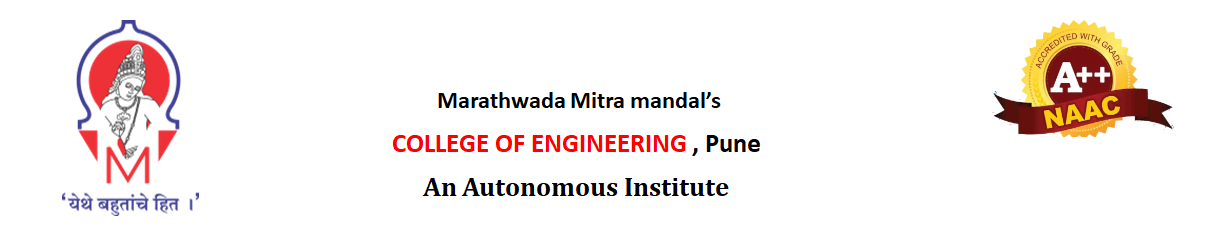


Project Based Learning

|  |  |  |
| --- | --- | --- |
| **Sr No** | **Name of students** | **PRN No** |
| 1 | UDAY KALE | B24IT1124 |
| 2 | VINIT DHAKE | B24IT1125 |
| 3 | HEMANT MANE | B24IT1113 |
| 4 | GANESH BIRADAR | B24IT1133 |

**Date:** **Faculty-In Charge**

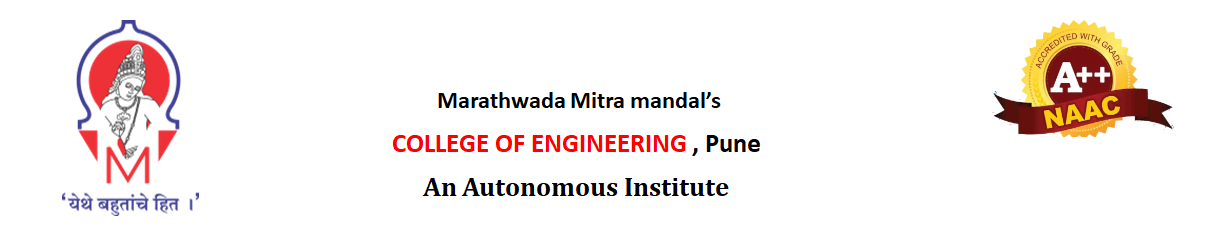


**1.Research**

**Objective**: The purpose of the research phase was to explore existing typing tutor applications, understand user needs, and gather relevant information for developing a unique and effective typing tutor.

* **Market Research**: We analyzed popular typing tutor applications such as “Monkey Type”. These tools help users improve typing speed and accuracy through timed tests. Common features found across these applications include typing exercises based on letter combinations, words, sentences, and progress tracking.
* **Target Audience**: The target audience for this typing tutor is broad, ranging from beginners looking to learn typing to advanced users aiming to improve speed. The application will cater to students and casual users.
* **Technological Research**: We also researched suitable programming languages and frameworks for building the application. We concluded that using C langauge
* **Key Findings**:
  + A well-designed user interface (UI) is essential for engaging users.

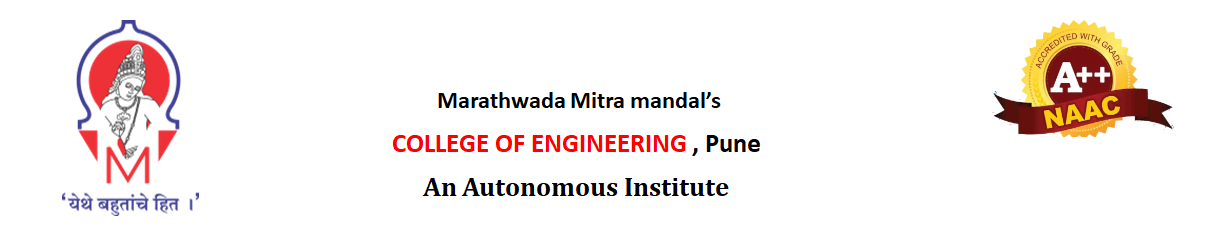
Adaptive learning techniques, where difficulty levels adjust based on user performance, can increase user retention



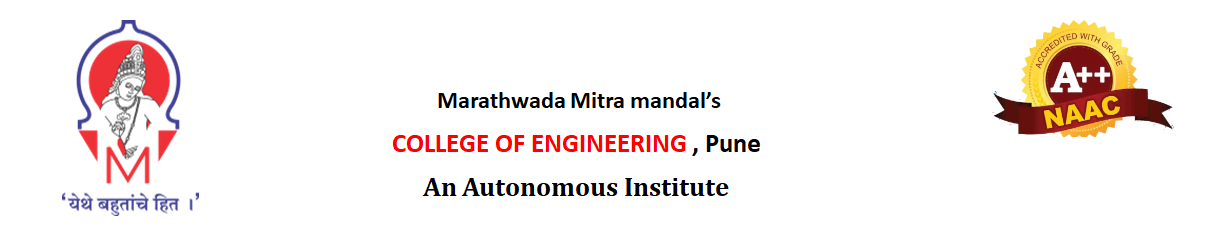
**2. Analysis**

**. Objective**: The analysis phase aimed to define the project scope, identify user requirements, and establish the features to be implemented.

* **Functional Requirements**:
  + **Typing Lessons**: Various levels of lessons starting from basic keys to full sentences.
  + **Typing Speed Measurement**: Real-time tracking of words per minute (WPM) and accuracy.
  + **Error Highlighting**: Real-time error feedback, highlighting incorrect keystrokes.
  + **Customizable Settings**: Users can choose difficulty levels, themes, and lesson types.
* **Non-Functional Requirements**:
  + **Performance**: The tutor should be responsive and load lessons instantly.
  + **Usability**: The user interface (UI) should be intuitive, easy to navigate, and accessible to users of all skill levels.



**3. Ideate:**  
**Objective**: The ideation phase focused on brainstorming design ideas and planning the system's architecture and flow.

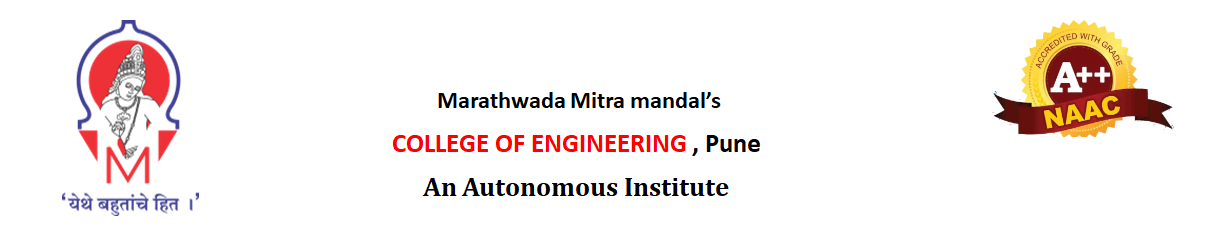
* **User Interface Design**: We envisioned a clean, minimalistic interface that presents lessons in a step-by-step manner. Key components of the UI include:
  + **Home Page**: Introduction to the typing tutor,   
    **Typing Screen**: Display of the lesson with a real-time feedback system, showing typing speed, accuracy, and errors.
* **Features to Explore**:
  + **Adaptive Difficulty**: Difficulty levels that adjust based on the user's performance, providing challenges without overwhelming them.
* 

**4. Build**

**Objective**: The building phase involved the actual development and implementation of the project, transforming the ideas into a working product.

* **Frontend Development**:
  + **Interactive Elements**: Buttons, input fields, and real-time feedback systems were integrated into the application to ensure an engaging user experience.
* **Backend Development**:
* **C language**

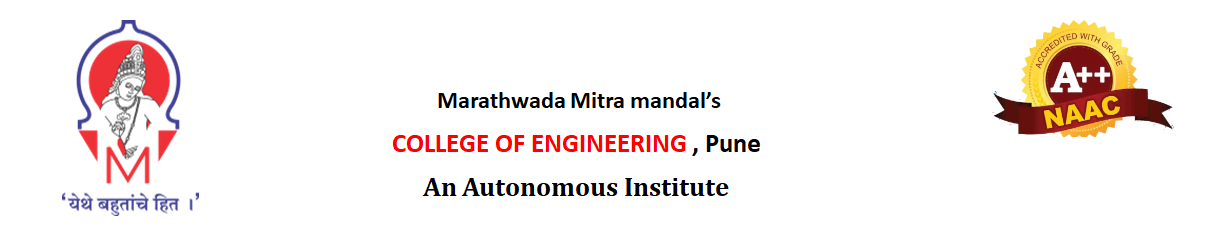
**Testing During Build**: Throughout the build phase, unit testing and integration testing were conducted to ensure that each feature worked as intended



**5. Test**

**Objective**: The testing phase aimed to ensure that the application functions correctly, is bug-free, and meets the desired user experience.

* **Types of Testing**:
  + **UI Testing**: Ensuring that all UI components are responsive and accessible. Tested on various screen sizes and platforms.
  + **Performance Testing**: Measuring the speed and responsiveness of the typing tutor, ensuring no lag or delay during typing.
  + **User Acceptance Testing (UAT)**: A small group of users tested the application, providing feedback on usability, features, and overall experience.
* **Bug Fixes**:
  + Fixed issues where the typing feedback was delayed.
  + Corrected minor UI alignment problems on different screen sizes.
  + Addressed database connection errors when storing user data.
* **Final Review**: After thorough testing, the application was refined based on feedback to ensure a smooth user experience.



**6. Implement**

**Objective**: The implementation phase involved deploying the application to users and ensuring it runs effectively in a production environment.

* **Monitoring**: After the initial deployment, continuous monitoring was conducted to track any user-reported issues and ensure smooth operation.

**Feedback & Iteration**: Based on initial user feedback, minor changes were made to improve the app’s functionality, such as adding additional lessons and refining the error detection feature.

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