EN1190

Engineering
Design Project

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SOLAR POWERED LAMP WITH A POWER BANK

Group No. 10

Problem

Due to the energy crisis in the country, there are frequent power cuts. This had to led to the frustration of the public who cannot engage in their usual activities at night due to the blackouts. Also, rechargeable electronic devices cannot be charged at night. The products currently available in the market are slightly overpriced and when charging it from the small solar panel, the charging rate is very low.

Goal

We want our product to last for two to three hours after a full charge and when charging the product using solar power, the charging rate would be increased by the external solar panel.

Our prime goal is to design an efficient product at an affordable price.

Solution

The proposed design consists of three major parts.

- A flashlight with a high light intensity
- A lamp with a slightly lower light intensity
- A power bank

All the above are powered by a battery which can be recharged by an inbuilt solar cell. Also, a portable solar panel could be connected externally to increase the charging rate. Additionally, you could charge it by the main supply. Since it is difficult to find the lamp during a total blackout, we will implement a simple app to control it via Bluetooth. (This product would be ideal for camping as well)

Proposed budget

According to our assumptions the product will cost around

Rs. 5000 – 6000.