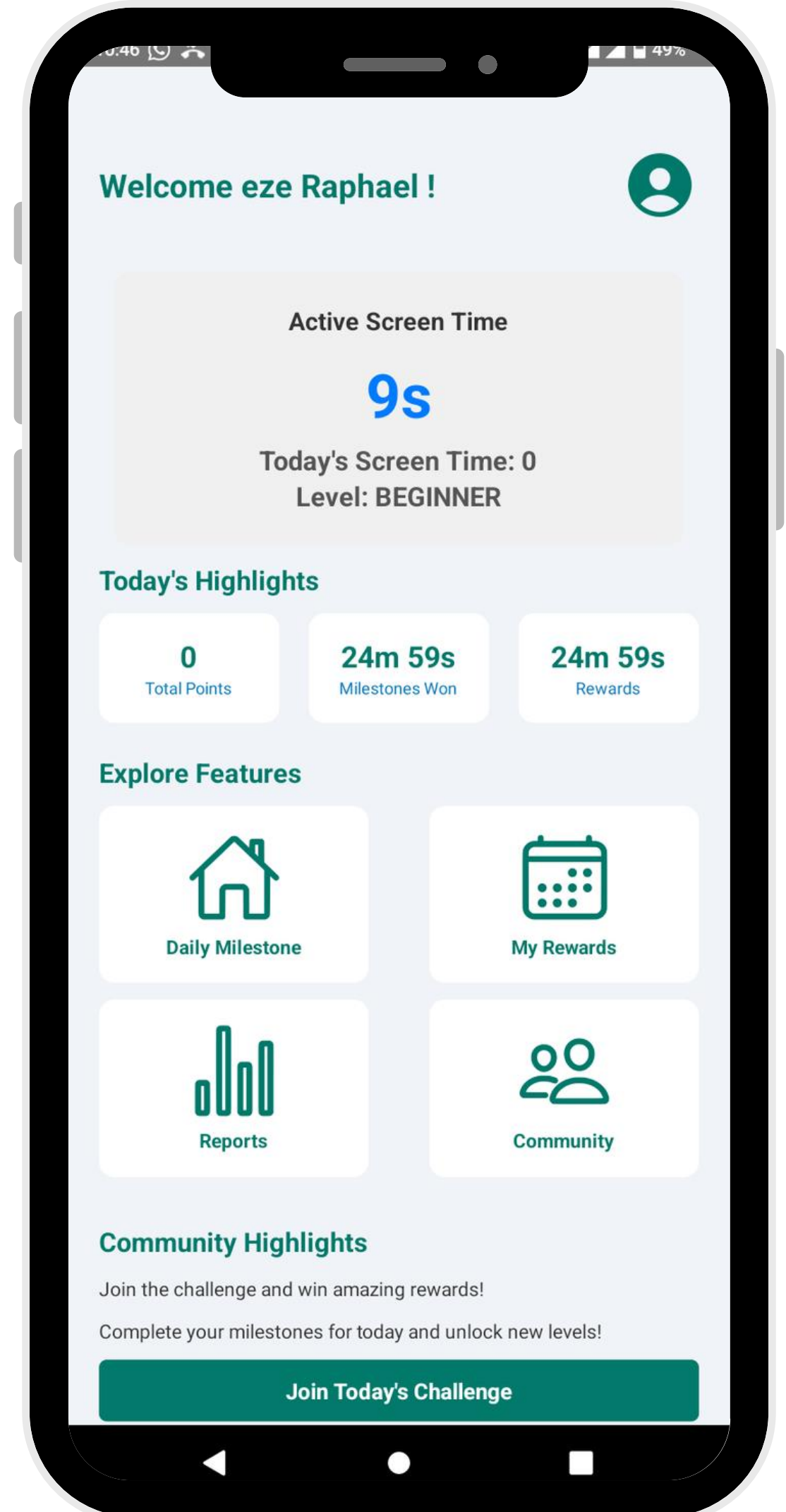


# Digitox

A Mobile App for Digital Detox and Sleep Improvement

Presented By:  
**IBRAHIM EMMANUEL SUCCESS**  
**R2206D14643462**  
LIVERPOOL JOHN MOORES UNIVERSITY



Link to code base: <https://github.com/sucsessemanuel12/Digitox/tree/master/digitox-main>



## Introduction

Excessive smartphone use negatively impacts sleep, especially among college students.

Existing digital detox apps are generic and lack personalized sleep-improving functionalities.

Digitox is designed to track screen time, encourage healthy sleep habits, and improve digital well-being.

This study focuses on the design, implementation, and evaluation of Digitox based on secondary research.

# Problem Statement

---

01

College students experience sleep disruption due to excessive smartphone use before bedtime.

02

Most existing digital detox apps lack personalized features, motivation strategies, and progress tracking.

03

There is limited research on effective digital detox interventions targeting sleep improvement.

04

Digitox aims to bridge this gap by providing a user-centered, gamified solution to reduce screen time and improve sleep.



# Aim & Objectives

## **Aim:**

To develop Digitox, a mobile application that promotes healthy sleep habits and reduces screen time, thereby improving college students' sleep quality.

## **Objectives:**

- 01 Identify challenges and needs related to sleep disruption caused by smartphone use among college students and define the app's core functionalities.
- 02 Investigate sleep hygiene practices and explore app features that encourage reduced screen time and foster healthy sleep habits.
- 03 Design and implement an interactive, user-friendly interface for Digitox, ensuring seamless functionality and an engaging user experience.

# Research Approach

## **Development Methodology: Waterfall Model**

Requirement Analysis → Design → Implementation → Testing → Deployment

## **Technology Stack:**

- Frontend: React Native
- Backend: Spring Boot, MySQL
- Prototyping Tool: Draw.io

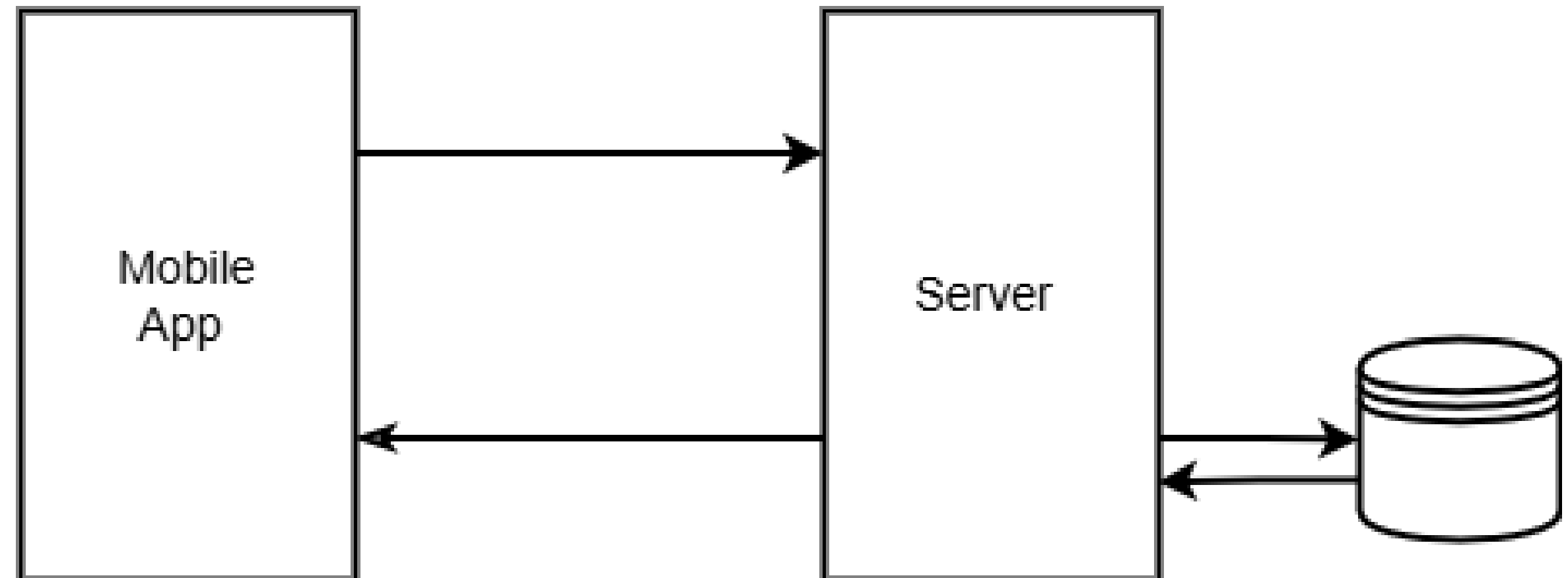
## **Prototype Development:**

- Wireframes designed using Draw.io
- Mobile app developed with core features (screen tracking, milestones, rewards)

## **Data Sources:**

Existing studies on sleep hygiene, digital detox strategies, and app usability

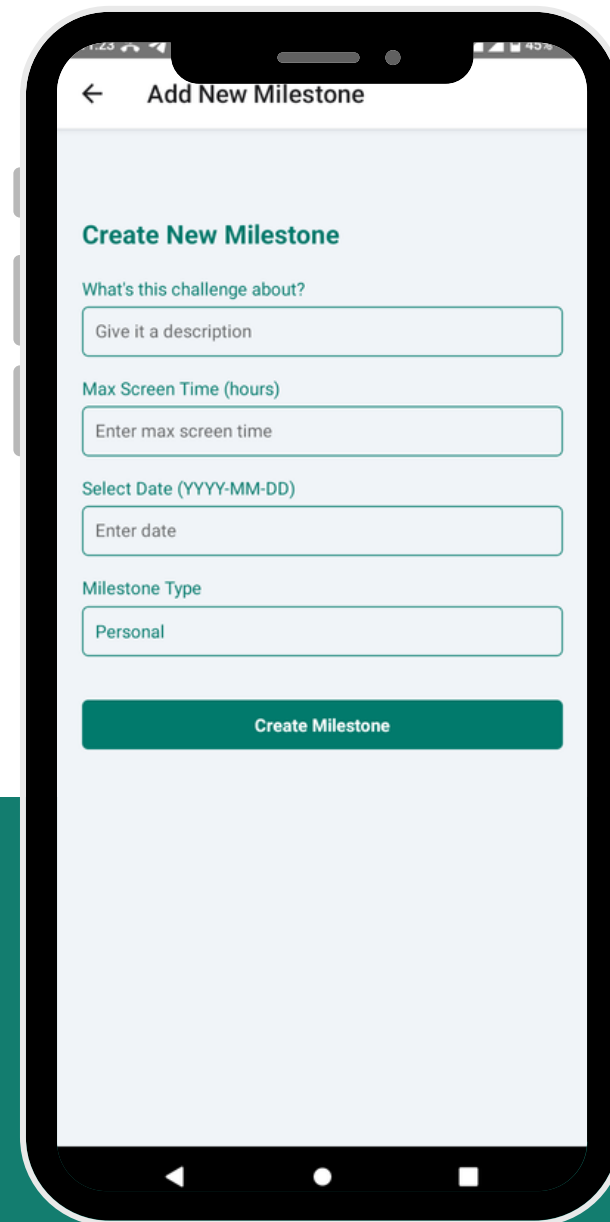
# System Architecture



- Frontend: Built with React Native, ensuring cross-platform compatibility.
- Backend: Developed using Spring Boot, handling user authentication, milestone tracking, and reward system.
- Database: MySQL, storing user progress, screen time logs, and reward points

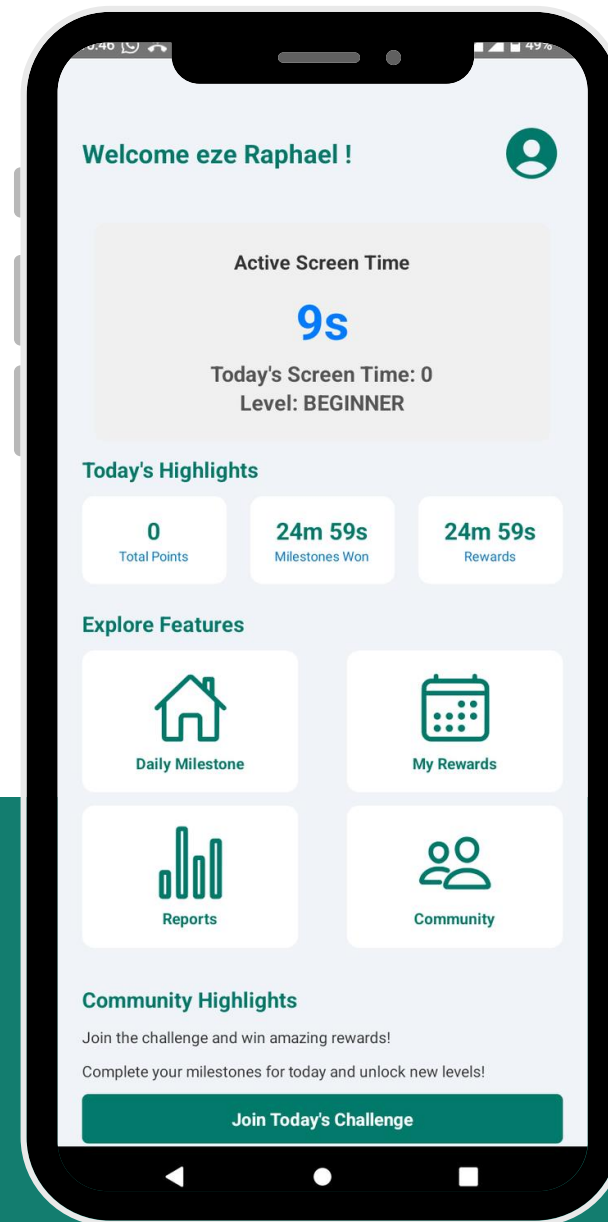


# App Features



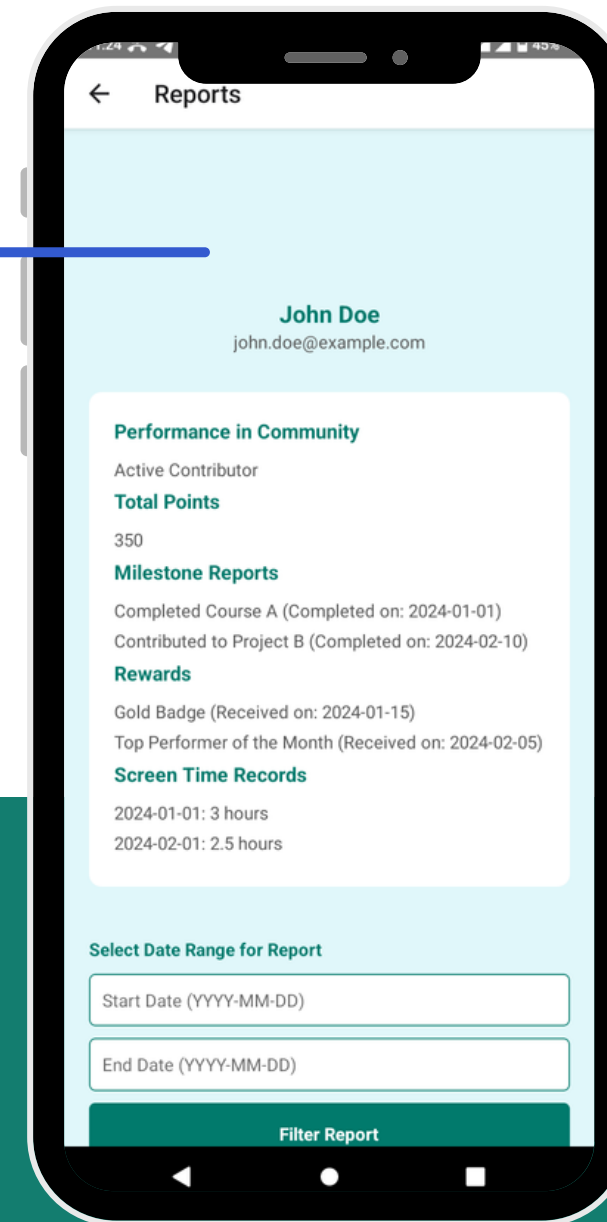
## Milestones

Users set personal or community-based screen time goals.



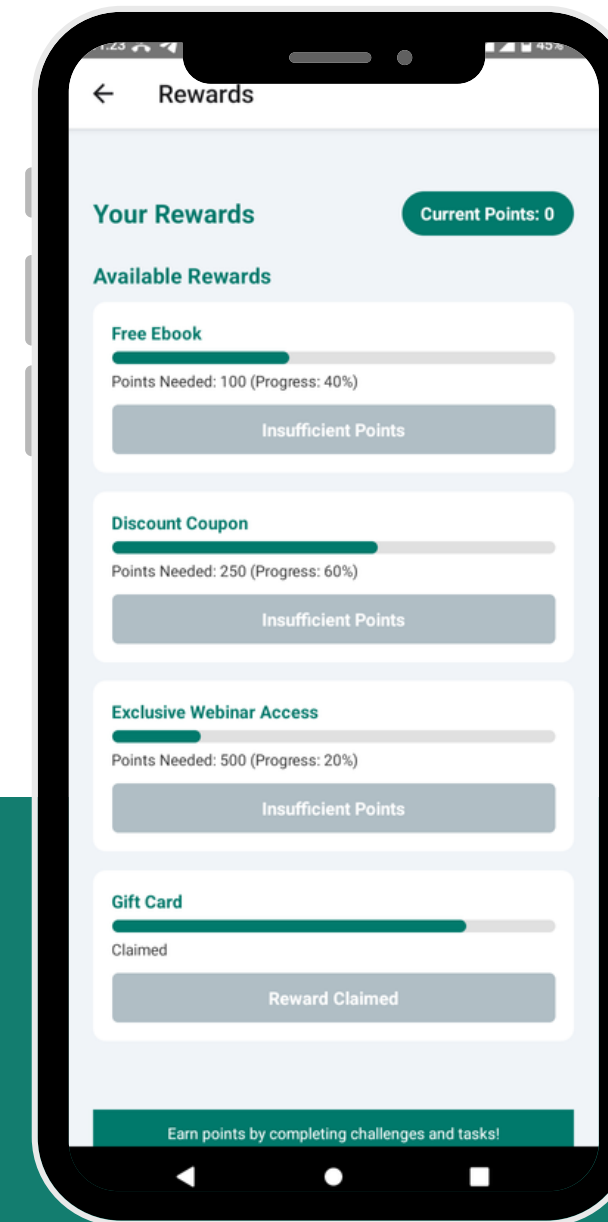
## Screen Monitoring

Tracks daily smartphone usage.



## Reports & Insights

Provides daily and weekly screen time analytics.



## Rewards & Levels

Users earn points for achieving milestones.

# Results and Evaluation

---

01

## System Performance:

- Screen time tracking accuracy: 95%
- Battery consumption reduced after optimization

02

## Feature Evaluation:

- User engagement potential: High due to milestones and rewards.
- Scalability: Designed for future AI-driven enhancements

03

## Identified Issues:

- Background process inefficiencies.
- Limited real-world testing





# Challenges encountered

## Challenges faced:

- Optimization Issues – High CPU & memory consumption in the background.
- No Real-World Testing – Due to the secondary research approach.
- Feature Limitations – Lacked AI-driven recommendations and app-blocking features.

## Future Enhancements

- Performance Optimization – Reduce resource consumption.
- AI-Driven Sleep Recommendations – Personalize insights based on user data
- App-Blocking Features – Restrict access to distracting apps at night
- Cross-Platform Availability – Develop web and desktop versions.
- Cloud Synchronization – Allow users to track progress across devices.

# Recommendations & Future Work

## **Future Research:**

- Expand user base for broader demographic analysis.
- Conduct long-term studies on sleep improvement impact.

## **App Improvements:**

- Optimize app performance and background processing to reduce crashes.
- Integrate AI-based recommendations for personalized digital detox plans.
- Enhance community engagement with leaderboards & peer challenges.

# Conclusion

Digitox was successfully developed to address excessive screen time and improve sleep hygiene.

The milestone-based reward system makes it more engaging than existing solutions.

Challenges in optimization and testing were identified, paving the way for future enhancements.

Future research should explore user testing, AI integration, and additional behavior modification strategies.

---

# *Thank You*

