**Software Requirement Specification for Smart Curtains**

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| **Name** | SmarCurtains\_SRS |
| **Status** | reviewed |
| **Author** | Ibrahim Ibrahim Sharaby |

**History**

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| --- | --- | --- | --- |
| **version** | **Date** | **Author** | **Description** |
| 1.0 | 17/1/2019 | Islam Ashraf | General layout |
| 1.1 | 23/1/2019 | Ibrahim Sharaby | Modify some SRS(s) |
| 1.2 | 30/1/2019 | Ibrahim Sharaby | Modify some SRS(s) |

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| **Requirement ID** | **SRS\_001** |
| **input** | signal from pressed up button |
| **Description** | the software shall read the DIO peripheral for the up button, in order to get the value of the pressed button |
| **Covers** | CRS\_001 |
| **output** | Signal to motor’s driver |

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| **Requirement ID** | **SRS\_002** |
| **input** | Signal from pressed up button |
| **Description** | the software shall check the period of the pressed up button |
| **Covers** | CRS\_001 |
| **output** | Signal to motor’s driver |

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| **Requirement ID** | **SRS\_003** |
| **input** | Signal from pressed up button |
| **Description** | If the period of the pressed up button greater than or equal to (2 sec), the motor shall lift the curtains up, until it’s released |
| **Covers** | CRS\_001 |
| **output** | Signal to motor’s driver |

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| **Requirement ID** | **SRS\_004** |
| **input** | Signal from pressed up button |
| **Description** | If the period of the pressed up button less than (2 sec), the motor shall lift the curtains up till the upper limit of the curtains |
| **Covers** | CRS\_001 |
| **output** | Signal to motor’s driver |

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| **Requirement ID** | **SRS\_005** |
| **input** | signal from pressed down button |
| **Description** | the software shall read the DIO peripheral for the down button, in order to get the value of the pressed button |
| **Covers** | CRS\_002 |
| **output** | Signal to motor’s driver |

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| **Requirement ID** | **SRS\_006** |
| **input** | signal from pressed down button |
| **Description** | the software shall check the period of the pressed down button |
| **Covers** | CRS\_002 |
| **output** | Signal to motor’s driver |

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| **Requirement ID** | **SRS\_007** |
| **Input** | Signal from pressed down button |
| **Description** | If the period of the pressed down button greater than or equal to (2 sec), the motor shall lift the curtains up, until it’s released |
| **Covers** | CRS\_002 |
| **Output** | Signal to motor’s driver |

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| **Requirement ID** | **SRS\_008** |
| **Input** | Signal from pressed down button |
| **Description** | If the period of the pressed down button less than (2 sec), the motor shall lift the curtains up till the lower limit of the curtains |
| **Covers** | CRS\_002 |
| **Output** | Signal to motor’s driver |

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| **Requirement ID** | **SRS\_009** |
| **input** | Signal from pressed mode button |
| **Description** | the software shall read the DIO peripheral for the mode button, in order to get the value of the pressed button |
| **Covers** | CRS\_003 |
| **output** | Signal to motor’s driver of one of the 3 curtains |

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| **Requirement ID** | **SRS\_010** |
| **input** | Signal from pressed mode button |
| **Description** | the software shall deal with one of the three curtains based on the mode button reading |
| **Covers** | CRS\_003 |
| **output** | Signal to motor’s driver of one of the 3 curtains |

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| **Requirement ID** | **SRS\_011** |
| **Input** | Signal from pressed mode button |
| **Description** | If the mode button reading exceeds number of curtains, it shall start from first curtains |
| **Covers** | CRS\_004 |
| **Output** | Signal to motor’s driver of one of the 3 curtains |

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| **Requirement ID** | **SRS\_012** |
| **Input** | Signal from main application’s length variable |
| **Description** | the software shall read the current length of the curtains |
| **Covers** | SIQ\_001 |
| **Output** | Signal to the motor’s driver |

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| **Requirement ID** | **SRS\_013** |
| **Input** | Signal from main application |
| **Description** | The curtains’ motor shall stop at the curtain’s upper/lower limits |
| **Covers** | SIQ\_002 |
| **Output** | Signal to motor’s driver |

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| **Requirement ID** | **SRS\_014** |
| **input** | N/A |
| **Description** | The SM system should operate manually if power is off |
| **Covers** | SIQ\_003 |
| **output** | N/A |

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| **Appreciations** | **meaning** |
| **sec** | second |
| **msec** | mille second |
| **SM** | Smart curtains |
| **SIQ** | Speech Interaction Queue |

**Software Context**

* The purpose of this document is to build a smart automated system to manage and operate window curtains, providing ease of use and be more convenient than the traditional mechanical system.
* A smart control device system stores the following information.

Curtains’ Number: It includes the number of the curtain under control, by default in the proposed system they are 3, so there will be a button to switch between those.