

The background features abstract black line art on a light gray background. In the top right, there are several concentric, irregular circles. In the bottom left, there are overlapping, elongated, teardrop-like shapes. In the bottom right, there is a single, continuous wavy line.

Design Review Smart Home Security System

GROUP 6 (TUE/THU)

Group Members

- POORVI LAKKADI (G01389351)
- PRABATH REDDY SAGILI VENKATA (G01393364)
- PRANITHA KAKUMANU (G01379534)
- SAI HRUTHIK KARUMANCHI (G01352466)
- SAI SUJITH REDDY RAVULA (G01409395)
- SRI HARISH JAYARAM (G01393332)

Project Overview

Designed to provide single homeowners with a complete automation and security system that takes into account their own lifestyle needs, the "Smart Home Security System" is a personalized solution. This technology is designed to make the life of single homeowners easier while improving the security of their homes. The functionalities are as follows:

01

Intrusion Detection
using IR/Motion Sensors

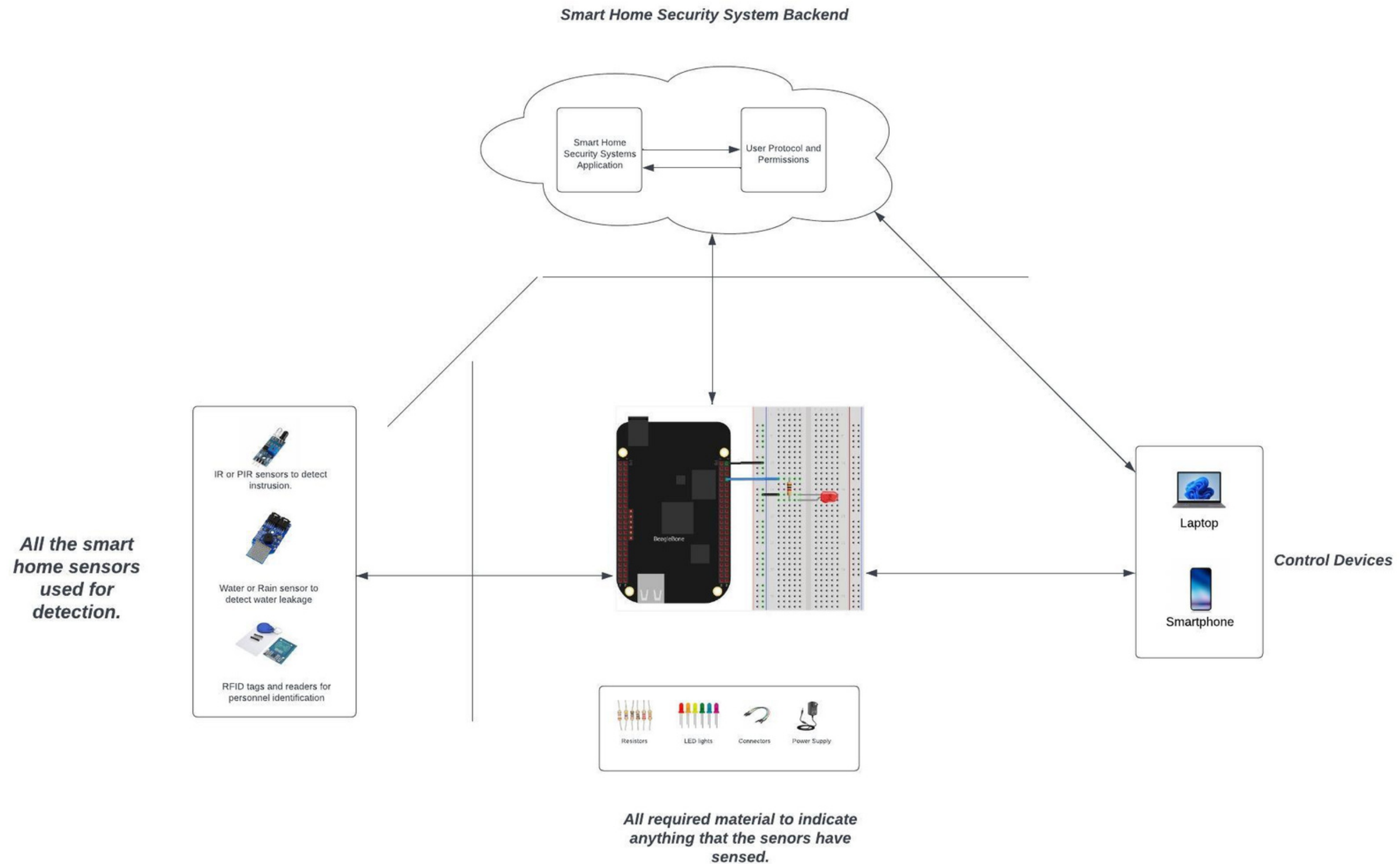
02

Automatic
Locking/Unlocking of
Doors based on RFID

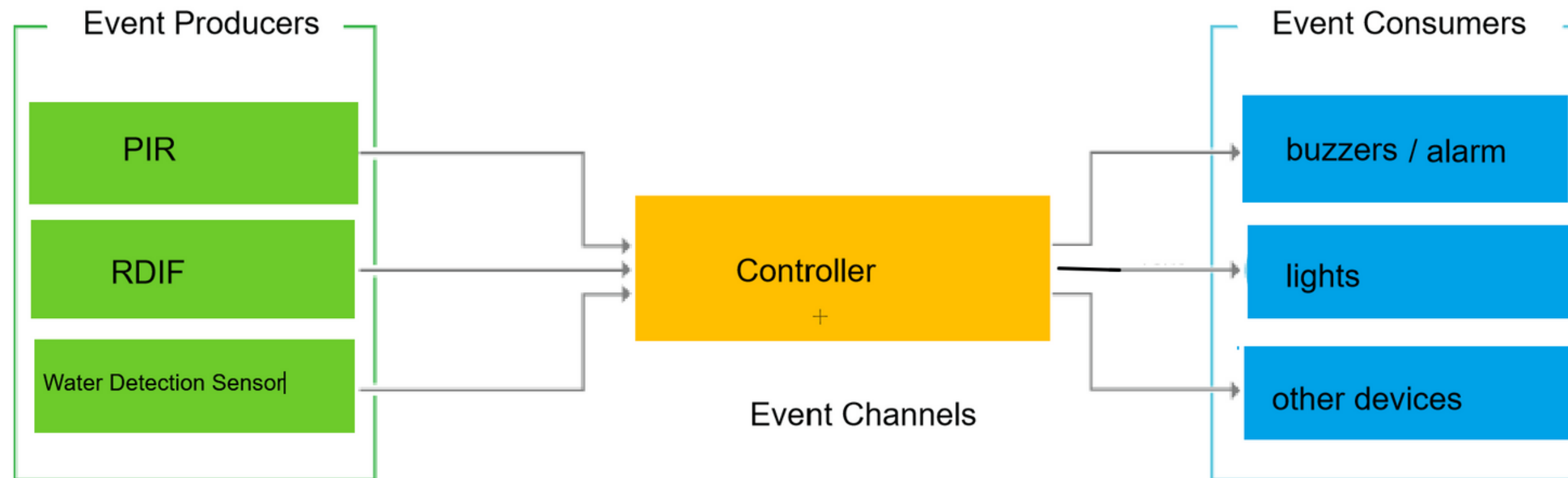
03

Water Leakage Detection

Hardware Architecture



Software Architecture



We are in the process of implementing an Event-Driven Architecture, and the following is a preliminary outline of how we envision our system.

Design Decisions

The Design decisions taken are as follows:

- BeagleBone Board serves as embedded system
- C Language has been employed for embedded system programming
- We have selected FreeRTOS as a suitable OS for the Beagle Board
- MYSQL has been used to store and Modify RFID id's
- PIR motion sensors for intrusion detection
- Water/Rain Sensors for water leakage detection
- RFID tags and readers for personnel identification

Demo

We have started working on the intrusion detection functionality of our project and have enclosed a working video of our sensor in the submission.

Thank You!

