



Internet Of Things Project

specifications document:

## **SMART DOOR project**

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## Contents

<b>1</b>	<b>General Introduction</b>	<b>2</b>
<b>2</b>	<b>Project description</b>	<b>2</b>
<b>3</b>	<b>Targeted features</b>	<b>2</b>
<b>4</b>	<b>Constraints related to the project</b>	<b>2</b>
<b>5</b>	<b>Use case diagram</b>	<b>3</b>
<b>6</b>	<b>GANTT chart</b>	<b>3</b>
<b>7</b>	<b>Conclusion</b>	<b>4</b>

# 1 General Introduction

this document represents the specifications of the project entitled "**Smart Door**" which is part of the IOT module .

The purpose of this project is to realize a device that can be used to open a door automatically using face recognition and **ESP32**. Furthermore, we aim to offer an application to manage this device giving also the possibility to the owner to prohibit or allows someone to access the house.

In order to properly lead this project, we must rely on this specification document. The latter will be our guide to define the major requirements and objectives of our project. Thus, after highlighting the context of the project, we will focus on developing a functional analysis of our system through the use cases diagram. Finally, we will plan the main tasks using the GANTT chart.

## 2 Project description

What would you do when you forget or lose your home's keys, when you have a person who's waiting for you in front of the house and you have to go back to open the door for him, or when you forget to let your keys to the plumber to repair a water leak. Well we propose to you the solution to such a problem: the smart door lock.

## 3 Targeted features

- If a person wants to enter and is recognized, the door open automatically (in our case a led lights up green).
- If the person is foreign (a led lights up red), a notification is sent to the owner of the house who can accept or refuse to open the door.
- The owner has the possibility to add this person in the list of people that the device can recognize.

## 4 Constraints related to the project

One of the major constraints of our project is the technical knowledge required :

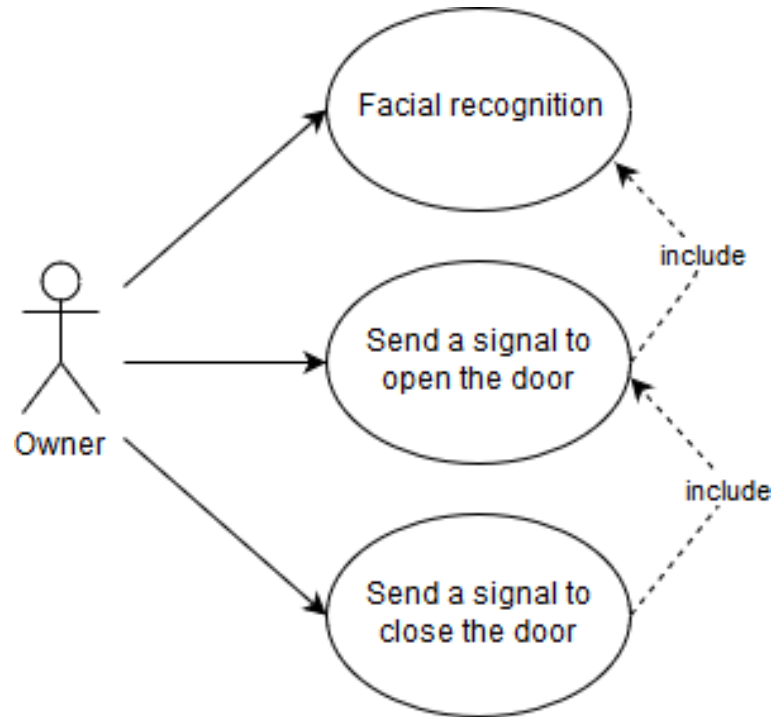
- in deep learning including the TensorFlow library and the OpenCV library.
- in ESP32.
- in Python programming language.

Other constraints :

- Upon delivery of the specifications, we will have one month to make the project. The deadline seems short, given the technical complexity of the project and taking into account our busy schedule.
- Our budget does not allow us to buy more efficient components.
- ESP32 limitations.

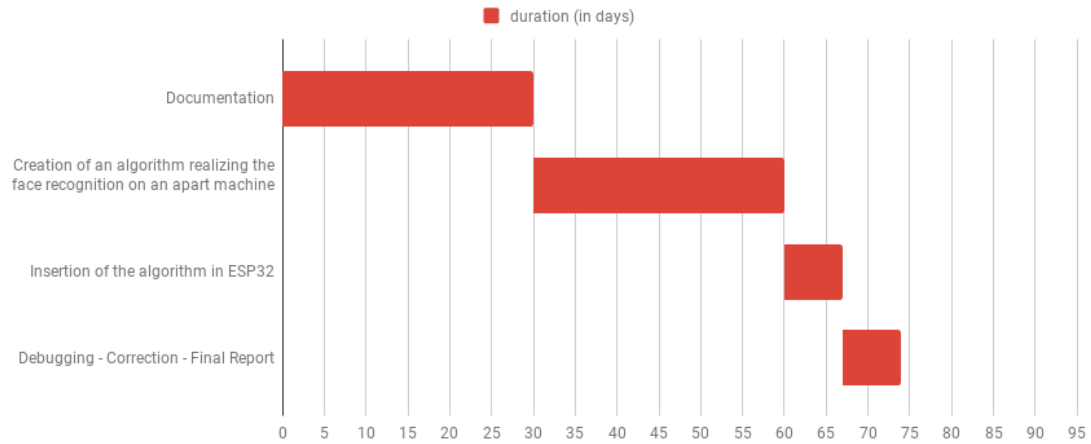
## 5 Use case diagram

The purpose of a use case diagram in UML is to demonstrate the different ways that a user might interact with a system. so here is ours:



## 6 GANTT chart

This GANTT chart represents the list of tasks and their estimated durations. This diagram will allow us to better organize ourselves, and to have a schedule to follow regularly. It can be modified during the progress of the project depending on the difficulties encountered.



## 7 Conclusion

During this first study, we were able to implement our team spirit, as well as the skills we acquired during our training, particularly in software modeling and project management. The understanding of the client's needs and the theoretical study of the project will allow us to have a solid base on which we will rely throughout the project to develop our application. Thanks to this, as well as to the planning of the various tasks, we hope to be able to fulfill the deliverable in proper time, with the quality that is due to them.