Customer Requirements Specification

For

Smart visitor counter

project

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1. Document Status

Document	Author	Update date	Current status	Version
PO7_SVC_ITI43_Group7_CRS	Doaa Maher Radwa Magdi	15 Feb 2023	Draft	1.1

2. Document History

Version	Author	Date	Reason For Changes
1.0	Doaa Maher	8 Feb 2023	Initial creation
1.1	Radwa Magdi	15 Feb 2023	Updating CRS sequence

3. CRS Requirements

Req_ID	Covers	Description	Test scope
Req_1ST123_CRS_overall_001-V01	**Covers_1ST123_EB_01-V01**	**Interior Sensor for sensing coming visitors at entrance door**	**VTD**
Req_1ST123_CRS_overall_002-V01	**Covers_1ST123_EB_02-V01**	**Exterior sensor for sensing visitors leaving using exit door**	**VTD**
Req_1ST123_CRS_overall_003-V01	**Covers_1ST123_EB_03-V01**	**Automatic doors**	**VTD**
Req_1ST123_CRS_overall_004-V01	**Covers_1ST123_EB_04-V01**	**LCD display screen for representing the number of entering or leaving visitors**	**VTD**
Req_1ST123_CRS_overall_005-V01	**Covers_1ST123_EB_05-V01**	**Calculating the number of current visitors to detect when to fire the alarm**	**VTD**
Req_1ST123_CRS_overall_006-V01	**Covers_1ST123_EB_06-V01**	**Alarm is fires when the number of visitors exceeds the room capacity**	**VTD**

4. Introduction

4.1 Purpose

This project aims to design a system to track the entering and leaving persons in a room and displays its count on a screen. By exceeding the room capacity, an Alarm is fired.

4.2 Project Description

The smart visitor counter system is designed for optimum energy usage and is very beneficial in case if we want to count the number of people going to attend a particular event or any function thereby helps in collecting data by counting the number of people. This is done by simply incrementing the counter. As soon as a person enters the area where the system is placed, it is detected by the IR sensor module and this info is fed to the microcontroller. The microcontroller processes this input received. At this time the system also counts the number of people present and increments a counter on each arrival, this count is displayed on a screen display.

The System would have two sensors at both doors;

a. The first one (interior) : after the visitor enters the room, it senses him & count him down.

b. The second one (exterior): after the visitor exits the room, his/their number is/are decremented from the display.

c. 2 motors at both doors : to open & close the doors.

d. And a Display connected to a Controller to :

- Increments the number of visitors when entering the room
- Decrements the number of visitors when exiting the room.
- Calculating the current number of visitors in the room (Entering – leaving)

e. The system also would have An alarm connected to the controller to:

Detect if number of current visitors in room exceeded a specific number, it would fire.

5. Requirements

a. Interior Sensor for sensing coming visitors at entrance door
b. Exterior sensor for sensing visitors leaving using exit door
c. Automatic doors
d. LCD display screen for representing the number of entering or leaving visitors
e. Calculating the number of current visitors to detect when to fire the alarm
f. Alarm is fires when the number of visitors exceeds the room capacity

6. System Features

a. Motors to open up & close down the entering & exiting doors of the arm
b. Displaying the Number of visitors on a display [entering & leaving]
c. Increment the number of visitors when someone enters
d. Decrement the number of visitors when someone leaves
e. When place is full, trigger an alarm [Entering – leaving]

7. Reference Documents

Reference no.	Doc. Name	Version	Status
1	PO7_SVC_ITI43_Group7_CYRS	1.0	Draft
2	PO7_SVC_ITI43_Group7_HSI	1.0	Draft
3	PO7_SVC_ITI43_Group7_RTM	1.0	Draft