KHULNA UNIVERSITY

Course Title: Microprocessors and

Microcontrollers Laboratory/Project

Course No: CSE 3112

Coin Based Mobile Charging System Using Arduino UNO

Project Proposal

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**PROJECT DESCRIPTION**

**PROJECT TITLE:**

Coin Based Mobile Charging System Using Arduino UNO

**INTRODUCTION :**

Mobile phones have become an essential part of our lives. However, with the increasing number of features on modern smartphones, keeping them charged has become a significant challenge. Such as sudden call disconnections due to the low battery can be frustrating and in travelling areas and emergencies, the situation becomes worse. To address this issue, a prototype for a coin-based mobile battery charging system has been developed, providing a practical solution for charging mobile phones.

**FEATURE LIST :**

* It can charge mobile phones for a particular amount of time on inserting a
* coin.
* It can charge the mobile phone at any place.
* Low power consumption.
* User-friendly and easy to operate.
* User-friendly and cost-effective.
* Only one device can be charged simultaneously.

**WORKING PROCEDURE :**

* First player has to plug in the switch. A welcome message is displayed to the user on startup " Welcome to coin-based mobile charging system.".
* The display also shows  "Please insert a coin".
* The user now has the option to insert as many coins as he wants but the coin acceptor only detects 5 taka coin.
* Coin acceptor detects the coin and sends the signal to the port selector through Arduino and shows the message in the display "Select port".
* There are 4 ports for selection with 4 respective charging modules.
* After selecting the port the charging will start.
* The mobile will charge for a predefined time.  After the charging time has elapsed, the charging will automatically stop and tell the user to insert a coin.

**USED SENSOR AND COMPONENTS :**

SENSOR :

No sensor was used in this project.

HARDWARE :

The hardware required for the project is as follows:

* Arduino UNO
* 16x2 LCD Display
* I2C Module
* 4x1 Relay Module
* Limit Switch
* 12-volt Power Supply Adapter
* Push Button
* LM2596 Buck Converter
* Power Bank Circuit
* Jump Wires

SOFTWARE :

The software required for the project is as follows:

* Arduino IDE
* Proteus - designing software.
* Embedded C++

PROJECT WORKFLOW

* Component Setup
* Component Testing
* Environment Setup For Coding
* Burned The Code
* Final System Setup

**FULL SETUP :**

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*Fig: Coin based mobile charging system.*

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*Fig: Coin based mobile charging system.*