Room Occupancy Counter

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Abstract
The focus of our project is to provide a somewhat accurate way to determine the occupancy of a given room. We plan to accomplish this using lasers, photoresistors and an arduino. The lasers are hooked up to a power source and lined up with the photoresistors on either side of a doorway. There are 3 lasers and 3 corresponding photoresistors that the lasers are hitting. The arduino waits for a signal from the photoresistor that the light is broken. When the light is broken, the signal is sent to the arduino which then waits a certain amount of time for the other lasers to be broken. If nothing happens then the process restarts, but if the other lights break the arduino will know someone has crossed through and will either add or subtract from the counter depending on if someone is entering or exiting. It knows whether someone is entering or exiting based on the order the photoresistors go off. After a certain period of time, the number is sent through a wifi shield to a site and displayed for ease of access. The main use of our project is for facilities like gyms or libraries, especially those on college campuses, can keep track of their occupancy and display it on their site for the convenience of their patrons.