OK. Please proceed. Make sure the product is useable at any place.
Will this be powered by a battery or grid powered?

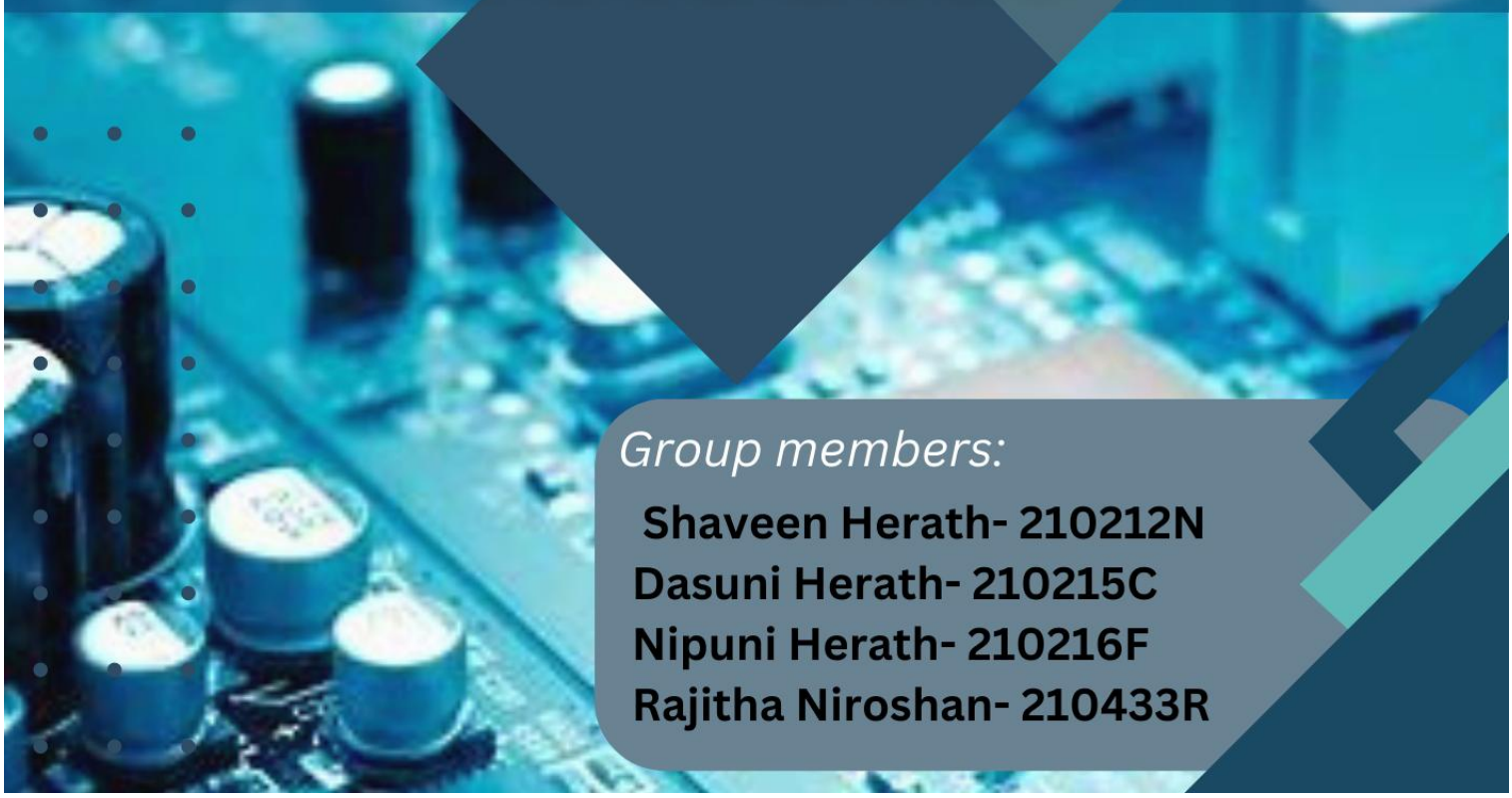
GROUP:

WIRED

WIZARDS

2023

FreeSpace Detector



Group members:

Shaveen Herath- 210212N
Dasuni Herath- 210215C
Nipuni Herath- 210216F
Rajitha Niroshan- 210433R

PROBLEM:-

Public spaces such as libraries can offer a peaceful and productive environment for people to work and study. **Often, visitors go into public spaces trying to find available seats only to find out there are none.** This results in wasted time and frustration for the visitors.

SOLUTION:-

It is important to be aware of the crowd levels and available seats in advance to avoid these inconveniences. **An electronic device designed to indicate the number of available seats in a public space in real-time would be an innovative solution**. This can help individuals plan their time more effectively and make the most out of their visit.

WORKING PRINCIPLE:-

An IR human counter works on the principle of detecting human presence using infrared radiation. The device consists of an **IR transmitter and an IR receiver placed at a certain distance from each other**. When a person passes between the transmitter and the receiver, the IR radiation emitted by the transmitter is interrupted, causing a change in the output of the receiver. This change in output is detected by a microcontroller or a processor, which registers it as a count. **The device can be programmed to count people entering and exiting a specific area and subtract the visitors from the available seats (the number of seats would have been programmed beforehand)**. It will then **display available vacant seats** in the public area. The device would feature an **LCD display**, which would show the number of seats available at any given time. Once all the seats are occupied, the **LCD display would indicate a message displaying that the space is full**.