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# PO1\_DGC Calculator

**(PO1\_DGC\_Buzzer\_CDD)**

**Status** : **Proposed**

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### **Document Status**

|  |  |  |  |
| --- | --- | --- | --- |
| **Version** | **Status** | **Author** | **Date** |
| V 1.0 | Draft | Areej Ayman Helal | 5/3/2020 |
| V 1.1 | Proposed | Moamen Ahmed | 14/3/2020 |

### **History Table**

|  |  |  |  |
| --- | --- | --- | --- |
| **Version** | **Author** | **Date** | **Change** |
| 1.0 | Areej Ayman Helal | 5/3/2020 | Initial creation |
| 1.1 | Moamen Ahmed | 14/3/2020 | * Moved SW context diagram * Remade Flowcharts |

## 

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## **Project Description**

The Digital Calculator system will consist of a Power component in the APP layer to turn all the system ON whenever the ON switch is pressed.

The system starts with the Keypad\_assignment component waiting for any of the Keypad keys to get pressed. When a switch of the keypad is pressed the Keypad\_assignment component will send signals to all of the following components:

1- Math\_calc: will calculate the entered operation and send the result to the Display component.

2- Display: will display the entered first operand, operation and second operand.

3- PlayTone: will play a tune every time keypad\_assignment component is used.

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### **SW Context Diagram**

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### Figure 1

**APIs:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Req\_ID** | Req\_PO1\_DGC\_CDD\_Buzzer\_001 V1.0 | | |
| **Input signal** | void | **Output signal** | -Buzzer Status.  Range: [0: 1]  Unit: NA |
| **Name** | BUZZER\_SetBuzzerOn | | |
| **Description** | Turn on the buzzer by outputting a high signal on the buzzer pin | | |
| **Covers** | Req\_PO1\_DGC\_GDD\_012 V1.1 | | |
| **public/private** | Public | | |
| **Flowchart** | Figure 2 | | |

### Figure 3

|  |  |  |  |
| --- | --- | --- | --- |
| **Req\_ID** | Req\_PO1\_DGC\_CDD\_Buzzer\_002 V1.0 | | |
| **Input signal** | void | **Output signal** | -Buzzer Status.  Range: [0: 1]  Unit: NA |
| **Name** | BUZZER\_voidSetBuzzerOff | | |
| **Description** | Turn off the buzzer by outputting a low signal on the buzzer pin | | |
| **Covers** | Req\_PO1\_DGC\_GDD\_013 V1.1 | | |
| **public/private** | Public | | |
| **Flowchart** | Figure 4 | | |

### Figure 5

|  |  |  |  |
| --- | --- | --- | --- |
| **Req\_ID** | Req\_PO1\_DGC\_CDD\_Buzzer\_003 V1.0 | | |
| **Input signal** | void | **Output signal** | -Buzzer Status.  Range: [0: 1]  Unit: NA |
| **Name** | DGC\_PlayTone | | |
| **Description** | It takes the pressed key as an input and plays a tone on each key of them whenever it’s pressed. | | |
| **Covers** | Req\_PO1\_DGC\_GDD\_014 V1.1 | | |
| **public/private** | Public | | |
| **Flowchart** | Figure 6 | | |

### Figure 7

### **Global Variables**

**-N/A**

### **Reference Documents**

|  |  |  |  |
| --- | --- | --- | --- |
| **Reference Number** | **Document Name** | **Version** | **Status** |
| 1 | GDD | 1.3 | proposed |

### Figure 8