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IoT (Internet of Things)

***TOPIC: IoT Smart Greeting System***

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# Acknowledgement

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*(Tania Chakraborty)*

# Project Objective

## Project Objective

*Develop and implement a Website for Automatic Light Detection that have 24 x 7 access online access to a light sensor sending Light intensity value and check it from time to time and store the data being send along with the time when it is being checked.*

*The primary project goals consist of:*

* *Check light intensity online from a sensor.*
* *Store the data at a particular time sent by the sensor.*
* *Being greeted according to the Light sensed by the Light sensor.*

# Project Scope

## Project Scope

*The broad scope of the IoT (Internet of Things) project includes:*

* *The system will be available to the customers for checking the light intensity sent by the Light Sensor.*
* *The system will support accounts of the users and store the data at a particular time in the server by clicking on check sensor button.*
* *The system will provide 24x7 interaction with the client of the Website.*

# Requirement Specification

**Problem Definition**: To build a web-based application program keep track of Light Intensity and being greeted accordingly by the website.

**Functional Requirements**:

* To access this website the customer needs to log in into the website and then check the data send by the node MCU to the server.
* The customer will get access to all the details and data log whenever the website checked for the light sensor data.

Hardware Requirements:

Client Side:

* Processor: Intel Pentium @2.20 GHz
* Internal RAM: 4 GB RAM
* System Type: 64-bit operating system

Server Side:

* Processor: Intel Pentium @2.20 GHz
* Internal RAM: 4 GB RAM
* System Type: 64-bit operating system
* NODE MCU
* Light Sensor (Input Card)
* Jumper Wires

Software Requirements:

Client Side:

* Internet Browser (e.g., Google Chrome)

Server side:

* ARDUINO IDE
* PHP
* HTML
* TEXT FILES
* AJAX
* Java Script

**Application Workflow**

*(This section displays the flow of information in the application)*

*+*

**USER**

**WELCOME PAGE AND MAIN PAGE**

**(HTML)**

DATA.TXT

LOGIN.TXT

DATA\_LOG.TXT

***SERVER***

**SENSOR**

***NODE MCU***

DATA

creenshots

*(This section contains the important screenshots of the application)*

# 

# Code

*(This section contains the source code of the application)*

*DATA.PHP FILE CONTENTS:*

*<?php*

*header("access-control-allow-origin: \*”) ;//allow any kind of incoming connection*

*error reporting(E\_ERROR);*

*$file='data.txt';*

*$curr=file\_get\_contents($file);*

*if($\_GET["data"])*

*{*

*$data=$\_GET["data"];*

*file\_put\_contents('data2', $data);*

*}*

*else if($\_GET["show"])*

*{*

*echo file\_get\_contents('data2');*

*}*

*else if($\_GET["clear"])*

*{*

*file\_put\_contents($file,"");*

*}*

*else if($\_GET["disp"])*

*{*

*$data=file\_get\_contents('data2');*

*$a = explode(",", $data);*

*if($a[0]>100 && $a[1]>100)*

*{*

*$data="GOOD MORNING-------[TIME: ";*

*}*

*else if($a[0]<100 && $a[1]>100)*

*{*

*$data="GOOD NIGHT------------[TIME: ";*

*}*

*else*

*{*

*$data="SWITCHED OFF---------[TIME: ";*

*}*

*date\_default\_timezone\_set('Asia/Kolkata');*

*$date = date('m/d/Y h:i:s a', time());*

*$curr=$curr.$data.$date."] \n";*

*file\_put\_contents($file, $curr);*

*echo file\_get\_contents($file);*

*}*

*if($\_GET["username"])*

*{*

*$data1=$\_GET["username"];*

*$data2=$\_GET["uid"];*

*file\_put\_contents('login', $data1.",".$data2);*

*header('Location: detector.html');*

*}*

*if($\_GET["log"])*

*{*

*echo file\_get\_contents('login');*

*}*

*else*

*{*

*}*

*?>*

*ARDUINO CODE:*

*#include <ESP8266WiFi.h>*

*#include <ESP8266HTTPClient.h>*

*const char\* ssid = "WIFI\_NAME";*

*// the name of the wifi*

*const char\* password = "WIFI\_PASSWORD";*

*// the password of the wifi*

*void setup () {*

*Serial.begin(9600);*

*WiFi.begin(ssid, password);*

*Serial.print("Connecting");*

*while (WiFi.status() != WL\_CONNECTED) {*

*delay(1000);*

*Serial.print(".");*

*}*

*Serial.println("");*

*}*

*void loop() {*

*if (WiFi.status() == WL\_CONNECTED) {*

*//Check WiFi connection status*

*HTTPClient http;*

*//Declare an object of class HTTPClient*

*String data = String(analogRead(A0), DEC);*

*String link ="http://localhost/iot\_project/data.php?data="+data+","+data;*

*Serial.println(link);*

*http.begin(link);*

*//Specify request destination*

*int httpCode = http.GET();*

*//Send the request*

*if (httpCode > 0) {*

*//Check the returning code*

*String payload = http.getString();*

*//Get the request response payload*

*Serial.println(payload);*

*//Print the response payload*

*}*

*http.end();*

*//Close connection*

*}*

*delay(10);*

*//Send a request every 30 seconds*

*}*

# Screenshots

# 

****

A screenshot of a cell phone

Description generated with very high confidence

A screenshot of a computer screen

Description generated with very high confidence

# Future Scope of Improvements

*(This section will list the future aspects of the application which can be incorporated to improve the functionality and user experience)*

*The data from the sensor can be fed to a circuit which may accordingly adjust the light of the streetlamps intensity which will in turn provide smart lighting on the streets as the sun light intensity can be measured by the light sensor we are using.*