**ABSTRACT**

This paper proposes a multi-pattern fingerprint security system to enhance security measures. The proposed system integrates an Arduino Uno board, a fingerprint sensor, and a database to provide advanced security features. The system's design allows for multiple fingerprint patterns to be stored in the database, thereby increasing the system's flexibility and versatility.

The proposed system's architecture is based on a client-server model, with the Arduino Uno board acting as the client and the database acting as the server. The fingerprint sensor is used to capture the user's fingerprints and send the data to the Arduino Uno board for processing. The Arduino Uno board then sends the fingerprint data to the database for storage and authentication. The system also includes a graphical user interface (GUI) that allows users to register and manage their fingerprints.

The proposed system's main advantage is its ability to store multiple fingerprint patterns, allowing for more secure authentication. The system's design is also cost-effective and can be easily integrated into existing security systems.

In conclusion, the proposed multi-pattern fingerprint security system is an innovative solution that enhances security measures. The system's design, which includes an Arduino Uno board, a fingerprint sensor, and a database, provides advanced security features that can be easily managed through a graphical user interface. This system can be used in various applications that require advanced security measures, including banking, healthcare, and government institutions.

**Keywords:** Fingerprint, Arduino, SQL, Multi-pattern, Security system