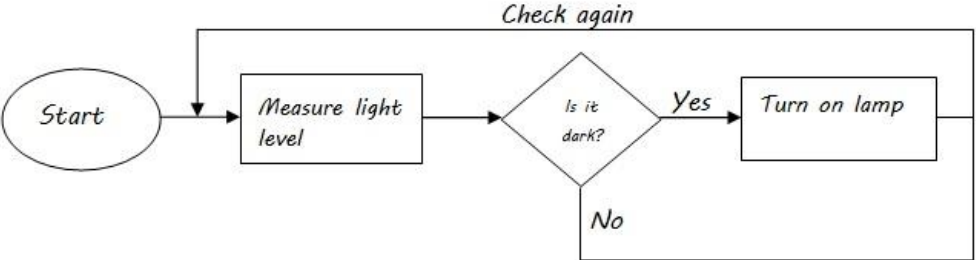


Engineering Design Sheet

Project Code Name: <i>Project Dusk/Dawn</i>	Team Members: <i>Shruti and Joe</i>
Design Objective	<i>We want to turn on a light when it gets dark and turn it off when it becomes bright again.</i>
Design Requirements and Constraints	<i>Our device should...</i> <ul style="list-style-type: none"> <i>Run continuously</i> <i>Turn on a lamp when the light level gets too low</i>
Process Map (Work Flow Diagram)	 <pre> graph LR Start([Start]) --> Measure[Measure light level] Measure --> Decision{Is it dark?} Decision -- Yes --> Lamp[Turn on lamp] Lamp -- "Check again" --> Measure Decision -- No --> Measure </pre>
Ideas and Sketches	<p><i>Outdoor lighting only turns on when it gets dark and maybe(?) when something is moving – would require both light sensor and motion detector</i></p> <p><i>Use regular light bulb with AC power switch (PowerSwitch Tail II), DCU connected to power switch</i></p>
Test Log (Include what did not work and how you changed it)	<ul style="list-style-type: none"> <i>Determined that about 20 lux is “dark”</i> <i>Decided to wait to add motion detector in version 2.0</i> <i>Connected DCU line 1 to PowerSwitch “+in” terminal and DCU ground to PowerSwitch “Ground” terminal, but it didn’t work. Had to connected DCU ground to PowerSwitch “-in” terminal.</i> <i>Had a discussion about where to position light sensor (on top of house? down by the lamp itself? by the door?). Didn’t come to a clear decision, but we did decide that it would have to be shielded from the lamp itself</i>

Final Design

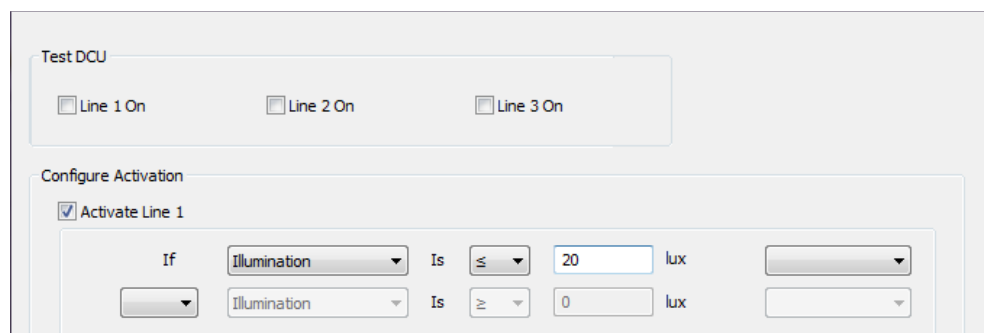
(Include screenshot of Logger Pro Digital Out dialog box and pictures, as necessary)

See pictures below



Hardware Set Up:

- DCU Line 1 - connected to +in on PowerSwitch
- DCU ground - connected to -in on PowerSwitch
- Lamp - connected to PowerSwitch plug
- Light sensor in CH-1 in LabQuest



Logger Pro Digital Out dialog box