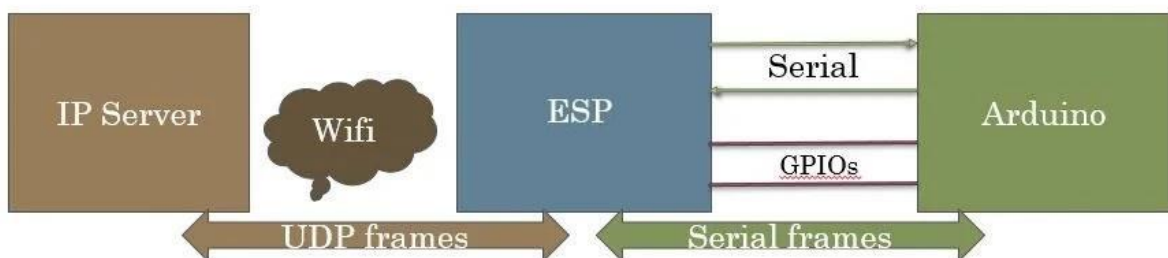# IoT Project Technical details

Team MakeTomorrowBetter

Hatem BEN HLAL – Emna TOUIHRI

Introduction

We will create a WIFI Gateway to make it possible to manipulate Arduino components using the internet

Technical description

We will use the ESP-WROOM-32 module to connect the Arduino to the internet,

We will create a simple webserver to **show real-time data** from the Arduino in a web page (temperature, humidity, light level, …) and to let user **perform actions** (Turn on/off light, turn fun on/off, real-time camera) Throw **the internet**.

The second part of our project is to send continuously our data to an **Azure cloud server** (using the 150$ credit we got from EFREI) to show a **dashboard** with plots and general information about our home so we can use them later for **statistics purposes.**

The ESP-WROOM-32 will be powered by Arduino and connected to the user router with wife technologies

 List of the components:

- Arduino Starter Kit
- ESP-WROOM-32
- Battery

No extra cost is needed

for the project as we will try to use the existing resources

What is the benefit of your approach?

We will try to prepare an almost ready to use solution to control Arduino components throw internet.
Once we create our system to receive and send data to Arduino, we will need minimal effort to adopt our system to control other equipment (Light, Door, Windows Motor….) to our Smart Home Solution.

It will be one of the cheapest solutions to control devices throw internet as Arduino Uno and ESP-WROOM-32 are not expensive.
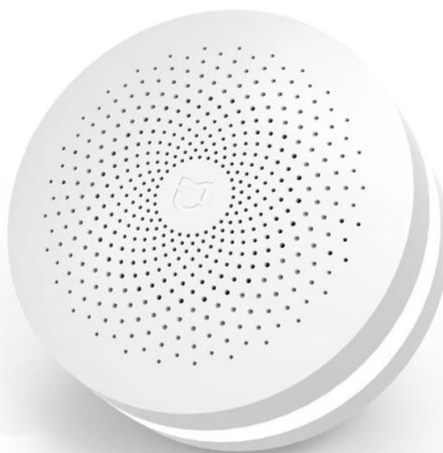
There any related work on it?

What we try to create is called today by many companies: A Bridge or Gateway!

The most known are:

Philipps Hue Bridge

Xiaomi Gateway

Companies make this type of bridge work only with their approved and partner equipment to gain money selling expensive simple items just because they are compatible with their Bridge (ecosystem).

Our solution will work with any device if we do proper setup.

We will publish a detailed tutorial for those who are willing to build a low-cost smart home solution with open-source technologies.