

# **Distance Analysis of Atm and Cybersecurity in Financial Sector Using Embedded System Design**

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## **ABSTRACT:**

ATMs are commonly found in eateries, grocery stores, Odds and ends shops, shopping centers, schools, service stations, lodgings, work areas, banking focuses, air terminals, amusement foundations, transportation offices and a horde of different areas. This has added new abilities and highlights, notwithstanding, more often than not, the executions are exclusive and systems administration isn't generally conceivable. However there is an expanding interest for savvy banking, where apparatuses respond naturally to changing ecological conditions and can be handily controlled through one regular gadget. This paper presents a potential arrangement whereby the client controls gadgets by utilizing a focal Field Programmable Door Cluster (FPGA) regulator to which the gadgets and sensors are interfaced. Control is conveyed to the FPGA from a cell phone through its GSM interface.

## **1.INTRODUCTION**

ATMs are normally found in cafés, general stores, Odds and ends shops, shopping centers, schools, service stations, inns, work areas, banking focuses, air terminals, diversion foundations, transportation offices and a bunch of different areas. This has added new abilities and highlights, be that as it may, more often than not, the executions are exclusive and systems administration isn't generally conceivable. Yet there is an expanding interest for keen banking, where apparatuses respond consequently to changing ecological conditions and can be effortlessly controlled through one normal gadget. ATMs are ordinarily accessible to purchasers consistently to such an extent that shoppers can carryout their ATM monetary exchanges as well as banking capacities whenever of the day and on anytime.

## **2.REQUIREMENTS:**

### **Hardware requirements**

- Arduino UNO
- RF Module
- GSM module

### **Software requirements**

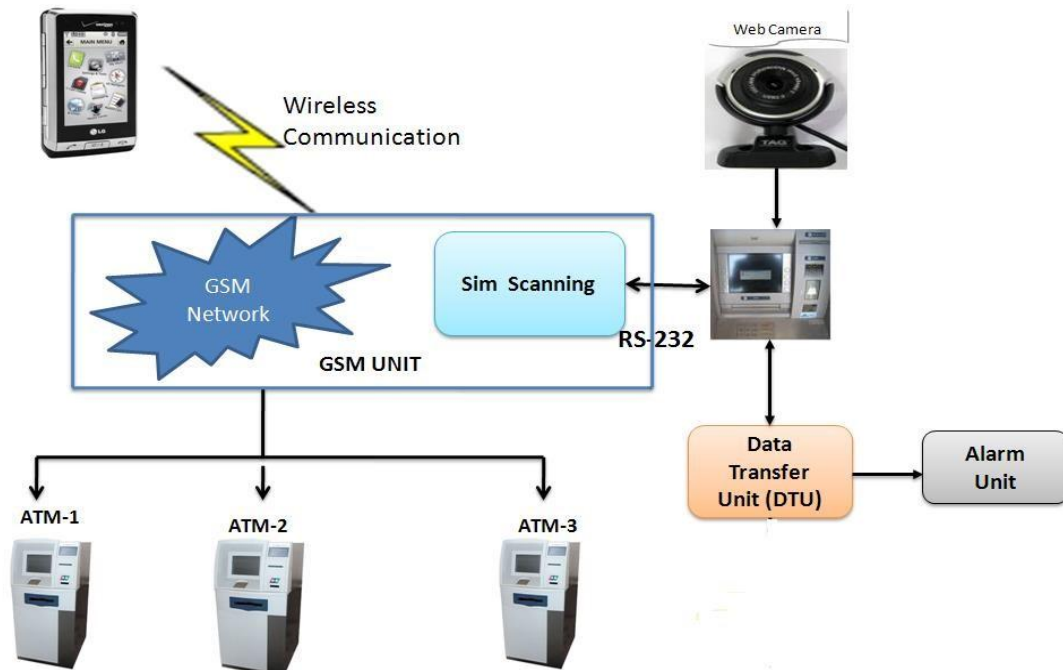
- Arduino IDE
- Cloud Storage

### **Language used**

- Embedded C

## **3.BLOCK DIAGRAM:**

This block diagram is considered to be an important factor and helps in the implementation of the project. The below figure shows the construction of the project.

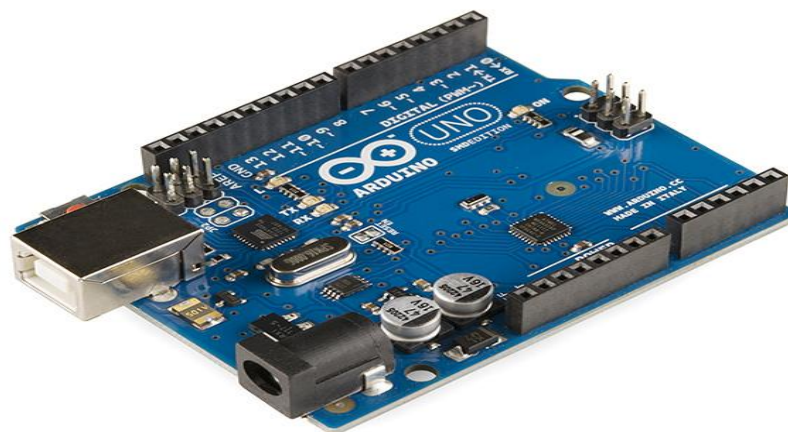


#### MOBILE SECTION:



#### 4.HARDWARE COMPONENTS:

##### A. Arduino UNO:

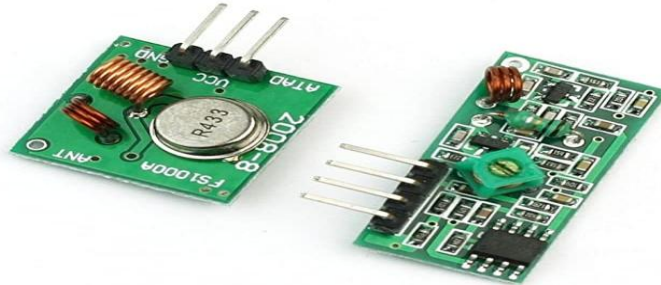


**Fig 3. Arduino UNO**

- a. The Arduino Uno is a micro controller. The board is equipped with the sets of input and output pins. This board can be programmed by using Embedded C. It

very well may fueled by USB. The Arduino configuration is appropriated imaginative. The same form for the Arduino is used to be the best and budget friendly board for the prototype pourposes.

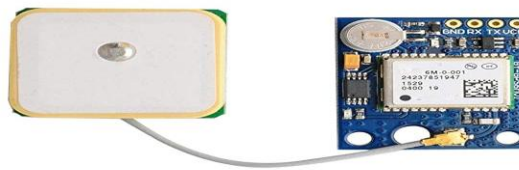
## B. RF Module:



**Fig.4 RF Module**

- a. An RF-Module is a chip and a low cost microcontroller chip. We used to get the radio signals/frequency by this RF chip. This chip is cost efficient and vey easy to get the values and working in this RF chip is easy.

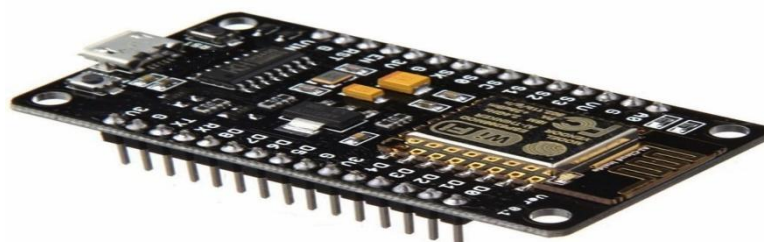
## C. GSM Module:



**Fig.5 GSM Module**

- a. The Global System for Mobile Communications (GSM) is a standard created to know the location of the device. Here in this project we use GSM to know the ATM location and the GSM will take atleast 20minutes to start since we need to be in a open space.

## D. ESP8266 :



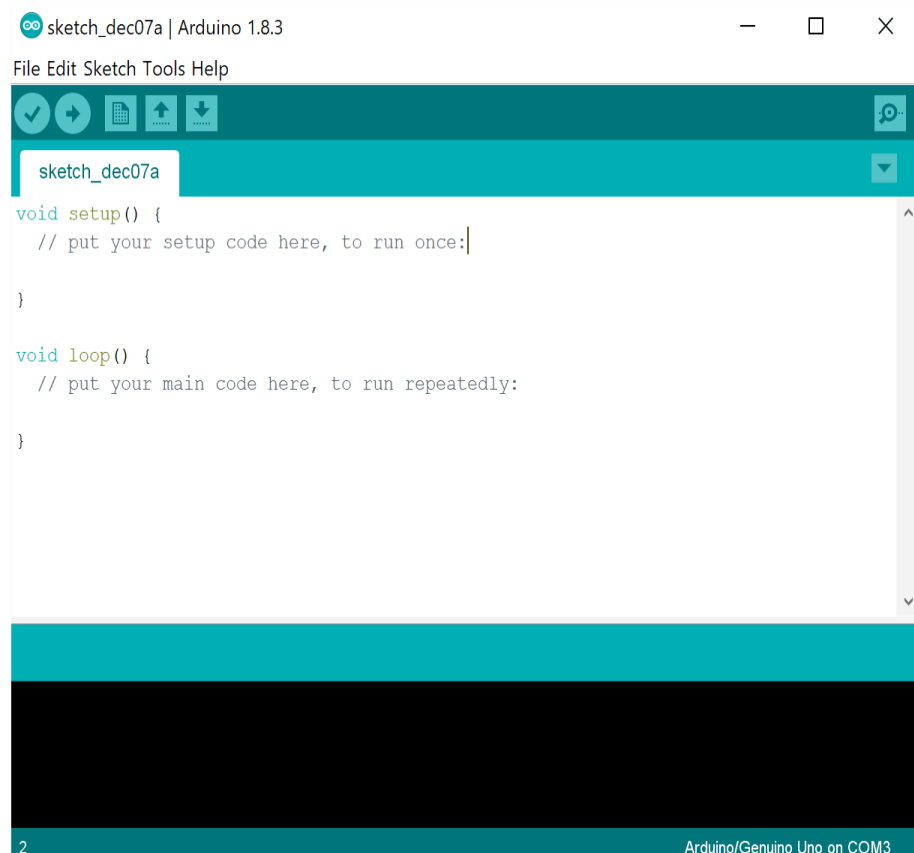
**Fig.6 ESP8266**

The ESP8266 is an ease Wi-Fi central processing unit , with a full TCP/IP stack and microcontroller ability. This little module permits microcontrollers to associate with a Wi-Fi organization and simplify TCP/IP associations utilizing Hayes-style orders. In any case, from the outset there was practically no English-language documentation on the chip and the orders it accepted. The ESP8285 is an ESP8266 with 1 MiB of implicit blaze, permitting the structure of single-chip gadgets equipped for interfacing with Wi-Fi. These microcontroller chips have been prevailing by the ESP32 group of gadgets, including the pin-viable ESP32-C3.

## 5.SOFTWARE COMPONENTS:

### A.Arduino IDE:

Arduino is a model stage and open-source considering an easy to-use stuff and programming. Arduino gives a standard development factor that breaks the parts of the little regulator into a more open pack. Arduino gives a standard improvement factor that breaks the pieces of the little controller into a more open pack.



**Figure 7 : Arduino IDE interface**

## 6.RESULTS:

We had made the initial review of the existing system and tried to find out the limitation of the existing system of functioning of ATM's. Our objective of the work is find out all the operational and non-operational ATM's for better customer satisfaction .We are proposing this model with different markers on Google Map and we will be able to provide time and resource optimized system for better customer satisfaction.

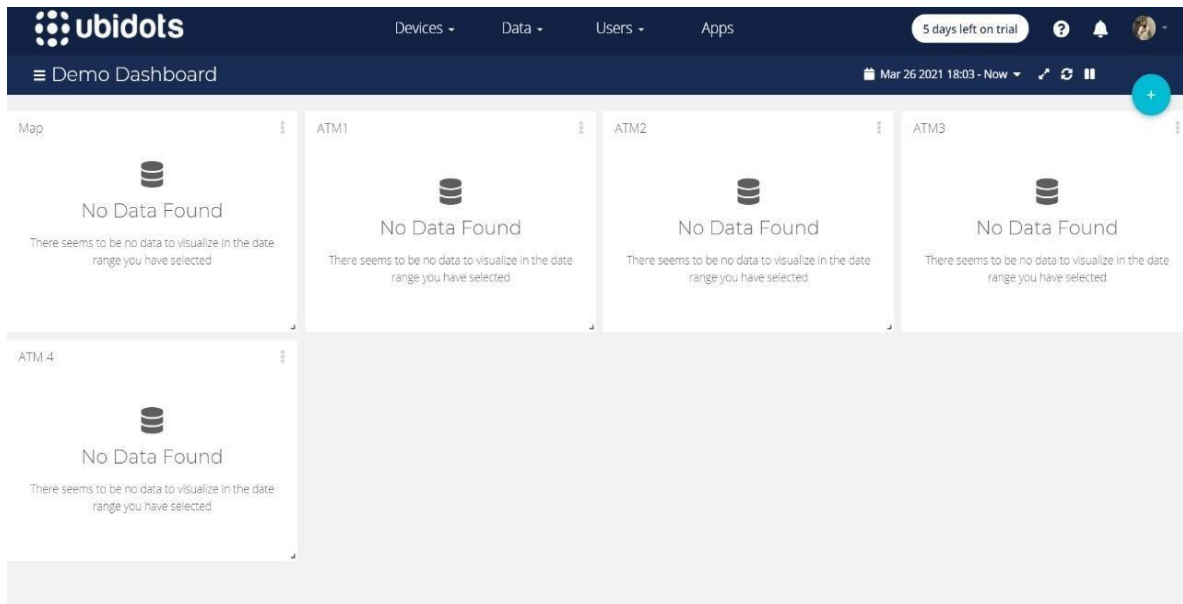


Figure 8 :Ubidots Home page - Before Interfacing of ATMs

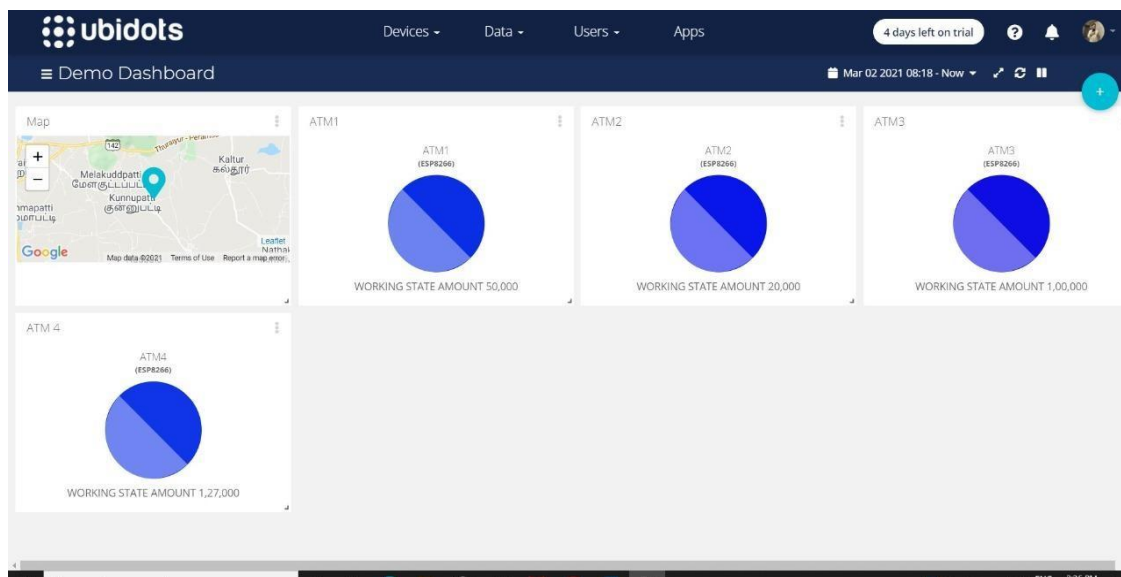


Figure 9 :Ubidots Home page - After Interfacing of ATMs

## 7.CONCLUSION

From the above project we can able to locate the distance and find the working condition of the ATM's. This could address the problems by the common people. It could potentially solve unwanted delays and saves time. It is very helpful in emergency situations. We could overcome the difficulties of the time delay and we don't need to seek someone for help in that locality. This project also gives the working conditions of the ATM's.

## FUTURE SCOPE:

The scope of this study is to design and implement of a web base ATM of point locator using GPS.

- The proposed system is developed on hybrid application platform for mobile application.

- The Future of the system is to show user the ATM centre closer to him or her and the status of that ATM.
- The numbers of ATM centers covered in this project are 4 in numbers.

#### **REFERENCE:**

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