**GDD**

**Description**

This document describe the static design of the security system project.

**Introduction**

The system require software components for Keypad, DIO and LCD.

**Architecture Layered**

* **MCAL**

|  |  |  |  |
| --- | --- | --- | --- |
| **Component** | **ID** | **Functions** | **Description** |
| **DIO** | **00** | **u8 DIO\_init(void);** | **Init DIO** |
| **01** | **u8 DIO\_SetPortDir(u8 Copy\_u8PortId, u8 Copy\_u8PortDirection);** | **Set Port Direction** |
| **02** | **u8 DIO\_SetPortValue(8uCopy\_ u8PortId ,u8 Copy\_u8PortValue);** | **Set Port Value** |
| **03** | **u8 DIO\_GetPortValue(u8 Copy\_u8PortId,u8 \*Copy\_u8PortValue);** | **Return Port Direction** |

* **HAL**

|  |  |  |  |
| --- | --- | --- | --- |
| **Component** | **ID** | **Functions** | **Description** |
| **LCD** | **04** | **u8 LCD\_init(void);** | **Init LCD** |
| **05** | **u8 LCD\_ClearLCD (void);** | **Clear LCD** |
| **06** | **u8 LCD\_LcdWrite(8uCopy\_ u8value ,u8 Copy\_u8Position);** | **Write on LCD** |
| **Keypad** | **07** | **u8 Keypad\_init(void);** | **Init Keypad** |
| **08** | **u8 Keypad \_SetKeypadPort (u8 Copy\_u8PortId);** | **Set keypad port** |
| **09** | **u8 Keypad \_KeypadRead(u8 \*Copy\_u8Value);** | **Read keypad value** |
| **LED** | **10** | **u8 LEDDRIVER\_SetHigh(u8 Copy\_u8 PinId);** | **Set led HIGH** |
| **11** | **u8 LEDDRIVER\_SetLow (u8 Copy\_u8 PinId);** | **Set led LOW** |