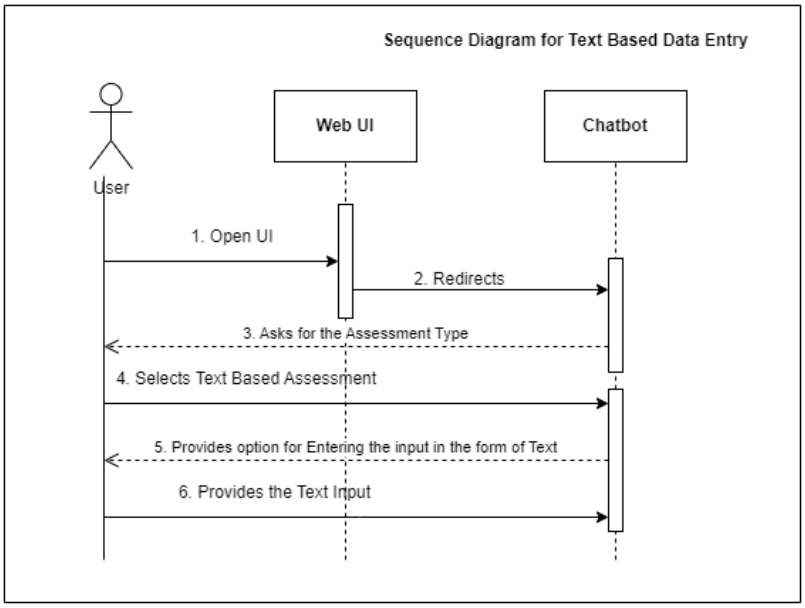
5.Input CSV File Data Import



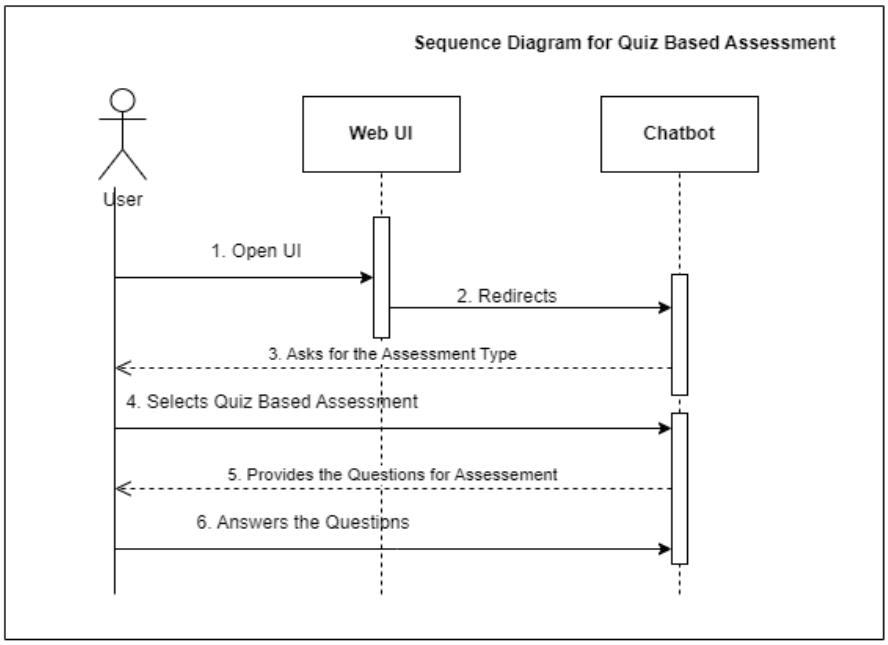
This diagram describes the sequence of steps a user performs for providing the csv data file as input for the system to assess his/her Personality

6. Text-Based Data Entry

Where the user will be able to give the Input based on the text paste it in the text format.



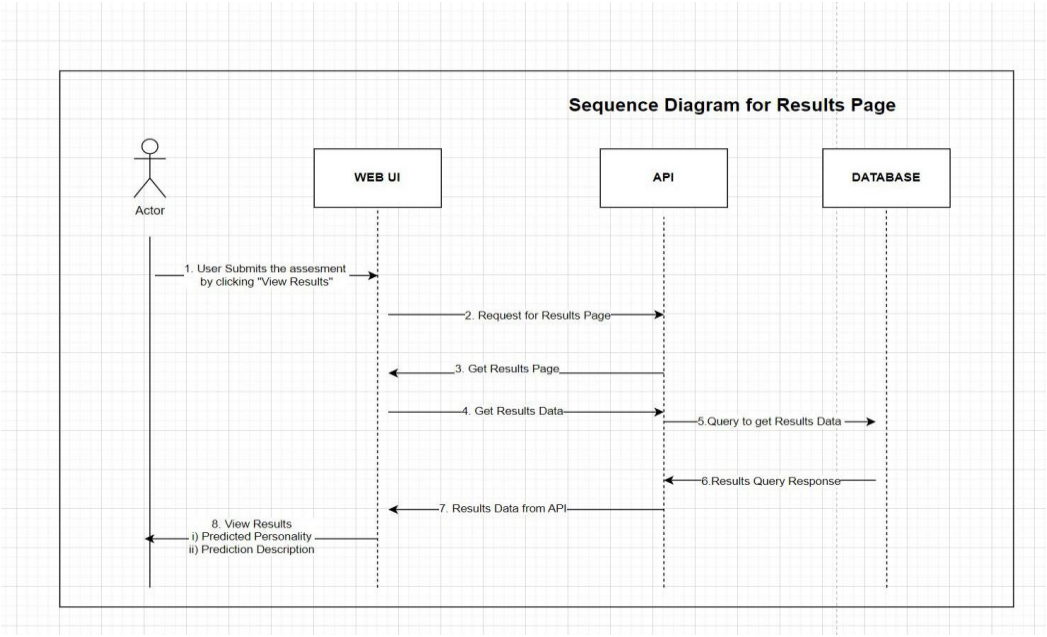
7.Quiz-Based Assessment



The diagram shows how users can take the quiz, which will help the system assess their personality.

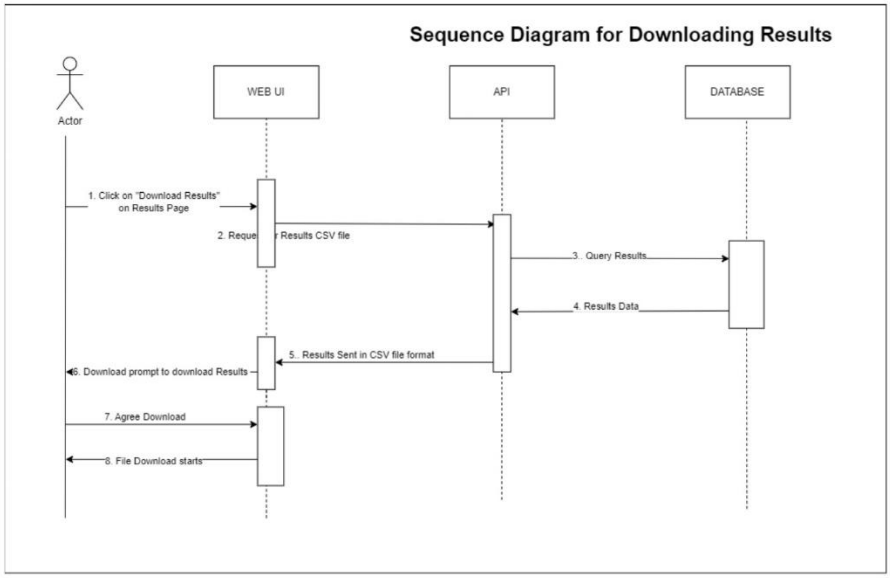
8.Result Page

The result page gives the predicted results for the given input type.



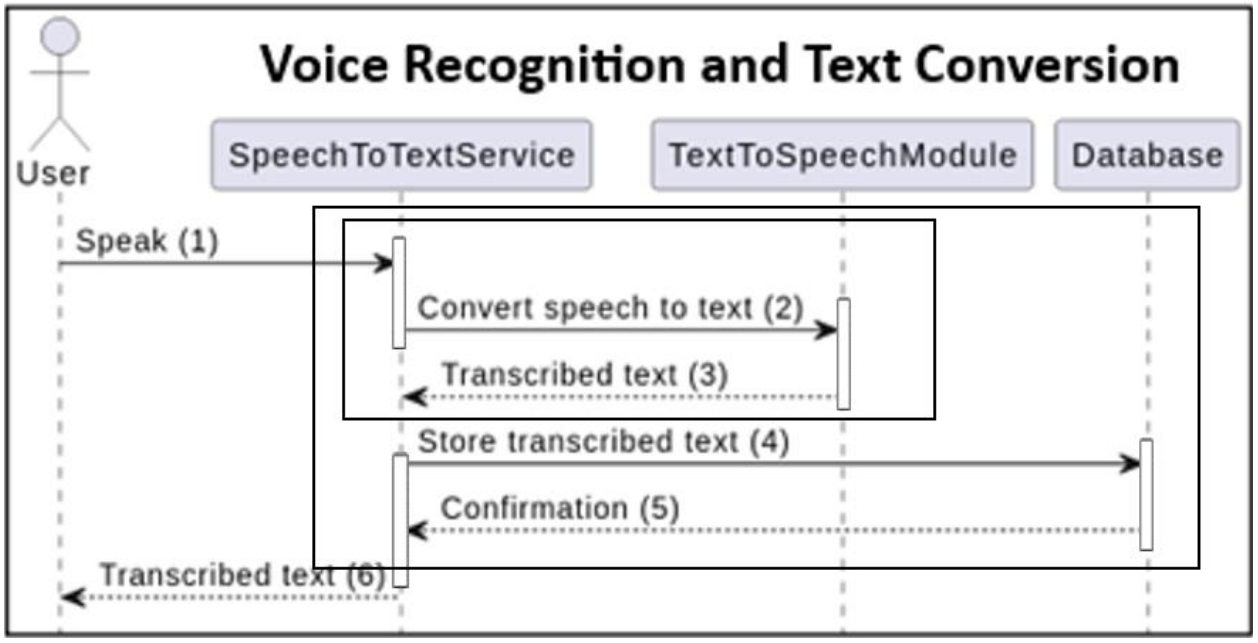
9.Download Results

The results can be downloaded in the PDF format where the using the download option.

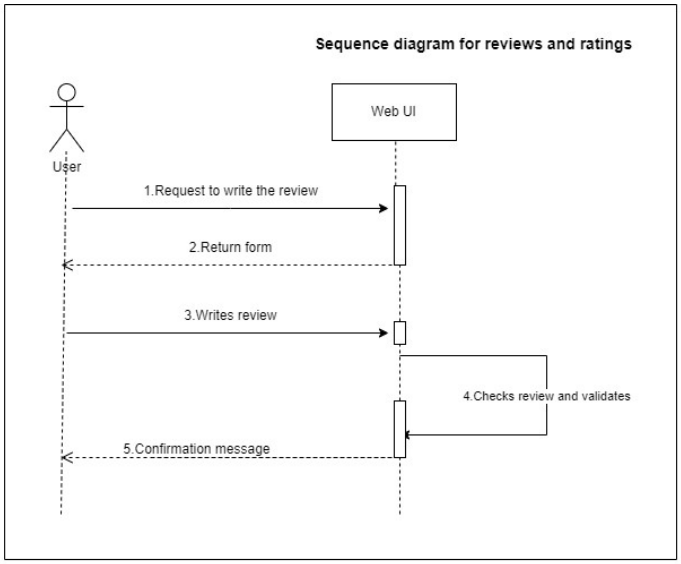


10.Voice Recognition and Text Conversion

The user voice is converted into text using the Text to speech Module conversion



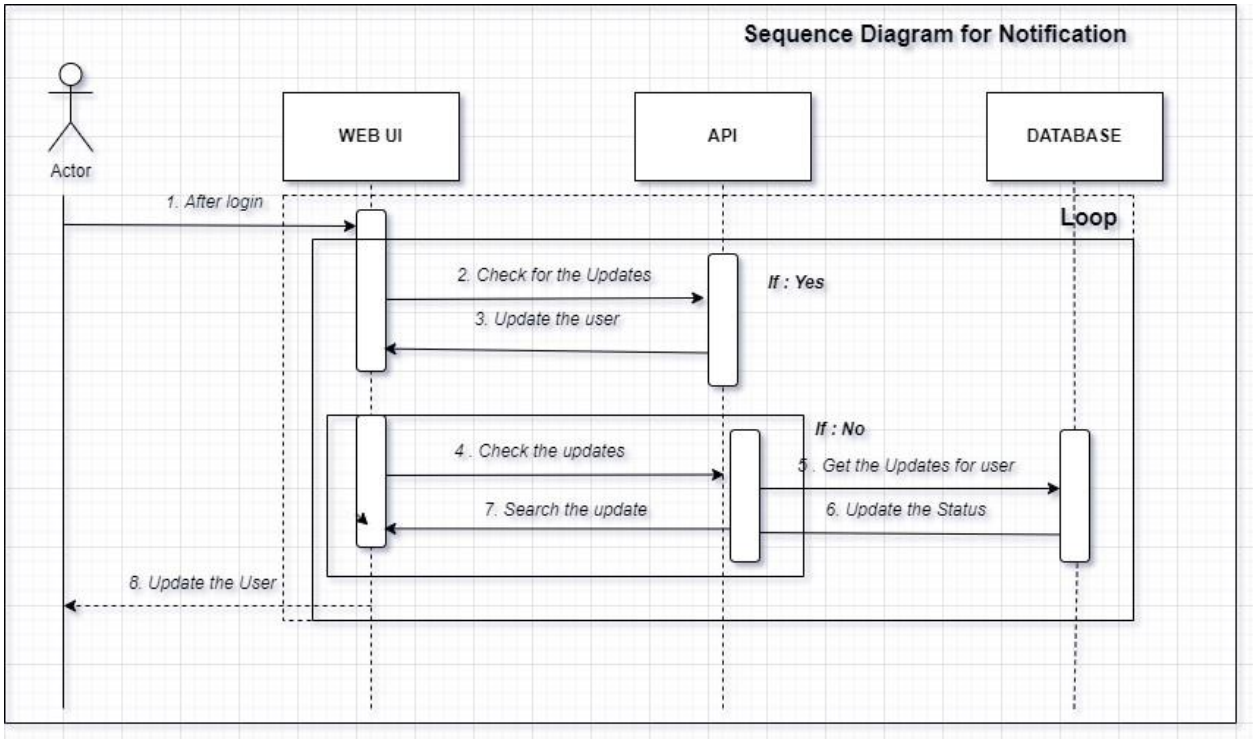
11.Ratings and review



User initiates the "Write a Review" action. System presents a form for rating and review, processes user input, stores it in a database, and confirms the submission.

12.Notification

The user will get notified based on the changes happening in the background of the application.



Design Rationale

The Personality Prediction project aims to develop a web-based application that utilizes machine learning techniques to predict a user's personality based on various input data sources. The application consists of several modules, including Registration, Login, Password Reset, Update Profile, Input-CSV File Data Import, Input-Quiz Based, Input-Text-Based Data Entry, Assessment, reCAPTCHA, Download Results, Ratings, Reviews, and Notification. The project adheres to the following requirements: the use of JavaScript, jQuery, HTML, and CSS for web development, Angular 14 as a framework, AWS/OCI for hosting, MySQL as a backend database, and Python (>=3.7 or 2.7) for development.

To ensure efficient and effective development, the project utilizes a specific technology stack. JavaScript, jQuery, HTML, and CSS are chosen for web development due to their widespread support, versatility, and ease of use. Angular 14 was selected as the framework for its robustness, scalability, and extensive community support. AWS/OCI is chosen for hosting due to their reliability, scalability, and availability of various services. MySQL is selected as the backend database for its stability, performance, and compatibility with the chosen hosting platforms.

Developing a machine learning model to anticipate personality is an intricate project. The motivation, behind this endeavor stems from the promising advantages and the wide range of applications in fields such as psychology, human resources, marketing and customization. In this discussion we present a justification for building a machine learning system with the aim of predicting personality traits.

Psychological Perspective: Personality plays a role in psychology influencing how individuals behave make decisions and interact with others. Predicting personality traits can offer insights into an individuals thought processes and reactions enriching our understanding and providing support.

Utilization in Clinical Psychology: Forecasting personality traits can serve as a tool for psychologists when diagnosing and devising therapeutic approaches, for personality disorders mood disorders and other mental health conditions. Early identification of issues can enhance the effectiveness of interventions.

Career Educational Direction: Anticipating personality traits can be utilized in career counseling and education to help individuals connect with career options or academic paths that align with their personality traits and personal preferences.

Customized User Experiences: Creating user experiences is a crucial aspect of marketing and product design. By gaining insights into an individuals personality business can customize their products and marketing strategies to cater to preferences. This approach ensures that customers have a captivating and fulfilling experience, with the brand.

The importance of team building and its impact on productivity: In a setting having insights into people’s personalities can greatly contribute to forming effective and harmonious teams. This leads to increased productivity and better collaboration among team members.

Additionally understanding individuals' personalities can help in resolving conflicts and managing them effectively.

Tailored suggestions for content recommendations: When it comes to entertainment and content recommendation systems being able to predict someone's personality can be highly beneficial. It allows for the suggestion of movies, books, music and other forms of content that are aligned with an individual's tastes and preferences.

Improving interactions between humans and machines: The advantages of personalization extend beyond entertainment. By leveraging personality predictions, chatbots and virtual assistants can become more intuitive and responsive in their interactions with humans.

Utilizing data driven decisions based on personality predictions: Organizations can harness the power of personality prediction to make decisions in various areas of their operations. This includes making data driven choices when it comes to hiring employees managing existing staff members effectively as well as nurturing positive relationships, with customers.

This Personality Prediction project will help different users from different fields. And for this we will be using different functionalities mentioned below in our application

The User will be able to access the following modules in the Application with the functionalities.

1.1 Registration:

The Registration module allows users to create an account by providing necessary details such as username, email, and password. This module ensures data validation, security measures, and seamless integration with the backend database.

1.2 Login:

The Login module enables registered users to access their accounts securely. It verifies user credentials, implements authentication mechanisms, and provides a seamless user experience.

1.3 Password Reset:

The Password Reset module allows users to reset their passwords in case they forget or need to change them. It incorporates secure password reset procedures, such as email verification and password strength requirements.

1.4 Update Profile:

The Update Profile module enables users to modify their personal information, such as name, contact details, and preferences. It ensures data integrity, validation, and synchronization with the backend database.

1.5 Input-CSV File Data Import:

The Input-CSV File Data Import module allows users to upload CSV files containing data for personality prediction. It handles file parsing, data validation, and integration with machine

learning algorithms.

1.6 Input-Quiz Based:

The Input-Quiz Based module presents users with a series of personality-related questions to gather input data. It ensures an interactive and engaging user experience while capturing relevant information for personality prediction.

1.7 Input-Text-Based Data Entry:

The Input-Text-Based Data Entry module allows users to enter text-based data, such as essays or descriptions, for personality prediction. It incorporates text processing techniques, data validation, and integration with machine learning algorithms.

1.8 Assessment:

The Assessment module performs personality prediction using machine learning algorithms. It utilizes the input data from various sources, applies appropriate feature extraction techniques, and generates personality predictions based on the trained models.

1.9 reCAPTCHA:

The reCAPTCHA module implements Google's reCAPTCHA service to prevent automated bots and ensure the security of the application. It adds an additional layer of protection to the registration and login processes.

1.10 Download Results:

The Download Results module allows users to download their personality prediction results in a user-friendly format, such as PDF or CSV. It ensures easy access to the predictions generated for further analysis or reference.

1.11 Ratings and Reviews:

The Ratings and Reviews module enables users to provide feedback and ratings for the application. It promotes user engagement, gathers valuable insights, and helps improve the overall user experience.

1.12 Notification:

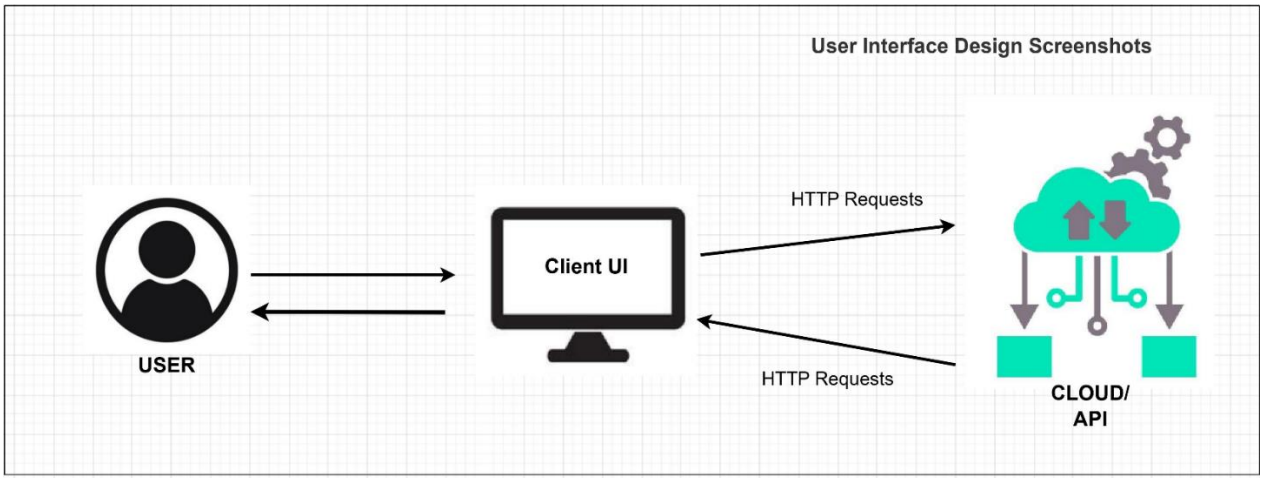
The Notification module sends notifications to users regarding important updates, such as completed assessments, new features, or system maintenance. It enhances user engagement, keeps users informed, and improves communication.

System Requirements: The project adheres to specific system requirements to ensure compatibility and optimal performance. It is designed to be compatible with Windows 7 or higher versions. The chosen technology stack, including JavaScript, jQuery, HTML, CSS, Angular 14, AWS/OCI, MySQL, and Python (>=3.7 or 2.7), is supported on these operating systems.

In conclusion, the Personality Prediction project utilizes a combination of JavaScript, jQuery, HTML, and CSS for web development, Angular 14 as a framework, AWS/OCI for hosting, MySQL as a backend database, and Python (>=3.7 or 2.7) for development. The project incorporates

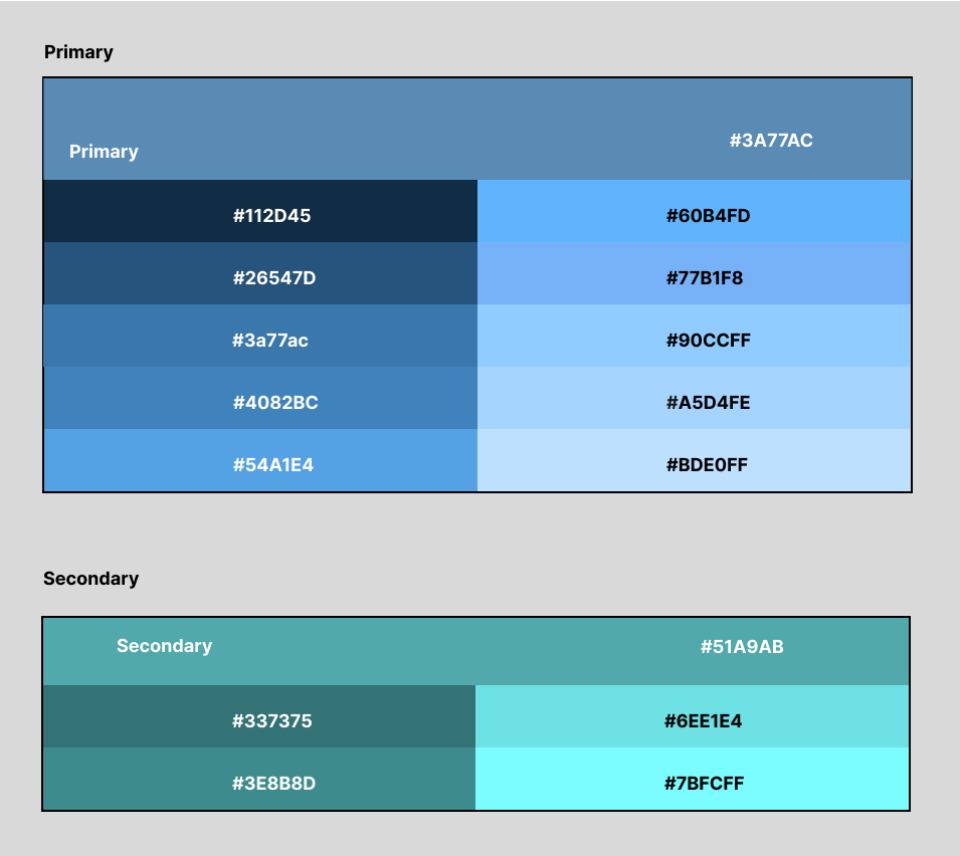
various modules to provide a comprehensive and user-friendly experience, enabling users to register, login, reset passwords, update profiles, input data from different sources, perform assessments, download results, provide ratings and reviews, and receive notifications. The project meets the specified requirements and aims to deliver accurate personality predictions using machine learning techniques.

Information Architecture Diagram



User Interface Wireframe(s)/Screenshot(s)

Color



Stylesheet

We are planning to use the Bootstrap with the latest version for the stylesheet

Logo

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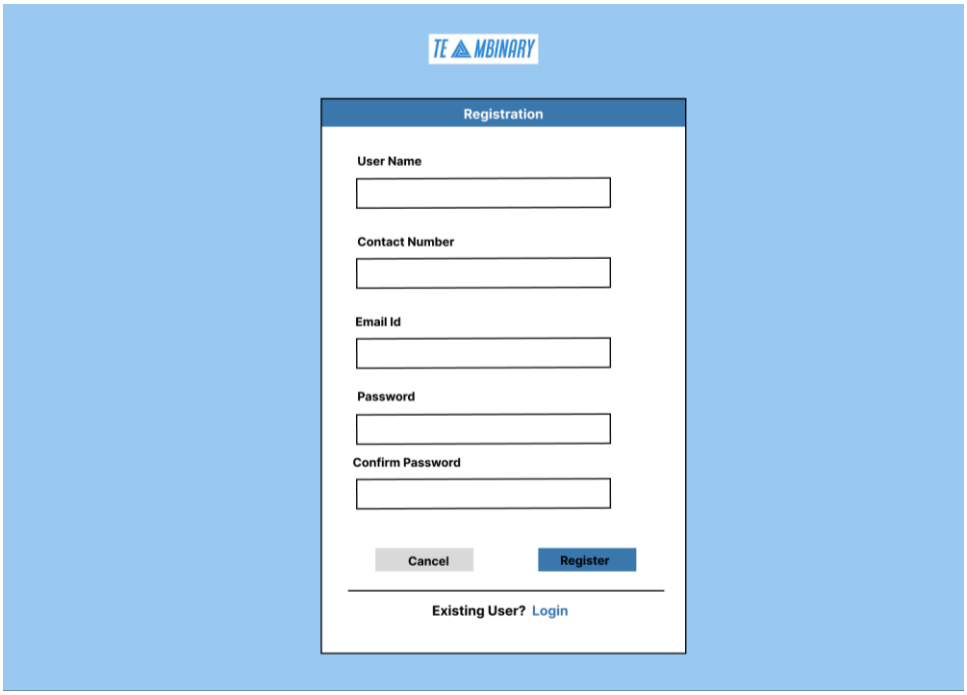
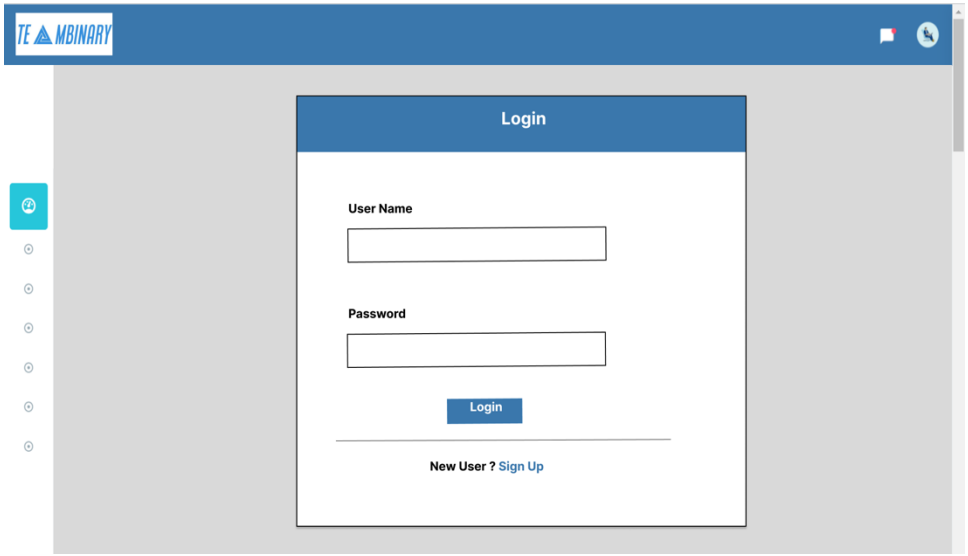
1. **Registration Page**

This will help the new users to register on our website.



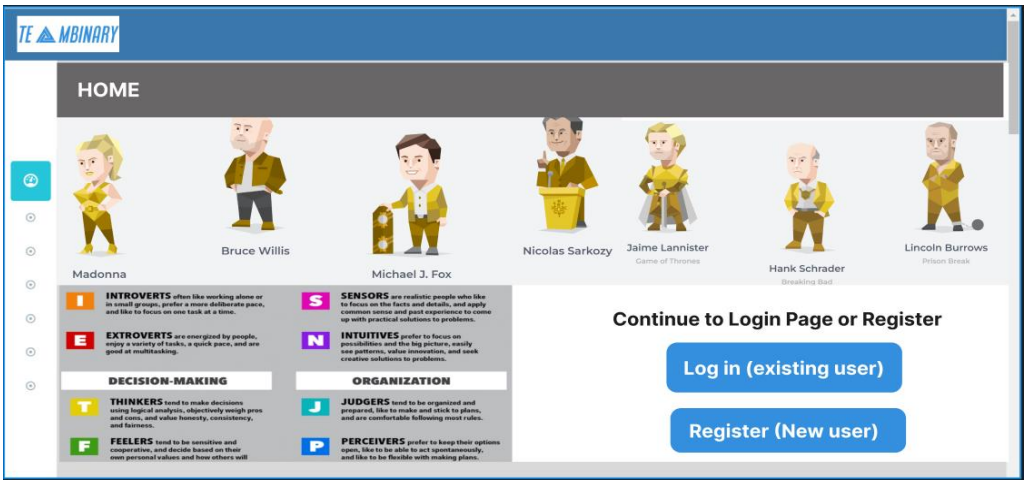
2. **Login Page**

This page will help the existing users of the system to Login to the Website.



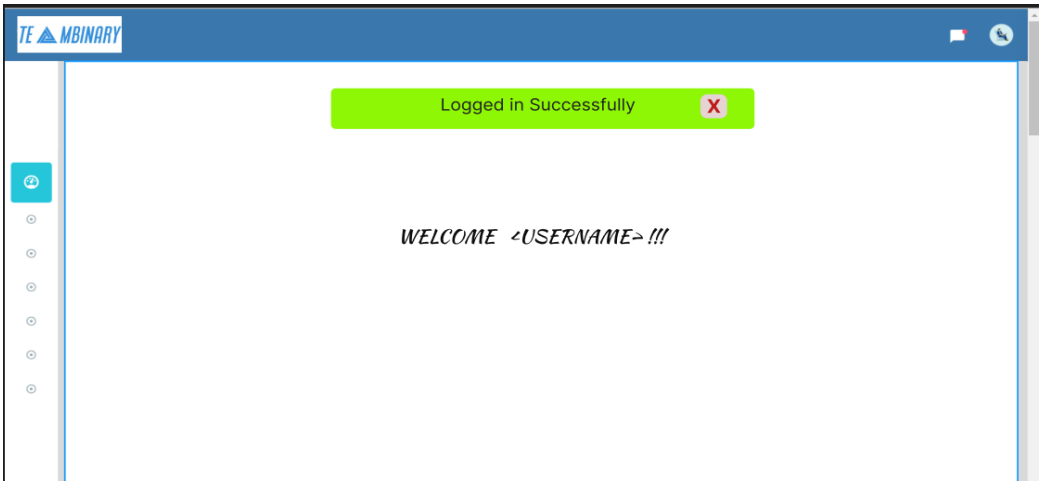
3. **Home page**

This is the application landing page were the user will be able to create an account or login into the application.



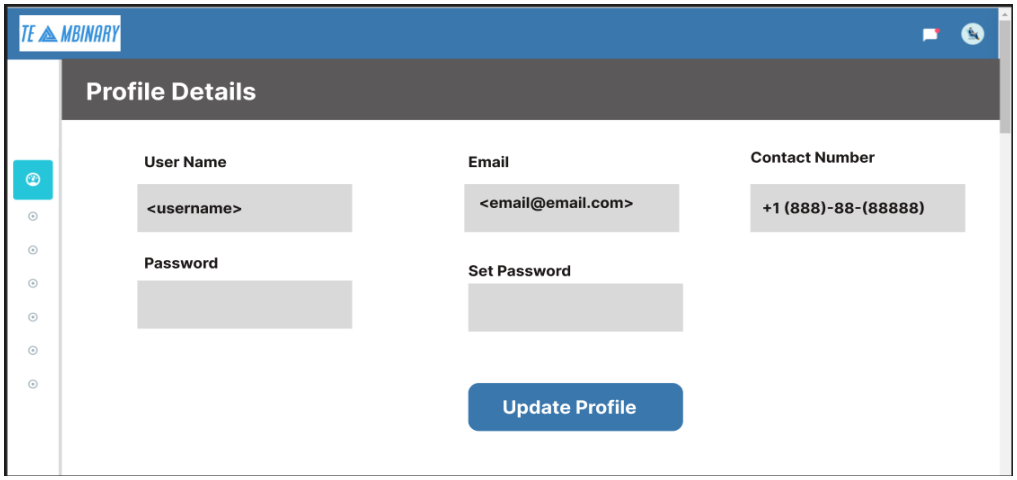
4. **Welcome**

Once the user logged into the application they will be greeted with the welcome module



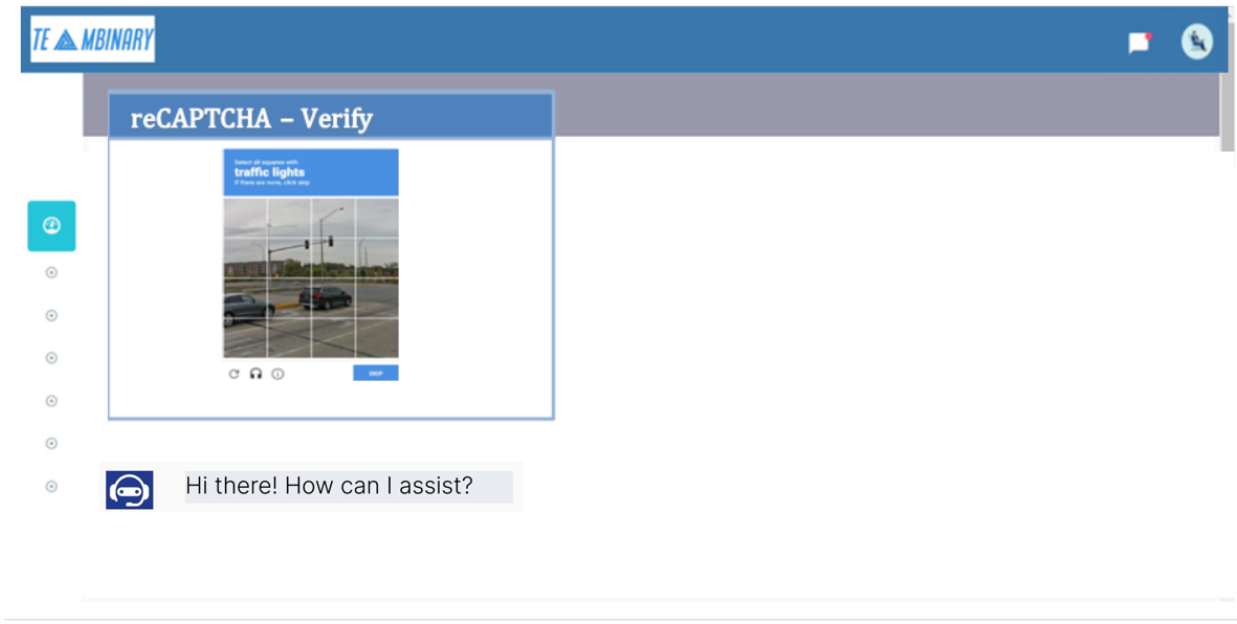
5. **Update Profile**

The user shall able to update his user details.



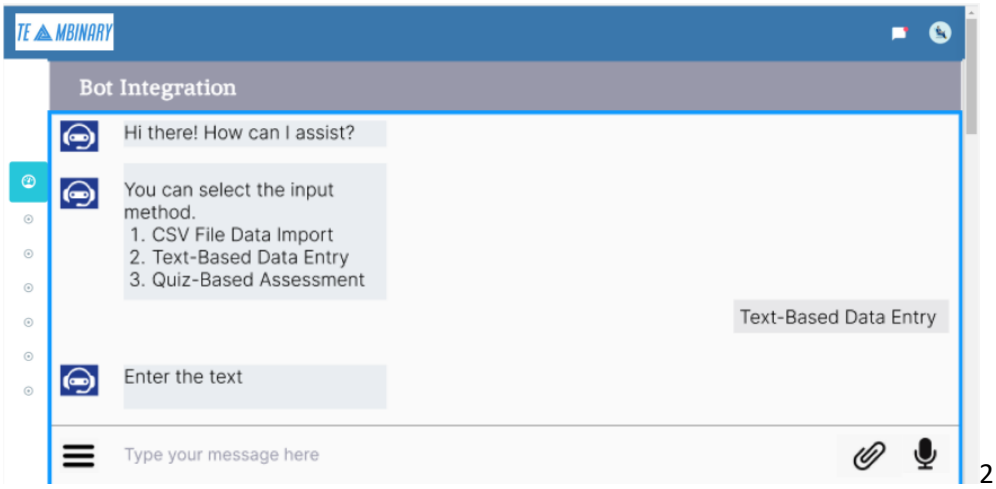
6. **reCAPTCHA**

The User will be verified whether the user is a human or Not using the reCAPTCHA



7. **Chatbot Input Page**

Input text data into the chatbot to analyze personality traits using machine learning and obtain personalized results.



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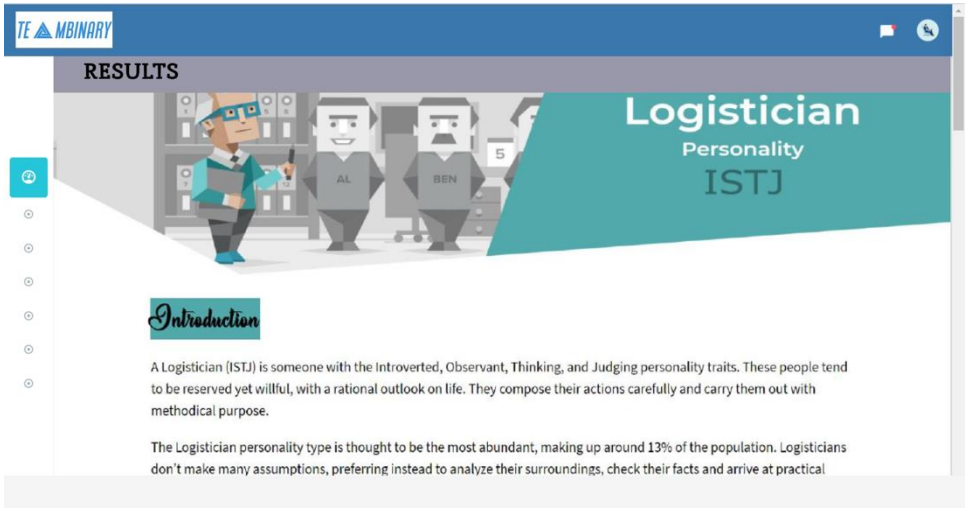
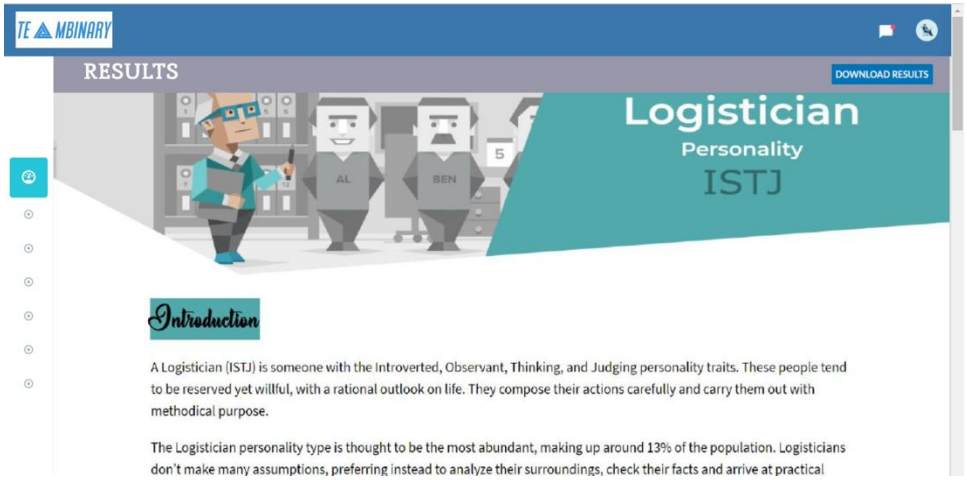
8. **Result**

It predicts the type of personality based on inputs given by user and gives detail about that specific personality type.



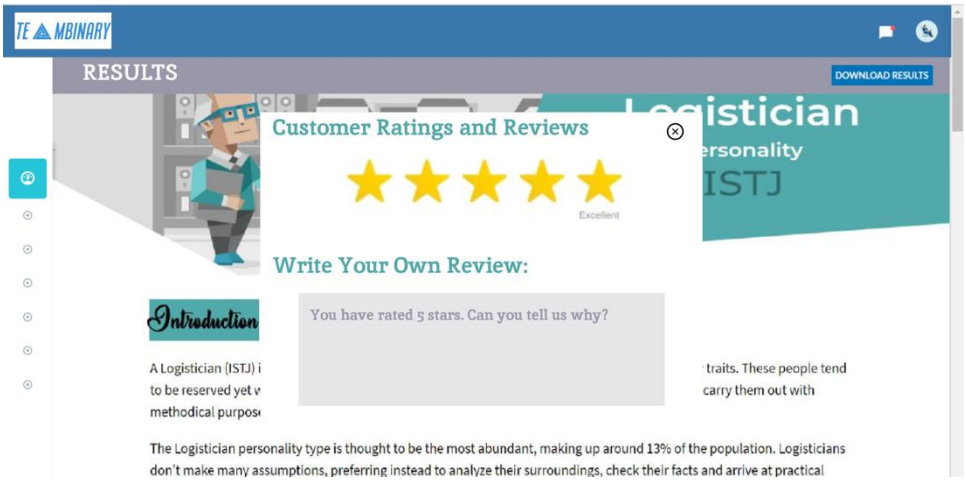
9. **Download Result**

This feature will help the user in downloading the results after successful completion of the assessment.



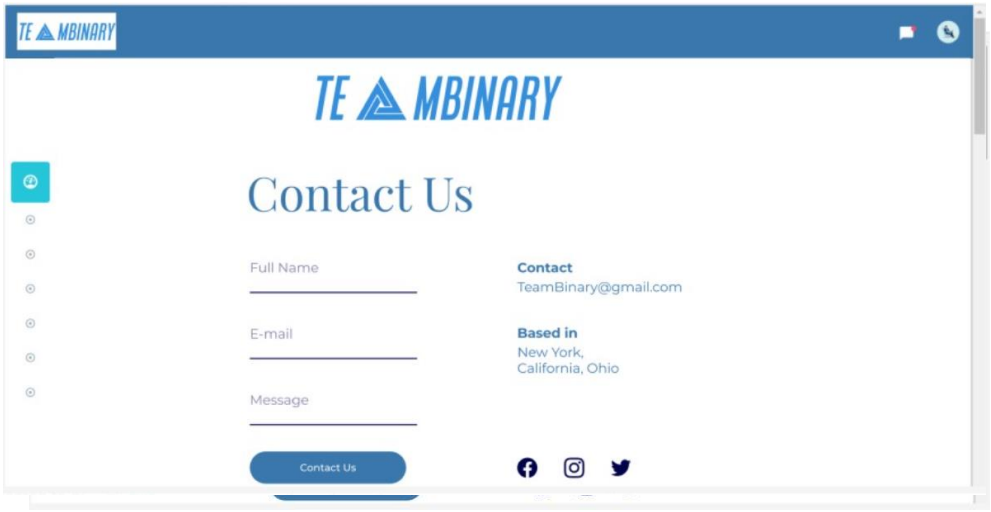
10. **Ratings and Review**

The user shall be able to rate and review the results of the prediction.



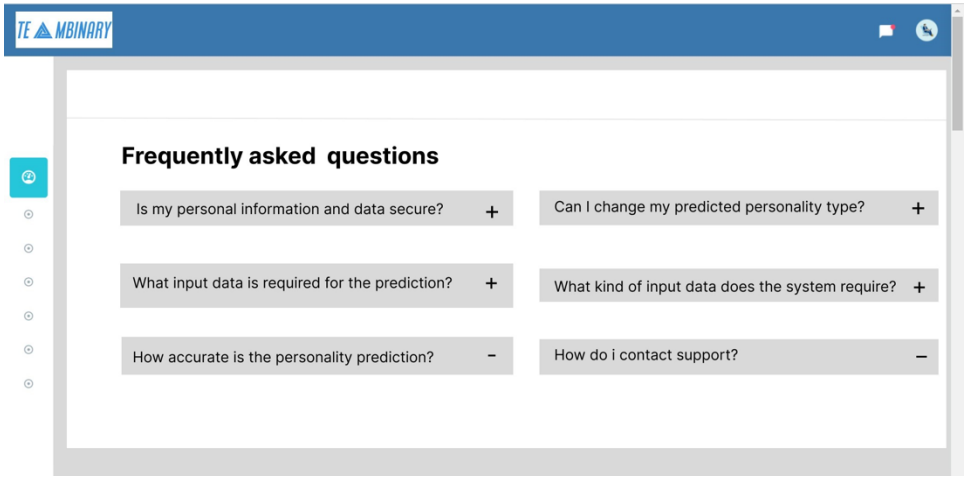
11. <u>Contact us</u>

The contact us page is used send their suggestions and queries



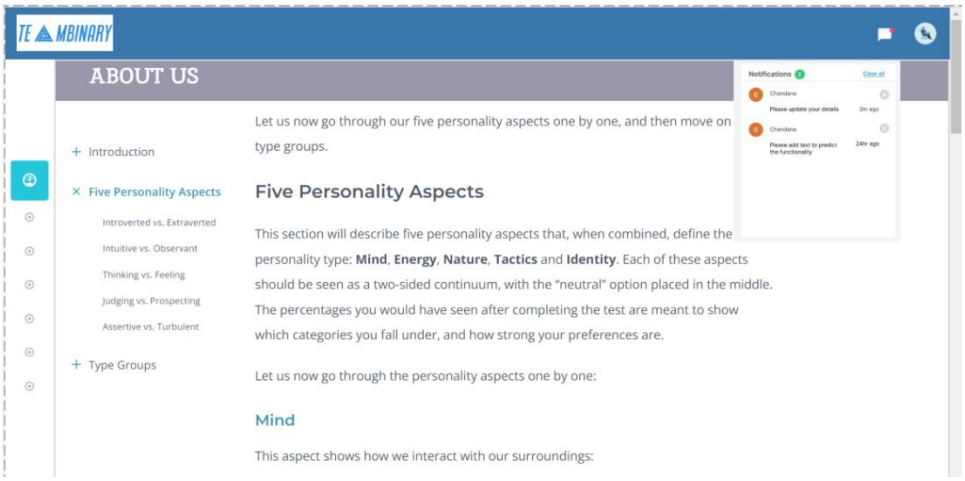
12. <u>FAQ</u>

It provides concise answers to common user queries, enhancing user understanding and support within the application or website.



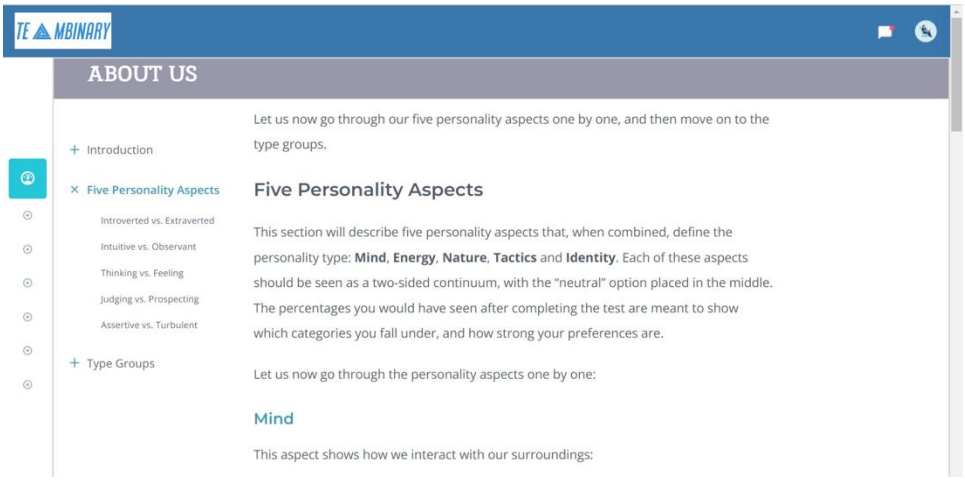
13. Notification

It is designed to alert users about important events or updates, ensuring timely awareness and interaction with relevant information or actions.



14. About us

It describes briefly about four personality types in detail



Individual Contributions:

S No	Name	Student ID	Contributor
1	Vinaya Varshini Ravichandran	11694984	Worked on the ER-Diagram, Sequence Diagram, Design UI, Design Rational.
2	Abinesh Haridoss	11695304	Worked on the Class-Diagram, Sequence Diagram, Design UI, Design Rational, Information Architecture.
3	Bhargavi Chandu	11656398	Worked on CSV Data file Import and Quiz-based Assessment Sequence diagram, Designed UI for Registration and Login Page and Color code for the UI.
4	Chandana Chevuturi	11664381	Worked on creating the sequence diagram for Update profile and ratings and review, and creating the UI interfaces for FAQ and notifications
5	Prudhvi Raju Vemula Manda	11708189	Worked on the Sequence Diagram, UI Interface Design
6	Bhanu Gadde	11702462	Worked on the Sequence Diagram, UI Interface Design