**PO4\_DGELV\_DIGITAL ELEVATOR**

**SRS DOCUMENT**

**Version 1.4**

**Current Document Status**

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**Revision History**

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| **Change** | **Author** | **Date** | **Version** | **Status** |
| Initial Release, specifying software used functions. | Mira Mousa | 1/24/2020 | 1.0 | Draft |
| The State machine diagram was added. | Salma Amr | 1/24/2020 | 1.1 | Proposed |
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**Reference History**

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| PO4\_DGELV\_DIGITALELEVATOR\_CYRS | 1.3 |
| PO4\_DGELV\_DIGITALELEVATOR\_HSI | 1.2 |

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# 1.Introduction

This section introduces the software requirements specification (SRS) for Digital Elevator project.

## 

## 1.1 Purpose

This SRS the software functional and nonfunctional requirements.

## 1.2 Specification Objectives

The objectives of this system are to:

* Provide a Software system overview for a digital Elevator with lock system.
* Specify the software requirement to control the hardware for the user interface.
* Specify the software requirement to control the movements of the digital Elevator.

## 1.3 Project Description

The major feature of the digital elevator as listed below:

* Check if the user is signed or not.
* Check the limit number of users.
* Display the status of using a user-friendly interface.
* Ask the user for password and userID.
* Two buttons to control the system:

1. Button for up movement.
2. Button for down movement.
3. Pushing Two Buttons together resets the system.

# 2. System Overview

## 2.1 Definition

The digital Elevator has a 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.

The system controls the movement of the motors and user interface features of the elevator.

## 2.2 Software Requirement

### 2.2.1 Logging system

|  |  |
| --- | --- |
| **REQ\_ID** | REQ\_ PO4\_DGELV \_SRS\_01\_V1.3 |
| **Description** | * This software can accept users from 0 to NumberOfUsers, NumberOfUsers = 10. * When UserNum is more than NumberOfUsers then the system will reject it. |
| **Coverage** | REQ\_ PO4\_DGELV \_CYRS\_01\_V1.3  REQ\_ PO4\_DGELV \_HSI\_07\_V1.2 |
| **Input** | UserNum |
| **Output** | Status=Rejected  Or  Status=Accepted |

### 2.2.2 First calling

|  |  |
| --- | --- |
| **REQ\_ID** | REQ\_ PO4\_DGELV \_SRS\_02\_V1.3 |
| **Description** | * The software should ask the user for NewID with limitation of 10 characters and NewPassword with limitation of 4 digits. |
| **Coverage** | REQ\_ PO4\_DGELV \_CYRS\_02\_V1.3  REQ\_ PO4\_DGELV \_HSI\_08\_V1.2 |
| **Input** | NewID, NewPassword. |
| **Output** | Status=ValidSignUp,Status=InvalidSignUp |

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|  |  |
| --- | --- |
| **REQ\_ID** | REQ\_ PO4\_DGELV \_SRS\_03\_V1.3 |
| **Description** | * The NewID is already taken, the software asks for another one. |
| **Coverage** | REQ\_ PO4\_DGELV \_CYRS\_09\_V1.3  REQ\_ PO4\_DGELV \_HSI\_08\_V1.2 |
| **Input** | NewID, NewPassword. |
| **Output** | Status=ValidSignUp,Status=InvalidSignUp |

### 2.2.3 Logining In

|  |  |
| --- | --- |
| **REQ\_ID** | REQ\_ PO4\_DGELV \_SRS\_04\_V1.3 |
| **Description** | * This software asks the user for UserID and UserPass to be able to use the elevator. * If the UserID and UserPass are correct it displays Ok on LCD and enables the control of the elevator. |
| **Coverage** | REQ\_ PO4\_DGELV \_CYRS\_08\_V1.3  REQ\_ PO4\_DGELV \_HSI\_05\_V1.2 |
| **Input** | UserID, UserPass. |
| **Output** | Status=LoggedIn,Signal to display Ok on LCD |

|  |  |
| --- | --- |
| **REQ\_ID** | REQ\_ PO4\_DGELV \_SRS\_05\_V1.3 |
| **Description** | * When UserID or UserPass are wrong it displays NOK on LCD and a buzzer sound to alert. |
| **Coverage** | REQ\_ PO4\_DGELV \_CYRS\_03\_V1.3  REQ\_ PO4\_DGELV \_HSI\_05\_V1.2  REQ\_ PO4\_DGELV \_HSI\_06\_V1.2 |
| **Input** | UserID, UserPass. |
| **Output** | Status=LoggedIn,Signal to display Ok on LCD |

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|  |  |
| --- | --- |
| **REQ\_ID** | REQ\_ PO4\_DGELV \_SRS\_06\_V1.3 |
| **Description** | * Allow the user for 3 trials then block the user for 5 sec . |
| **Coverage** | REQ\_ PO4\_DGELV \_CYRS\_04\_V1.3 |
| **Input** | NumOfTrials. |
| **Output** | Status=Blocked,Status=Released. |

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### 2.2.4 Elevator movement

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| --- | --- |
| **REQ\_ID** | REQ\_ PO4\_DGELV \_SRS\_07\_V1.3 |
| **Description** | * Calling the elevator is done by Up/Down switches, which determines the elevator’s motor direction. |
| **Coverage** | REQ\_ PO4\_DGELV \_CYRS\_05\_V1.3 |
| **Input** | SignalUp or SignalDown. |
| **Output** | Signal controls the elevator to start moving. |

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|  |  |
| --- | --- |
| **REQ\_ID** | REQ\_ PO4\_DGELV \_SRS\_08\_V1.3 |
| **Description** | * The software can control the elevator to go up and down when receiving a signal from up/down push buttons. |
| **Coverage** | REQ\_ PO4\_DGELV \_CYRS\_06\_V1.3  REQ\_ PO4\_DGELV \_HSI\_03\_V1.2 |
| **Input** | SignalUp or SignalDown. |
| **Output** | Signals control the elevator to move up or Down. |

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### 2.2.5 Reset

|  |  |
| --- | --- |
| **REQ\_ID** | REQ\_ PO4\_DGELV \_SRS\_09\_V1.3 |
| **Description** | * This software can go to reset itself when the up/down push buttons are pressed together for 2 sec. |
| **Coverage** | REQ\_ PO4\_DGELV \_CYRS\_07\_V1.3  REQ\_ PO4\_DGELV \_HSI\_04\_V1.2 |
| **Input** | SignalUp and SignalDown. |
| **Output** | Status = reset, signal resets all system |

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