## 1. System

### 1.1 Overview

The software is designed to drive the product hardware interacting with users and keep the room temperature in constant intelligently with the temperature set by users. Users can use “+”, “-”, “select” buttons to set a reasonable temperature as well as a reasonable time for which the user want to keep the room temperature as it is set. In the meantime, LED display will display the time and temperature set. If the user is setting time or temperature, the LED display blinks its digits. Once time and temperature are set, the product is monitoring the room temperature by using communicating with the thermal sensor and intelligently keep the room temperature in the temperature set by using mechanical solution, e.g. stepper motor, to press the button originally on the target timer pad to turn on and off its radiator. In the other hand, by pressing the “Alternative” button will make the product pressing the button on the target timer pad to adjust the time originally on the timer pad, which can be set to maximum two hours only. This is very handy when user just wants to switch off the radiator as well as the product because the target timer will turn off the radiator by pressing its button after the time settings has been valid for 3 minutes, i.e. it will switch off by pressing its button as long as it is on for 3 minutes since last time it is off.

This software is specifically designed to drive the target hardware built up to complete

## LED display driver

## Buttons driver

## Stepper motor driver

## Solenoid driver

## Thermal sensor driver

## Power management