Task_2_IOT

ESP32 operation algorithm

(_1_) Features of ESP32 is :

1- it's have Wi-Fi

2- Bluetooth.

The steps to use ESP32:-

1- connect the ESP32 to the computer.

2- we install it by choosing the appropriate operating system 32bit or 64bit.

3- ESP32 will appear in the ports tab (COM & LPT)

4- we need to download and install the Arduino software then run it.

5- after run we click on Tools ->Board 'DOIT ESP32 DEVKIT V1' -> Arduino AVR Board -> Arduino Duemilanove or Diecimila.

6- click Tools again -> Board 'Arduino Uno' -> ESP32 Arduino (this choice appear after install Board).

7- Tools -> Board 'Arduino Uno' -> Boards Manager... -> write in text field box ' ESP32 ' -> select version then install.

8- after installed we will check the Wi-Fi.

9- Tools -> Board 'Arduino Uno' -> ESP32 Arduino -> DOIT ESP32 DEVIKT V1.

10- Ensure that the required options are present.

11- File -> Examples -> Wi-Fi -> Wi-Fi Scan

12- a Wi-Fi Scan window will open , the code in this window non-adjustable .

13- download the code by clicking on the arrow icon.

(_2_) How HTTP control ESP32?

1- connect Wi-Fi

2- create HTML page contain two button (Turn on , Turn off).It's can be more than two depending on how much light.

3- The web page communicates with the ESP32 by typing a command , , this command comes after IP address.

4- Write the Arduino code , firstly we should write the name of personal hotspot and password.

5- we define the pre-written output inside body in HTML file and assign it a value. These outputs are important for controlling the lighting condition in ESP32.

6- When the phone is connected, the data transmission process begins using an IP address.

7- When the connection is available , we will check the on and off conditions, and the condition must be compatible with the pre-written sentence in HTML file (,).

8- in order to send the web page to the phone , we must write the HTML code line by line inside the client.println(" "); command.

Note in Arduino , if we want to enter html page we have to put \ before double coaptation for example : http-equiv= \"content-Type\" .

المراجع:

(_1_) https://youtu.be/bYCcQDRfeTs

(_2_) https://youtu.be/4ivblLDhfqo