Documentation MediTemp

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# The Scenario

In medical facilities, the products have to be kept in refrigerated places. This ensure that they don’t get wasted away. It’s important that most of them are kept at a specific and regular temperature.

MediTemp is the perfect solution for these facilities. It is a tool that will allow an administrator to control the products kept in his sector. Using this system, he will be able to see the temperature of each refrigerator and the products kept in it. And if there is a problem, he will be notified so he can adjust as soon as possible the system or dispatch a technician.

# The Components

## IoT Device

This device is similar to the K64F but with just the required components on it.

1. A permanent power source. The best would be to have the devices plugged to a power source or to the refrigerator.
2. Ethernet Interface to connect the device to the network.
3. A smaller CPU to limit heat impact.
4. Temperature Sensor. I think there is no need for an explanation on this one.

And that’s all. The goal of this device is to regularly measure the temperature of the refrigerator and to send it to the server using MQTT protocol. Each device should be installed inside a given refrigerator.

## Server

It is a server written in NodeJS using ExpressJS framework. It includes a MQTT Client that listens to the publications of the devices and store them inside a MongoDB database. This server also includes a web interface which will be detailed below.

## Web Interface

The Web Interface is built on top of the server and uses the Data from the devices. It allows the admin to monitor the refrigerators, assign products to refrigerator, keep track of inventory, change settings and to be alerted of any danger.