Our idea is a light sensing alarm clock that won’t turn off until it detect light. Meaning you will have to stand up and turn on your lights to turn off the alarm helping ensure you actually wake up rather than just snoozing your alarm and going back to sleep.

As of right now there are only a few parts that we thought of that we will need

1. Arduino, the brains of the whole project
2. Speaker, an alarm has to make noise and hopefully lots of it
3. Photoresistor, this is what is going to determine if you’ve turned on your lights or not. And we will need to take into consideration natural lighting when setting the alarm threshold

From the research done so far, our speaker will be wired up much the same as the little buzzers we’ve already used in class. The photoresistor however will need to be plugged in to one of our analog ports since it will be receiving real world data. It will also need a resistor to ensure that it works properly.

Pseudocode:

Clock ticks real world time

When the clock reaches a certain time sound the alarm through the speaker

The speaker will play an alarm sound

If photoresistor detects enough light then the speaker will be shut off

As the project progresses we may want to add more features to this alarm clock to make it even more useful.

New items we realized we need

1. Real time clock- you can’t have an alarm clock without the clock part
2. LED lights, as of now LED lights are just for looks
3. (possibly temperature sensor)

So far we have got our photo resistor up and running and a buzzer set up to make sound when not enough light is detected as well as an LED just for looks. Out next step is to get a real world clock up and running and set it up to where the main part of our code, our alarm and photoresistor to run only between a certain time, that being when you want the alarm to go off.

We have also considered adding a temperature sensor to the alarm clock. This will help you know what clothes to pick out and wear in the morning.

The main part of the project is up and running. The real time clock works, the alarm function works, and the light sensor to silence the alarm works. The main goal of what we set out to do is finished. For the next week I would like to focus that time on working on the temperature sensor and various LED lights along with it to indicate the temperature so you can get a rough idea of how you should dress for the day.

Youtube video of alarm clock working: https://www.youtube.com/watch?v=IZ8XEPMw9Ls

New Items I need

1. Temperature sensor
2. Various colors of led (Red, Yellow, Green, Blue, White)