



KHULNA UNIVERSITY

PROJECT PROPOSAL ON

Smart Bike Parking Zone

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Smart Bike Parking Zone

Introduction:

The Arduino Uno based smart bike parking zone is a project that aims to create a more efficient and convenient system for parking bikes. The project utilizes the Arduino Uno microcontroller to control the movement of bikes in and out of the parking lot, as well as to monitor the availability of parking spaces.

Objectives:

- To design and develop a system that can detect the availability of parking spots in a given area.
- To use sensors and actuators to detect the presence of a bike and guide it to an empty parking spot.
- To improve the overall parking experience for users.
- To increase the utilization of available parking spaces.

Feasibility Analysis:

- **Technical feasibility:** The project utilizes the Arduino Uno microcontroller, which is a widely available and well-established platform. The project also utilizes sensors and other components that are readily available and easy to use.
- **Economic feasibility:** The project is relatively inexpensive to implement, and the cost of the components and equipment is relatively low. Additionally, the project has the potential to generate revenue through the collection of parking fees.
- **Operational feasibility:** The project is easy to use and understand, making it accessible to a wide range of users. Additionally, the project has the potential to improve the overall parking experience for users, which could lead to increased use of the parking lot. The system can also be easily scaled up to accommodate larger parking areas.

Risk:

- The project is dependent on the reliability of the sensors and other components used to detect the presence of bikes in the parking lot. If these components fail, the system may not function properly.
- The risk of software failure is also present as the system relies on the programming of the Arduino UNO microcontroller. In the event of a software failure, the system will not function as intended.
- The project also requires a display screen to communicate with the Arduino Uno microcontroller and to update the status of parking spaces. If the display screen doesn't work properly, the system may not function properly.
- The project also requires a power source to operate, and if power is lost, the system may not function properly.