Project Proposal

TITLE: University Bicycle Tracking System

Project Overview:

Project Name: University Bicycle Tracking System
Project Start Date: August,2023
Project End Date: December,2025 (Estimated)
Project Lead: Kazi Faisal Mahmud
Project Location: Daffodil International University,Savar,Dhaka

Project Description:

The University Bicycle Tracking System aims to create an efficient and user-friendly system for tracking the usage of bicycles available on our university campus. This system will enhance the management of these bicycles and provide valuable data for optimizing their availability and usage patterns.

Project Objectives:

1. **Implement a QR Code-Based Tracking System:** Attach QR codes to each bicycle for streamlined check-out and check-in processes.

2. **User Registration and Authentication:** Register students and officials in the system, and implement user authentication to ensure only authorized individuals can use the bicycles.

3. **Record Check-Out and Check-In Transactions:** Record the time, user ID, and bicycle ID for every check-out and check-in transaction.

4. **Generate Reports and Analytics:** Develop reporting capabilities to provide insights into bicycle usage patterns and help optimize resources.

5. **Notifications and Alerts:** Implement a notification system to remind users to return bicycles and alert administrators of overdue bikes.

6. **Privacy and Compliance:** Ensure compliance with data privacy regulations and university policies while respecting user privacy.

7. **User-Friendly Mobile App:** Create intuitive mobile applications for students and officials to interact with the system.

Project Scope:

The project encompasses the following activities:

- ➔ Procurement and installation of QR codes on bicycles.
- ➔ Development of a central database for recording transactions.
- ➔ Creation of mobile apps for user interaction.
- ➔ User registration and authentication system.
- ➔ Development of reporting and analytics features.
- ➔ Implementation of notifications and alerts.
- ➔ Ongoing maintenance and support.
- ➔ Training for users and administrators.

Project Timeline:

The project will be executed in phases, with each phase addressing specific components of the system. A detailed timeline will be provided in the project plan.

Budget:

A detailed budget will be developed, outlining costs for QR code implementation, database development, mobile app development, and ongoing maintenance.

Merits:

- ❖ Improved bicycle management.
- ❖ Enhanced user experience and convenience.
- ❖ Valuable data for optimizing bicycle usage.
- ❖ Compliance with data privacy regulations.
- ❖ Reduced bicycle misuse and theft.

Demerits:

- Privacy concerns and data security.
- User acceptance and adoption.
- Technical challenges during implementation.

Languages:

- Java
- Kotlin
- Swift
- Objective-C

Existing Software or Tool:

There is no existing tool or software. Those Bicycles are currently tracked through one-card payment(1TK) temporarily.There is no more facility available.

Conclusion:

The University Bicycle Tracking System is a valuable project that will benefit the university community by offering a convenient and secure means of tracking bicycle usage. The project will enhance the management of bicycles and provide actionable data for informed decision-making.

We seek approval and support to proceed with this project. Detailed project plans, budgets, and risk mitigation strategies will be provided in subsequent project documentation.

If you have any questions or require further information, please reach out to the project lead, **Kazi Faisal Mahmud**, at **`mahmud15-5409@diu.edu.bd`**

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