# Purpose

The purpose of this document is to outline the functionality of the smart indoor garden cleint software. It will hereby be referenced as SIGC in this document.

# Design

The design is based on this diagram created using ‘draw.io’.

Diagram

Description automatically generated

## Client Application

The client application running on Arduino Uno Rev 3 hardware will have the following job. It must save state to the EEPROM as needed. State information that must be saved included:

1. Last reboot time in the following format: MM/DD/YYYY HRS:MINS:SECONDS
   1. For example, ‘07/06/2022 20:15:30’ without the quote. It must also use 24-hour timestamps not 12-hour timestamps.
2. Last command received from server application
3. Total runtime (How long the device has been on)

SIGC will listen actively on the UART bus connecting the client and server hardware. It must respond and enact all commands. Those commands are:

1. Turn on pump# (where ‘#’ denotes the IO pin for said pump)
2. Turn off pump# (where ‘#’ denotes the IO pin for said pump)
3. Turn on grow-light# (where ‘#’ denotes the IO pin for said pump)
4. Turn off grow-light# (where ‘#’ denotes the IO pin for said pump)
5. Send state information when request from server application
6. Set time based on what server sends