Vehicle Anti-Theft System Using Fingerprint Recognition with SMS-Based Owner Authentication and Live Tracking

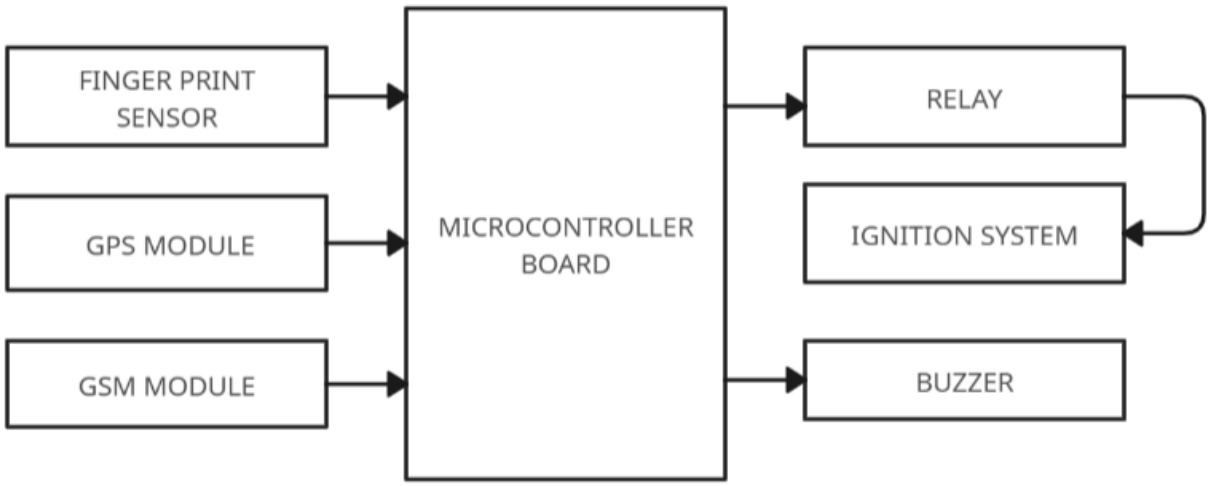
Abstract:

In the modern era of technology, where vehicle theft is increasingly common, there is a pressing need for more sophisticated security solutions. This project introduces an advanced vehicle anti-theft system that incorporates fingerprint recognition, SMS-based owner authentication, and GPS location tracking. The system utilizes a fingerprint scanner to authenticate the identity of anyone attempting to access the vehicle. If an unauthorized fingerprint is detected, the system sends an SMS alert along with the vehicle’s GPS location to the owner's registered mobile number, asking for permission to activate the ignition. The owner can then reply with an "accept" or "deny" message, accordingly enabling or disabling the ignition system. This method enhances security by not only using robust biometric authentication but also by integrating GPS tracking which offers the owner real-time location updates of their vehicle. This multi-layered approach ensures that the vehicle is safeguarded against unauthorized access while providing the owner with the ability to remotely monitor and control vehicle access. The system is designed around a microcontroller, equipped with a GSM module for communication, a GPS module for location tracking, and a relay module for controlling the ignition, making it a reliable, cost-effective, and user-friendly solution for vehicle security.

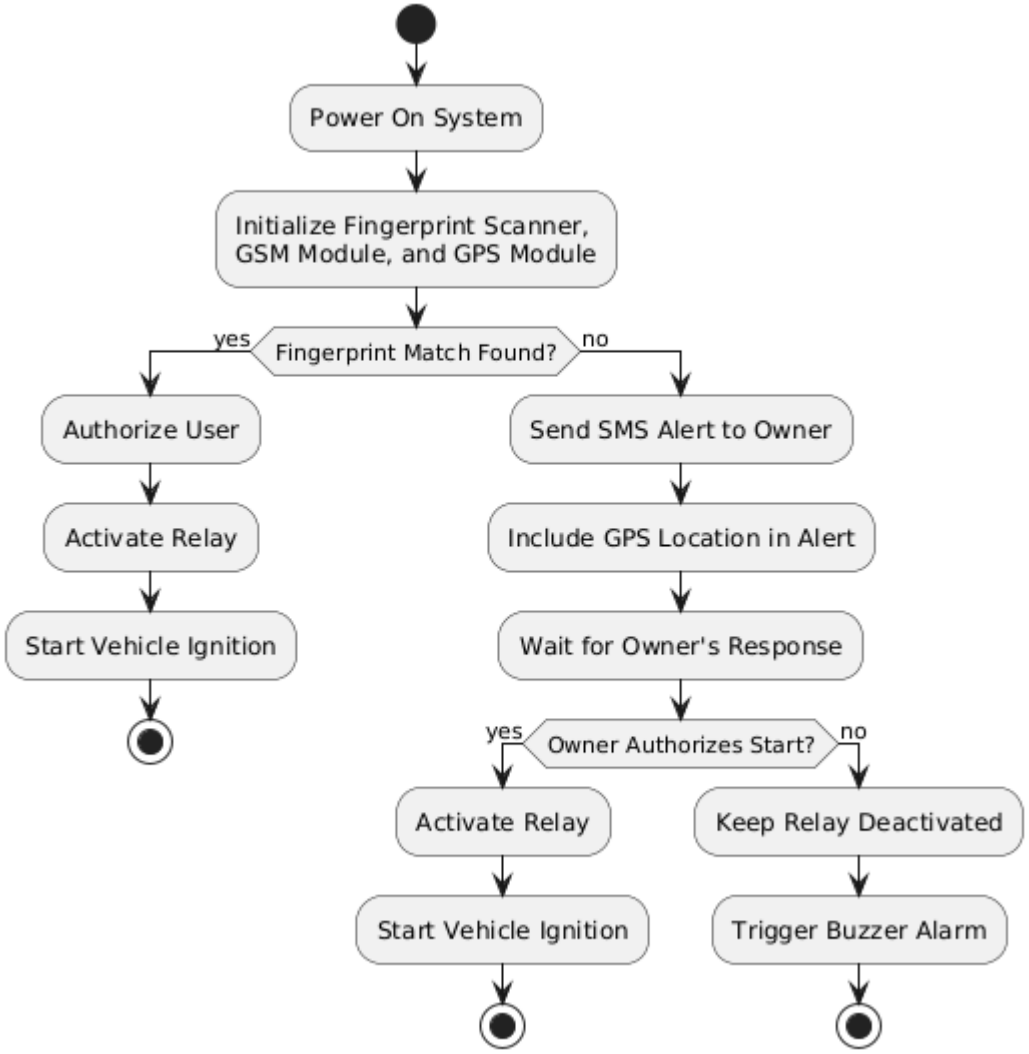
Keywords:

GSM, Fingerprint Scanner, GPS, Authentication, SMS, Vehicle Security

BLOCK DIAGRAM



FLOW CHART



Signature of guide

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