

M5Stack and PIR Motion Sensor-Based Home Assistant Panel

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The M5Stack and PIR motion sensor-based home assistant panel was created to address several key challenges in home security, comfort, and convenience. By integrating various functionalities into a single device, this project offers a comprehensive solution to enhance the overall home living experience.

The security alarm function of the panel allows users to easily enable or disable the alarm system. When the alarm is activated, the integrated PIR motion sensor actively scans the surroundings for any motion detection. Upon detecting motion, the panel triggers an immediate notification that is sent to the user's smartphone via IFTTT (If This Then That). This real-time alert ensures that users are promptly notified of any potential security breaches in their home. Simultaneously, the gathered data is securely transmitted to Google Cloud BigQuery via Cloud Functions, enabling users to access and analyze the collected information.

To provide an intuitive and accessible interface, a simple webpage has been developed using Google Functions. This webpage displays a comprehensive log of the data gathered by the PIR motion sensor. Users can easily monitor and review the recorded activity, further enhancing their ability to maintain a secure environment.

The thermostat functionality of the home assistant panel is designed to offer convenient control over the ambient temperature, specifically targeted towards air conditioning systems. This function is not completed yet, because I don't have AC to test on. The idea is that the thermostat, users can easily adjust and fine-tune the temperature settings, ensuring optimal comfort within their home. MQTT is used to connect with

Additionally, the panel incorporates a night light feature that can be easily toggled on or off as needed. This flexible lighting option ensures that users have a convenient and adjustable source of illumination, enhancing visibility during nighttime activities.

Overall, the M5Stack and PIR motion sensor-based home assistant panel provides a comprehensive and efficient solution for home security, thermostat control, and personalized lighting. Its integration with IFTTT, Google Cloud BigQuery, and user-friendly interfaces offers a seamless and customizable experience, empowering users to monitor their homes, optimize energy usage, and enhance overall convenience.

