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Fingerprint Base Circuit Breaker using ATMEGA328

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Abstract: *In the current scenario, the practice of requesting business personnel to switch off power lines for maintenance or repairs poses a serious risk as in miscommunication, and can result in loss of life.*
This project presents a new system designed to mitigate this risk by providing a safer tool for changing lines. The system uses a fingerprint sensor to verify inaccessibility, ensuring that only authorized personnel can use the line. When requesting a transmission through the fingerprint sensor, the system allows you if the fingerprint matches the stored record, so that the line can be turned on/off as needed The LCD display provides real-time access information—allowing or denying access. Additionally, a relay is used to connect or disconnect the load, indicating its status as on or off, depending on the operation of the system.
The microcontroller configures all system functions and can be programmed to respond to authorized requests. Overall, the objective of this proposed system is to reduce human error and enhance the safety of power line maintenance personnel.

Keywords: fingerprint sensor