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**PO3\_DGW\_Digital watch**

**(CYRS)**

**Document status: Released.**

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# DOCUMENT HISTORY

Table Document History including Version, Description, Author, Date and Status

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Version** | **Description of Change** | **Author** | **Date** | **Status** |
| 1.0 | Initial creation of the document | Mostafa Nader  Hammam Mazen | 22/1/2020 | Draft |
| 1.1 | Updated the block diagram  Added two hardware requirements  Modified the project description | Mostafa Nader  Hammam Mazen | 23/12020 | Proposed |
| 1.2 | Updated cover page by adding a logo  Added #SW and #HW | Mostafa Nader  Hammam Mazen | 23/12020 | Released |

# INTRODUCTION

Digital watches are common now a days, digital watches show the time as numbers, e.g., 10:55 Am instead of a shorthand pointing towards the number 10 and a long hand pointing towards the number 11. The digits are usually shown as a [seven-segment display](https://en.wikipedia.org/wiki/Seven-segment_display) or a LCD display. Sometimes this digital watches includes some extra features besides displaying the time in numbers format, e.g., lighting the display, stopwatch, alarm and more other features depending on the manufacturer.

## Project Description

This project will reference a Digital-Watch including several implemented features e.g. displaying a digital format of the current time to the user, setting alarm times that triggers a buzzer when the time hits the set time, stop watch that helps the user to count time according to his requirements and in this document “Customer Requirement Specifications (CYRS) document” the basic CRS requirements will be specified into software and hardware more detailed requirements.

# METHODOLOGY

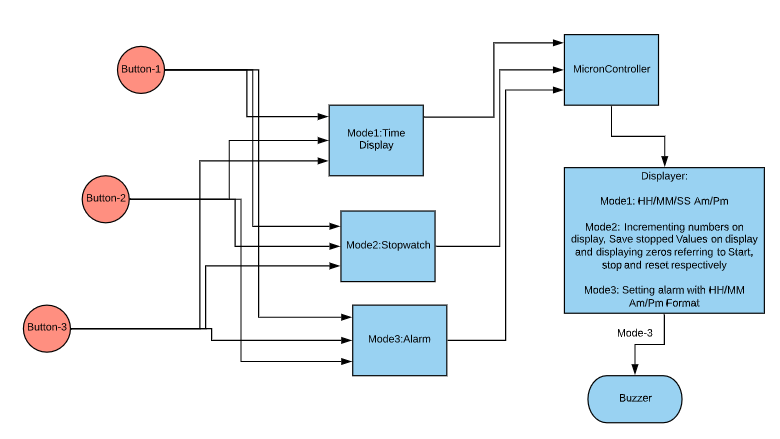


Figure 1 Digital-Watch High Level Block Diagram

# REQUIREMENTS

## Req\_ PO3\_DGW\_CYRS\_01\_V01

{

The Software shall display the current time in this format (HH/MM/SS AM/PM) on a displayer if the displaying time mode is chosen #SW

}

## Req\_ PO3\_DGW\_CYRS\_02\_V01

{

The Hardware shall include a displayer to be able to display the chosen mode interface according to the user’s choice #HW

}

## Req\_ PO3\_DGW\_CYRS\_03\_V01

{

The Hardware shall include a buzzer to notify the user when the alarm’s time hit #HW

}

## Req\_ PO3\_DGW\_CYRS\_04\_V01

{

The software shall take an input time from the user and notifies the user with a buzzer when the set alarm time arrives #SW

}

## Req\_ PO3\_DGW\_CYRS\_05\_V01

{

The Software shall start incrementing its display numbers referring to real time seconds, minutes and hours if the Stopwatch mode is chosen #SW

}

## Req\_ PO3\_DGW\_CYRS\_06\_V01

{

The Software shall display save its last values and display it to the user if the Stopwatch mode is chosen #SW

}

## Req\_ PO3\_DGW\_CYRS\_07\_V01

{

The Software shall reset every value on the screen to zeros and stops if the Stopwatch mode is chosen #SW

}

## Req\_ PO3\_DGW\_CYRS\_08\_V01

{

The Hardware shall have a button that switches between the three modes (Displaying time, Stopwatch, Alarm) of the digital watch #HW

}

Table CYRS Requirements referring to CRS requirements

|  |  |
| --- | --- |
| **CYRS REQUIREMENT** | **CRS REQUIREMENT** |
| Req\_ PO3\_DGW\_CYRS\_01\_V01 | Display the time with 12 AM/PM format |
| Req\_ PO3\_DGW\_CYRS\_02\_V01 | Display the time with 12 AM/PM format |
| Req\_ PO3\_DGW\_CYRS\_03\_V01 | Alarm to be set as per the input |
| Req\_ PO3\_DGW\_CYRS\_04\_V01 | Alarm to be set as per the input |
| Req\_ PO3\_DGW\_CYRS\_05\_V01 | Stopwatch with “start, stop, and Reset” |
| Req\_ PO3\_DGW\_CYRS\_06\_V01 | Stopwatch with “start, stop, and Reset” |
| Req\_ PO3\_DGW\_CYRS\_07\_V01 | Stopwatch with “start, stop, and Reset” |
| Req\_ PO3\_DGW\_CYRS\_08\_V01 | The user can control the Digital watch with only 3 buttons |