For the project, there are two aspects to address: *what to make* and *how it should work*.

# What to make

With what’s in the kit, you can design an alarm clock with day and night modes. Features include:

No backlight in “day” mode, unless switched on.

No backlight in “night” mode, unless an object is detected. (e.g. wave hand in front of clock to see time.) Backlight should stay on for some reasonable time.

Servo motor for old-fashioned type bell clapper so it can have programmed alarm.

# How it should work

Since this course has emphasized various methods of process control, the goal of the project is to produce the functionality in two different versions; one using only sequential code and polling, and the other using sophisticated, elegant control including interrupts where appropriate.

*You don’t want to change any wiring for the two versions; it should only be the software that changes between them.*

# Project Phases

## Phase 1 - hardware and component testing

-submit block diagram, checklist

-can have different test code for each component as long as all are connected at the

same time

## Phase 2 - one version functionality

-submit system overview, block diagram (revised if nec.), test code, process diagram

-short video showing features

## Phase 3 - both versions functionality

-submit system overview, block diagram (revised if nec.), test code, process diagram

-short video showing features