

# **Requirements on LCD Driver**

**Team X**

## Contents

Scope of document:.....	2
Functional overview: .....	2
Requirement specifications:.....	2
Functional Requirements: .....	2
Configuration and initialization: .....	2
Normal operation: .....	3

## Scope of document:

This document specifies requirements on the module LCD Driver. The LCD driver is targeting 4\*20 LCD Hardware.

## Functional overview:

The LCD driver initializes the 4\*20 LCD, Sends commands, Displays character, string, numbers on the LCD, and clears the LCD screen.

## Requirement specifications:

### Functional Requirements:

#### Configuration and initialization:

- 1- [SRS\_LCD\_111] The LCD Driver shall support symbolic names for LCD pins.

Type:	Valid
Description:	The LCD driver shall allow the static configuration of the following symbolic names: <ul style="list-style-type: none"><li>• LCD control channel<ul style="list-style-type: none"><li>▪ RS pin and port</li><li>▪ RW pin and port</li></ul></li><li>• LCD data channel<ul style="list-style-type: none"><li>▪ Data pins and ports</li></ul></li></ul>
Rationale:	Provide human readable symbolic names for LCD channels
Use cases	--
Dependencies	--
Supporting material	--

- 2- [SRS\_LCD\_112] The LCD driver shall provide a service that sends command to the LCD.

Type:	Valid
Description:	The LCD driver shall provide a service that sends commands to LCD pins. It writes the command on the LCD pins.
Rationale:	Basic functionality
Use cases	Sends commands to the LCD
Dependencies	[SRS_LCD_111]
Supporting material	--

**3- [SRS\_LCD\_113] The LCD driver shall provide a service that initializes the LCD.**

Type:	Valid
Description:	The LCD driver shall provide a service that initializes LCD pins and send initialization commands.
Rationale:	Basic functionality
Use cases	Initialize the LCD
Dependencies	[SRS_LCD_111], [SRS_LCD_112]
Supporting material	--

**Normal operation:****1- [SRS\_LCD\_114] The LCD driver shall provide a service that displays a character on the LCD.**

Type:	Valid
Description:	The LCD driver shall provide a service that writes a character on LCD data pins to display it on the LCD.
Rationale:	Basic functionality
Use cases	Write a character on the LCD data pins.
Dependencies	[SRS_LCD_113]
Supporting material	--

**2- [SRS\_LCD\_115] The LCD driver shall provide a service that displays a string on the LCD.**

Type:	Valid
Description:	The LCD driver shall provide a service that displays a string on the LCD.
Rationale:	Basic functionality
Use cases	Displays a string on the LCD
Dependencies	[SRS_LCD_114]
Supporting material	--

- 3- [SRS\_LCD\_116] The LCD driver shall provide a service that moves the cursor to a certain row and column.

Type:	Valid
Description:	The LCD driver shall provide a service that moves the cursor to a certain row and column.
Rationale:	Basic functionality
Use cases	Moves the cursor to a certain row and column
Dependencies	[SRS_LCD_112], [SRS_LCD_113]
Supporting material	--

- 4- [SRS\_LCD\_117] The LCD driver shall provide a service that displays a string in a certain row and column.

Type:	Valid
Description:	The LCD driver shall provide a service that displays a string in a certain row and column.
Rationale:	Basic functionality
Use cases	Display a string on a certain row and column.
Dependencies	[SRS_LCD_115], [SRS_LCD_116]
Supporting material	--

- 5- [SRS\_LCD\_118] The LCD driver shall provide a service that clears the LCD screen.

Type:	Valid
Description:	The LCD driver shall provide a service that clears the LCD screen.
Rationale:	Basic functionality
Use cases	Clear the LCD screen
Dependencies	[SRS_LCD_112], [SRS_LCD_113]
Supporting material	--

- 6- [SRS\_LCD\_119] The LCD driver shall provide a service that converts the integer to string.

<b>Type:</b>	<b>Valid</b>
<b>Description:</b>	The LCD driver shall provide a service that converts the integer to string.
<b>Rationale:</b>	Basic functionality
<b>Use cases</b>	Convert the integer to string
<b>Dependencies</b>	--
<b>Supporting material</b>	--

- 7- [SRS\_LCD\_1120] The LCD driver shall provide a service that displays a string in a certain row and column.

<b>Type:</b>	<b>Valid</b>
<b>Description:</b>	The LCD driver shall provide a service that displays an integer on a certain row and column.
<b>Rationale:</b>	Basic functionality
<b>Use cases</b>	Display an integer on a certain row and column
<b>Dependencies</b>	[SRS_LCD_1120], [SRS_LCD_116]
<b>Supporting material</b>	--