

PROBLEM STATEMENT

At present the available motion sensors detect the movement of the objects (vehicles, human beings). But it fails to detect the use case when the object does not move for some duration. In such a scenario it would be difficult to take control actions like - switch off lights/AC etc.

So, the need is to create the fusion of sensors like accelerometer, gyro, motion etc., to improve the accuracy of human presence inside the closed perimetry.

ABOUT THE PROJECT

- Create PoC with sensor fusions to accurately detect the human presence
- Create the use cases and state diagrams for validation
- Control light operations based on presence

REQUIREMENTS

Hardware:

- Sensors: Accelerometer, gyro, motion, ESP32 etc. (Provided by Dyulabs)

Software:

- Linux/Windows PC with Arduino or Visual studio software

Students:

- Interest in embedded systems
- Knowledge of C programming language