# System Requirement Specifications

# For

# Smart visitor counter

# Project

# Table of Contents

# 1. 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.

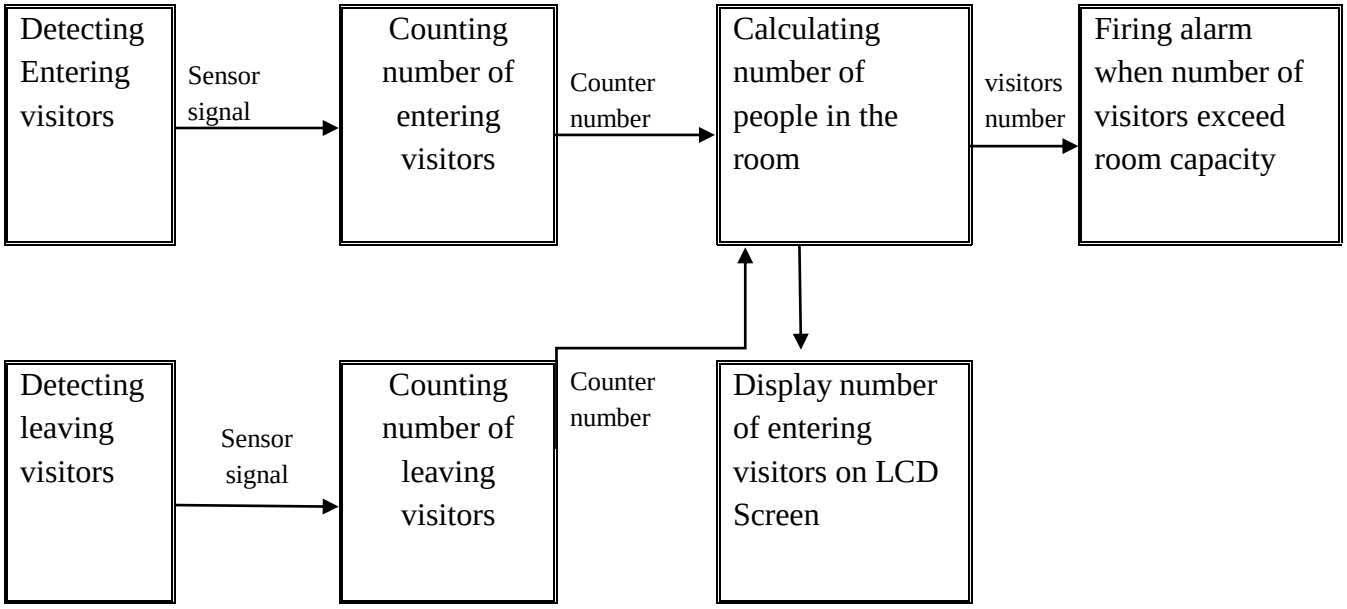
a) The System would have two sensors at both doors:
   - The first one (interior): after the visitor enters the room, it senses him & count him down.
   - The second one (exterior): after the visitor exits the room, his/their number is/are decremented from the display.

b) Two motors at both doors: to open & close the doors.

c) 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)

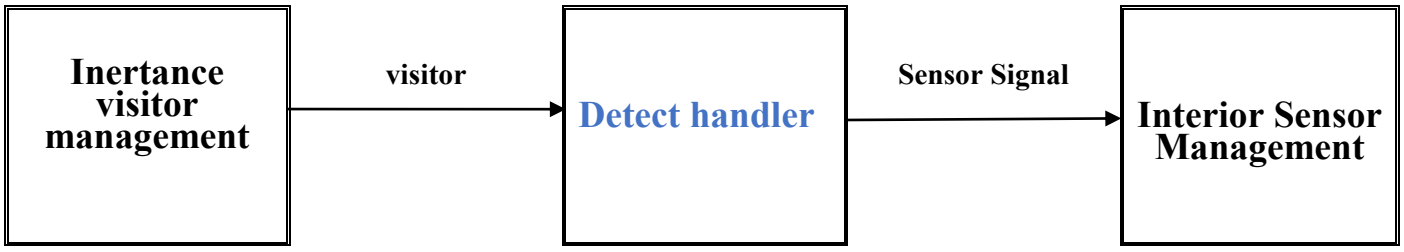
d) The system also would have an alarm connected to the controller to detect if number of current visitors in room exceeded a specific number, it would fire.

# 2. Software Context

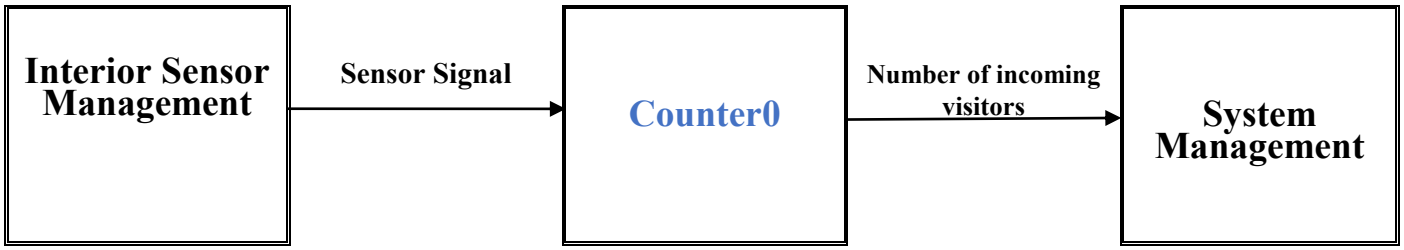



# 3. Software Requirements

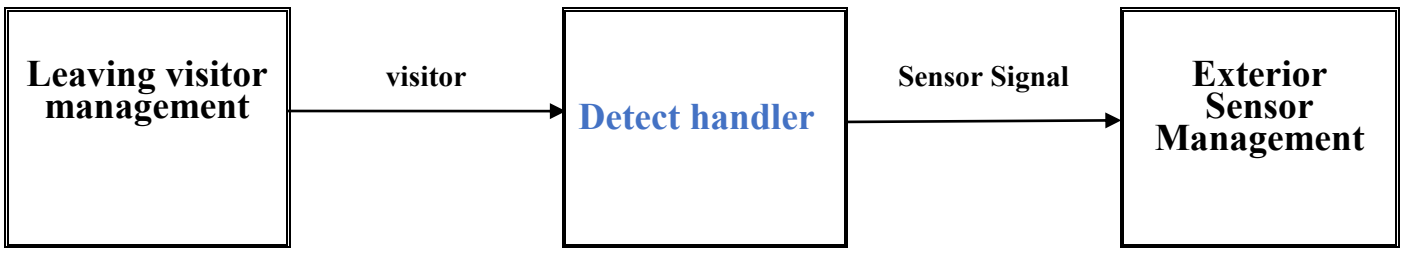
| | | | |
|---|---|---|---|
| **Req_ID** | **Req_ PO7_SRS _01-v01** | **Covers** | **Req_ PO7_CRS _01-v01** |
| **Author** | **Hager AbdelAal** | **Date** | **16 February 2023** |
| **Description** | **SW shall receive a signal from Interior sensor when a visitor enters the room at entrance door** | | |
| **Inputs** | **Inertance of a visitor** | **Outputs** | **Signal out of Interior Sensor** |
| **Test Scope** | **ITD** | | |



| Req_ID | Req_ PO7_SRS _02-v01 | Covers | Req_ PO7_CRS _01-v01 |
|---|---|---|---|
| Author | Hager AbdelAal | Date | 16 February 2023 |
| Description | SW shall count number of visitors entering from the entrance door | | |
| Inputs | Signal out of Interior Sensor | Outputs | Number of incoming Visitors |
| Test Scope | ITD | | |

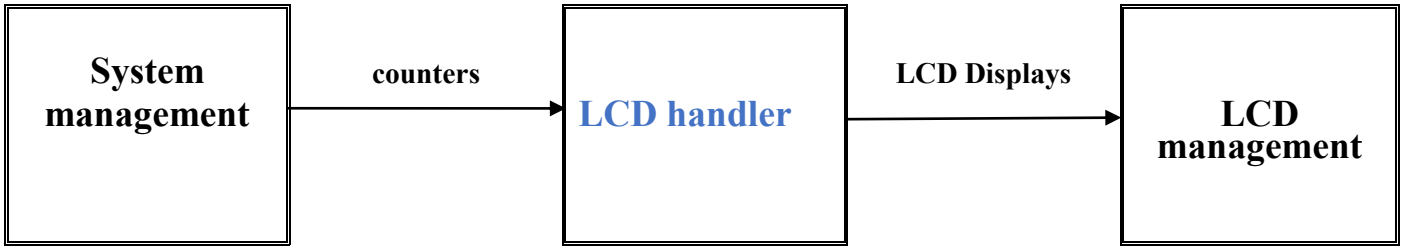



| Req_ID | Req_PO7_SRS _03-v01 | Covers | Req_ PO7_CRS _02-v01 |
|---|---|---|---|
| Author | Hager AbdelAal | Date | 16 February 2023 |
| Description | SW shall receive a signal from Exterior sensor when a visitor leaves the room at exit door | | |
| Inputs | Leaving of a visitor | Outputs | Signal out of Exterior Sensor |
| Test Scope | ITD | | |

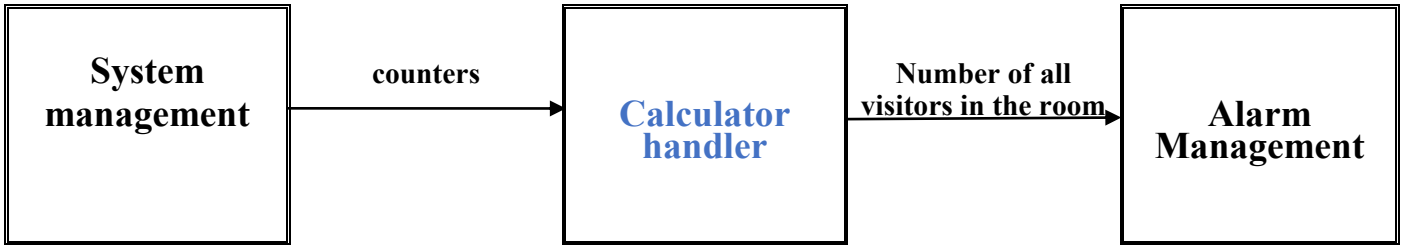


| | | | |
|---|---|---|---|
| **Req_ID** | **Req_ PO7_SRS _04-v01** | **Covers** | **Req_ PO7_CRS _02-v01** |
| **Author** | **Hager AbdelAal** | **Date** | **16 February 2023** |
| **Description** | **SW shall count number of leaving visitors from exit door** | | |
| **Inputs** | **Signal out of Exterior Sensor** | **Outputs** | **Number of leaving visitors** |
| **Test Scope** | **ITD** | | |

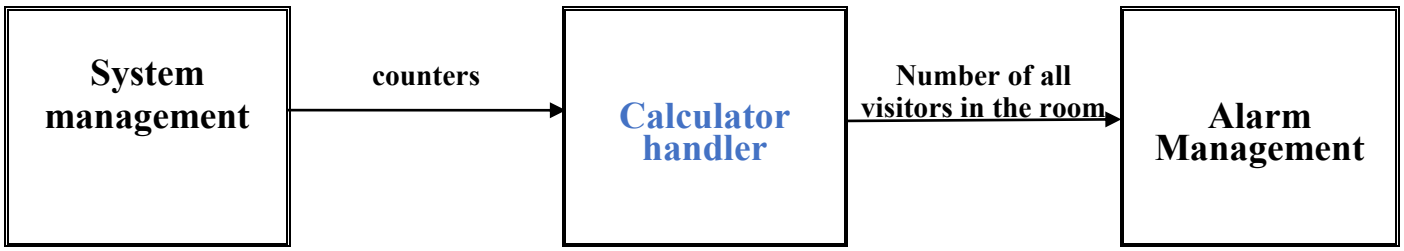

| | | | |
|---|---|---|---|
| **Req_ID** | **Req_PO7_SRS _05-v01** | **Covers** | **Req_ PO7_CRS _04-v01** |
| **Author** | **Hager AbdelAal** | **Date** | **16 February 2023** |
| **Description** | **SW shall display Number of Entering and Leaving visitors on LCD Screen** | | |
| **Inputs** | **Entering and Leaving counters** | **Outputs** | **Display counter on LCD screen** |
| **Test Scope** | **ITD / VTD** | | |



| | | | |
|---|---|---|---|
| **Req_ID** | **Req_ PO7_SRS _06-v01** | **Covers** | **Req_ PO7_CRS _05-v01** |
| **Author** | **Hager AbdelAal** | **Date** | **16 February 2023** |
| **Description** | **SW shall calculate Number of all visitors in the Room** | | |
| **Inputs** | **Entering and Leaving counters** | **Outputs** | **Number of visitors in the room** |
| **Test Scope** | **ITD / VTD** | | |




| | | | |
|---|---|---|---|
| **Req_ID** | **Req_ PO7_SRS _07-v01** | **Covers** | **Req_ PO7_CRS _06-v01** |
| **Author** | **Hager AbdelAal** | **Date** | **16 February 2023** |
| **Description** | **SW shall Fire alarm when Number of visitors in the Room exceeds Room Capacity** | | |
| **Inputs** | **Number of visitors and Room Capacity** | **Outputs** | **Alarm Signal** |
| **Test Scope** | **ITD / VTD** | | |



# 4. Document Status

| Document | Author | Update date | Current status | Version |
|---|---|---|---|---|
| PO7_SRS-v0.1 | Hager AbdelAal | 16 Feb 2023 | Proposed | 1.0 |

# 5. Document History

| Version | Author | Date | Reason For Changes |
|---|---|---|---|
| 1.0 | Hager AbdelAal | 16 Feb 2023 | Initial creation |

# 6. Reference Documents

| Reference no. | Doc. Name | Version | Status |
|---|---|---|---|
| 1 | PO7 _CYRS | 1.1 | Proposed |