

Alarm Burglar System

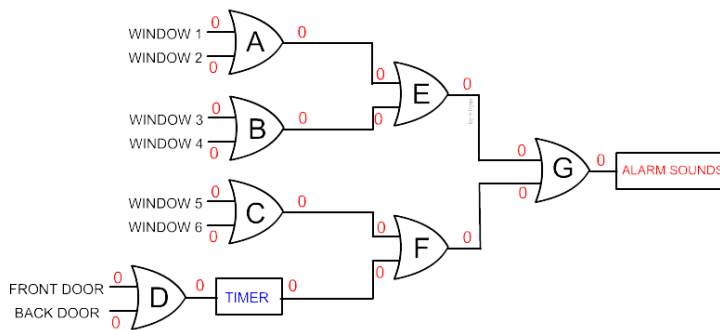
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Objectives

The purpose of this project is to make sure everyone lives in safety and free of robbery. The project is mean to use in our house where the logic gate act s a switch to trigger the alarm or buzzer in presence of a burglar. The alarm triggered will then notified the owner or the neighborhood of burglary.

Design process



Above is the logic circuit for a simple house alarm. The alarm protects the front and back doors and six windows. Once the alarm is set if any of the doors or windows are opened the alarm will sound. **OR** gates have been used. The **TIMER** allows the house owner to enter the house by either the front or back door and turn of the alarm system before the alarm sounds. The inputs for each of the gates representing the doors and windows can be connected to a vast range of sensors.

On the circuit below the input states of each of the sensors are '0' (**false, low, off**). This means that they have not detected an intruder. As a result, the alarm does not sound.

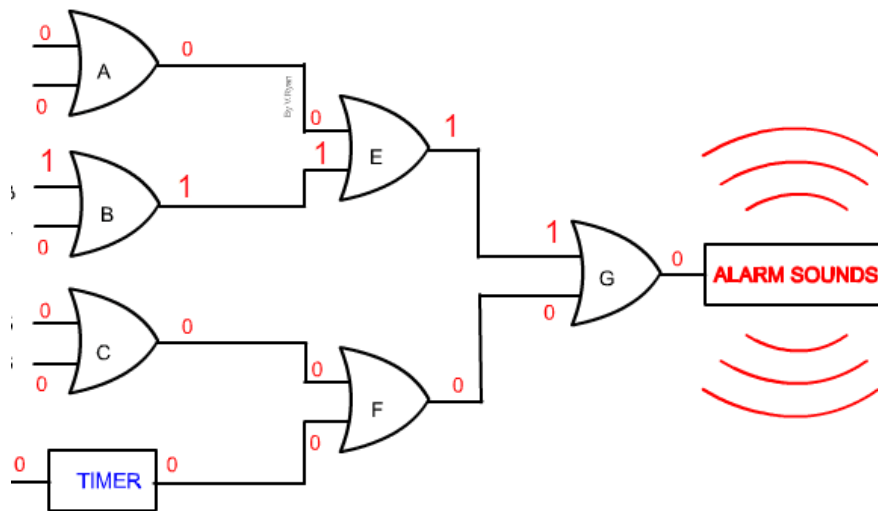
Detailed design

If one of the windows is smashed by the burglar for example window 3 (C) the alarm will trigger

Here is the logic equation expression shown the alarm triggered when window 3 were break.

$$((A' + B') + (C + D')) + ((E' + F') + (G' + H')) = X$$

Design Verification



Conclusion

The system can benefit other people. However, it still needs to improve for example the alarm maybe need to be place also at nearby police station to alert the police about burglar activity. Either way, this is just one of many examples we can use logic gate in our daily life.