INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN COMPUTER & COMMUNICATION ENGINEERING

INTERNATIONAL STANDARD SERIAL NUMBER INDIA

Impact Factor: 8.379

Survey on An Authenticated System for E – Slip Automation

Balaraj Kanvi[1], Sagarika Omkarmurthy[1], B. Suraj[1], Srinidhi Kulkarni[2]

UG Student, Dept. of CSE, Jain College of Engineering and Research, Belagavi, Karnataka, India[1]

Assistant Professor, Dept. of CSE, Jain College of Engineering and Research, Belagavi, Karnataka, India [2]

ABSTRACT:Banks are the financial unit that is responsible for the transactions and provide a wide array of services for the users. People who approach banks from rural areas, however, do not utilize all the services that are provided to them. People who cannot read and write, when they approach banks take the help of others to fill the Demand Drafts (DD), Deposit Slips required to withdraw and deposit amounts from their accounts at the respective banks. In our project, we can make this process much smoother and faster for them using Fingerprint security and biometrics along with voice-activated commands. There are Money Deposit machines and Automated Teller Machines (ATM) that are used to deposit and withdraw money respectively. However, to withdraw a large amount, a person needs to approach a bank to perform the transaction. The E – Slip Automation system identifies a person through secure biometrics, takes the amount value through voice sends it to the next processing stage of the transaction. This simplifies the experience of filling out the forms as well as saves the paperwork required for it. The purpose of E – Slip Automation System is to automate the process of manual filling of the form with the help of biometric authentication and voice commands. The system's hardware and software facilitate smooth working with it.

KEYWORDS: Bank,Automatic Teller Machines (ATM), Transaction, Automation,Finance.

I. INTRODUCTION

Technology in Indian banking has evolved substantially from office automation to today's online, centralized, and integrated solutions. Electronic banking is the delivery of bank information and services by banks to customers via different delivery platforms that can be used with different terminal devices such as a personal computer and a mobile phone with browser or desktop software, telephone, or digital television. Indian banking is at the threshold of a paradigm shift, and significant development has been achieved by banks in offering a variety of new and innovative e-banking services to customers today, which was not thought of before [8]. The banking sector keeps going through continuous digital evolution as the paradigms in the finance sector are shifting. There is a transfer from in-person banking to online e-banking, and this trend continues toward mobile banking [1].

Banks and financial institutions all over the world have adopted and continue to adopt Automated Teller Machine (ATM) systems into their transactions to extend banking hours and provide convenience for their customers. ATM systems are networked computerized systems, and as the case is in these systems, their security must be given the highest priority. Among the many strategies for ensuring secured networked systems, authentication is very important. Authentication is the process of verifying the identity of a user or a process that attempts to access information resources from a system. Good authentication methods and schemes are one of the best standard ways of implementing security on computerized systems. The importance of selecting an environment-appropriate authentication method is perhaps the most crucial decision in designing secure systems. Authentication protocols are capable of simply authenticating the connecting party or authenticating the connecting party as well as authenticating itself to the connecting party. The verification process is usually based on authentication factors like facts, characteristics, behaviours, or knowledge known only to both the claimant and the verifier [4].

Online money transactions can be done through ATMs. The authorized person goes to nearby ATMs to transact money easily. In ancient days, people withdraw or deposited money into their accounts only through the respective banks. Nowadays due to the development of technology we are using ATMs to transfer money into account. It is very easier for people to withdraw or deposit money from anywhere, anytime via ATM cards and PINs. But this process is not more secure because any candidate can transfer money if their ATM card and PIN have been known [6].

Banks are an integral part of finance sectors and correspond to the growth of a country in the economy. Banks provide a wide array of services to users. A user can approach a bank to create an account, obtain account statements, to deposit or withdraw an amount. Other services provided to users include opening different accounts, fixed deposits, tax payments, and insurance. E-Banking provides users with the services given through banks right on their devices. Deposit machines provide users to deposit money and ATM is used to withdraw money. To perform a transaction involving a large amount, an account holder needs to approach banks. To overcome this, we have through multiple-research works about the existing manual systems and the ATM system.

Next section we present the background work which provides the intention of the research.

II. BACKGROUND

This section provides the background for the research work. The people who can only read and cannot write, often take the help of others to fill out the forms required to deposit or withdraw amounts in the banks. The people approaching from rural areas also need help while filling out the forms. They can use deposit machines or ATMs to perform transactions. The amount to withdraw from an ATM has a restriction as a daily check for the users. For an amount more than a daily check, a person must visit the branch of their respective bank to perform the transaction.

The existing system has withdrawal restrictions, others have security concerns, and manual forms cover a certain group of people.

Further, we are going to study related work of an existing system. It gives a brief idea of the existing system technology and its disadvantages.

III. STUDIES ON RELATED WORK

The summary on comparison of related work is presented in Table 1.

Table 1: Comparison of related work

Sl. No.	Authors	Main Idea	Advantages	Limitations
1.	A. Badnore, C. Umarani [3]	ATM system with One Time Password (OTP) Authentication for amount withdrawal.	Provides security with OTP sent to registered users.	Device can be out of network coverage or low battery.
2.	G. Gupta, M. Tiwari et al. [5]	ATM system with face recognition.	Remote enrolment and encoding schemes are used for the recognized image.	Comparatively less secure than other biometrics.
3.	S. N. Sisat, V. K. Barbudhe, P. S. Bhopale [7]	Security for Cash Deposit Machine	Detection of proper currency	Less accuracy

IV. THE PROBLEMS

Based on the study, the following problems are found in existing systems:
- Security concerns in using ATM system.
- OTP Authentication methods require devices to be present with users while performing the transactions.
- There are daily amount withdrawal restrictions for users.

V. RELATED WORK AND RESEARCH GAPS

The system needs to have given features
- Security – Enhanced security features need to be provided than existing systems.
- Withdrawal – The system should provide withdrawal restrictions lesser than existing systems confining to bank.

The summary of existing works is presented in Table 2.

Table 2: Summary of related work

Sl. No.	Authors	Main Idea	Advantages	Limitations
1.	M. Doultani, R. Khole et al. [2]	ATM System with Fingerprint and Iris Recognition.	Encryption of the acquired image.	Iris Recognition is comparatively less secure than other biometrics.
2.	N. A. K. Abiew, M. D. Jnr., S. O. Banning [4]	ATM System designed with Knowledge-based (KBA), Token-based (TBA), and Biometrics-based (BBA) Authentication.	Secure Authentication using keystroke dynamics.	Less usage for primary authentication.
3.	K. Sudharsan, V. D. A. Kumar et al. [6]	ATM System and Voting System with OTP generation and face recognition.	OTP generated and sent to the user account and security with face recognition.	The device can have low battery.

Research Gaps

In the survey made on the existing system, the work can be made better and usage can be increased by bringing all the functionalities into a single system. The research on the ATM system provides us with an overview of the authentication and security features that are required to be enhanced. People visit ATM systems to withdraw amounts and to use other services provided by the bank. However, to deposit or withdraw an amount more than the daily restriction, a person must visit the branch of the bank in which the user is holding the account. The proposed system provides authentication through secure biometrics. The Scale Invariant Feature Transform (SIFT) method is used to extract and describe features of the image. Fast Library for Approximate Nearest Neighbours (FLANN) method is used to match the extracted features. The Speech Recognition module can be used to take the input through voice to perform the transaction. The user can then deposit or withdraw the amount by automating the filling of the slip. The proposed system performs the transaction securely as it uses biometric recognition. The existing system uses slips or forms that are used for deposit or withdrawal of amounts. We can make the system automate the process of manually filling out the form. These were novel ideas of the existing system. However, the proposed system requires external hardware required for biometric recognition and it can be used within a branch of the bank.

VI. CONCLUSION

By the review of all the Research papers, there is a need for a system to perform the task of filling out the form automatically. The people approaching banks from rural areas take the help of others while filling out the forms

required to deposit and withdraw amounts with their respective banks. People can use money deposit machines and ATMs for deposit and withdrawal of money respectively. To deposit or withdraw a large amount, a person needs to visit the bank and perform the transaction. The E – Slip Automation system can be used by people who take the help of others for filling out the forms required to deposit or withdraw amounts respectively. The user is recognized through their biometrics. The details of the type of form, to deposit or withdraw, amount can be taken through voice. Then the system provides the view of the form for the user which can be sent to the further process of the transaction. The system is used to fill the forms automatically based on the obtained details of the user. The system authenticates the user with their account through biometrics. Voice commands help them to assist in further processing of the transaction. The system performs the transaction securely and smoothly.

REFERENCES

[1] K. Malinka, O. Hujnak et al., "E-Banking Security Study-10 Years Later", IEEE Access, vol. 10, pp. 16681-16699, Feb. 2022.

[2] M. Doultani, R. Khole et al., "Encrypted Biometric Authenticated ATM System – An Overview", New Frontiers in Communication and Intelligent Systems, pp. 605-614, 2021.

[3] A. Badnore, C. Umarani, "ATM System with OTP Authentication", IITM Journal of Management and IT, vol. 12, no. 1, pp. 1-3, June 2021.

[4] N. A. K. Abiew, M. D. Jnr., S. O. Banning, "Design and Implementation of Cost Effective Multi-Factor Authentication Framework for ATM Systems", Asian Journal of Research in Computer Science, vol. 5, no. 3, pp. 7-20, 2020.

[5] G. Gupta, M. Tiwari et al., "IoT based secure bio-metric authentication system for cardless ATM", Research Journal of Engineering Technology and Management, vol. 2, no. 1, pp-38-42, March 2019.

[6] K. Sudharsan, V. D. A. Kumar et al., "Two Three Step Authentication in ATM Machine to Transfer Money and for Voting Application", International Conference on Recent Trends in Advanced Computing, vol. 165, pp. 300-306, 2019.

[7] S. N. Sisat, V. K. Barbudhe, P. S. Bhopale, "Secure Automatic Teller Machine (ATM) and Cash Deposit Machine (CDM)", International Journal of Advance Research in Computer Science and Management Studies, vol. 2, no. 4, pp. 118-121, April 2014.

[8] N. Jamaluddin, "E-Banking: Challenges and Opportunities in India", Proceedings of 23rd International Business Research Conference, Academia, pp. 1-15, Nov. 2013.

INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN COMPUTER & COMMUNICATION ENGINEERING

Scan to save the contact details