SMART VISITOR COUNTER CRS

Customer Requirements Specifications

FEBRUARY 11, 2023

ITI_INATKE_43_GROUP 7

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Introduction

This is the CRS Document for the project with ID: **(PO7_SVC_ITI43_Group7)**

This project aims to design a system to track the number of entering & leaving visitors in a room and display them on a screen. With exceeding specific number of visitors, an Alarm fires.

Project's Description

A System to track the entering & leaving persons in a room & display their number on a screen.

The System would have **two sensors at both doors**;

1. **The first one (interior)**: after the visitor enters the room, it senses him & count him down.
2. **The second one (exterior)**: after the visitor exits the room, his/their number is/are decremented from the display.
3. **2 motors at both doors:** to open & close the doors.
4. **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)
5. **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.

Project's Features

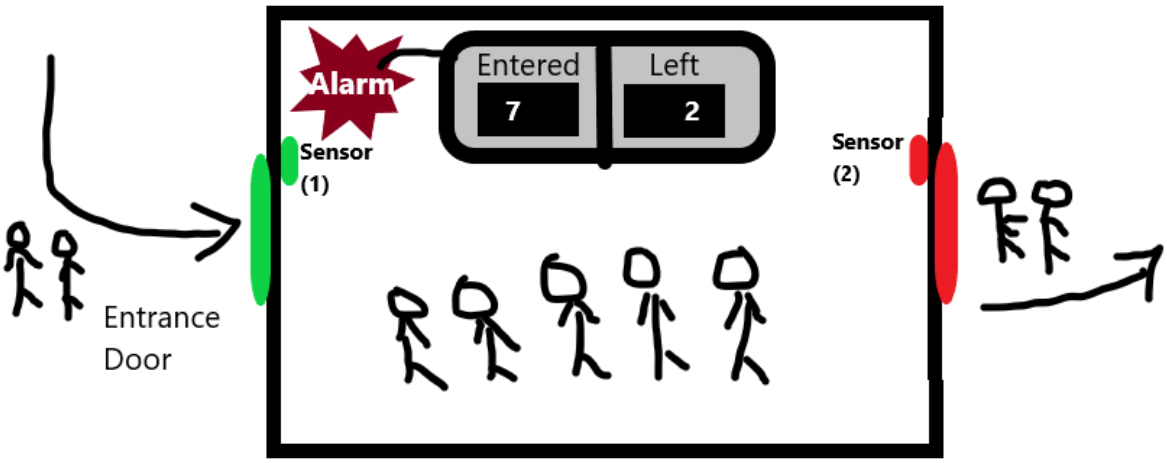
Features Customer Required

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

Customer Requirements

1- Interior Sensor for sensing coming visitors at entrance door.
2- Exterior Sensor for sensing leaving visitors at exit door.
3- Automatic doors.
4- LCD display screen for representing the number of entering/leaving visitors
5- Calculating the number of current visitors to detect when to fire the alarm
6- Alarm for sensing if the place exceeded number of visitors.

System Diagram [System Context]



Representing the system as a black box.

System Description, ID & Testing Scope

Description	Traceability ID	Testing Scope
1- 2 Automatic Doors opens when visitors enter & closes when visitors exits the room.	F01	Allowing multiple visitors to enter the room together & check the motors' at door sensitivity to open & close in time.
2- Interior Sensor at the front door for Sensing the entering of the visitor	F02	Allowing multiple visitors to enter together. [Can the sensor detect multiple visitors when entering together?]
3- Exterior Sensor at the exit door for sensing the leaving visitors .	F03	Allowing multiple visitors to leaving together. [Can the sensor detect multiple visitors when exiting together?]
4- Alarm System if visitors exceeded a specific number **By subtracting the (Entering – Left)**	F04	1- If the max number of visitors was 100, will the alarm exactly work at the entrance of the visitor #100? 2- Testing the Sensor responsible for triggering the alarm system; if it would work at the same instance as the 100th visitor enters. 3- Testing the alarm sound to be loud enough to be heard by the whole crowd.
5- LCD Displaying the number of entering & leaving visitors.	F05	4- Can display make double/triple/.. counts]; can it increments it's count by a number more then 1.

CYRS Requirements

REQ_ID	PO7_SVC_ITI43_Group7_CYRS_001-V01.2	**Covers**	Covers_PO7_SVC_ITI43_Group7_EB_01-V01
Description	Putting system requirements on systems level.		
Test Scope	**---**		

Document Status

Name	**PO7_SVC_ITI43_Group7_CYRS**
Version	**V1.2**
Status	**Proposed**
Author	**Doaa Maher & Hady Sallam**
Date	11/2/2023

Document History

Version	Author	Date	Change
1.0	Doaa Maher	9/2/2023	Initial Creation
1.1	Hady Sallam	10/2/2023	Initial Creation
1.2	Doaa Maher	11/2/2023	Initial Creation

Reference Documents

Reference no.	Doc. Name	Version	Status
1	**PO7_SVC_Customer_Requirements**	1.0	Reviewed