

## CHAPTER 4

### ANALYSIS AND DESIGN

#### 4.1 Analysis

Internet of Things (IoT) is a concept of a network which connected by the internet where information exchange / delivery (Deliver Intelligence) can be conducted. This project is done to solve the problem of pollution that occurred along the Kaligarang. This is done with the application of networking community (network society) so there will be established relationship between the government and the community in solving the problem of contamination in Kaligarang. Through the sensors connected to the internet, we will get real-time data, so it will facilitate the community in the monitoring.

The analysis was conducted based on sampling of Kaligarang River water. As well as the performance of systems that have been created such as acid and base graphs, temperature, humidity, voltage, water level, and location of sensor placement.

#### 4.2 Design

##### 4.2.1 Sensor Working

Sensor working process from above view using flowchart. Flowchart can be read that when taking data from the sensor dht will produce data temperature and humidity. The pH meter sensor will produce acid or base water quality. The Ultrasonic Sensor will read the water level. The GPS sensor will send the latitude and longitude of the laying of the appliance.

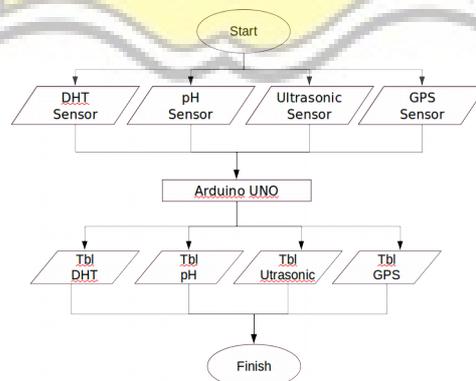


Illustration 4.1: Flowchart of Sensor Working

#### 4.2.2 Server Pervormance

Based on this flow chart it can be illustrated that sensor read data will be sent to data server in real time. Mac addresses, ip ethernet, and ip pc are required in connecting the pc to the server. The data that has been stored will be displayed with php into the monitor chart that has been used.

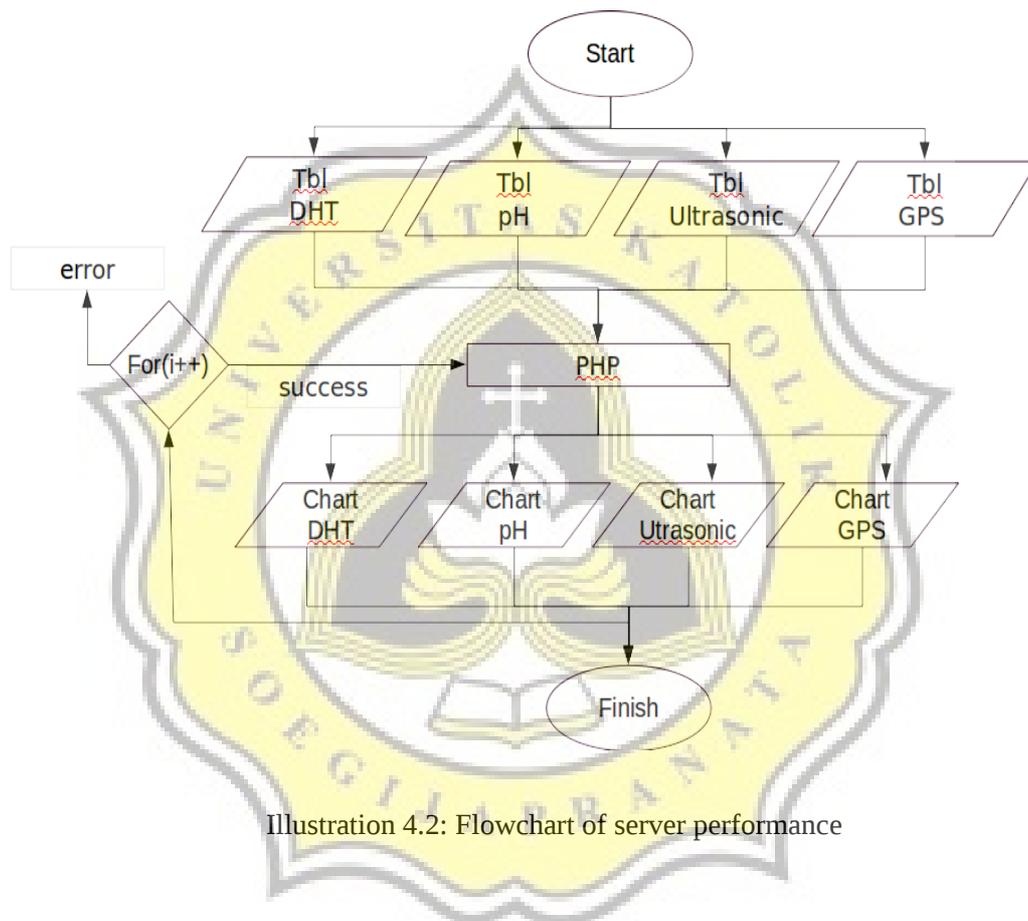


Illustration 4.2: Flowchart of server performance