

Face and Voice Detection Based Smart Bank Locker

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Abstract: In the present work, a smart locker has been designed for banking sector. The main feature of this work is it user face expression check normal or abnormal and then locker open the face is normal otherwise send notification. The smart lock program will compare your image with the data already stored in the database. After checking the authenticity of the user, in case the user face is abnormal then locker is not open Give notification. For password we have used a voice input to open the locker

Keywords: Smart locker, Banking sector, Notification, Database, Password

I. INTRODUCTION

In today's fast-paced world, security is crucial. People are becoming more conscious of their possessions, including priceless papers, jewelry, and other materials. Some people would rather store all of their belongings at home. The bank is the next safest location to store all of these valuables. There are numerous systems meant to keep bank lockers secure thanks to technological advancements. Currently, personal identification is accomplished through the use of passwords, keys, PINs, or identification cards. However, passwords and numbers can be guessed or forgotten, and cards can be stolen. An automated way of identifying a person based on a physiological or behavioral trait is called facial authentication. Security for computers Face is a term used to describe authentication methods that rely on physical characteristics that may be measured.

II. PROBLEM STATEMENT

To decrease the robbery. Give safety to locker by using facial Expression. Security: As today's era is more concern about security so in our project we are implementing Face Expression based bank locker system using Image processing technology which will give us more security than traditional bank locker system that uses keys for their bank accounts.

III. MOTIVATION

In this proposed system we are using Face Detection and Voice Detection. To open a bank locker then the person's face and voice should be matched otherwise the locker won't open. Development of the project can be done in many ways where voice can be replaced by iris detection which is more effective or it can also be replaced by using the biometric system which also helps to improve the security

IV. PROJECT OVERVIEW

The Solidity crowdfunding project uses blockchain technology and the Solidity programming language to create a secure, transparent, and efficient way to fund new ventures. Our platform eliminates the need for middlemen, reduces the risk of fraud, and gives backers greater control over the projects they fund. Our user-friendly platform allows project creators to create and customize crowdfunding campaigns, while backers can browse and discover projects, pledge funds, and monitor their progress. Our goal is to revolutionize the way we fund innovation and creativity by providing a more accessible and secure way to fund new ventures.

IV. LITERATURE SURVEY

Paper Name: Development of an Intelligent System for Bank Security

Author: Neeraj Khera. This study suggested an efficient, fully autonomous monitoring and control system for bank locker rooms. The security system is intended to identify

unauthorized entry into bank locker rooms, which frequently occurs in robbery instances. The main issue with the existing manually monitored security system is that, in the event of a robbery, banks are unable to identify the attackers owing to a lack of evidence. The technology will effectively focus on ensuring the security of the bank locker rooms by detecting and restricting unlawful motion. When motion is detected, the suggested security system will record photographs that can later be used for an inquiry. The image will be communicated by the system continuously to the remote location control rooms using web based monitoring through local area network (LAN) and can also send the warning text short message service (SMS) to the operator using GSM technique.

Paper Name: Smart Bank Locker Using Fingerprint Scanning and Image Processing

Author: Arvasu Chikar. A smart locker for the banking industry has been created in the current work. The primary characteristic of this work is that it records the time, date, and quantity of times a user accesses a locker in the bank. Your image and fingerprint will be compared to information already saved in the database by the smart lock program. The microcontroller (Arduino) will send a signal to the lock, and it will open after verifying the user's legitimacy. When the number of permitted access turns grows over the course of a certain period, it also sends a notification.

Paper Name: Six Tier Multipurpose Security Locker System Based on Arduino

Author: A. Z. M. Tahmidul Kabir. This study offers a security solution that prevents illegal access when moving or storing valuables. To guarantee the highest level of security, the system includes memory modules, PIR sensors, fingerprint security, encoder-decoders, RF modules, GPS and GSM modules, among other components. The proposed security system, which is designed to ensure that the vault can only be opened by an authorized person, in specific locations, using valid credentials, can greatly improve security when moving valuables such as important documents, money, or ornaments. This is especially true for banks when moving valuables.

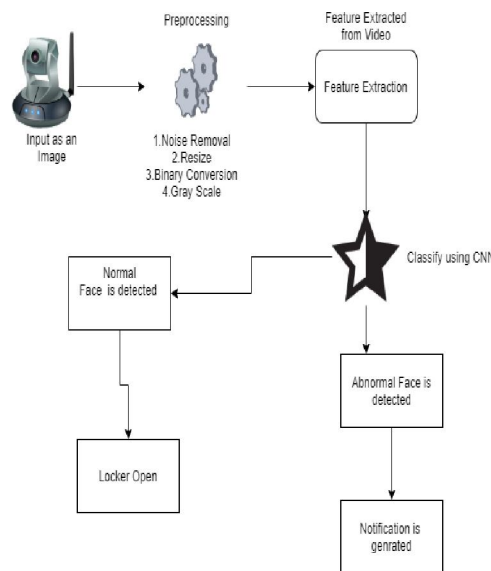
V. RESEARCH SCOPE

The research scope of your Solidity crowdfunding project includes investigating existing platforms, studying legal and regulatory requirements, addressing security and scalability concerns, analyzing the economic and social impacts, comparing with traditional crowdfunding models, and exploring potential for funding social impact projects. The specific research questions and objectives can be further refined based on your project goals.

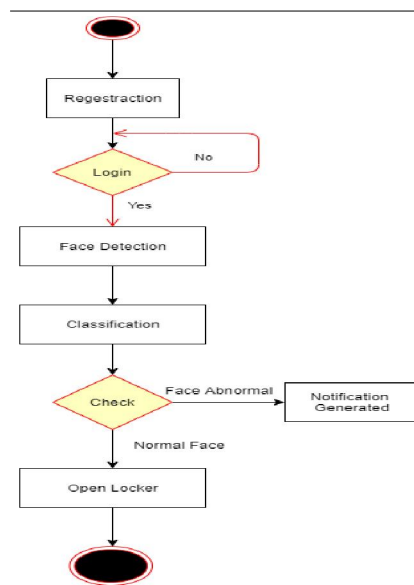
VI. METHODOLOGY

- **Research Design:** The research design for this project will be a mixed-methods approach, combining qualitative and quantitative data collection and analysis. The research will be conducted in three phases: (1) exploratory research, (2) platform design and development, and (3) evaluation and testing.
- **Data Collection:** The data collection methods will include a literature review, user surveys, interviews, focus groups, and case studies. The literature review will provide an overview of existing Smart bank locker platforms and their features, strengths, and weaknesses. User surveys, interviews, and focus groups will gather data on the needs, preferences, and pain points of project creators and backers in campaigns. Case studies will provide in-depth analysis of successful Bank locker campaigns and their outcomes.
- **Data Analysis:** The data collected from the surveys, interviews, focus groups, and case studies will be analyzed using both qualitative and quantitative methods. Qualitative data analysis will involve coding and categorizing the data, identifying patterns and themes, and generating insights. Quantitative data analysis will involve statistical analysis of the survey data and other quantitative data sources.
- **Platform Design and Development:** Based on the insights and findings from the exploratory research and data analysis, the Bank locker platform will be designed and developed. The platform will be designed to be user-friendly and secure, with features such as Creating Account, Login, Registration and wallets for fund security.

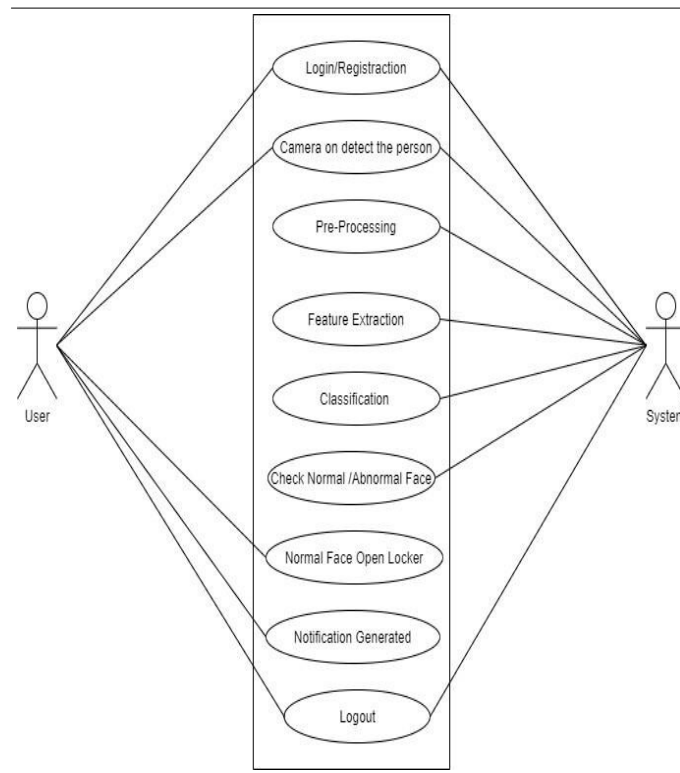
- **Evaluation and Testing:** The Bank locker platform will be evaluated and tested using a range of methods, including user testing, usability testing, and functional testing. User testing will involve having a group of project creators and backers use the platform and provide feedback on their experience. Usability testing will assess the ease of use and user- friendliness of the platform. Functional testing will test the platform's features and functionalities to ensure they work as intended.
- **Implementation and Deployment:** After successful evaluation and testing, the Bank locker platform will be deployed and implemented. The platform will be made available to the public, and a marketing and outreach plan will be developed to promote the platform to potential users
- **Monitoring and Evaluation:** After the platform is implemented and deployed, ongoing monitoring and evaluation will be conducted to assess its performance and impact. This will involve gathering data on the number of peoples to create account, the Registration of user, the login of user, and the user feedback on the platform. Based on the monitoring and evaluation, the platform will be continuously improved and updated to meet the changing needs of its users.



6.1 WORKING OF ALGORITHM



UML DIAGRAM



VII. FUTURE SCOPE

This is a real time application which tells that there is a need to bring in a revolution in the bank locker security system by making the procedure a little easy and more systematic for the bank officials.

The assurance it will give to the bank customers will force them to use it and hence protect their valuables from theft or any kind of robbery. The reliability of the bank safety locker system is therefore improved with the help of the proposed model in addition to achieving a dual tier authentication (face and voice verification) model for the bank safety lockers.

VIII. CONCLUSION

In this project, we managed to improve the locker management system in banking sector.

With the help of image processing technique, we are able to compare features of the test image with the data image. We are able to note the log of the customers accessing the locker with date and time and will also be able to restrict the customers, once the maximum number of access granted are crossed.

For making this system more safer as it is related to banking sector we added voice recognition for password to open the locker

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