**HIGHLY SECURED BANK LOCKER**

The aim of this project is to design a highly secured bank locker with card access security, using Arduino. To build the system, our required components are,

* Arduino UNO
* RFID module
* Servo motor
* Touch sensor
* Buzzer

**Introduction:**

A bank locker is used for storing valuable things like gold, jewellery and important documents. It can be hired by individuals, firms, trusts, companies etc. The priority of each locker differs on the basis of size design and its security. Here in this project, we are implementing a highly secured and reliable bank locker, based on Radio Frequency Identification (RFID). This project can be organized in bank, offices (treasury), schools and homes. In this present age, safety has become an essential issue for most of the people especially in the rural and urban areas. Some people will try to cheat or steal the property which may endanger the safety of money in the bank, house, and office. To overcome the security threat, a most of people will install bunch of locks or alarm system. There are many types of locks and alarm systems available in the market which utilizes different types of sensor. The sensor can detect different types of changes occur in the surrounding and the changes will be processed to be given out a alert according to the pre-set value. By the same time this system may not be good for all

the time. In this project, we have implemented safety of the properties in the bank locker, house, and office (treasury) by using RFID which will be more secure than other systems.

Radio-frequency identification (RFID) based access-control system allows only authorized persons to open the bank locker. Basically, an RFID system consists of an antenna or coil, a transceiver (with decoder) and a transponder (RF tag) electronically programmed with unique information. There are many different types of RFID systems in the market. These are categorized on the basis of their frequency ranges. Some of the most commonly used RFID kits are low-frequency (30-500 kHz), mid-frequency (900 kHz-1500MHz) and high frequency (2.4-2.5GHz). The passive tags are lighter and less expensive than the active tags

**Working:**

The working of the system is quite simple, a card with a UID is provided to the user (bank account owner) and he can open the bank locker by approximating his card to the RFID reader, that is mounted on the locker. The RFID reader is again projected by a shutter, which only opens when a person touches the touch sensor, that is hidden somewhere next to the bank locker. The only person who knows the location of the touch sensor is the bank account owner. After opening the shutter, user can approximate the reader with his card. If the card is genuine, the locker will open and if the card is not genuine, the locker will stay closed. If the user approximates the reader with wrong card for five times, the buzzer will ring the alert sound.