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# Document Version

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No | Update | Name | Date | Version |
| 1. | Initial version |  |  | 1.0 |

# Purpose

## Intended Audience

This SRS document describes the System Requirements and Software Design for an IoT Coffee maker and the target audience are System and Software Engineers working on the development of this project.

## Intended Use

The SRS defines the overall System Architecture and Requirements as well as the Software Architecture and Design. This document is also contains the definition of the System Requirements which shall be used as the input for System Test cases and Software Unit Test cases.

## Scope

## Definitions and Acronyms

|  |  |
| --- | --- |
| **Acronym** | **Description** |
| IR | Infra Red |
| LED | Light Emitting Diode |
| NFC | Near Field Communication |
| SW | Software |
| HW | Hardware |

# Overall System Description

## Use Case Diagrams



Library Patrons



Library

## System Architecture



DC Motor

Servo Motor

RFID Card Reader

LCD

I2C

**Raspberry Pi Development Board**

Camera

## Functional Requirements

### Function xxxx

Add short description here …

|  |  |
| --- | --- |
| **REQ\_ID** | **Requirement** |
| REQ-01 | Users shall be able to select the library branch from which they wish to borrow books. the main menu with the text below shall be displayed on the LCD screen:  Line 1 = “Select branch”  Line 2 = “Exit app” |
| REQ-02 | In the main menu defined in REQ-01, if the option “Select branch” is selected on the keypad, then the following menu shall be displayed on the LCD screen  Line 1 = “Location 1”  Line 2 = “Location 2” |
| REQ-03 | In the main menu defined in REQ-01, if the option “Exit app” is selected, the LCD should be turned off. |
| REQ-04 | In the select branch menu |
| REQ-05 |  |
| REQ-06 |  |

### Function yyyy

Add short description here …

|  |  |
| --- | --- |
| **REQ\_ID** | **Requirement** |
| REQ-xx |  |

### Function zzzz

1. Add short description here …

|  |  |
| --- | --- |
| **REQ\_ID** | **Requirement** |
| REQ-xx |  |

## Non-Functional Requirements

### Non-Functional Requirement xxxx

Add short description here …

|  |  |
| --- | --- |
| **REQ\_ID** | **Requirement** |
| REQ-xx |  |
| REQ-xx |  |

# Software Architecture

## Static Software Architecture

The Software Architecture defines the various Software Components that are developed to realize the implementation of the system requirements.

**PowerMgt**

**HMI**

**Application Layer**

**Hardware Abstraction Layer (HAL)**

**ADC**

**USonic**

**NFC**

**Servo**

**RainSens**

**BlackCoffee**

**HotWater**