PPT Presentation

**(V Harshini)**

**Group Introduction:**

Good afternoon ma’am/sir! This is IPC-79 2021-2022 odd semester. Our group consists of 6 members namely – Gaurav H, Praveen Kumar G S, Samarth B Devaramani, Samuel R, Sandeep Iyagar, and me, V Harshini.

Our team, IPC-79, has chosen the project title to be ‘Mobile Charging on Coin Insertion’. Our team is working on the project under the supervision of Ms. Strerlin Minish T N, Assistant Professor in the Department of Computer Science and Engineering.

**(Samuel R)**

**Project Introduction**

To start off, I’d like to introduce our project.

We all know, how mobile phones have become an important and an unavoidable part of our lives. And charging these devices is of a higher priority. Especially in public places, when mobile phones run out of battery, it becomes necessary for us to recharge them. Therefore, the basic idea considered here is to develop a system that will provide charging on coin insertion. The most important thing is that, this system can be accessed publicly, and can be installed in places like the railway stations, airports, bus stops, malls, cafeterias, offices, educational institutions etc. for easy access.

(DO NOT INTRODUCE THE NEXT PERSON TO SPEAK! LET IT GO IN A FLOW!)

**(Samarth B Devaramani)**

So, the next thing that comes is, “The problems faced in the project”.

**The Problems Faced in the Project**

The main component of our project is the coin insertion module. Finding this module was nearly impossible, thus, we’ve decided to order the component online and set it up for the final build.

Another problem faced by our team was, connecting the components. The battery nearly short-circuited while performing a test run on the system.

Even the reference materials which had the circuit diagram couldn’t help us have the system work. Despite us following the same connections, the system seemed to be lacking something. All the components receive power supply and light up, but they don’t seem to respond to the coin inserted.

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**(V Harshini)**

Next, let’s about the block diagram of the project.

**Block Diagram**

These systems work with the help of power supply. We could consider the use of solar energy too, but on considering facts like unavailability of proper sunlight during the night and during monsoon and winter, these devices could be proven less productive. Also, investing in solar-energy-operated chargers could be economically infeasible too. Thus, on considering the above stated facts, electricity operated devices are at much of an advantage.

The power is supplied to all the components of the system either directly or indirectly, i.e, coin insertion module, keypad, Arduino UNO Microcontroller, Mobile charging adapter, and the LCD (Liquid Screen Display).

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**(Gaurav H)**

Now, let’s discuss briefly about the working of the system.

**Working**

The system begins with the LCD displaying a message asking the user to insert a coin, or a few coins as per their need. The minimum amount required to charge their device is 5-rupees. The user can add more coins as per their need to increase the duration of charging. Once the coin is accepted, the validity of the coin is checked by the cantilever sensor by analyzing its physical properties. Once the coin is detected as valid, it sends a pulse to the microcontroller, which in turn sends a pulse to the relay to initiate the power supply to the adapter. Once the adapter is plugged-in to the user’s mobile phone, the device begins charging and the mobile charges for a particular time. For example, for an input of 5-rupees, the mobile charges for about 15 minutes. Once the 15 minutes is passed, the relay cuts off the power supply to the adapter and the device is no longer charging and ready to be unplugged.

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**(Pradeep Kumar G S)**

Now, let’s discuss the project timeline.

**Project Timeline**

Phase 1 involved collecting the information on the project. Based on the collected information, we could get a brief idea of how the project works, and how it can be made effective. This information also helped us to come up with much more ideas to modify the project and make it much more innovative.

Phase 2 involved the search for components. While looking for the components, we could analyze the working of the components, its uses and its importance in the project, and also how its absence could affect the working of the system. For example, absence of relay could result in improper control of how much power is being supplied to charge the device.

Phase 3 involves building the project, which helped in making us understand the project better, and gave us a practical idea on the working of the system, and also ideas about how to make it much more liable and convenient.

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**(Sandeep Iyagar)**

Finally, let’s talk about the components used and conclude with our presentation.

**Conclusion**

This project uses the Arduino IDE software for the programming, which makes it simpler to transfer the programmed code into the Arduino microcontroller through a USB cable. The microcontroller that we are using is the Arduino UNO R3. The other components that we are using are - a Coin Insertion Module, a Relay, an LCD (Liquid Crystal Display), a 12V adapter, a 10k potentiometer and an IC Regulator ULN2003 APG.