Microavionics Project Rough Draft (5067)

Sage Herrin
University of Colorado Boulder

Due 10/6/20

A. Proposed Project Description

The final project will be an automated tea making system. Inputs to the system include amount and type of tea. The system will utilize a water level sensor, external temperature sensor, and hydro pump to moderate the steep temperature and time of the tea. As the heated water reaches the predetermined temperature set by the users choice of tea, the hydro pump will begin adding water to the tea pot. Once the water level sensor has determined enough water has been added, the hydro pump will turn off, the steep timer will start and be output on the LCD. Once the steep time has been reached, a servo/stepper motor will lift the the tea infuser out of the tea pot, and a buzzer will sound alerting that the tea is ready.

B. Software Flow Chart

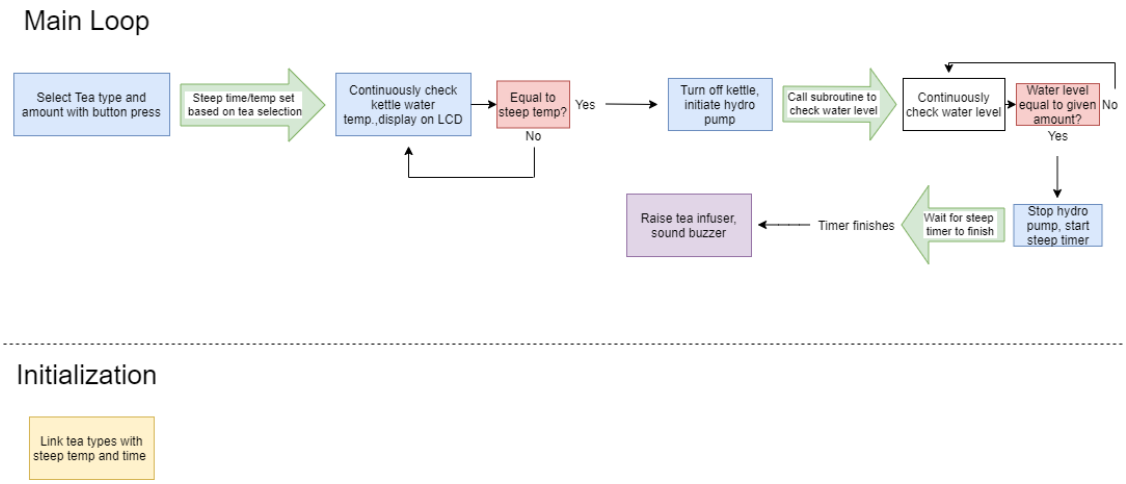

Fig. 1 The chart above shows the high level software flow for the project as a whole

C. PIC Resources Used

This project will utilize the LCD, Buzzer, I/O pins, and push buttons on the board.

D. Bill of Materials

External Component	Part Number	Manufacturer	Lead Time	Cost
Hydro Pump	9SIAJ9P9PP1608		4-23 days	$5.99
Temperature Sensor	1528-1592-ND	Adafruit	1-2 days	$9.95

E. Functional Block Diagram

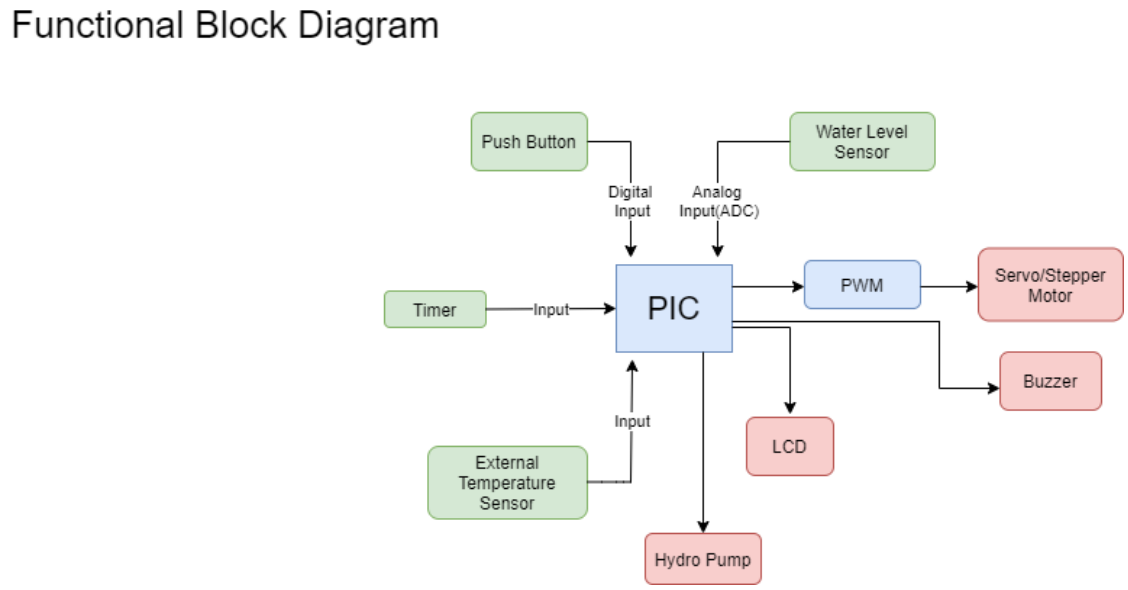

Fig. 2 The block diagram above shows the high level functionality of the board and peripherals for the project