ECE 1245 Final Project: Light Sensor For Bathroom

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Proposed Project Idea

- Light sensor for bathroom:
+ If the bathroom is dark (light sensor) and a person walks in (temperature sensor). The light will turn on.
+ If the bathroom's light is off (ON) but there is no present of a person (OFF), the light sensor is still turned off (OFF)
+ If the person is in the bathroom (ON) with the light on (OFF), the light sensor is still turned off.
+ If neither the light is off (OFF) nor the person is in the bathroom (OFF), the light is turned off. (OFF)

Create Block Diagram

This block diagram shows boxes with arrows between them for the functional part of my light sensor system. The block diagram is divided in 4 phases:

+ Sensor phases: This phase contains the sensors (light and temperature) and their respective set point. The light sensor detects the ambient light intensity, while the temperature sensor detects the presence of a person.
+ Comparator phases: This phase represents the trip point detectors. The comparators determine whether the light and temperature reading exceed or fall below their relative set point.
+ Logic phases: This phase evaluates whether both conditions (light and temperature) meet the requirements. The logic gate will ensure the LED turns on when both conditions are sanctified.
+ LED phases: Once the logic gates confirm both conditions are met, the LED will turn on.