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.
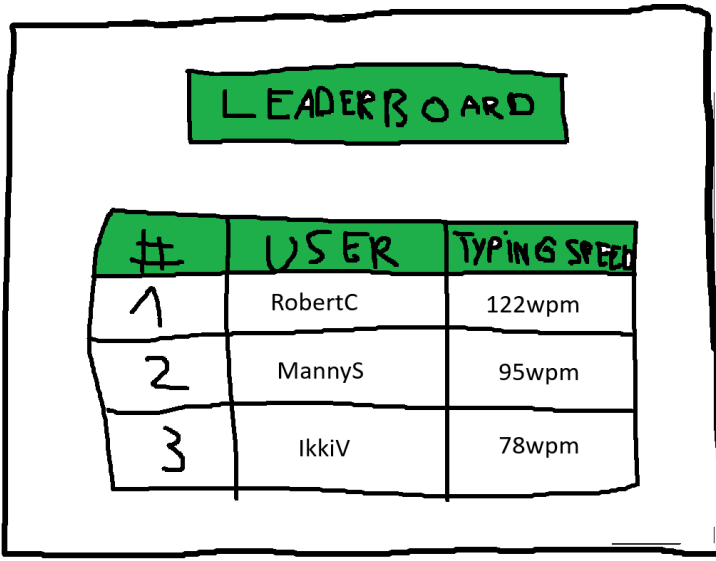
User Story

1. **Story – view leaderboard**

As a user,

I want to view the leaderboard,

so that I can see the top players and compare my progress with theirs.

Wireframe

Acceptance criteria

- The leaderboard should display users with the highest typing speeds.
- Typing speed should be displayed in WPM (words per minute).
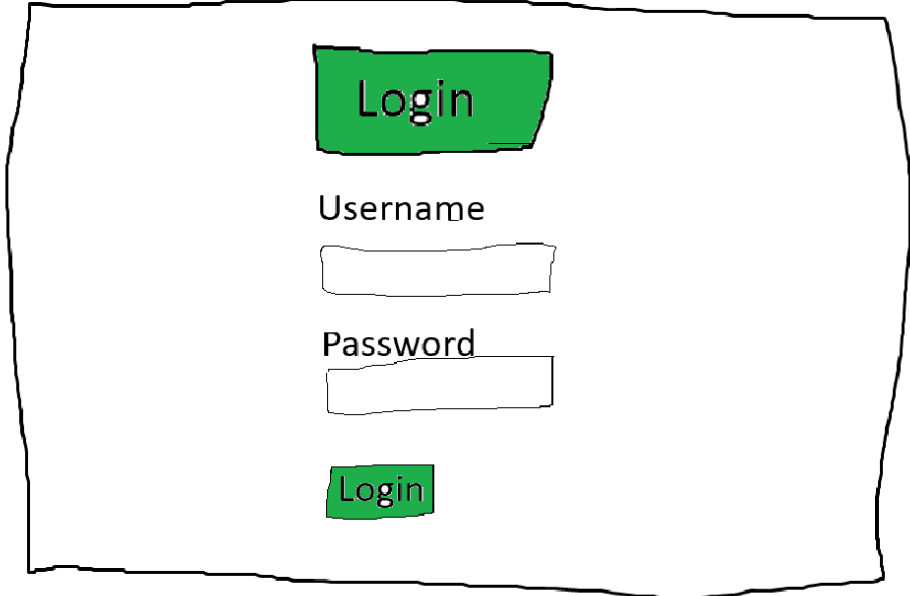- The leaderboard should be accessible from the dashboard.

2. **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

Login

Username

Password

Login

Acceptance criteria

- If the username or password fields are left empty, an error message should prompt the user to fill in the required fields.
- Display a message for invalid credentials, like "Invalid username or password."
- The login button should remain disabled until both the username and password fields are filled.
- Upon entering correct credentials, the user should be redirected to the typing dashboard with a message like "Welcome back".

3. **Story – register**
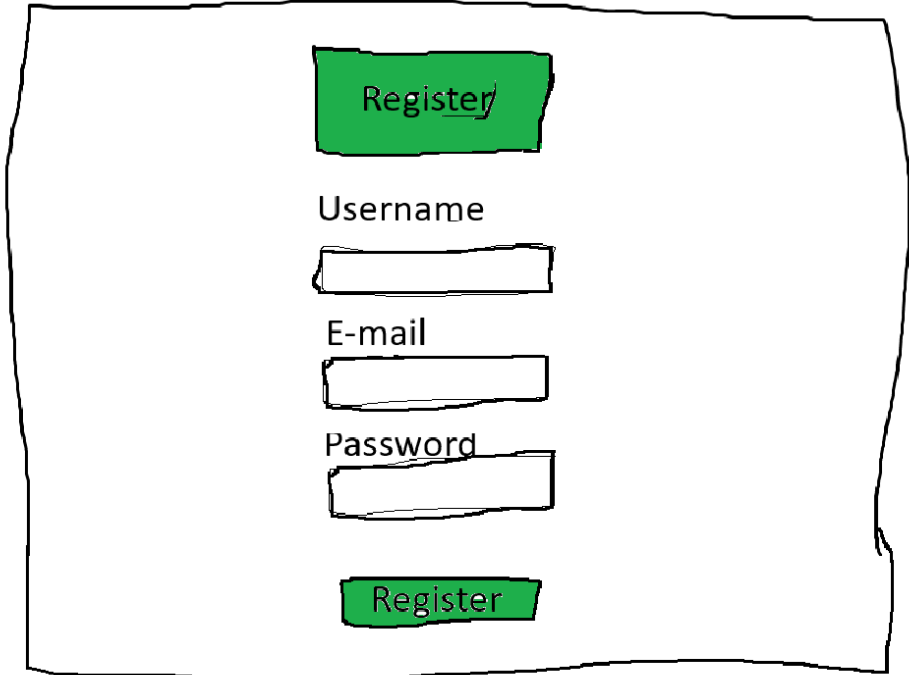
As a user,

I want to register an account,

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

<u>Wireframe</u>

<u>Acceptance criteria</u>

- If the username, email, or password fields are left empty, an error message should prompt the user to complete all fields.
- The email field should validate that a properly formatted email address is provided (e.g., "example@domain.com").
- Ensure the password meets certain criteria, such as minimum length, use of both letters and numbers, etc.
- The user should receive a confirmation message after successful registration.

4. Story – Typing Test

As a user,

I want to take a typing test,

so that I can measure my typing speed and accuracy.

Wireframe
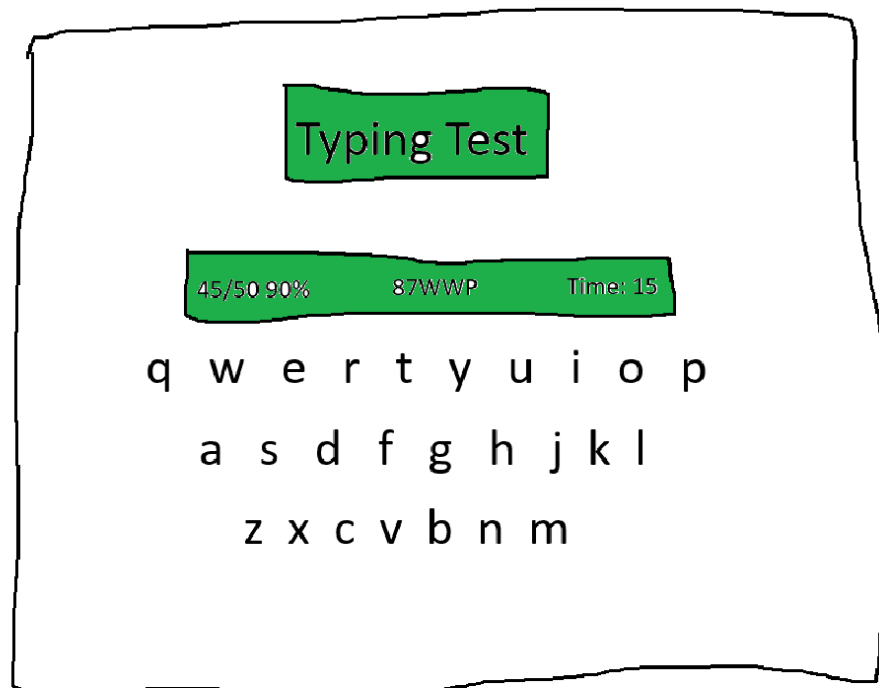
Acceptance criteria

- Display a passage for users to type within a set time limit.
- Track and display the user's typing speed in WPM during and after the test.
- Display the accuracy rate as a percentage (errors vs. correct entries).
- Provide an option to retake the test or exit to the dashboard after completion.

5. Story – Play Against Friends

As a user,

I want to challenge my friends to a typing match,

so that we can compete and see who types faster.

Wireframe
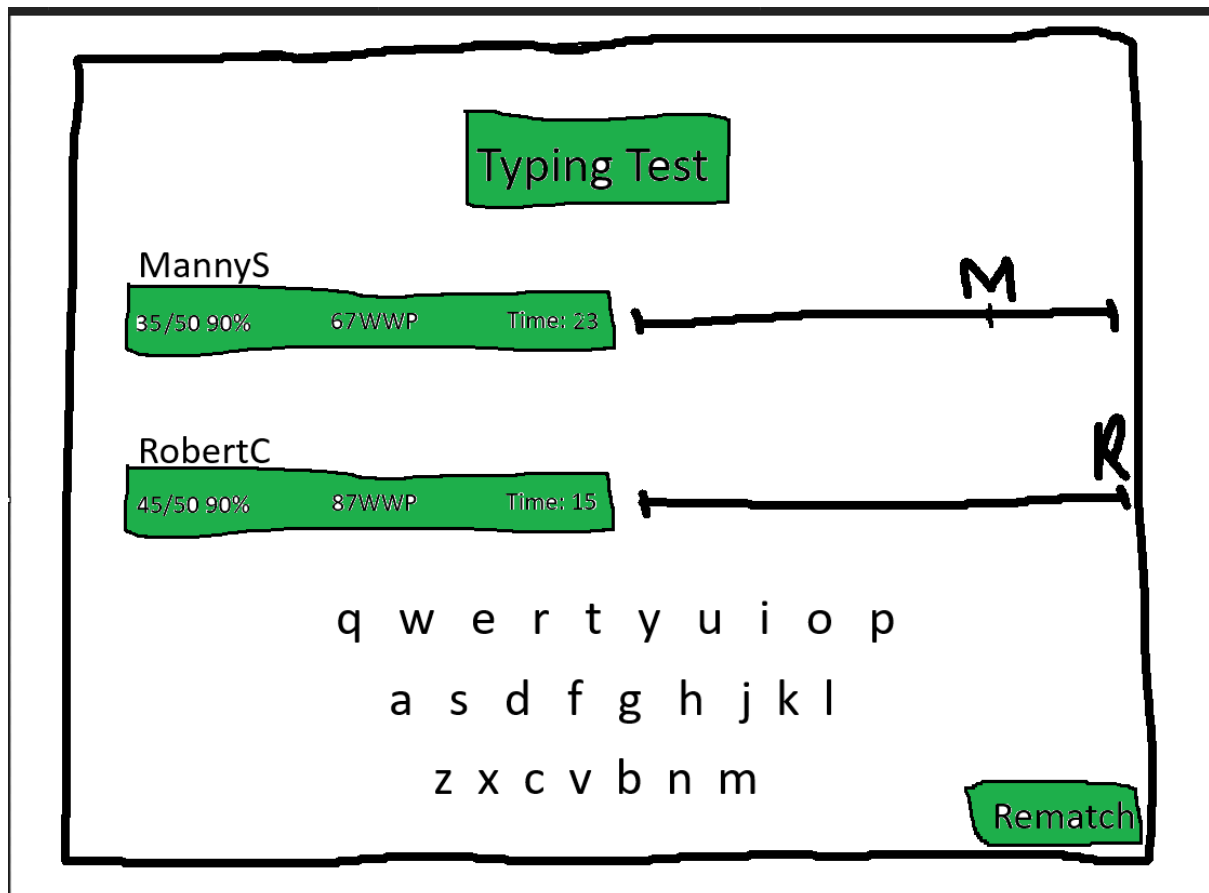
Acceptance criteria

● Allow users to invite friends to a real-time typing match via a link or friend invite.
● Both players' WPM and accuracy should be tracked in real-time during the match.
● Display the winner based on the highest WPM and accuracy after the match ends.
● Provide the option for a rematch or returning to the dashboard.

Leaderboard

+ id: int

+ rankings: List<Player>

+ maxPlayers: int

Player

+ id: int

+ userName: string

+ firstName: string

+ lastName: string

+ password: string

+ role: string

+ email: string

Profile

+ id: int

+ bio: string

+ avgWpm: double

+ startDate: date

+ role: string

TypingTest

+ id: int

+ wpm: int

+ accuracy: double

+ date: date

Challenge

+ id: int

+ challengeName: String

+ description: String

+ difficulty: string

Tournament

+ id: int

+ name: string

+ startDate: date

+ endDate: date

+ difficulty: string

Game

+ id: int

+ startDate: date

+ endDate: date

+ players: List<Player>

+ Status: string

0..1   1..*   1..1   0..1   0..*   0..*   1..1   1..*   1..1   0..*   1..1   0..1   1..*

Profile

PK	ID
	bio
	avgWPM
	role
	startDate
	password

Leaderboard

PK	ID
	rankings
	maxPlayers
FK	PersonID

Tournament

PK	ID
	name
	difficulty
	startDate
	endDate

PersonPlaysTournament

PK,FK1	TournamentID
PK,FK2	PersonID

Person

PK	ID
	firstName
	lastName
	role
	password
	password
FK	ProfileID
FK	GameID

TypingTest

PK	ID
	accuracy
	wpm
	date
FK	PersonID
FK	ChallengeID

Challenge

PK	ID
	challengeName
	description
	difficulty

Game

PK	ID
	status
	players
	startDate
	endDate
FK	TournamentID