Smart Light Dimmer

By: Daemon Macklin Module Project Semester 5 04/10/2018

For my project I would like to design and build a system that will control the brightness of a lightbulb based on time, ambient light and potentially other factors. The device will be using a raspberry pi and a photoresistor. The photoresistor will be able to output an analogue signal which correspond to the ambient light levels. These values will be sent through an analogue to digital converter and the digital signal will go to the pi's i2c input pin. The digital signal will be available on the pi. The raspberry pi will be the driver of the system. When signals are inputted the pi will be able to run a program which will analyse the light level, compare it with the time of day, the time of year and decide what the right brightness the light should be set at.

The photoresistor should be put near a window. The ambient light outside will be detected, and this level of brightness will be used. This device will help to save energy and will help with setting a healthy circadian rhythm for the user, as they won't have the lights at full brightness at 4am.

There will also be a way to control the light level manually, and even switch the system on or off. I hope to do this online, using a small web application with some data on the light levels.