**Biometric Based Smart ATM Using RFID**

**Aim:**

The aim of the project is RFID and finger print sensor based ATM system for high secured money transaction. This system is authentication based third person allow to access technology.

**Abstract:**

An Automated Teller Machine (ATM) is a computerized machine that provides customers of the banks the facility of accessing their accounts for dispensing cash and to carry out other financial and non-financial transactions without the need to visit the bank branch. ATM’s were first used in London in 1967, and after 50 years, these machines were introduced nationwide. In the present world, the usage of ATM to withdraw cash has increased. At the same time, theft and robbery cases have also been increased that calls for the need for much-secured ATM that provides additional features for security. In this proposed system is implemented the IOT for secure money transactions. It has two levels of authentication one is RFID and another one is fingerprint sensor. When the third person will try to access the account by ATM machine, the system needs user permission.

**Existing system:**

Int the existing system is just a prototype of an ATM system in which money transferring facilities can be added to be implemented at the ATM. In addition to sending the user the GPS location of the ATM, the amount of cash withdrawn, the image of the face of the user can also be sent. To increase the security against the theft and accidents at the ATM, more accurate sensors for fire detection and damage detection can be inserted.

**Proposed system:**

In the proposed system is finger print and RFID based ATM machine implemented by IOT. This system could be more secure by adding the concept of soft biometric for low cash, making biometric essential in both cases of low and high cash withdrawal. Third person also allow to access this system with user permission.

**Block diagram:**

Arduino mega

biometric

RFID reader

ESP8266

Power supply

cloud

camera

pc

RTC

**Block diagram description:**

Above the diagram contain Arduino UNO, ESP8266, RTC, biometric sensor, RFID and camera. Biometric sensor and RFID reader are connected to the UART port of Arduino UNO. ESP8266 is used to send user detail to the cloud. The biometric sensor gets finger print from users and give it to the controller. The controller will compare the users finger print with the database. If any third person access the ATM machine for money transaction, system will take images of the person and send to the corresponding user.

**Requirements:**

**Hardware Requirements:**

* **Arduino uno**
* **ESP8266**
* **RTC**
* **Biometric sensor**
* **RFID reader**
* **Camera**

**Software requirements:**

* **Compiler: Arduino IDE**
* **Language: c++, c**