

Dept. of Computer Science and Engineering

EECS3215 – Embedded Systems

Introduction to FRDM KL43Z

Lab 4

Objectives:

The objective of this lab is design a simple control circuit.

LAB

In this lab, you are to design a very simple control system for a mixer.

Two types of liquids are poured in the mixer, and an arm mixing them together. two sensors are used to measure the fluid height. S1 indicates that it is up to 80% of the capacity, another sensor indicates it is up to 90%. A third sensor is used to indicates the liquid is overflown the tank.

Your program should do the following

1. If both sensors are off, the two LEDs are off.
2. If sensor 1 is ON (reached 80%) the green LED is ON
3. If sensor 2 is ON then the green and red LEDs are ON
4. If the overflow sensor is ON, both red and green LEDs are blinking
5. Any illegal combination (90% sensor is ON but 80% sensor is OFF, which should not happen in practice) the green LED is OF and the red LED is blinking.

The inputs are three wires to three GPIO port

Deliverables

Demo the program to the TA, A lab report is due Feb 11.