Week 7: Assignment – Course Final Project

James Heikkinen

Champlain College

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# Overview

The home automation program will control five devices by providing the user several functionalities for each device.

# Description

**Main.cpp**

Used to initialize the program.

**Interface.cpp / Interface.h**

Interface class that contains menu functionality

**SmartDevice.cpp /SmartDevice.h**

Parent class for all five devices in the program

**UserDefinedTemplate.cpp / UserDefinedTemplate.h**

Template class designed for common functionalities of the program

**Lights.cpp / Lights.h**

Lights class that contains device specific functions

**RobotVacuum.cpp / RobotVacuum.h**

Robot vacuum class that contains device specific functions

**SecuritySystem.cpp / SecuritySystem.h**

Security System class that contains device specific functions

**SmartThermostat.cpp / SmartThermostat.h**

Smart Thermostat class that contains device specific functions

**Television.cpp / Television.h**

Television class that contains device specific functions

# Class Diagram

A diagram of a program

Description automatically generated

# Operation

1. Enter a number to select a menu option.

A screen shot of a computer

Description automatically generated

1. Once number has been entered, it will go to the device’s submenu.

A screen shot of a computer error

Description automatically generated

1. Follow the prompt for the result of the function to appear.

# Inputs/Results

|  |  |
| --- | --- |
| **Inputs** | **Results** |
| Inputs:  2, 1, 3, 4, 4, 1, 1, 2, 1, 1300, 1301, 1359, 1358, 2, 5  Everything seems to work. Had an issue with being in the bounds for setting the time. Also, forgot to take out the test message. However, I removed the test message. Still having issues with the time out of bounds. |  |
| Inputs:  1, 1, 2, 1, 1300, 1301, 1548, 1558, 22, 2, 5 , 1, 3, 72, 2, 5, 1, 72, 67, 6  Something is messed up with the menu. Some of the functions worked but not very user friendly. Still having time input issues. |  |
| Inputs:  **3, 1, 2, 1, 1301, 1302, 1358, 1359, 2 , 5, 3,3, 34, 5**  **Most functions seem to work. Time issue may not be accepting the first input for start and end time. May not be a time bounds issue.** |  |
| Inputs:  4, 1, 2, 1, 1300, 1300, 1359, 1359, 2, 5  Functionality overall works. Time issue is just not accepting the first input forcing the user to enter twice. |  |
| Inputs:  5, 1, 3, 3, 2, 1, 1300, 1300, 1700, 1700, 2  Overall functionality works. Still have the double time issue. |  |
| Inputs:  f, 101, 1299, 1361 |  |

# Bug(s)

* Having issue with entering times, it won’t accept the first input the user sends. Didn’t have enough time left to troubleshoot the problem.
* Couldn’t get the set day functionality working for adding the times for each day. Didn’t have time to finish that either lol.
* Menu for thermostats is not running properly. But overall functionality seems to be working.