Food Warehouse Environment
Monitoring with Wireless Sensors Network using Smartphone

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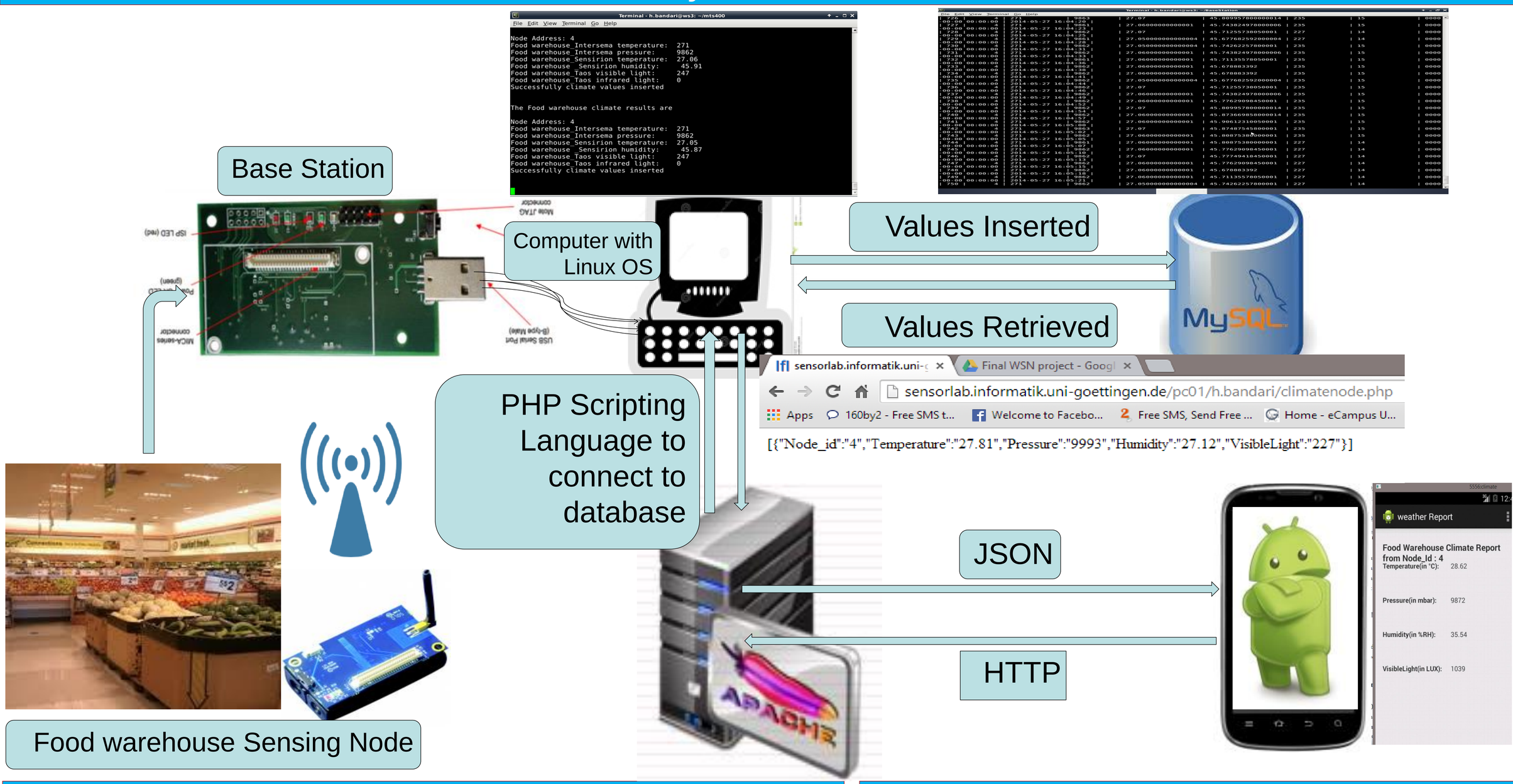
Introduction

Food Warehouses are intended for the storage and physical protection of food products. In the context of Food storage, 'Food' primarily refers to all types of eating related Items. It may also include raw Milk and equipment required for the packaging and handling it and Meat safety control although, in an ideal situation, such items should be stored separately in warehouse. So here actual control will take place certain items should be placed in certain temperature, humidity and light. It is very important to store food products under certain temperature for example if Meat products strictly should store in cold places like huge Refrigerators if the temperature is low then Meat Products will spoil and as well as Milk products even other eating products like(Chesses, Butter, Yogurt and Eggs).

Methods

A wireless sensor network (WSN) consists of spatially distributed autonomous sensors that monitor physical or environmental conditions, such as temperature, humidity, pressure and while they cooperatively pass their data wirelessly through the network to the base station. Once data is received from the sensing nodes to Basestation then it is stored into the database. Using PHP scripting Language we will retrieve the environment data from database and result will be in “JSON” format. Through HTTPPOST method JSON data from PHP page will be fetched to Android smart device.

System Architecture



Results

Components required for this project to implement:

Sensing Mote : Sensing mote were flashed with an TinyOS operating System. Sensing mote will collect the data about food warehouse environment.
Base Mote : It will gather the broadcasted environment data from the sensing mote.
Basestation : Using USB as an interface the Basestation reads the information from Base mote and stores in the database.
TinyOS : Operating System for wireless sensor Networking.
Web Service : PHP scripting Language running on Apache server.
Data Base : MySQL
Android development Software: Eclipse IDE with SDK.

Output