# Full-Stack Project Analysis

## Project pitch

Title: MR Typer

Description: MR Typer allows users to register, log in, and track their typing progress. Users can take typing tests, compete with others in real-time, and view their rankings on the leaderboard. They can also participate in tournaments to challenge their skills and aim for the top spot.
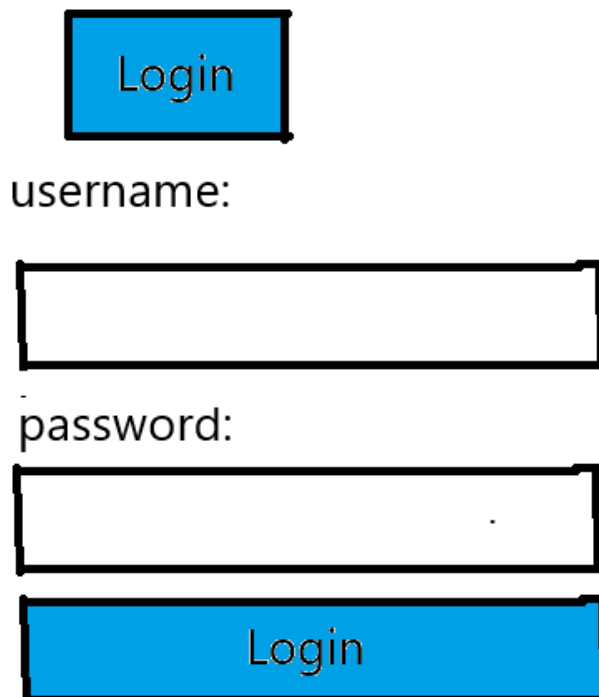
## User Story

1. **Story – login**

**As a user,**

I want to log in to my account,

so that I can track my typing progress and improve my skills over time.

Wireframe

<u>Acceptance criteria</u>

- If the username or password fields are left empty, the form should display error messages near the respective fields.
    - For the username field: If left empty, display "Username is required" or "Please enter a username".
    - For the password field: If left empty, display "Password is required" or "Please enter a password".
- If the username length is less than 3 characters or greater than 50 characters, display an error: "Username must be between 3 and 50 characters".
- If the password length is less than 5 characters, display an error: "Password must be at least 5 characters long".
- If invalid credentials are entered (incorrect username or password), display an error message like "Invalid username or password".
- After submitting invalid login credentials, the user should see an error message informing them of the issue, e.g., "Incorrect username or password." or "Username doesn't exist"
- Display a message for invalid credentials, like "Invalid username or password."
- The user's JWT token, username, and role should be stored in the local storage for authentication in future requests.
- A success message, such as "Login successful! Redirecting to home page...", should be displayed on the screen and removed after a brief timeout (e.g., 2 seconds).
- Once the user has logged in successfully, they should be automatically redirected to the home page after a brief delay.

## 2. **Story – register**

**As a user,**

I want to register an account,

so that I can track my typing progress and improve my skills over time.

Wireframe



Acceptance criteria

- If the username field is left empty, display an error message: "Username is required" or "Please enter a username".
- If the username length is less than 3 or greater than 50 characters, display: "Username must be between 3 and 50 characters".
- If the email field is left empty, display an error message: "Email is required" or "Please enter an email address".
- If the password field is left empty, display an error message: "Password is required" or "Please enter a password".
- If the password is less than 5 characters, display: "Password must be at least 5 characters long".
- pon successful registration, display a confirmation message: "Registration successful!".
- The user should be redirected to the login page or home page after a brief delay (e.g., 2 seconds).
- The new user's information should be stored in the system and be available for login.
- A user must choose a role from the available options: "player", "admin", or "moderator".
- Ensure that the role selection is available, and the default role is set to "player"
- If the username or email provided is already registered, display an error message: "Username is already taken" or "Email is already registered".

3. **Story – Typing Test**

**As a user,**

I want to take a typing test,

so that I can measure my typing speed and accuracy.

Wireframe

Typing Test

45/50 90%        87WWP        Time: 15

wolf home car race hotel apartment typing dog cat
house villa lives yack bank business salt peper chicken
fish tomatoes vegetables fruits apple drink water

Acceptance criteria

- A countdown timer should be displayed, showing the remaining time for the test
- When the time runs out, the test should automatically stop, and the results should be displayed.
- Once the timer reaches zero, display the final results
- After the test is completed, provide the user with option restart
- Allow users to type freely and indicate any errors as soon as they happen (e.g., a red highlight on incorrect characters).

4. **Story – view the leaderboard / make a leaderboard page**

**As a user,**

I want to view the leaderboard,

so that I can see the top players.

Wireframe

## Leaderboard

| #  | User    | Typing speed | accuracy |
|----|---------|--------------|----------|
| 1  | RobertC | 122wpm       | 97%      |
| 2  | MannyS  | 95wpm        | 99%      |
| 3  | IkkiV   | 78wpm        | 85%      |

- The leaderboard should display a list of scores of users who have the highest typing speeds.
- Typing speed should be displayed in WPM (words per minute).
- Each score of user in the leaderboard should display the following information:
  - Rank: The user's position on the leaderboard (e.g., 1st, 2nd, 3rd).
  - Username: The name of the user.
  - Typing Speed (WPM): The user's typing speed in words per minute.
  - Accuracy Rate: The user's typing accuracy percentage.
- The leaderboard should be sorted by **typing speed (WPM)** in descending order, with the highest WPM at the top.
- The leaderboard should be accessible from the **dashboard**. There should be a clear, visible link or button to navigate to the leaderboard page.

5. **Story – view your stats / make a stats page**

**As a user,**

I want to view my stats,

so that I can see my progress and my stats.

Wireframe

| Johndoe | Test completed: 3 | 10 minutes 15 seconds |
|---|---|---|
| joined: 12/12/2024 | | |

AVG

| 15 | 30 | 60 |
|---|---|---|
| 123 wpm | 98 wpm | 90 wpm |
| 98% | 87% | 90% |

MAX

| 15 | 30 | 60 |
|---|---|---|
| 132 wpm | 107 wpm | 101 wpm |
| 99% | 98% | 75% |

- The stats page must display the user's name.
- The date the user joined the platform should be visible.
- The total number of typing tests completed must be displayed.
- The total time spent on the tests should be shown (e.g., "10 minutes 15 seconds").
- For each test duration (15, 30, and 60 seconds):
    - Display the average words per minute (WPM).
    - Display the average accuracy percentage.
    - Display the maximum WPM achieved.
    - Display the highest accuracy percentage achieved.

## 6. Story – update username in stats page

**As a Moderator / admin,**

I want to access the stats page,

so that I can change / update the username.

Wireframe

| Johndoe<br>joined: 12/12/2024 | Test completed: 3 | 10 minutes 15 seconds | Change username |
|---|---|---|---|

AVG

| 15 | 30 | 60 |
|---|---|---|
| 123 wpm | 98 wpm | 90 wpm |
| 98% | 87% | 90% |

MAX

| 15 | 30 | 60 |
|---|---|---|
| 132 wpm | 107 wpm | 101 wpm |
| 99% | 98% | 75% |

<u>Acceptance criteria</u>

- Only users with the role of Moderator or Admin can access the "Change Username" functionality.
- The "Change Username" button must be clearly visible on the stats page.
- Clicking the "Change Username" button should open a form or modal to update the username.
- The form should include:
    - A text field for entering the new username.
    - A confirmation button to save changes.
    - A cancel button to exit without making changes.
- The username field must not accept:
    - Empty values.
    - Duplicate usernames (check if the username is already in use).
- After successfully updating the username, display a confirmation message (e.g., "Username successfully updated").
- The new username should immediately reflect on the stats page after redirecting to home page.

## 7. <u>Story – delete user in stats page</u>

**As an admin,**

I want to access the stats page,

so that I can delete a user.

<u>Wireframe</u>



| Johndoe<br>joined: 12/12/2024 | Test completed: 3 | 10 minutes 15 seconds | Change username | Delete user |

AVG

| 15 | 30 | 60 |
|---|---|---|
| 123 wpm | 98 wpm | 90 wpm |
| 98% | 87% | 90% |

MAX

| 15 | 30 | 60 |
|---|---|---|
| 132 wpm | 107 wpm | 101 wpm |
| 99% | 98% | 75% |

- Only admins can see and access the "Delete User" button.
- The "Delete User" button must be clearly visible on the stats page.
- Clicking the "Delete User" button must trigger a confirmation prompt/modal with the following elements:
    - A warning message like: "Are you sure you want to delete this user? This action cannot be undone."
    - A "Confirm" button to proceed with deletion.
    - A "Cancel" button to abort the operation.
- If the user is successfully deleted, display a confirmation message (e.g., "User successfully deleted").
- Redirect the admin to a home page after successful deletion.

## 8. Story – Add extra language

**As a user,**

I want to access pages in another language,

so that I can use the site faster.

Wireframe



Acceptance criteria

- A language toggle button or dropdown is present on all pages.
- The toggle options should include English and Spanish.
- Once a language is selected, it remains active across all pages until the user changes it.
- All static and dynamic content (e.g., labels, error messages, navigation menus, page titles, etc.) should be accurately translated between English and Spanish.
- Switching languages should be seamless without requiring a page reload.

## Game

+ id: int

+ startDate: date

+ endDate: date

+ users: List<User>

## Leaderboard

+ id: int

+ scores: List<TypingTest>

+ maxScores: int

+ type: int

## User

+ id: int

+ userName: string

+ password: string

+ email: string

+ creationDate: date

+ role: string

## TypingTest

+ id: int

+ wpm: int

+ accuracy: double

+ time: date

+ type: string

1 .. *

1 .. 1

1 .. 1

0 .. *

0 .. *

0 .. *

1 .. 1

0 .. *

**Game**

| PK | ID |
|----|----|
|    | startDate |
|    | endDate |
|    | users |

**Leaderboard**

| PK | ID |
|----|----|
|    | type |
|    | maxScores |
| FK | scores |

**GameHasUsers**

| PK,FK1 | UserId |
|--------|--------|
| PK,FK2 | GameId |

**User**

| PK | ID |
|----|----|
|    | userName |
|    | email |
|    | password |
|    | creationDate |
|    | role |

**TypingTest**

| PK | ID |
|----|----|
|    | accuracy |
|    | wpm |
|    | time |
|    | type |
| FK | UserID |
| FK | GameID |