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Project: Smart Shutters

Component: 1 led, 1 Servo-motor, 1 button (+ 1 on-board), 1 buzzer, 1 photoresistor and 1 proximity/light sensor

The purpose of this project is to realise a domotic application in order to control the shutters in a flat. There are three functionality mods:

1) Automatic
2) Manual
3) Alarm clock

Automatic mod allows, through a photoresistor, to open the shutters once detected a great amount of light (day) and to close them when the brightness is low (night). In this modality the led is turned on.

Manual mod provides to the user, on application, a slider that allows to set the shutters to the desired position. Phisically there are two buttons. The first one (external) is used to switch from automatic to manual and vice versa. The second one (on-board) is used to open and close the shutters gradually. Keeping it pressed the shutters will open, releasing it and keeping it pressed again the shutters will close. In this modality the led is turned off.

Alarm clock mod, finally, allows the user to set the opening time of the shutter through the app. Once reached the setted time the shutter will open and the buzzer will sound 10 times.

There are also some security function. In case of housebreaking during the night (or when the shutter is closed) a proximity sensor placed on the window will send a signal and the buzzer will start sound.

Attached there are the codes (Python, HTML, CSS e Javascript).