



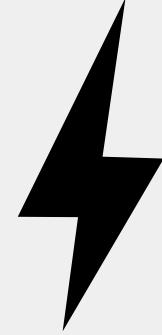
AUTO LIGHT SWITCH PROJECT

POWERED BY AEROBOTIX

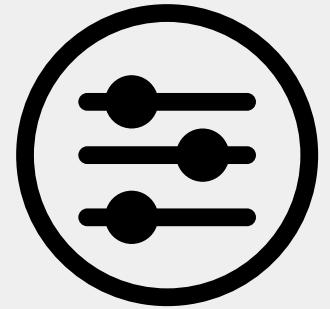
CONTENT

- 01** ISSUES
- 02** SOLUTION
- 03** REQUIREMENTS
- 04** PROJECT TIME LINE
- 05** TEAMS

ISSUES



At INSAT, With it's extremely large premises, it's almost impossible to cover all classrooms and individually insure that it's lights are off, Therefor we often see lights still switch on regularly at night, which wastes extreme amounts of electricity.



Even if we impose strict guidelines to switch off lights, it's still unrealistic and a heavily time consuming task, physically checking and turning off every single light is an extensive process.



SOLUTION

Objective n° 1

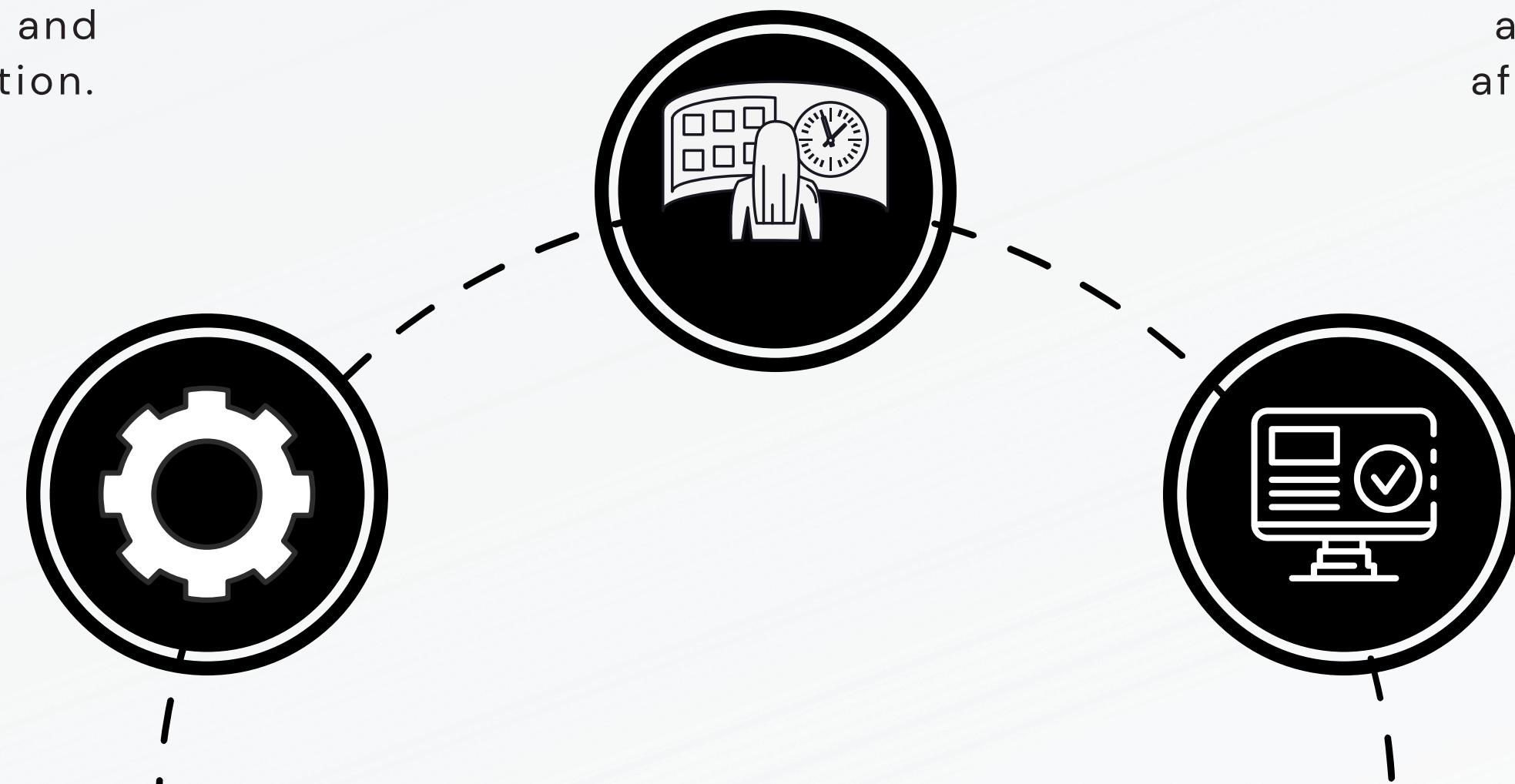
Creating and automatic system that's easily mountable to the existing infrastructure that can control and monitor it's section.

Objective n° 2

Creating a user friendly interface that can enable users to interact with the system by disabling/enabling lights, and viewing which sections are active.

Objective n° 3

Enable the use of macros to automatically control lighting, such an automatic shutdown after a certain amount of time.



REQUIREMENTS

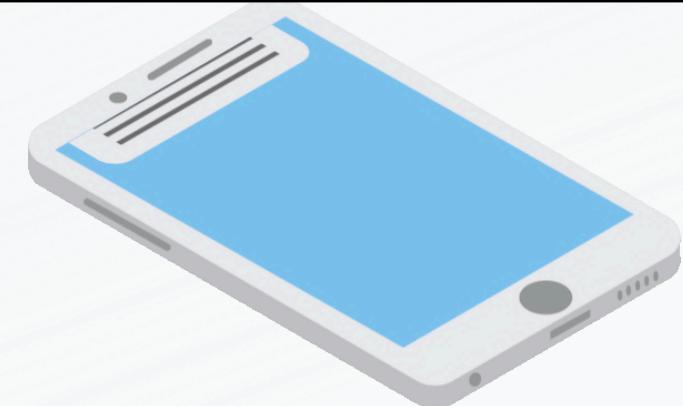
Hardware



- Creating a smart switching box, it should be able to connect to a centralized system and be controlled from it.
- The smart box should be able to communicate through various channels (Radio/Wifi/Direct control).
- The box should require minimum altering of the existing infrastructure.

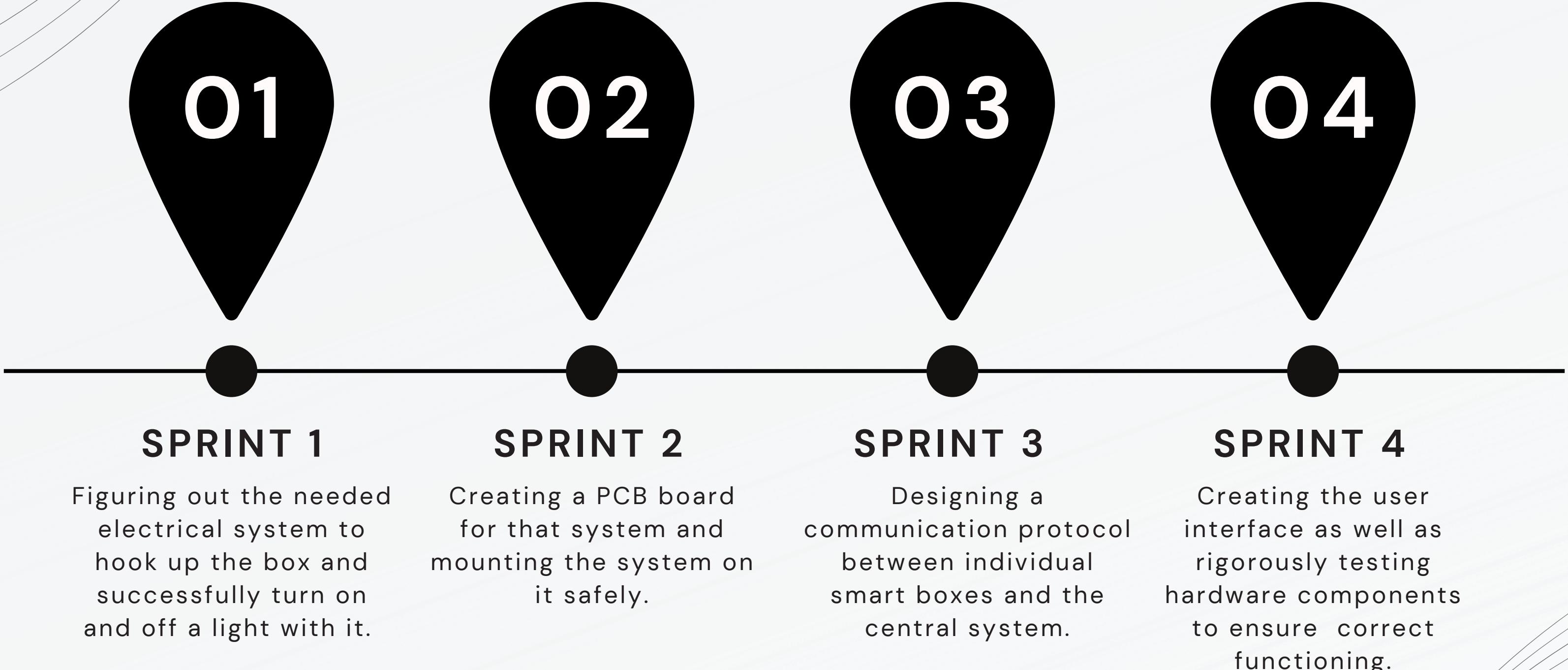
- The centralized system will offer an API that can be used in conjunction with other automated systems or a web app.
- Users should be able to turn off and on lights, as well as see which lights are currently on, and can get a summary/history of the light states before.

Software



PROJECT TIMELINE

This project is a guided project, we will accompany you along every step and make sure that you are in the right path !



01

SPRINT 1

Figuring out the needed electrical system to hook up the box and successfully turn on and off a light with it.

02

SPRINT 2

Creating a PCB board for that system and mounting the system on it safely.

03

SPRINT 3

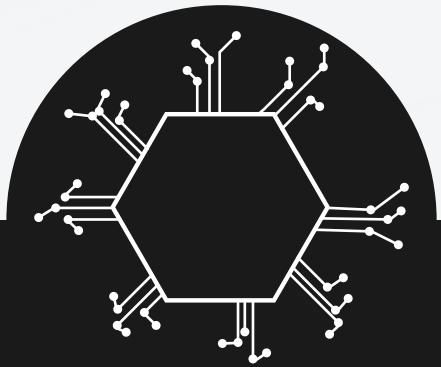
Designing a communication protocol between individual smart boxes and the central system.

04

SPRINT 4

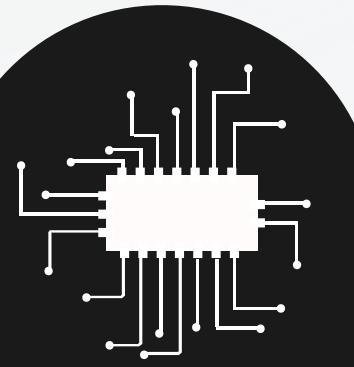
Creating the user interface as well as rigorously testing hardware components to ensure correct functioning.

TEAMS



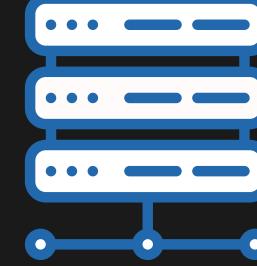
You will be responsible for designing the electrical elements of the system, ensuring safety and creating the electrical board of the box.

ELECTRICAL



You will be responsible for the communication mechanism, monitoring, and programming the box's microcontroller.

EMBEDDED



You will be responsible for developing the system's central server, and creating the user interface.

WEB

**THANK'S FOR
WATCHING**

