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Home Automation Using Hand Gesture

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Abstract: *Home automation enhances comfort, safety, and energy efficiency in modern living spaces. This project presents a gesture-controlled home automation system using Arduino and Python, allowing users to operate appliances through simple hand gestures. The system uses sensors (like accelerometers or cameras) to detect gestures, which are processed using Python scripts and transmitted to an Arduino microcontroller. Based on the recognized gestures, the Arduino activates or deactivates electrical appliances via relay modules connected to switches.*

This touchless control mechanism is particularly beneficial for elderly or physically challenged individuals, as it reduces the need for physical interaction with switches. The system is easy to use, offering a simple interface that allows users to control various appliances like lights, fans, and more. The setup is also cost-effective and scalable, making it a practical solution for modern homes looking to integrate smart technologies without significant investment..

Keywords: Home Automation, Arduino, Python, Hand Gesture Control, Relays, Smart Switches.

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