ATM SAFETY AND SECURITY ALERT

Prof.S.P.Chattar[1], Sushil Narsikar[2], Aniket Uphale[3], Sagar Bera[4], Sushil khade[5]

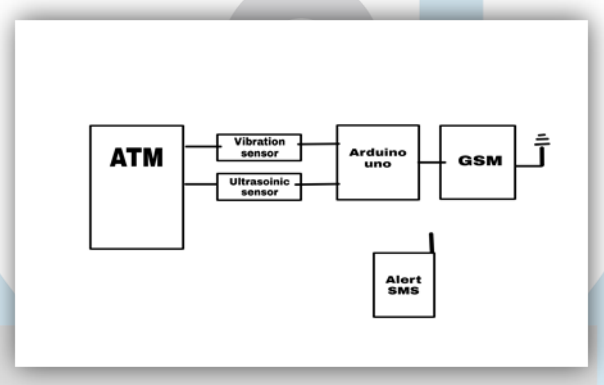
Department of Information Technology Engineering
Pimpri Chinchwad Polytechnic College, Pune

***Abstract*: The Idea of Designing and Implementation of ATM Safety and Security alert is helpful for prevention of ATM thief from robbery. When ever the person try to open the or lift the ATM machine the sensors will be activated and send signal to controller. After that the alert massage send to the register mobile no through the GSM module. This helpful for police to catch thief.**

***Keywords*: Arduino Uno Board, Sensors, GSM Module**

1. Introduction: Modern ATMs are implemented with high-security protection measures. According to recent statistics, the most popular attacks on ATM are performed with rather primitive means. Commonly burglars try to saw or break open the ATM, which in most cases takes a lot of time and attracts the police. In 8 out of 10 cases of such attacks, criminals are detected even before they are able to access cash. Thus system are helpful to avoid robbery. Whenever thief tries to damage or lifted ATM machine the sensors will be generated and immediately alert massage send to the police station. From that he get fast action to catch the thief.

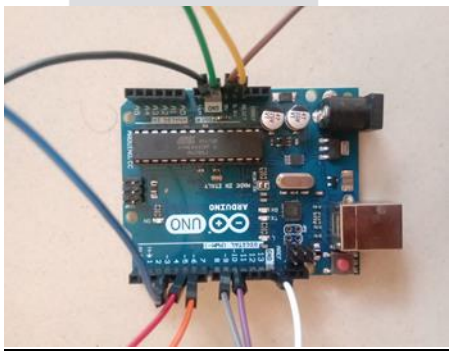
2. <u>Block Diagram and Working:</u>



In the proposed project, we are offering more security for ATM machines and also to identify the robbery quickly by implementing an embedded system. Whenever someone tries to make damage or want to lift the ATM machine from its place, automatically vibration, IR, Ultrasonic sensor attached to the ATM machine will be activated and sends a signal to controller. After that it send alert massage send to bank and police station through the GSM modem.

2. Hardware Resources:

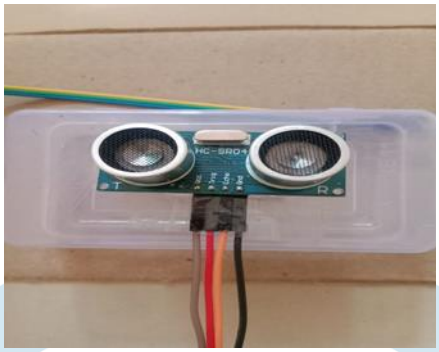
2.1<u>Arduino Microcontroller</u>:



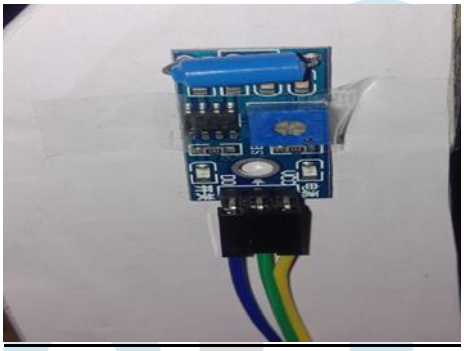
The Arduino Uno is a microcontroller board based on the ATmega328. It has 14 digital input/output pins (of which 6 can be used as PWM outputs), 6 analog inputs, a 16 MHz ceramic resonator, a USB connection, a power jack, an ICSP header, and a reset button. It contains everything needed to support the microcontroller; simply connect it to a computer with a USB cable or power it with a AC-to-DC adapter or battery to get started.

2.2 Sensors:

- **Ultrasonic sensor**: Ultrasonic sensors are devices that generate or sense ultrasound energy. They can be divided into three broad categories: transmitters, receivers and transceivers.



- **Vibration sensor :**

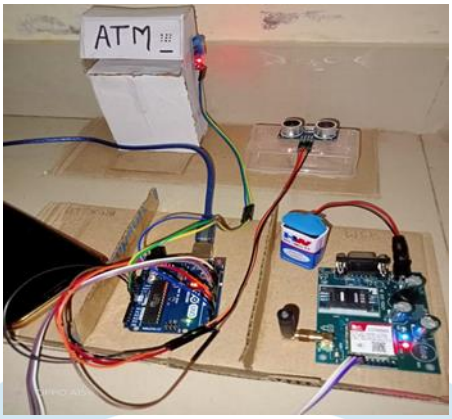


Vibration sensors can be useful for monitoring the condition of rotating machinery, where overheating or excessive vibration could indicate excessive loading, inadequate lubrication, or bearing wear. Such sensors are also utilized in geophysical and applications requiring accelerometers.

2.3 Using GSM Modem in the ATM System:

In the system we will be using a GSM Modem to send and receive SMS. When the robbery occurs, it will send the message to corresponding banks and near police station (PS) according to the controller response.

4 working:



This device is stop robbers and this device spread fear in robbers mind they try to bust but when they aware about this technology they afraid to robberie and no of robbers and most important thing is that when robbers physically try to bust atm machine. Automatically sirun indicate in Police station and bank.this sirun not indicate in atm machine if it indicates then robber aware and run from atm machine and we not able to catch robbers. so this device is different to catching robbers.

Vibration sensors attached to the ATM machine will trigger when the robber tries to cut the ATM machine using any of cutting tools such as hacksaw or any drilling machine. This generates a lot of vibration, more than the average activates in the ATM booth. And Ultrasoinic sensor also attached in ATM. When robber go near the ATM then sensor will be activated and led on.

GSM module is used to locate the robbers robbery place and it help police Easley catch robbers and robbers don't no that policies will track them so they are not aware about it and polices catch robbers.

6. Conclusion:

Based on the results obtained, the objective of implementing ATM Safety and Security & sensors has been achieved. This project is used to provide security to ATM. Whenever a person tries to distract the ATM, the sensor which senses the vibrations & send a signal to the controller. The controller will send a message to an authorized person through GSM modem.

7. Acknowledgement:

It gives us great pleasure in presenting the paper on "ATM Safety and Security Alert ". We would like to take this opportunity to thank our internal guide of Information Technology Department, Pimpri Chinchwad Polytechnic College for giving us all the help and guidance we needed. We are really grateful to them for their kind support. Their valuable suggestions were very helpful. We are also grateful to Prof. Vidya Byakod, Prof. Sonali Mortale, Prof. Shital Chattar project coordinators, Information Technology department for their indispensable support and suggestions.

References:

[1] T. Kaltschmid, "95 percent of ATMs run on Windows XP," heise online. [Online]. Available:http://www.heise.de/newsticker/meldung/95-Prozent-aller-Geldautomaten-laufen-mit-Windows-XP-2088583.html [retrieved: 08, 2015].

[2] C. Benecke and U. Ellermann, "Securing 'Classical IP over ATM Networks'," presented at the Proceedings of the 7th conference on usenix security symposium (SSYM '98), Berkeley, CA, USA, 1998, pp. 1–11.

[3] R. T. Guerette and R. V. Clarke, "Product Life Cycles and Crime: Automated Teller Machines and Rob-bery," Secur. J., vol. 16, no. 1, 2003, pp. 7–18.

[4] Diebold, "ATM Fraud and Security," Diebold, 2012. Online]. Available: http://www.diebold.com/Diebold%20Asset%20Library/dbd_atmfraudandsecurity_whitepaper.pdf[retrieved: 08, 2015].