BikeGuard

SMART BICYCLE PARKING SYSTEM

GROUP 6

TEAM

Andrew Kristofer Jian
Frontend Developer
Hardware Testing

Azriel Dimas Ash-Shidiqi
Backend Developer,
Hardware Testing

Irfan Yusuf Khaerullah
Project Manager,
IoT Developer

BACKGROUND

Based on observations at our faculty's bicycle parking area, there are several issues such as a lack of parking spaces, inadequate security, insufficient supporting facilities for bicycle transportation, and the need for alignment with the UI GreenMetric program.

INTRODUCTION TO BikeGuard

A comprehensive smart bicycle parking system that integrates IoT technology for automated locking and offers administrators tools for managing parking and security updates.

FEATURES

QR Code System

Secure locking/unlocking via unique QR codes

Automated Lock Control

Remote lock/unlocking control via web app

Real-time Monitoring

Instant bicycle status tracking and alerts

FEATURES

Data Analytics

Parking usage analysis for system improvement

Web App

User-friendly interface for all functions

Security

Alarm system preventing unauthorized access

TECH STACK

React JS

Node JS

FreeRTOS

PostgreSQL

SCHEDULE

Planning

Determined together the idea of our project that related to UI GreenMetric

Pre-Production

finalize the project and prepares everything that might be needed when making the project.

Production

Start to making the BikeGuard

Testing

Do testing on all our project components before launch and resolve bugs

Pre-Launch

Refine and optimize the system based on feedback during testing, and preparing before launch it officially

Launch

Officially released BikeGuard to public

Post-Prouction

Continue to optimize the system based on user feedback and gathering data to ensure a long-term maintenance strategy.

TIMELINE

Project Activity	September				October				November				December			
	W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4
Planning																
Pre-Production																
Production																
Testing																
Pre-Launch																
Launch																
Post-Production																

COMPETITORS

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RISK ANALYSIS

Technical

System Integration Failures
Software Failures
Hardware Malfunction

Security

Unathorized Access
Data Violation
Vandalism

Operational

System Maintenance
User Adoption
Insufficient Training for Operational Staff

Budgetary

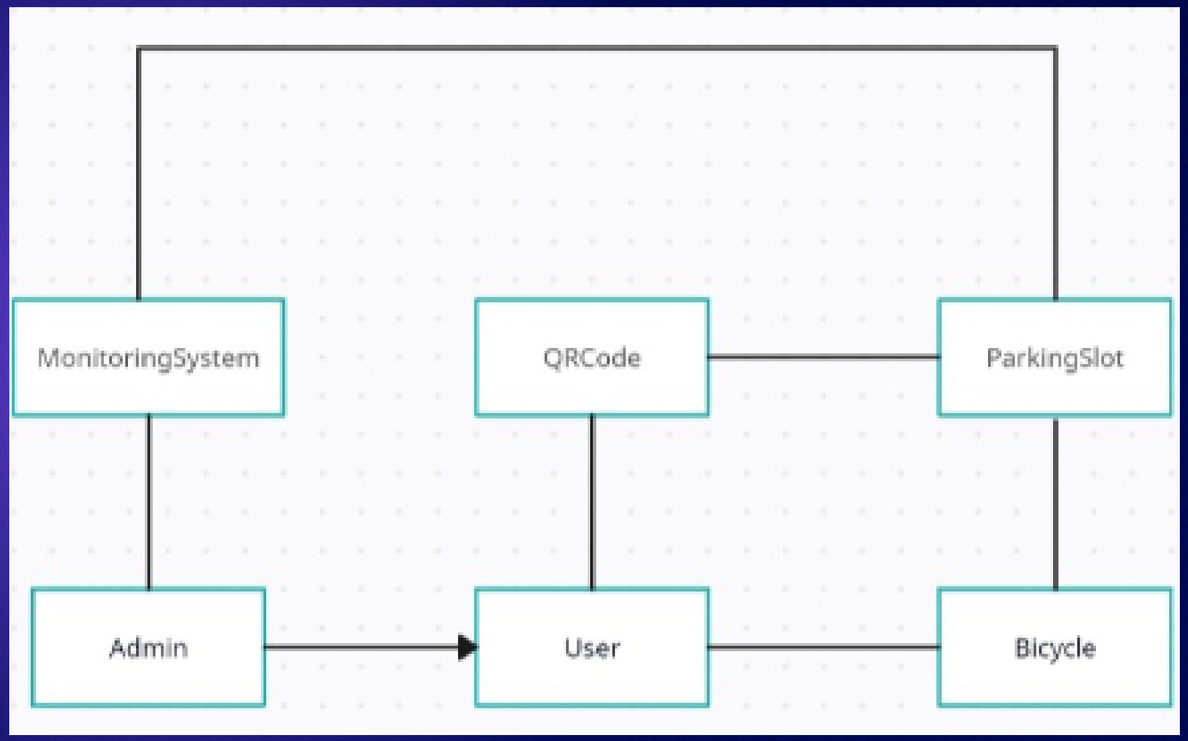
Cost Overrun
Unforeseen Expenses
Inefficient Resource Utilization

Schedule

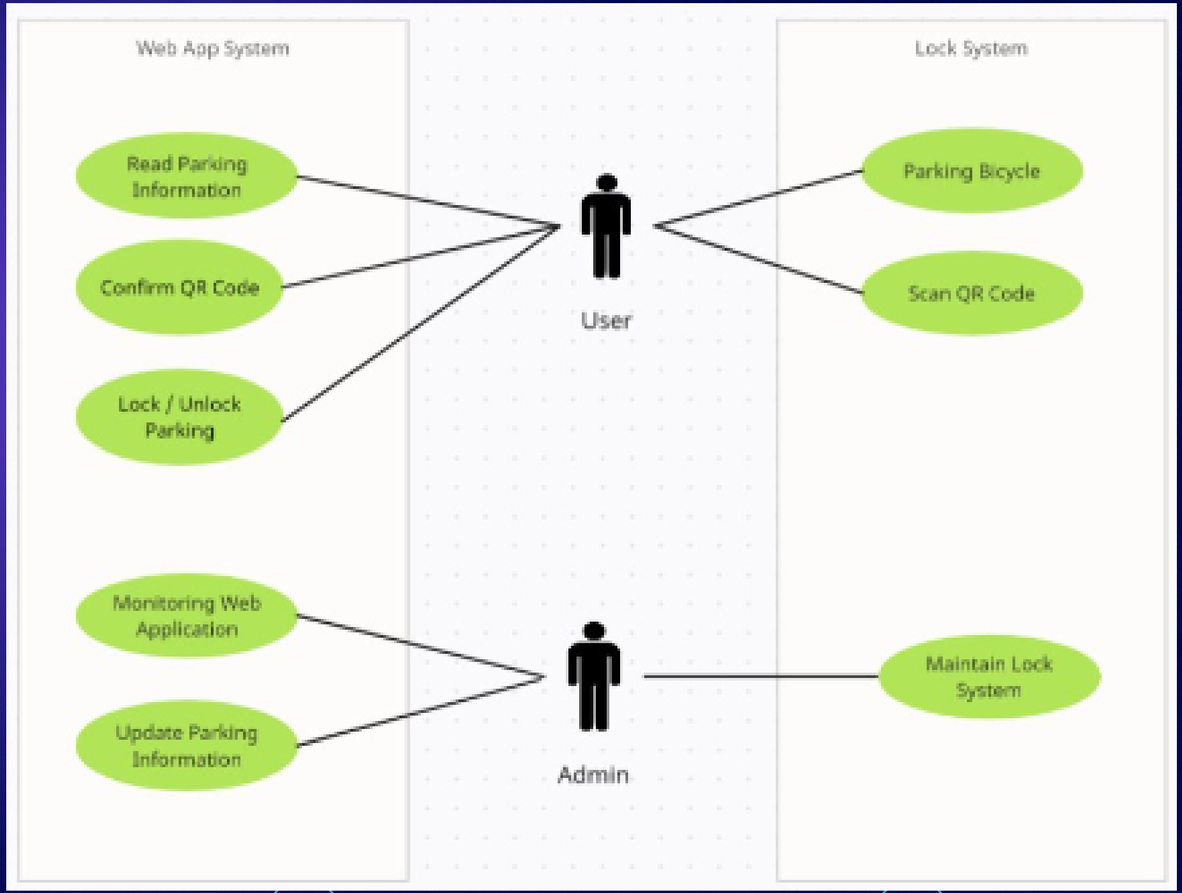
Development Delays
Underestimation of Task Complexity
Unforeseen Events

UML Diagram

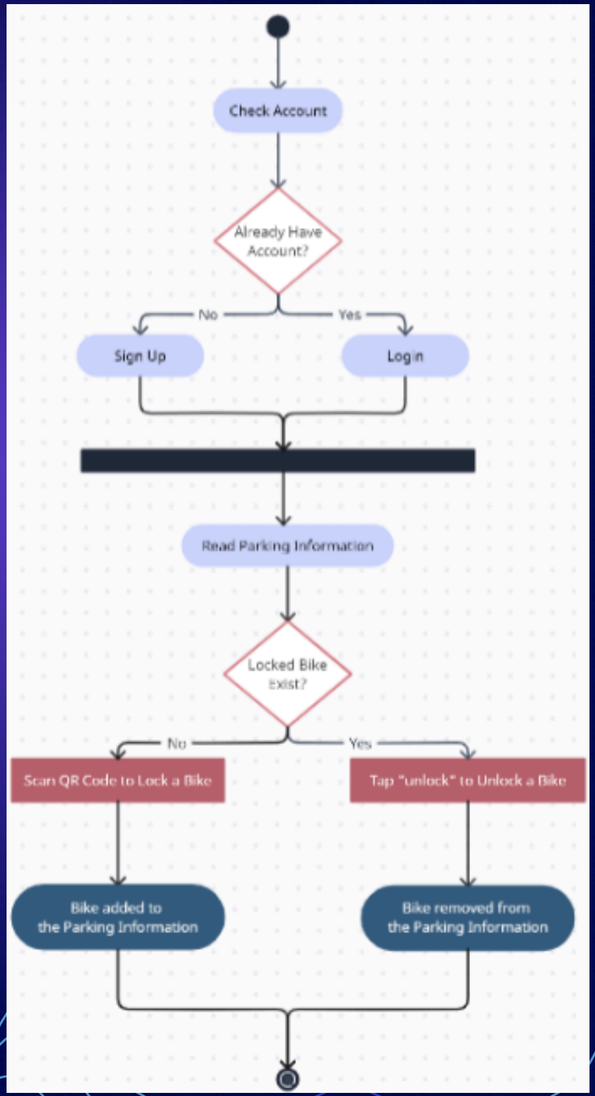
Class Diagram

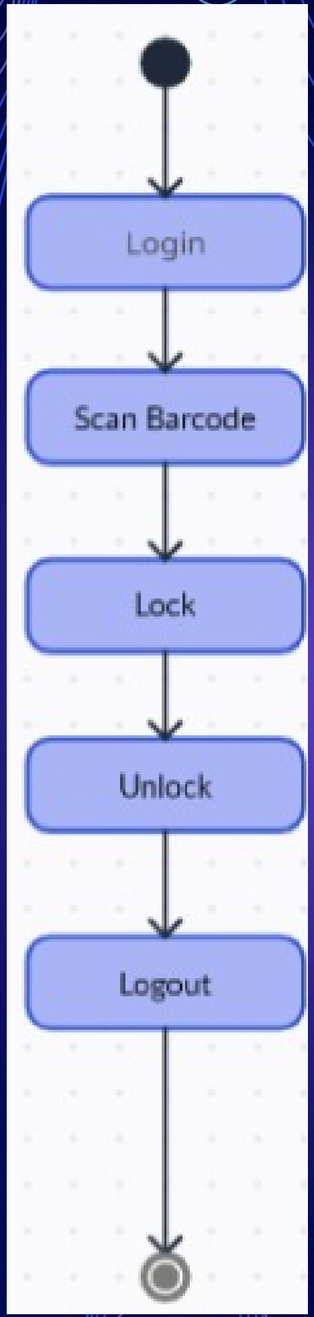


Use Case Diagram



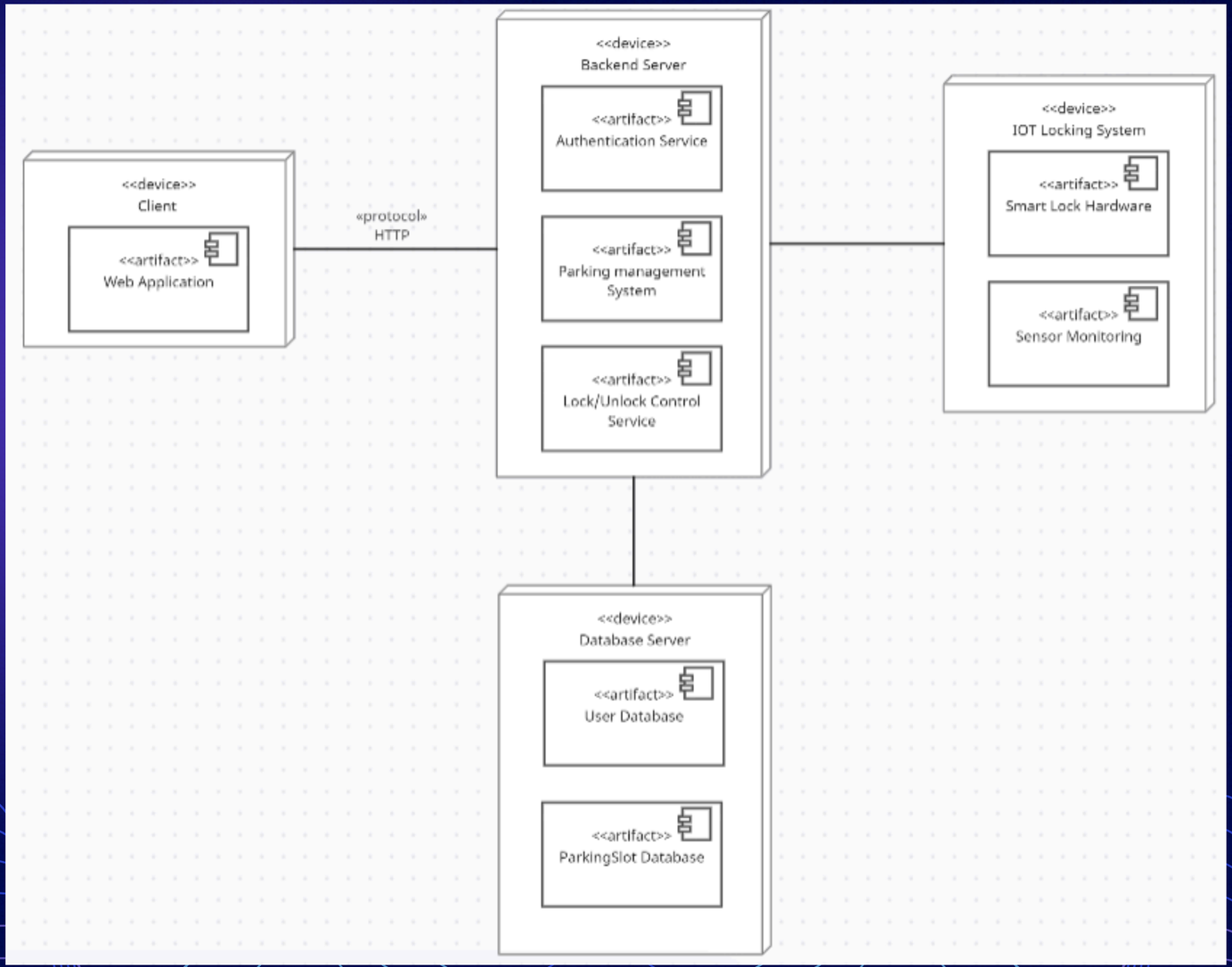
Activity Diagram





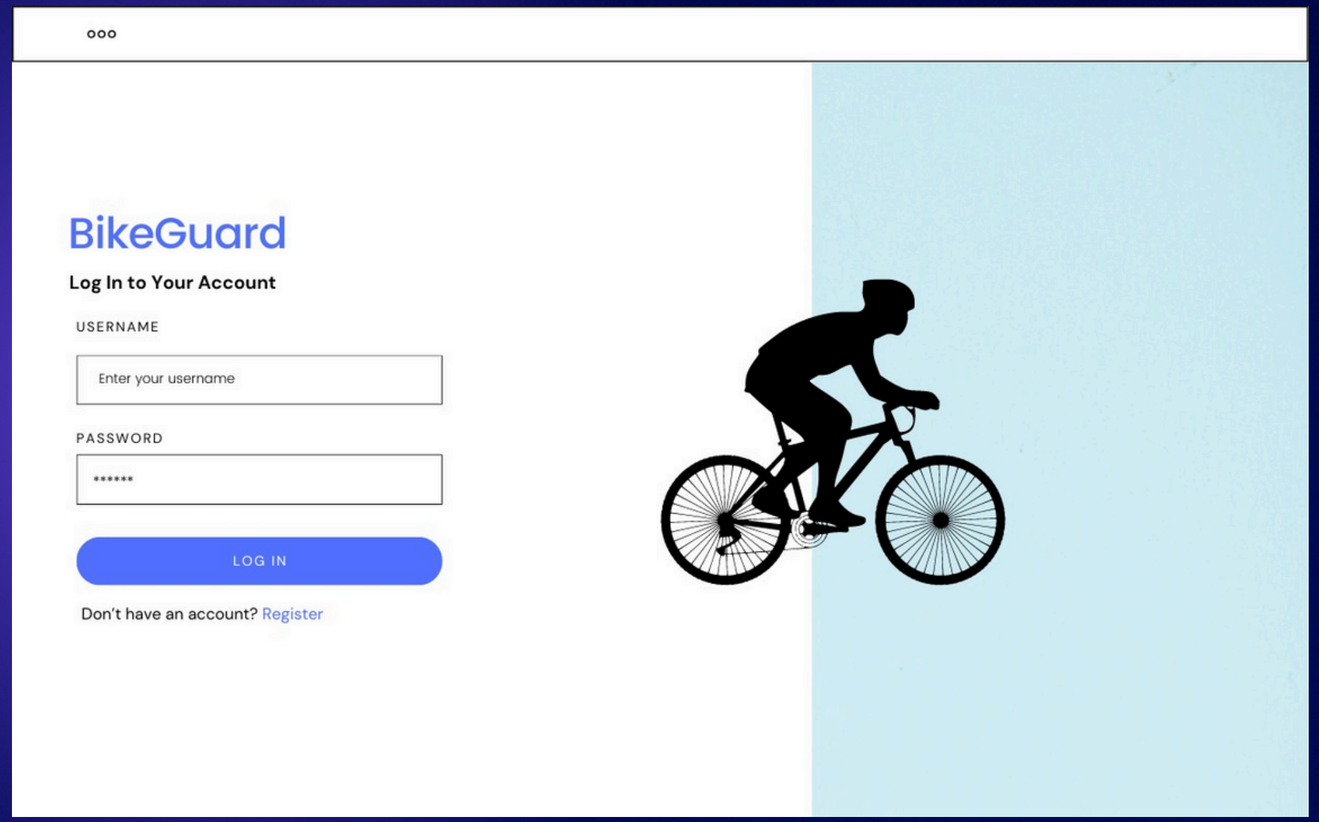
State Diagram

Deployment Component Diagram

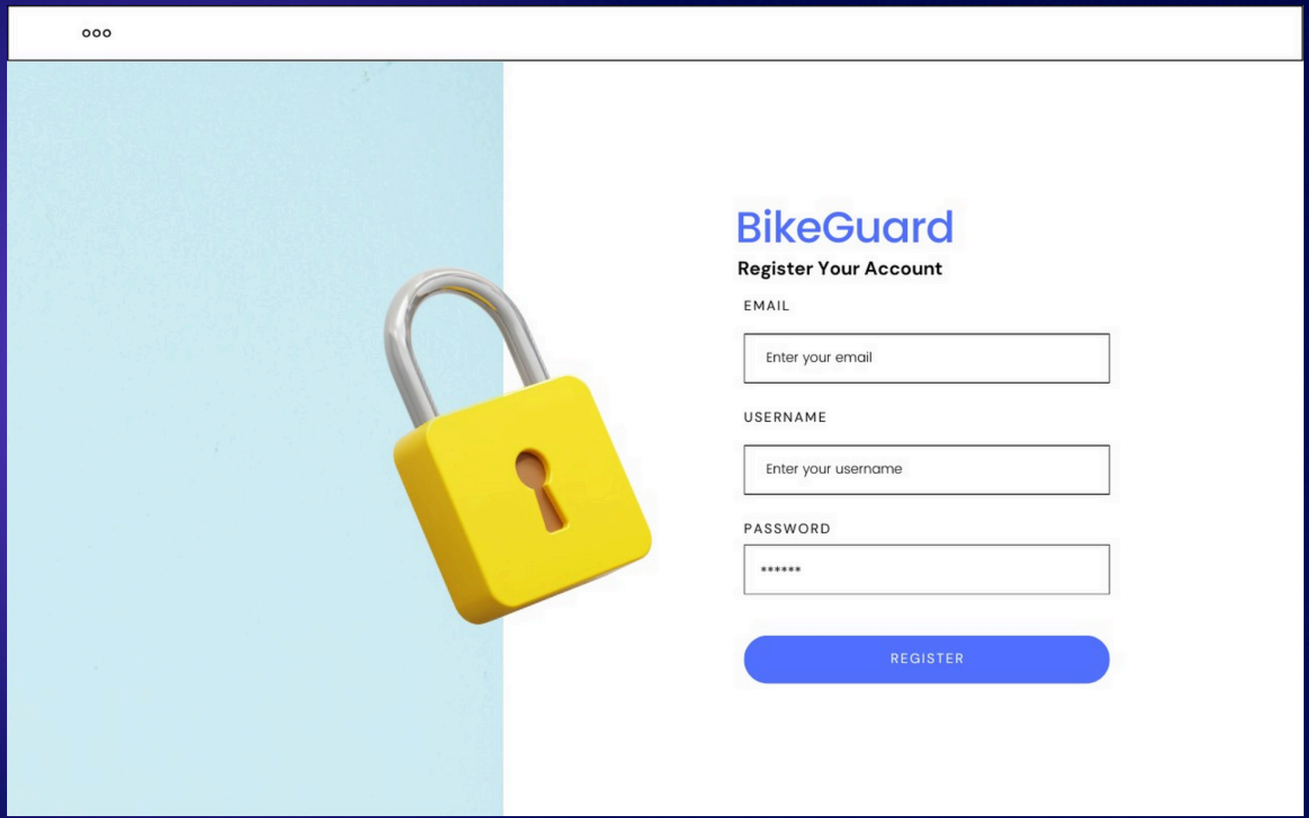


Page Design

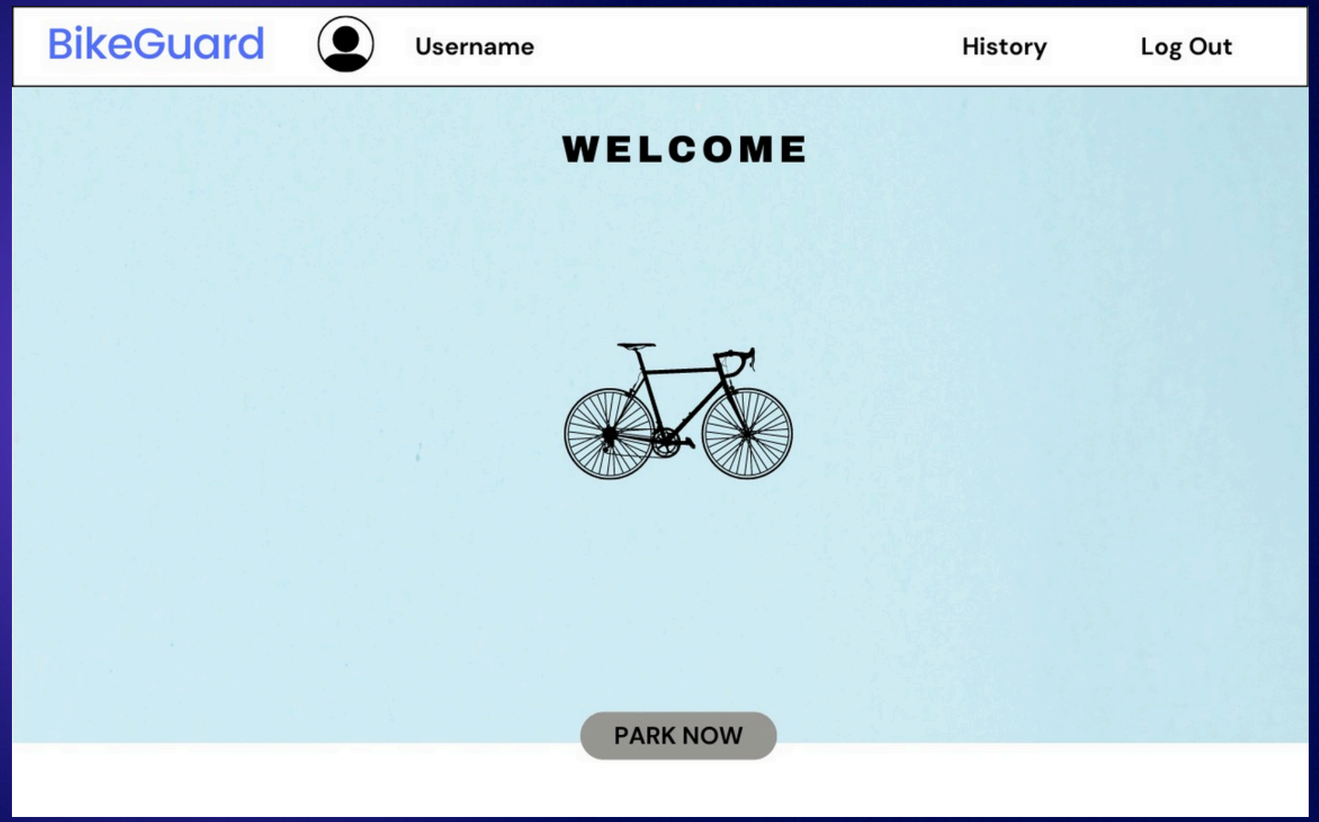
Login Page


BikeGuard
Log In to Your Account
USERNAME
Enter your username
PASSWORD
******
LOG IN
Don't have an account? Register

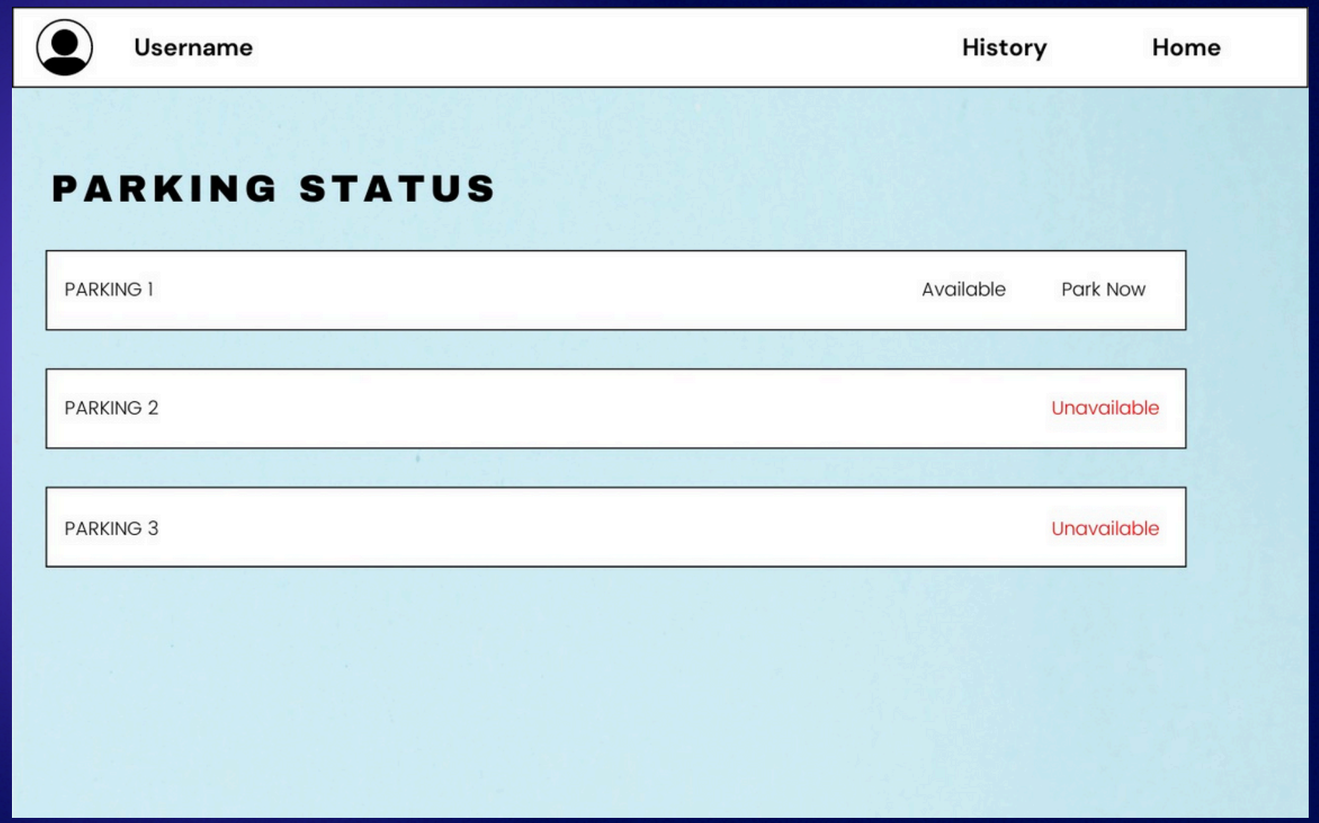
Register Page



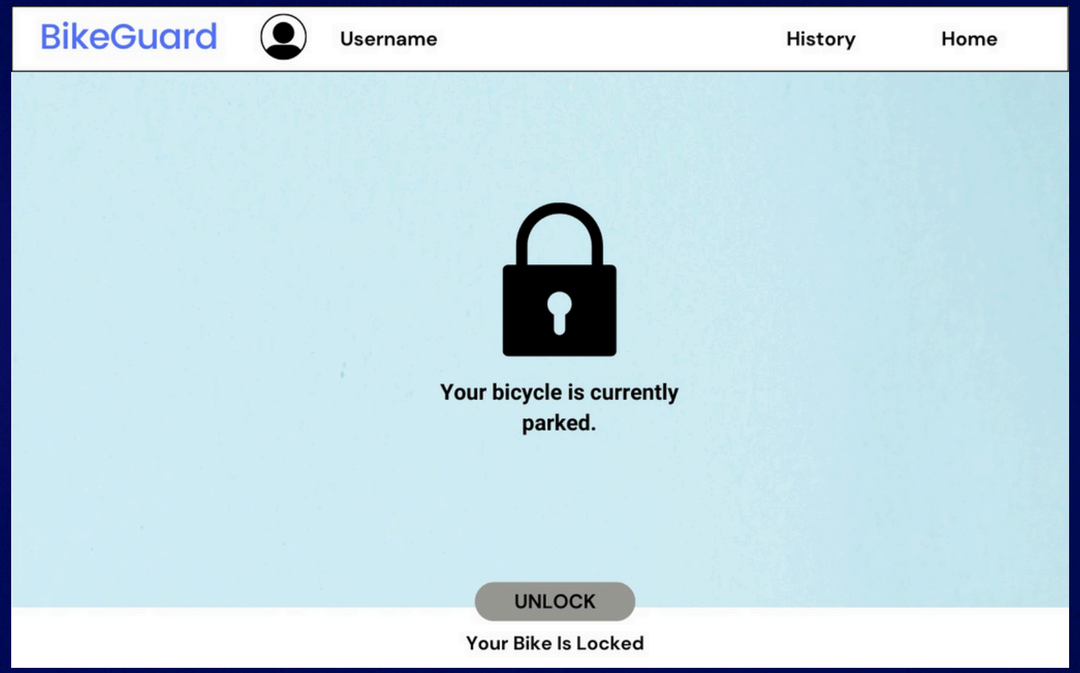
Home Page



Parking Status Page



Parking Page



History Page

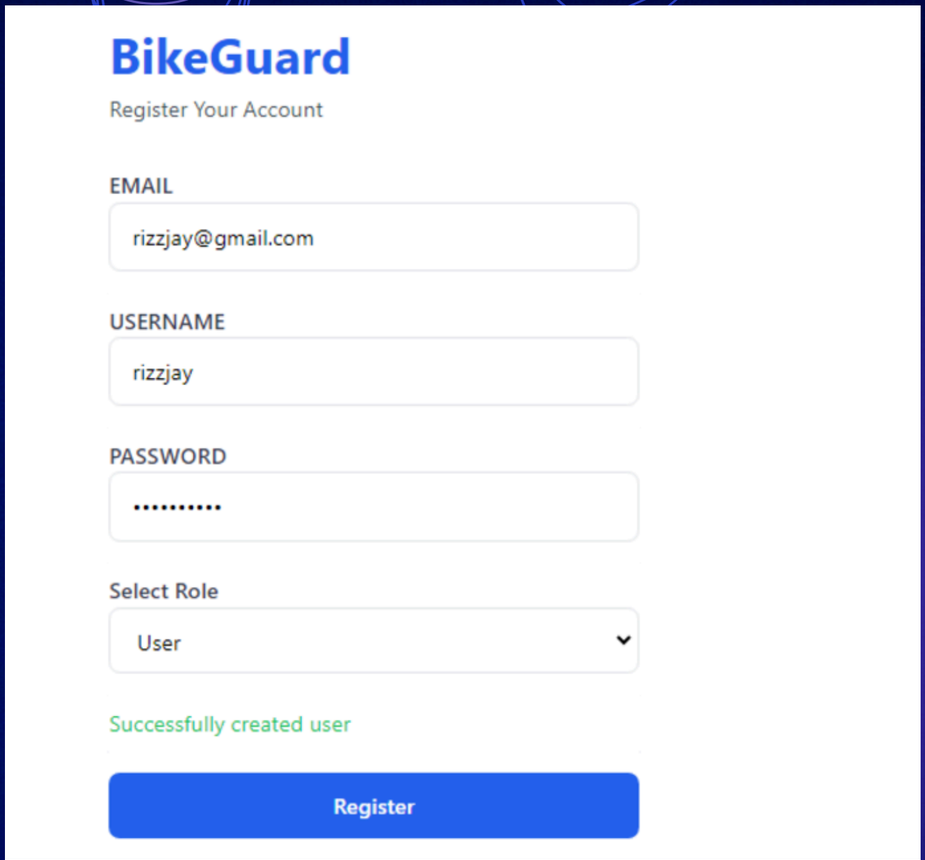
Username

Home

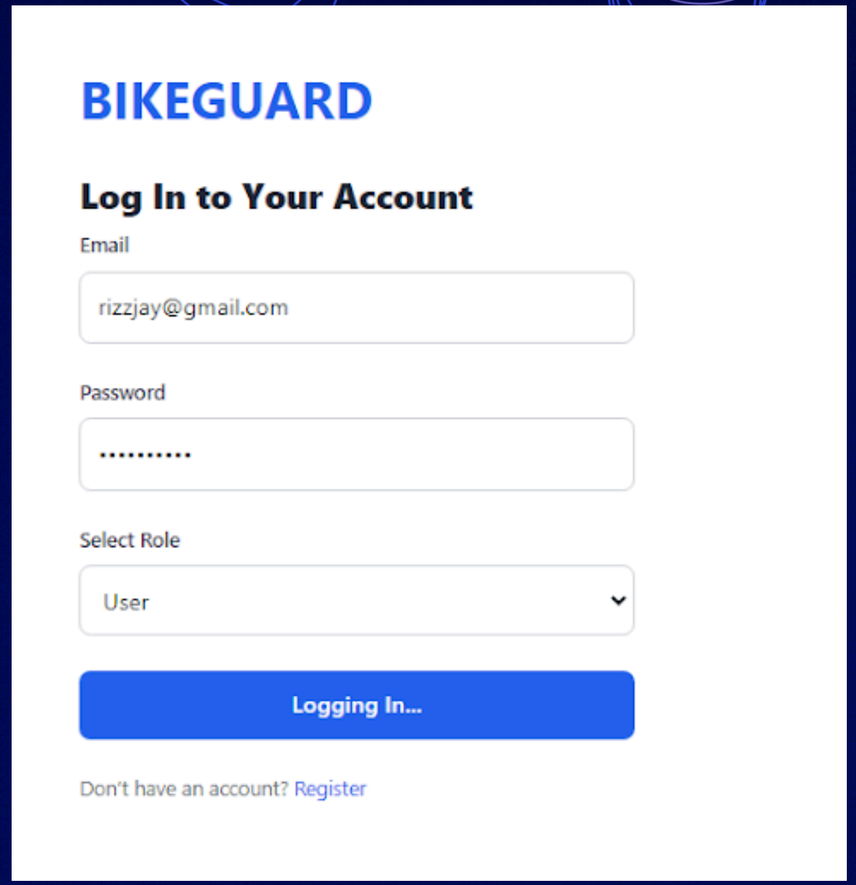
RECENT PARKING

12 October 2024 1 Hours 30 Minutes	09.30-11.00
11 October 2024 1 Hours 30 Minutes	09.30-11.00
10 October 2024 1 Hours 30 Minutes	09.30-11.00

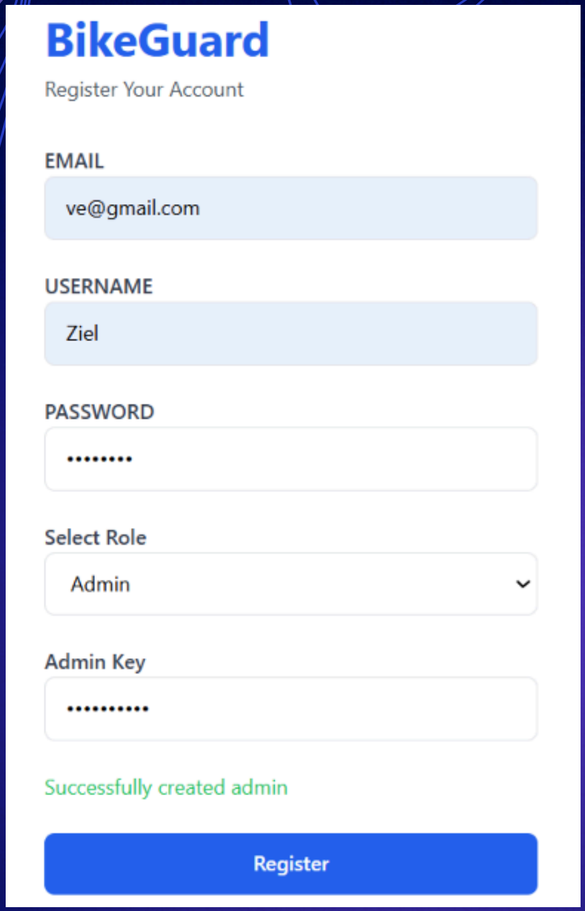
TESTING RESULT



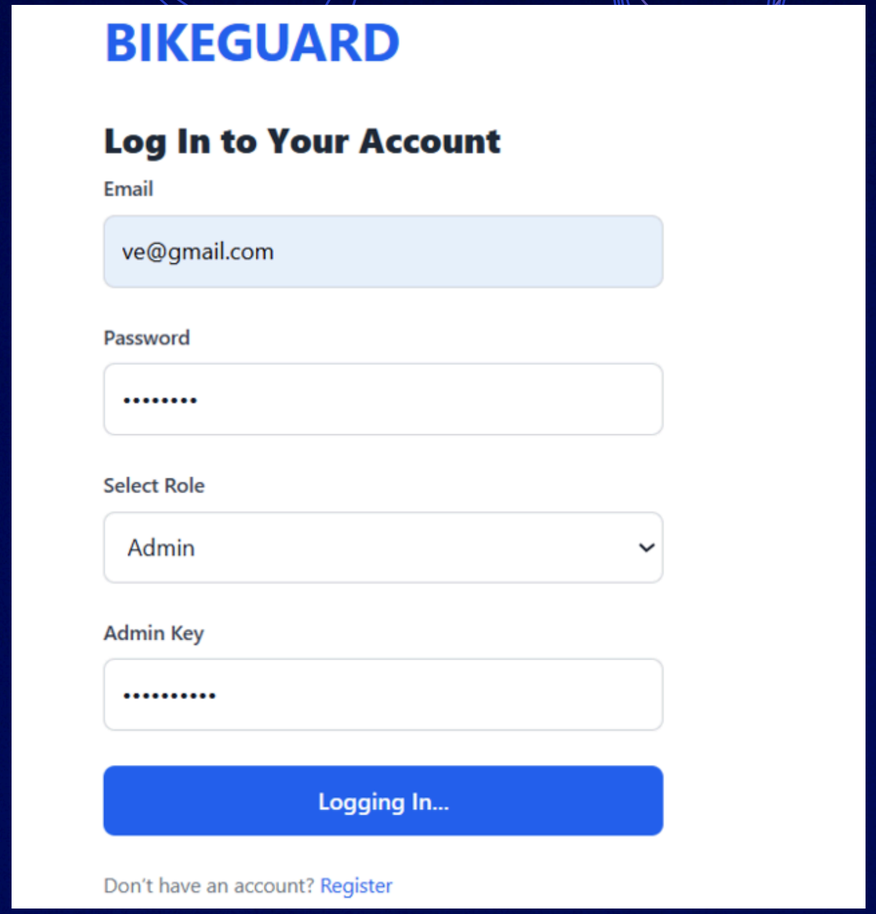
Register User



Login User



Register Admin



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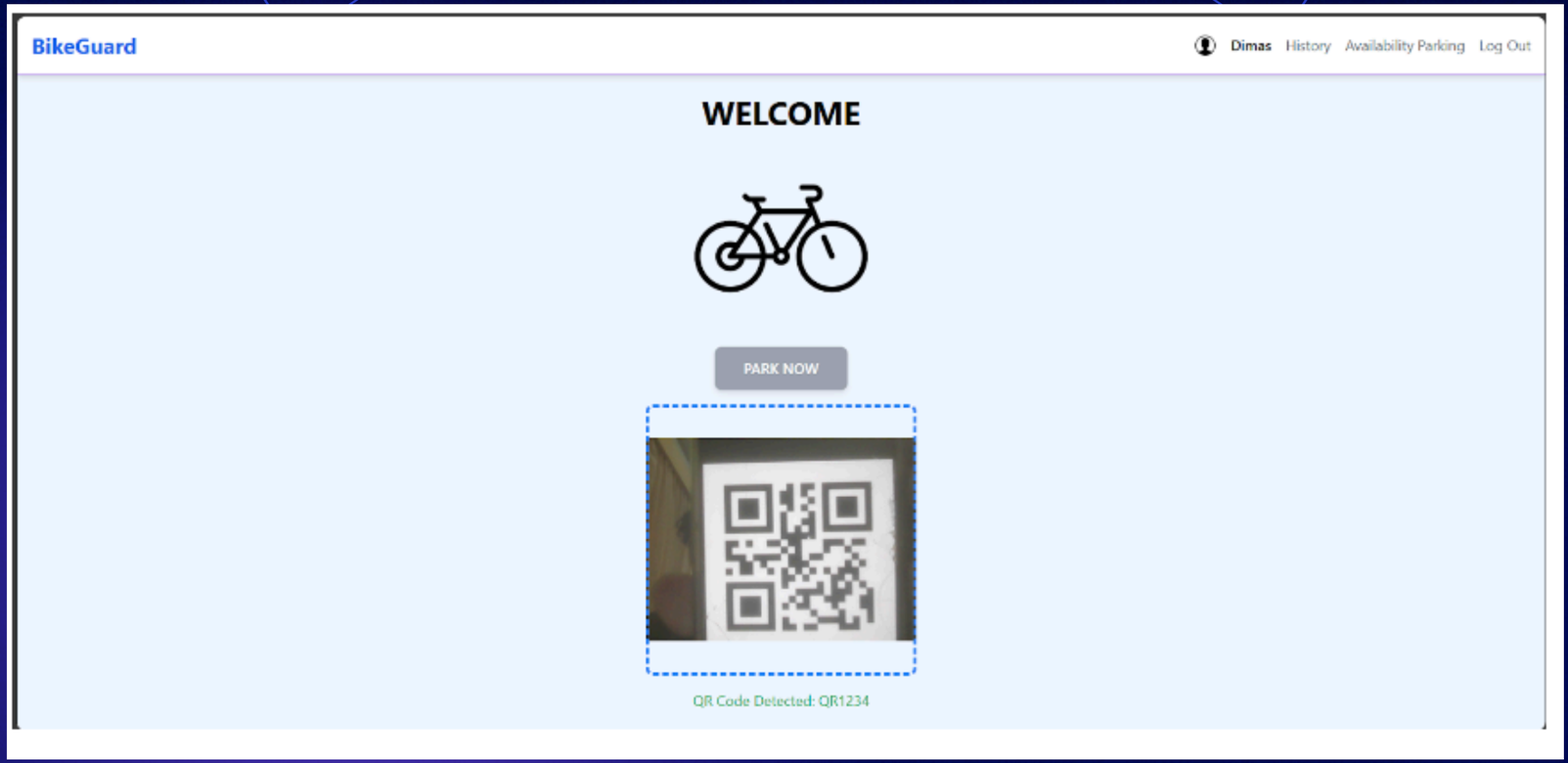
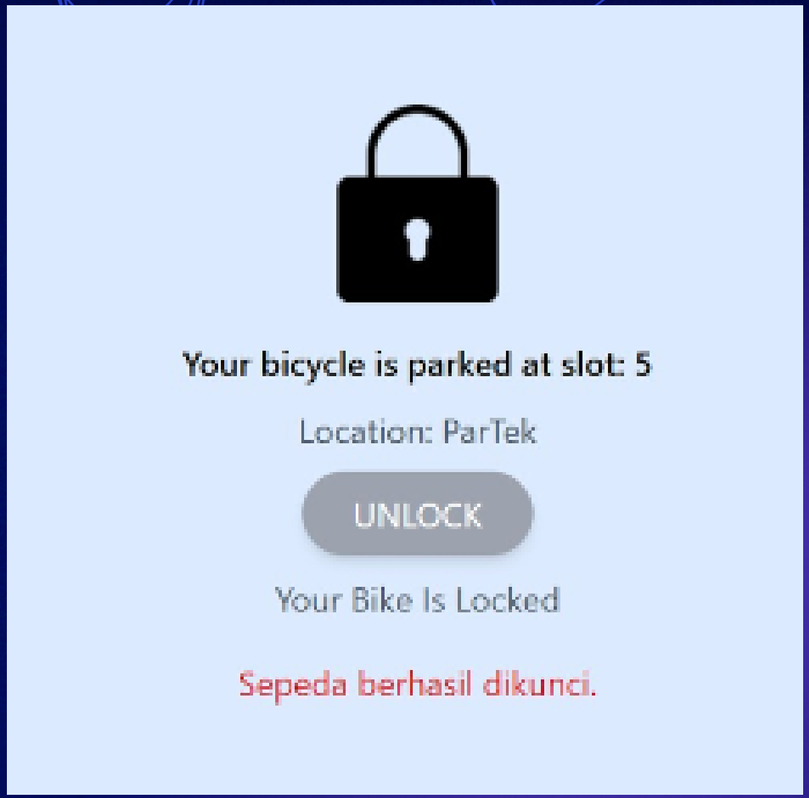
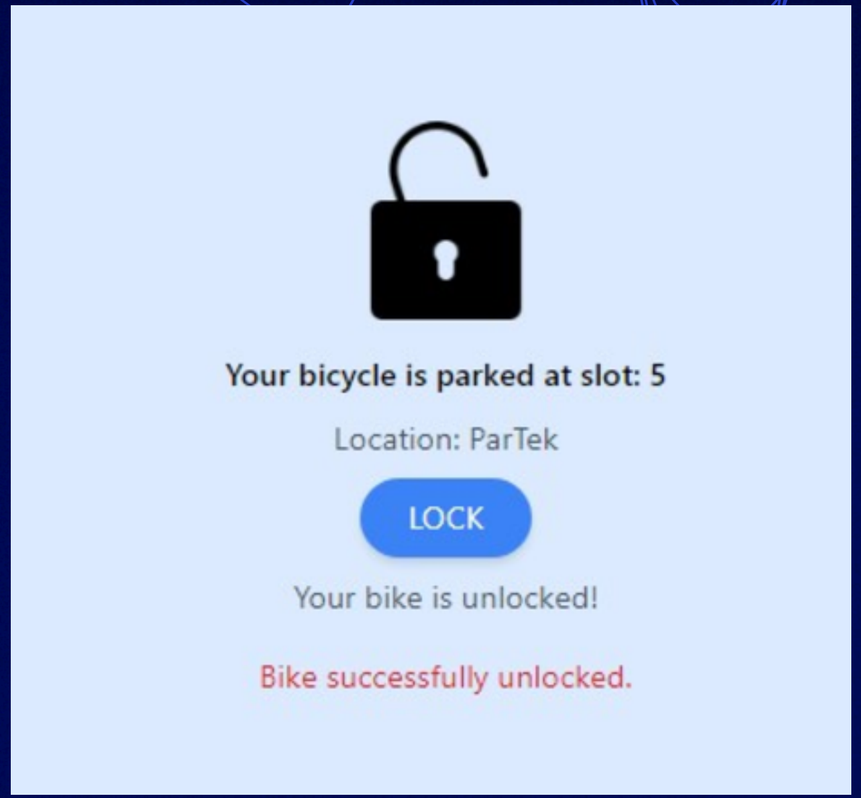


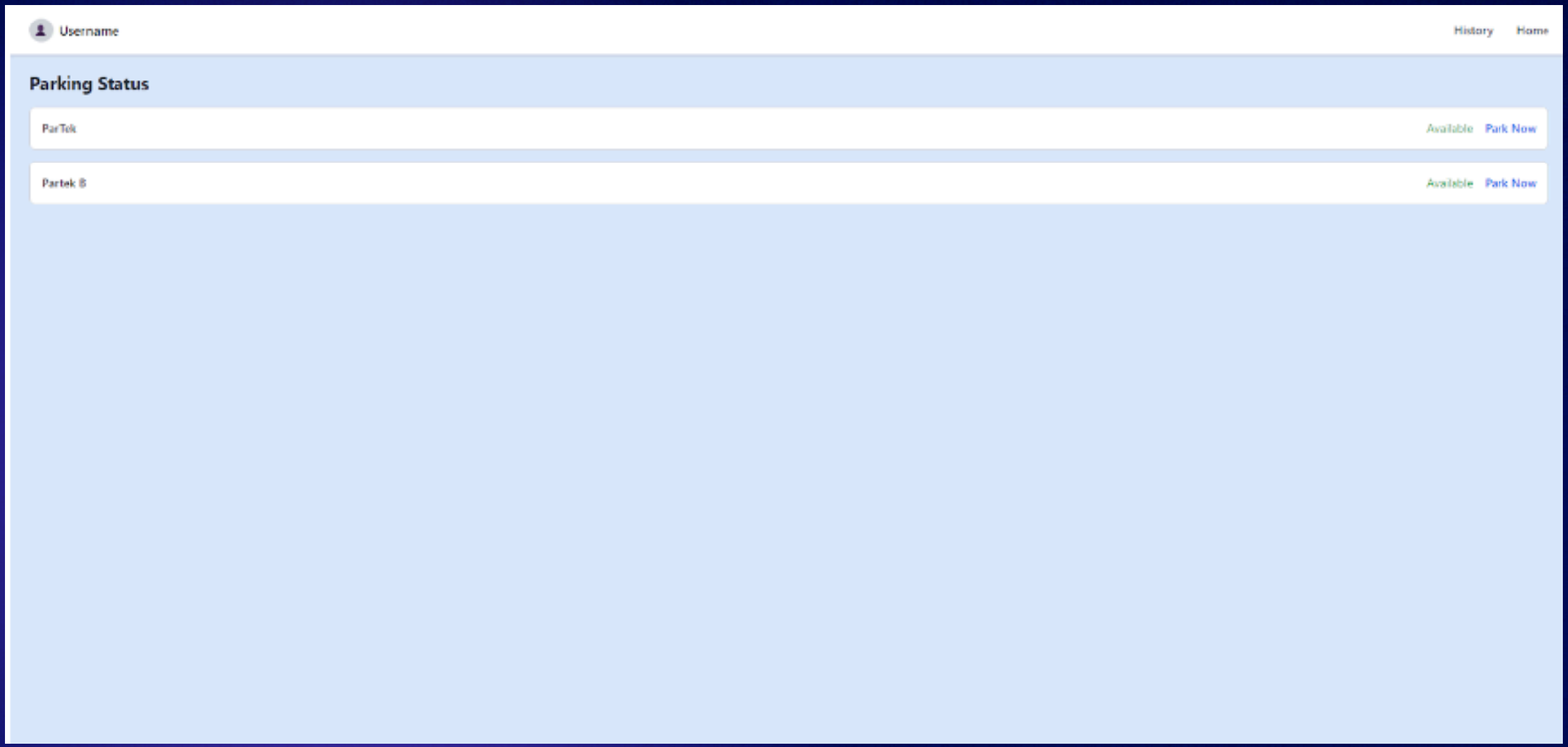
Homepage User



Lock Bike



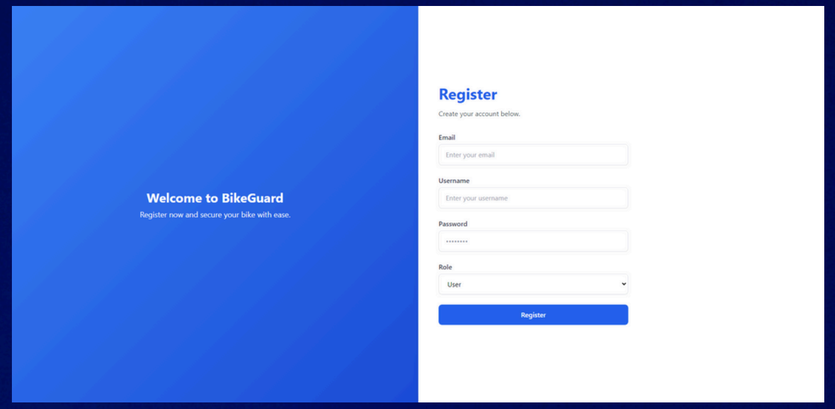
Unlock Bike



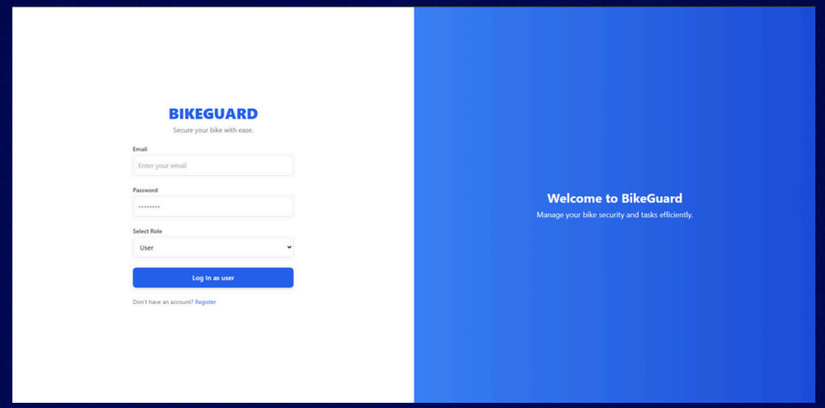
List Parking Slot

USER MANUAL

Register

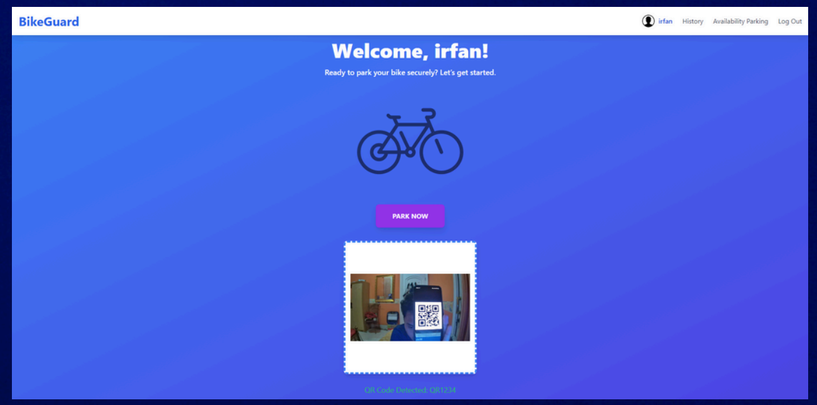


Login

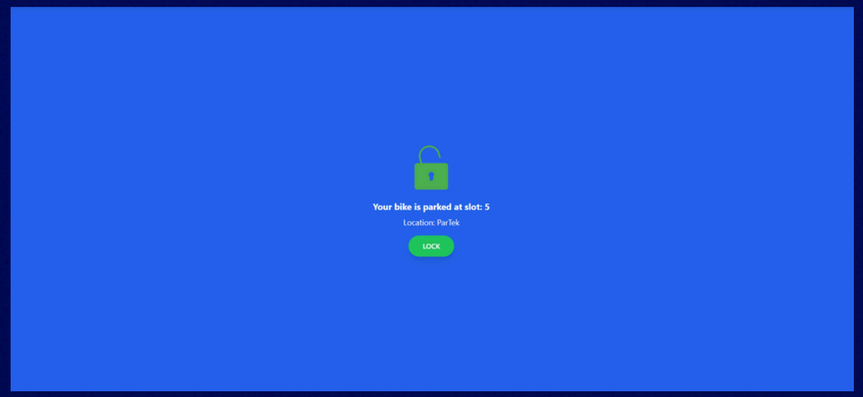


Check Parking

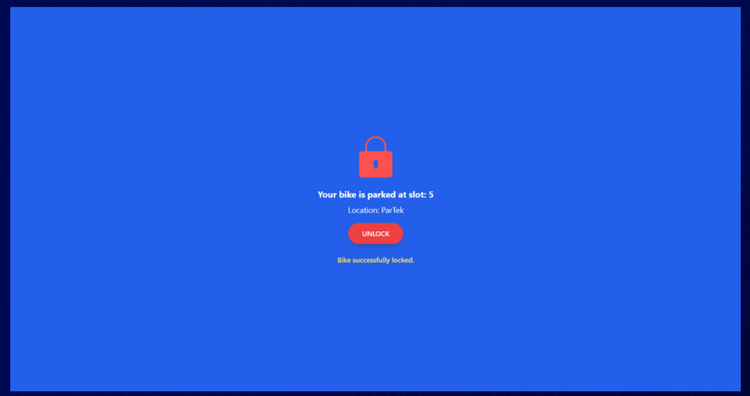
Scan QR



Lock Bike



Unlock Bike



THANK YOU