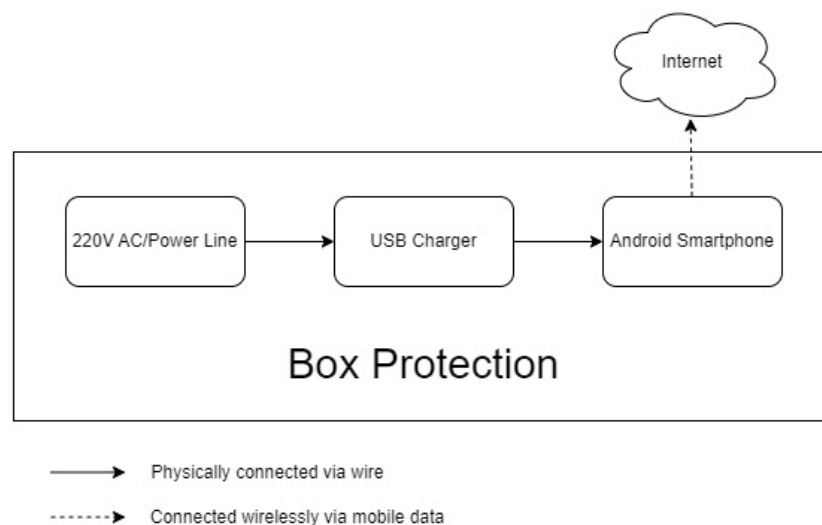


Project Report: CBR3A – UB Site

Activity 1

Deploy 8 IoT gateway and making monitoring App.

Design





The architecture design of the IoT gateway, as shown in the image, is built to ensure a stable internet connection while allowing users to monitor its activity through a dedicated Monitoring App. This system facilitates real-time updates and efficient data transmission, making it suitable for applications that require continuous tracking and communication.

Method

To implement the system, each IoT gateway is installed on a CCTV pole along the designated bus route to maximize coverage and reliability. Specific software is installed on the gateway device, such as a smartphone, to enable it to scan for nearby BLE beacons and send telemetry data to the internet. This setup ensures the system operates efficiently and provides real-time information for monitoring and analysis.

Implementation

No	Location	Installation
1	Tlogomas	
2	MT Haryono	

3 MT Haryono Barat



4 Soekarno-Hatta Timur



5 Veteran Timur



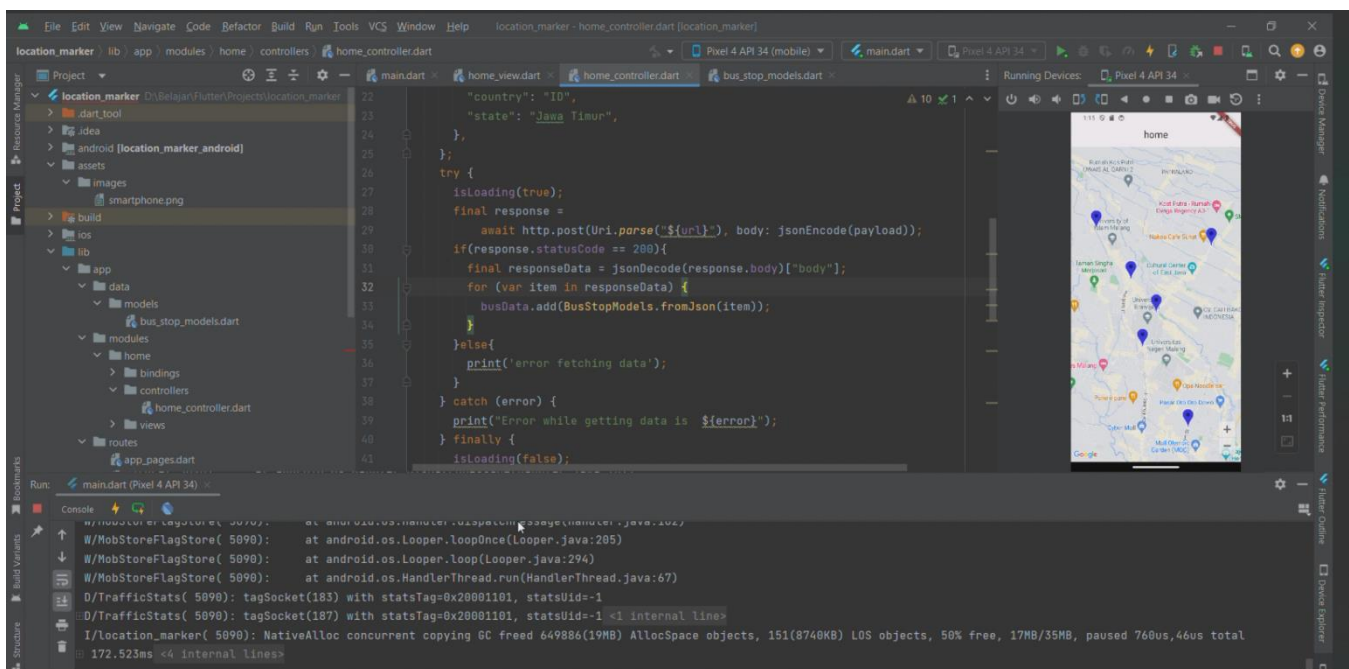
6 Ijen Utara



7 Semeru



8 Tugu



We deployed a total of eight IoT gateways, as detailed in the table above, strategically positioned to ensure optimal coverage and performance along the designated route. Each IoT gateway has been

carefully installed to facilitate effective scanning and data collection from nearby BLE beacons. The activity and performance of these IoT gateways can be monitored in real-time through a dedicated mobile application. This app provides an intuitive interface for users to observe the status of each gateway, track telemetry data, and ensure the system is functioning as intended.

Experiment

The deployment of eight IoT gateways along the designated route successfully facilitated the monitoring and tracking of BLE beacon signals. Each gateway was able to scan and transmit telemetry data to the server, with varying performance depending on environmental conditions and distance from the beacon.