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An Ubiquitous Framework for Electronic Dd with Near Field Communication Standard

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Abstract: *Intelligent automation now permeates almost every aspect of living in the modern world. Intelligent automation for the issue of demand draughts, which has historically been a labor-intensive operation, is one example of such an application. Demand draughts (DDs) are only occasionally available during bank business hours, making it difficult to get one manually. We suggest an automated solution that fixes the drawbacks of the present manual setup to get around these restrictions. This cutting-edge device, which is put in bank branches, is similar to an ATM. The Near Field connectivity (NFC) technology, RFID scanners, and GSM connectivity are all included in our creative solution and are all managed by an Arduino Uno microcontroller. An RFID tag or NFC card Credit or Acts as a debit card in this arrangement. The RFID reader identifies the information on the card when a user swipes it at the terminal and sends it to the microcontroller. To create an electronic demand draught, the microcontroller processes this data, and encryption techniques are used to assure safe transactions. The specified amount is then sent immediately to the appropriate accounts, and both parties involved receive credit/debit information via SMS, further encouraging an easy and quick process.*

Keywords: *Intelligent automation, Demand draft (DD), RFID reader, GSM communication, Arduino Uno, Near Field Communication (NFC), Credit/debit card, Encryption, Secure transactions, Electronic DD, Transparent process, User-friendly, Automation technology, Bank branches, Wireless technology, Convenience, Innovative solution, Traditional methods, Efficient process, Automation standard*.

1. INTRODUCTION

With a particular focus on Demand Draughts (DD), the suggested system intends to bring new features that act as a cutting-edge replacement for conventional procedures. DDs, also known as sight draughts, are commonly used for money transfers and are payable upon presentation to the bank. Customers must queue up and wait an extended period in advance for the customary process, which can take time. A DD issued by a bank does not need the customer's signature, unlike conventional checks. Automated teller machines (ATMs), which enable the convenience of cash withdrawal and other banking activities without direct interaction with bank staff, have revolutionized financial transactions in the modern period. Although alternative payment methods like RTGS, NEFT, and IMPS have caused cheques and demand draughts to gradually lose favour, they are still used in applications for jobs, exams, admissions, expensive purchases, and administrative services. The original idea behind this proposal is the direct generation of electronic DDs at ATMs. By using Near Field Communication (NFC) technology is one as a standard, it is approach not only eliminates the need for customers to endure protracted wait times at banks but also keeps up with the evolving payment preferences and technological landscape, providing a more effective and available solution to a customarily time-consuming process. Objectives Enhancing the current system to enable the issuance of Demand Drafts (DDs) through an ATM machine, providing customers the convenience of accessing DDs via the ATM. Modernizing the conventional DD generation process by incorporating ATM technology. Employing encryption techniques to ensure secure transactions during the DD creation process. The primary goal of the suggested method is to improve the efficiency and accessibility of banking services anytime and anywhere. Utilizing digital proxy signatures for the authentication of Demand Drafts.

2. EXISTING SYSTEM

Model Platform for Early Demand Draft: We encounter the following issues with the current system: the consumer must visit the bank during business hours to complete the DD form and wait for authorization. It is almost hard to secure DD without manpower. It is only available during bank business hours; it is not available on weekends or holidays. Many banks offer electronic demand draughts, however the customer must wait for the product to be carried by courier through this process. The individual placing the order is referred to as the one who draws drawer, and the recipient of the order is referred to as the recipient of the order. The creator as the one who draughts the document, and the orderly is the one who Here, an algorithm is used. A system called Secure Virtual Transaction, or SET, guarantees the security and consistency of credit card-based online transactions. SET is a security mechanism that is applied towards payments, not an arrangement that facilitates payment. It secures credit card payments made online using various hashing and cryptography algorithms. Major corporations such as Visa, Mastercard, Microsoft Azure, and Netscape, who developed Secure Transaction Technology (STT) and Secure Socket Layer (SSL) technology, funded the establishment of the SET protocols.

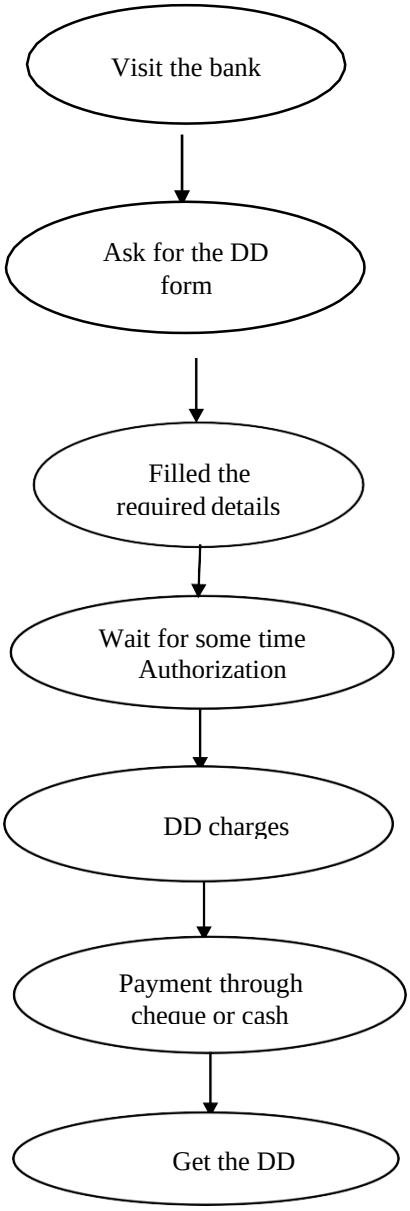

FIGURE 1. existing system

Steps to make demand draft: *Fill the form:* Visit any bank and ask for DD application form or fill the form online *Form details:* You must fill in the following details: the amount, the location where the DD will be placed, the reference number of the check, your bank account information, your signature and the method of payment—cash or from your banking account using a cheque written out to the beneficiaries. *DD charges:* After you provide the questionnaire, the amount of cash, with the demand draught fees, the bank will issue the want draught. Bank

to bank variations exist in the fees. *Pan card details:* When paying with a cheque and the sum being paid exceeds fifty thousand rupees, the pan card data must be given. Disadvantages of the existing system: The manual process for generating Demand Drafts is time-consuming. It lacks reliability. There is a security concern, as anyone with access to the DD can withdraw the funds. Additionally, DDs can only be obtained during regular banking hours.

3. PROPOSED SYSTEM

We created a fresh concept for the suggested system in order to address the shortcomings of the current one. The client becomes approachable. Customers can use an ATM to take DD at any time or location. Within a few minutes, the customer can pick up the DD at a location. Customers can obtain DD instantly on bank holidays and at night. This service is superior to DD online. Rather than filling out a form, they must input the necessary information into the PC in a matter of seconds. After that, another copy is generated, and the quantity that was input is added to the softcopy. After that, they must provide a printout and verify once. As a result, the demand draught will be generated quickly rather than taking hours to complete. The customer switches his ATM card to log in to the system first. After that, the system asks for a PIN, which the customer inputs correctly. After the system displays a number of possibilities, the user chooses DD. When the end user enters all the relevant information, the system asks for verification and provides details based on the information provided by the customer. After the user confirms all the information, the transaction slip and DD printing begins, and the exit slot is used to dispense the completed paperwork. The user has a DD transaction slip currently.

Advantage of the Proposed System: Time saving. Customer need not to wait for bank formalities. DD misuse is to be high security and high efficiency

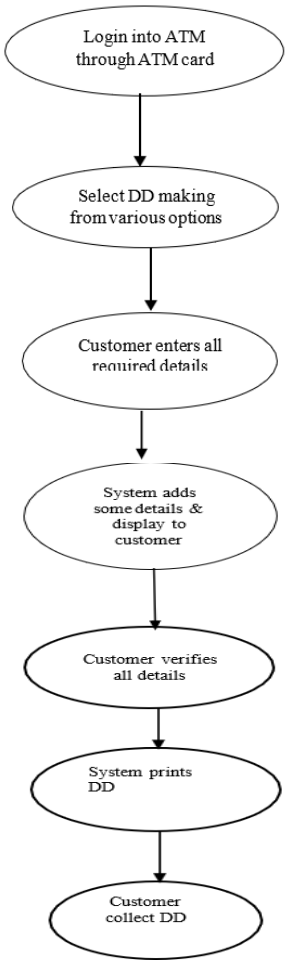

FIGURE 2. Proposed system

By using this Algorithm steps customer can generate DD inan ATM machine at any time/anywhere banking

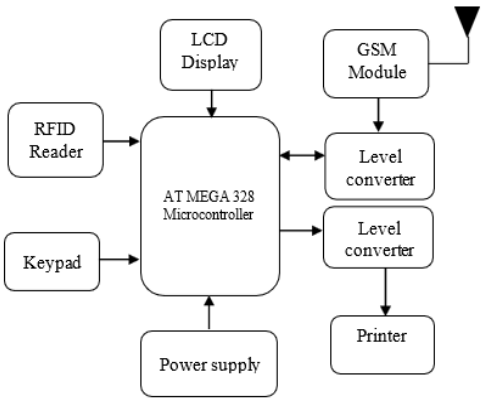

FIGURE 4. Block Diagram of ATM Section

We use NFC cards as ATM cards to demonstrate our concept, and when a user presents an NFC card, their the magnetic strip is scanned to determine the card's unique value. The Arduino Uno programming program's database is used to validate the card information. After the data from the card has been approved, our system prompts the user to utilise a keypad in order to input a four-digit pin. When the pin and card input match, our device is set up to ask the user to choose between two possibilities. press '1' to check balance press '2' toDD generation press '3' to DD update If user select option-1: His/her account balance will be shown on the display If user select option-2: Our system requests that you enter your amount and the number of the account (mobile number) first. It requests a four-digit pin if the amount is available in our account. The funds will be transferred straight to the customer account after the pin has been approved. Both the client and the card user sent us an SMS and printout of their acknowledgment. If user select option-3: if the client receives OPT and DD. He put his card into the ATM, but before he could get the DD, he had to input his personal password and the OTP.

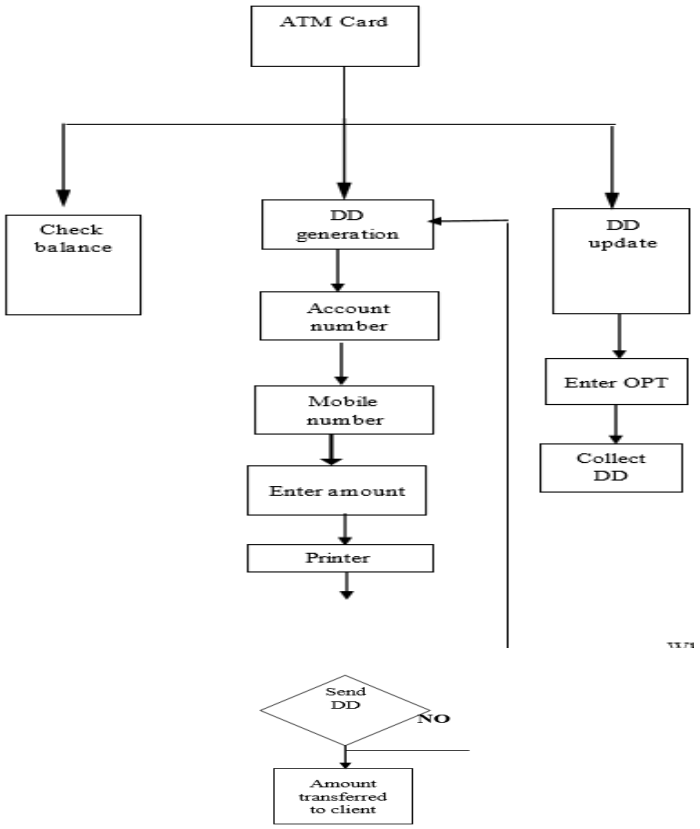

FIGURE 5. Flowchart for working

RFID READER: RFID tags use radio waves to transmit data about something to the antenna/reader combination. The energy activates the chip, which sends a signal back towards the antenna reader after modulating energy with the required data. Through the use of an antenna, the reader in an operational RFID system communicates with the tag. After receiving this data, the tag sends it again along with the data stored in its memory. After receiving the signal, the card reader sends it to the processors so that it can be processed further. GSM MODULE: A GSM or GPRS modular is a chip module is intended to facilitate exchange of information between a GSM as well GPRS system and a cell phone or computer. Here, the modem—which consists of a processor as well as demodulator—is essential. ENCRYPTION: One component of cryptographic is encryption, which is the technique of encoding a message by an algorithm. Two applications for it are, For data at rest: utilised to lessen the need for bodily storage and transportation for media and information and communication technology (ICT) devices. • For information while in transit: Applied to safeguard confidential or sensitive information transmitted across the open network connections. NFC CARD: Two electronic gadgets can connect with one another thanks to near field communication, also referred to as or NFC. Numerous applications, including branding, advertising, controlling entry, and reservation, are possible with NFC cards. KEYPAD: When entering the input details, utilise the touchscreen. Our keypad is 4*1. The buttons comprise scroll, display, up, and down

Atmega 328 Controller*:* Because it is a single chip the microcontroller low energy consumption and excellent performance are required. It has an 8-bit RISC CPU with modified Harvard architecture. The "Pico influence" ATMEGA328p is a substitute for the AT MEGA 328.

Power Supply: An electrical inverter is an ineffective gadget that transfers power between one or more circuits. A rectifier is a piece of electricity that transforms AC to DC by means of one or more diodes that only permit current to flow in a single direction. A filter is an apparatus that eliminates certain undesired elements. Three terminal devices known as IC regulators deliver a steady voltage to the DC output regardless of the input voltage. One element that uses electricity is the load.

Printer: In order to prepare irreversible printouts on paper, printers are employed as output devices. It is simple to provide the paper in an anonymous manner.

Aes Encryption: Symmetric data encryption is used by the advanced authentication standard, or AES. With a block spanning 128 bits, it was meant to be

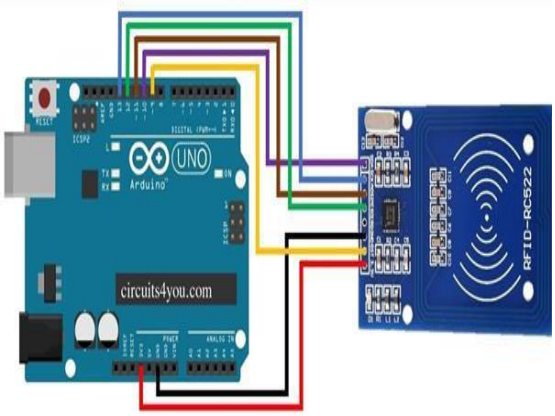

FIGURE 6. interface between RFID Reader and Arduino

Standard, or AES. With a block spanning 128 bits, it was meant to be inexpensive in both hardware and software.

The connection of the RFID Reader is given to the Arduino as follows:

- 3.3v is given to the 3.3v pin of Arduino
- RST is given to the digital pin 9
- GND is given to the ground pin of the Arduino
- IRQ is not connected
- MISO is connected to digital pin 12
- MOSI is connected to digital pin 11
- SCK is connected to digital pin 13
- SDA is connected to digital pin 10

This connection is done through the SPI A synchronised serial data interaction specification, the serial auxiliary interface is mostly utilised in embedded systems for short-range communication.

4. WORKING

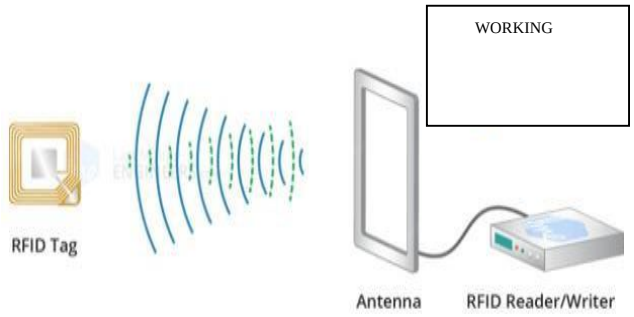

FIGURE 7. Device

While the tag is typically a passive device without a battery, the reader is made up comprising a transmitter and a radio frequency channel that generate a high frequency electrical field. In addition, the tag features an antenna for receiving and sending signals, in addition to a tiny computer for processing and storing data. The. tag is positioned near the reader so that what is encoded on it can be read; it is not necessary for it to be in out of sight. Electrons go via the tag antenna that power the chips as a result of the radiation produced by the reader.

Smarter way of banking:

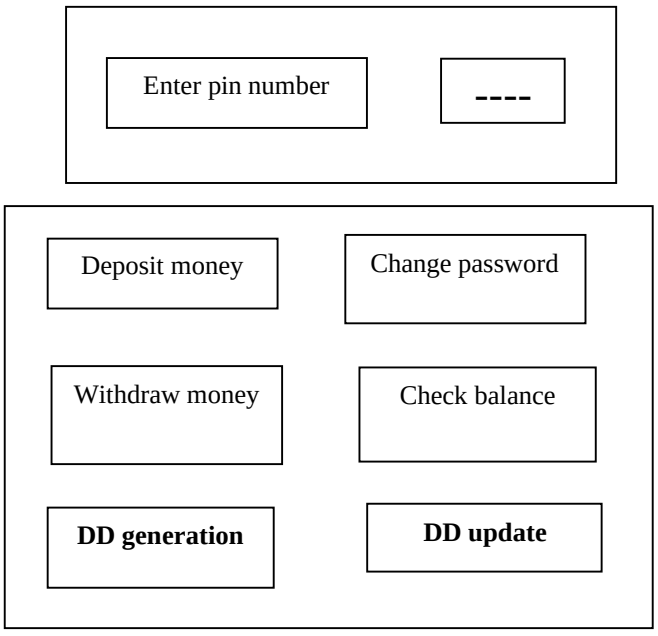

FIGURE 8. Smarter way of banking

Our system prompts you to enter your bank account and amount after you select the DD. If the balance is accessible, four-digit pins are requested. The money will be directly deposited to the consideration in the form of DD after it has been approved. Then, we received an SMS and printout acknowledging both of us. If drawer just knows the password code, they will be able to get the money. The drawee will use encryption to deliver the code acknowledgement along with the message. Once we choose to send the DD, the application is now open. Then, we must complete the detail.

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Near Field Communication (Nfc) Standard: The Near Field Communication (NFC) standard's incorporation into this project creates a broadly applicable framework for electronic demand draughts (DD). Users are able to quickly and wirelessly connect with the system using their cellphones or cards thanks to NFC, which assures secure and convenient transactions. This standard substantially improves the use and effectiveness of electronic DDs while also bringing the project into line with current technological developments.

5. CONCLUSION

Nowadays, a fast forest fire warning systems is being developed and the purchase of necessary equipment is on hold. Despite this, the actual implementation process has been well planned and thought out. Our strategy has been supported by in-depth research and simulated studies, reiterating our confidence in the direction taken in accomplishing our goals. We are certain that we have chosen an innovative and successful strategy for identifying forest fires. When this system is operational, we anticipate that it will complement the current fire detection platforms and We are keeping up with current technological developments by integrating the Near Field Communication (NFC) standard, which also improves the use and effectiveness of our system. With a more timely and reliable approach to reduce the devastation caused by forest fires, this discovery has the potential to revolutionize early forest fire detection.

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