

Mastering Embedded System Online Diploma

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First Term (Final Project 1)

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My profile:

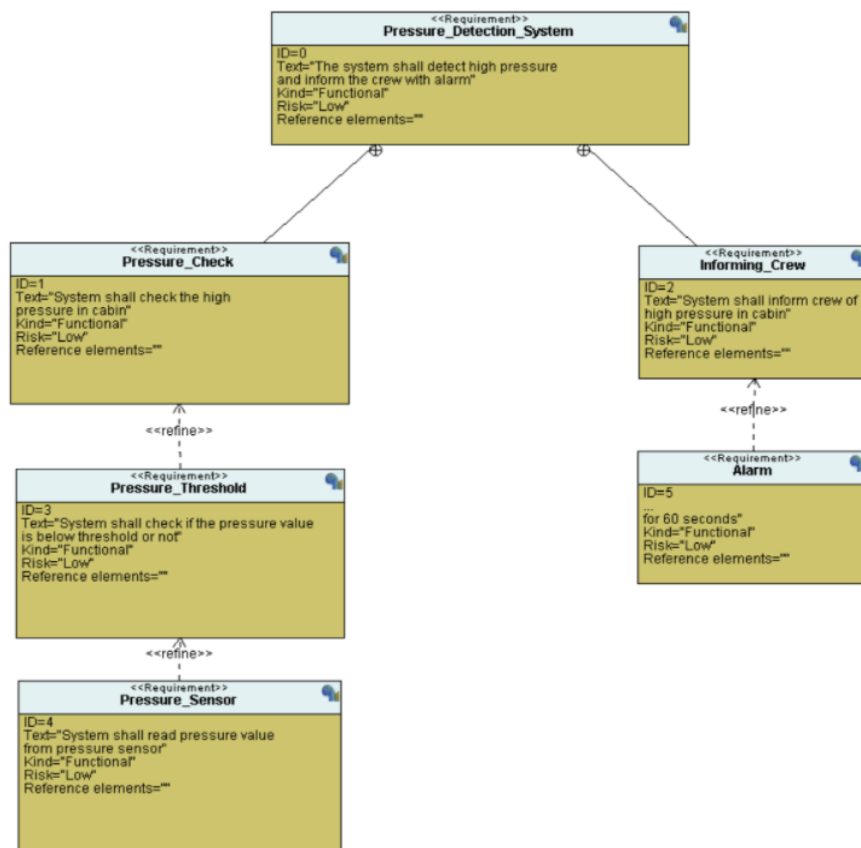
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Pressure Detection Project

Case study:

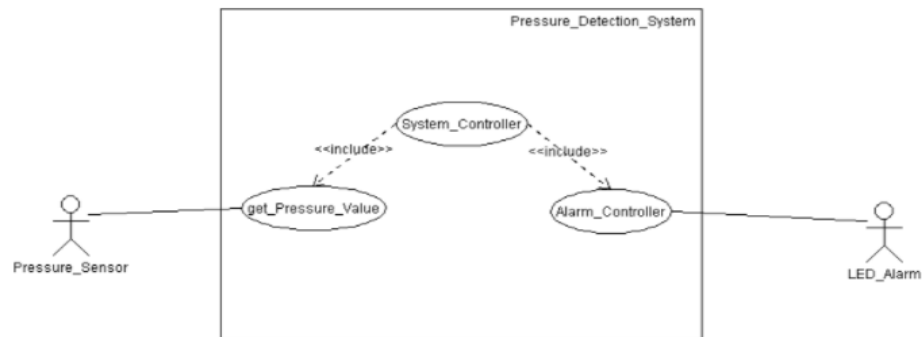
A pressure sensor measure pressure in surrounding area and controls it if pressure exceeds **20 bars** the alarm turned on for **60 Seconds**

Requirement Diagram:



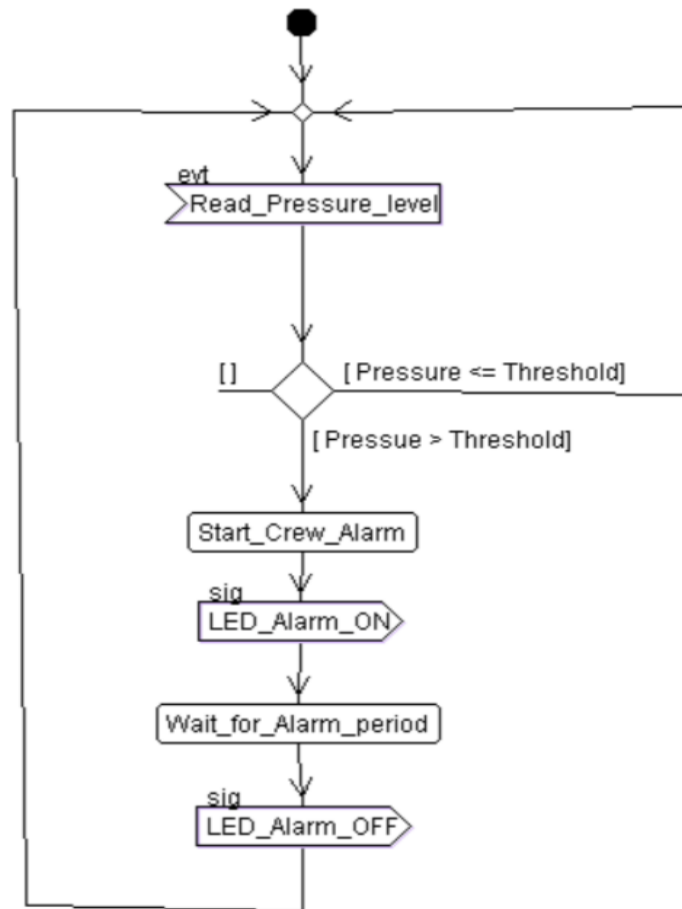
System Analysis

1- Use Case Diagram

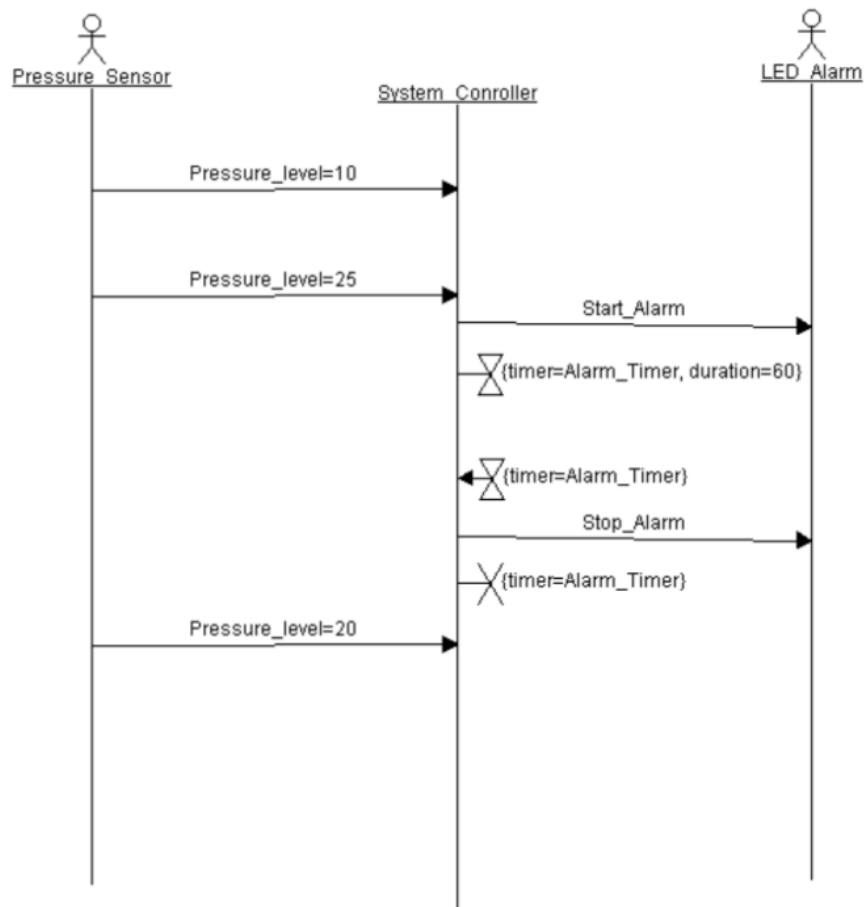


- 1- **Get_Pressure_Value** use Pressure sensor to measure the pressure
- 2- **System_Controller** compare the measured pressure with threshold if it exceeds the threshold it send a signal to Alarm_Controller
- 3- **Alarm_Controller** if the sent signal = 1 led will be turned off ,if signal =0 led will be turned on

2- Activity Diagram

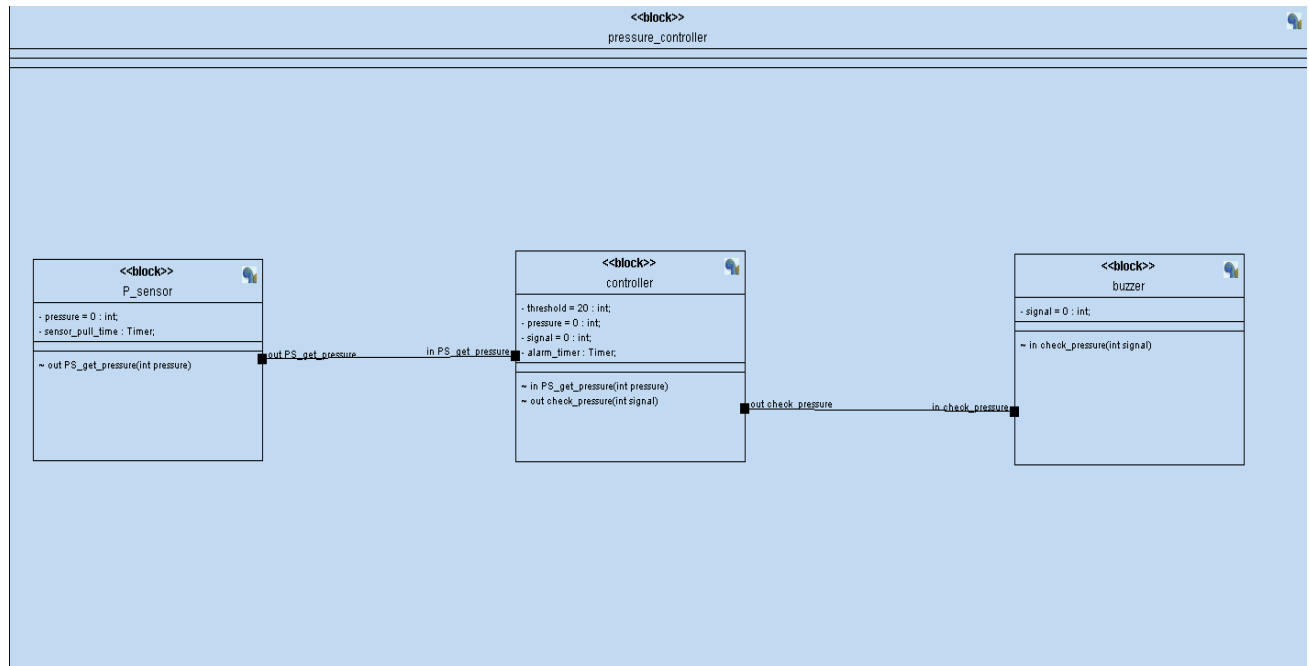


Sequence Diagram

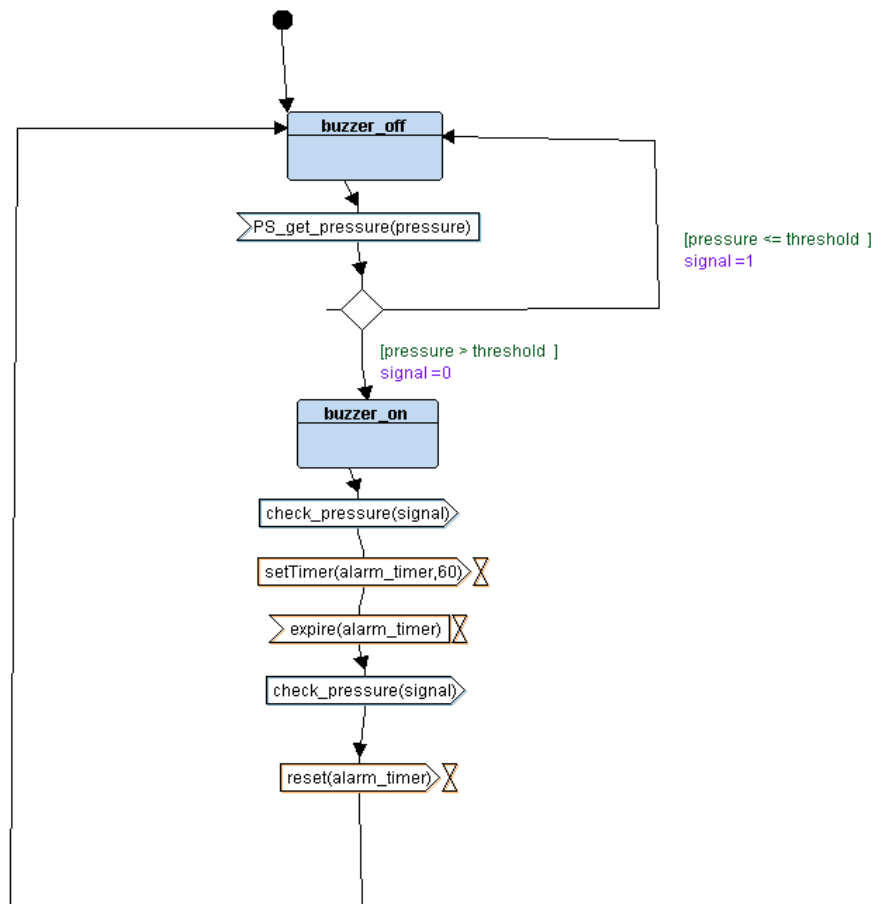


System Design

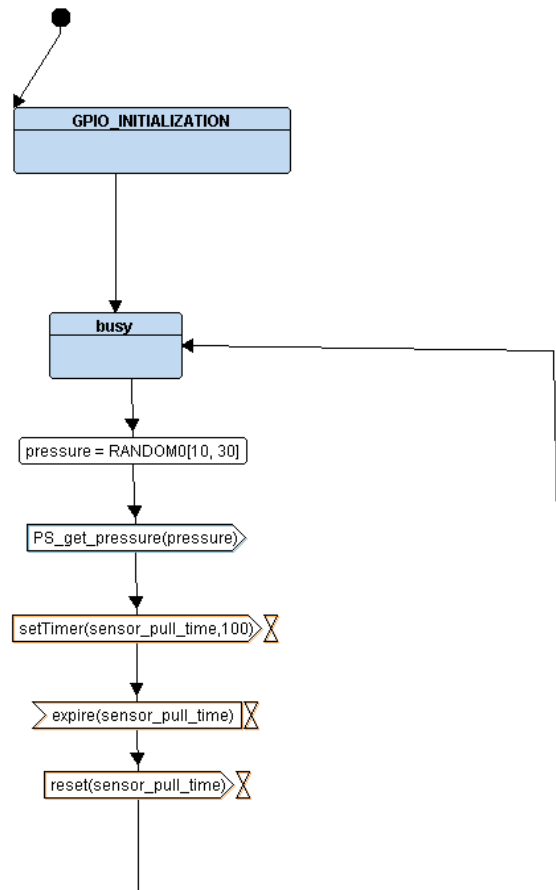
Block Diagram:-



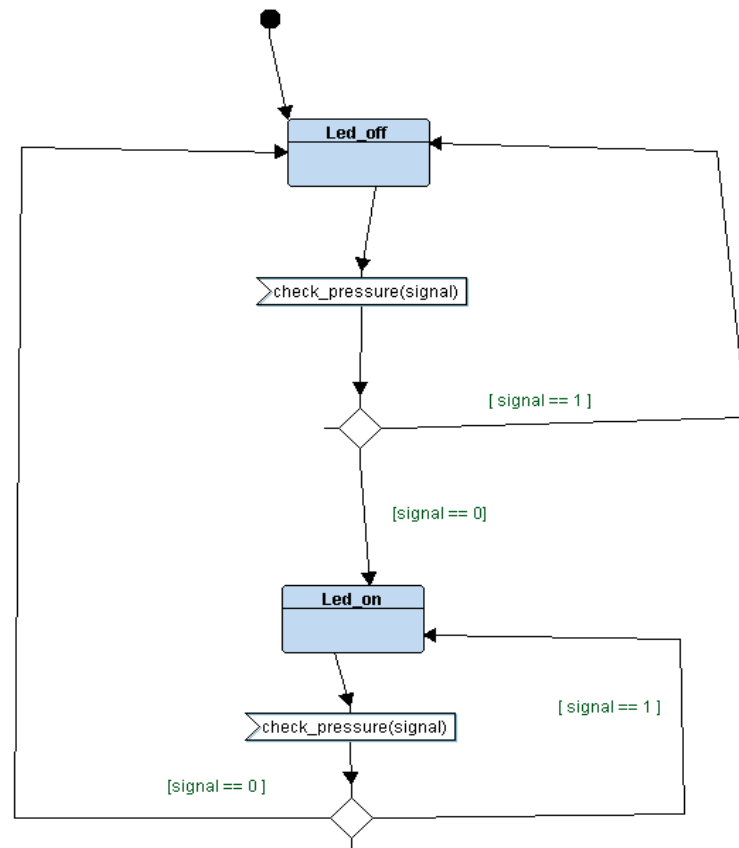
State machine for Controller



State machine for Pressure_Sensor



State machine for buzzer



Verification of logic using trace

