**PO4\_DGELV\_DIGITAL ELEVATOR**

**CYRS DOCUMENT**

**Version 1.1**

**Draft**

**Revision History**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Version** | **Description** | **Author** |
| 1/24/2020 | 1.0 | Initial Draft, specifying Introduction, system overview and document outline. | Mostafa Sayed A-Hamid |
| 1/24/2020 | 1.1 | Changes in system overview section, subsection of hardware. | Mostafa Sayed A-Hamid |
| 1/24/2020 | 1.1 | Document Review | Ahmed Omar Zoher |

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# 1 Introduction

This section introduces the customer requirements specification (CYRS) for a digital Elevator with lock system.

## 1.1 Specification Definition

This specification documents the system-level requirements for a digital Elevator with lock system.

## 1.2 Specification Objectives

The objectives of this specification are to:

* Provide a system overview of the digital Elevator with lock system including definition, goals, objectives, context, and major capabilities.
* To formally specify its associated:
* Functional requirements.
* Data requirements.
* Quality requirements.
* Constraints.

# 2 System Overview:

## 2.1 Definition:

The digital Elevator has lock system for 10 users that can be configured and edited by the user with high security sequence to ensure that only approved users can use the elevator.

## 2.2 Objective:

The objective of the digital Elevator is to provide the user with secured system that only approved users can use the elevator, with alarming subsystem in case of unapproved ID usage, and the ability to reset the system in case of intending to renter the username and passwords for the users.

## 2.3 Hardware

The System hardware shall be:

* The elevator room (small model for simulation)
* Two buttons for elevator direction selection
* Two buttons for reset the system
* Screen for displaying data
* Alarm subsystem
* Username and password entry HW
* Indicators for lock and unlock
* Microcontroller
* DC motor

# 3 Functional Requirements:

|  |  |  |
| --- | --- | --- |
| **Feature** | **REQ\_ID** | **Description** |
| **Logging sequence** | REQ\_ PO4\_DGELV \_CYRS\_01\_V1\_1 | The system has locking subsystem for logging using username and password for 10 users, each user has unique ID. **#imp SW** |
| **Calling elevator** | REQ\_ PO4\_DGELV \_CYRS\_02\_V1\_1 | - When the user calls the elevator for the first time, the system will acquire him to enter New ID “First name” by max 10 character and a new password “\*\*\*\*” 4 digits then he is OK to use the elevator.  - When the user is calling the Elevator for the second time, the system will request him to enter his own ID and password to use the elevator.  - When user is setting the ID is it already taken system has to reject the selection and ask for another one.  **#imp SW** |
| **Illegal login** | REQ\_ PO4\_DGELV \_CYRS\_03\_V1\_1 | - When the password of the given ID is wrong the system should display NOK and the alarm subsystem should be activated with buzz sound. |
| **Login trials** | REQ\_ PO4\_DGELV \_CYRS\_04\_V1\_1 | - The user has 3 trials then blocked for 5 sec. **#imp SW** |
| **Elevator calling** | REQ\_ PO4\_DGELV \_CYRS\_05\_V1\_1 | - Calling the elevator is done by Up/Down switches. **#imp SW** |
| **System reset** | REQ\_ PO4\_DGELV \_CYRS\_06\_V1\_1 | - A reset for the whole system is done when pressing On/Off buttons for 2 sec. **#imp SW** |
| **Elevator movement** | REQ\_ PO4\_DGELV \_CYRS\_07\_V1\_1 | - When the user login correctly and select the level to move to, the movement subsystem should be activated. **#imp HW** |