Sanjay Ghodawat University Kolhapur

Established as a State Private University under Govt. of Maharashtra Act No. XL dated 3rd May 2017

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PROJECT REPORT

Are port submitted in partial fulfillment of there requirements for the

Project

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Under Supervision of

Mrs.Veena Mali

AcademicYear:2023-2024

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CERTIFICATE

This is to certify that the "**Project Report**"

On

"ATM INTERFACING"

Submitted by

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Is work done by him and submitted during the 2023–2024

academic year, in partial fulfillment of the **Project.**

Sanjay Ghodawat University, Kolhapur

Mrs. Veena Mali	**Dr. Deepika Patil**	**Dr. Deepika Patil**	
Project Guide	**PBL Co-ordinator**	**HOD,CSE&AIML**	**External**

DECLARATION

I the under signed solemnly declare that the report of the project work entitled **"ATM Interfacing"** which is carried out under the supervision of **Mrs.Veena Mali** I assert that the statements made and conclusions drawn are an outcome of the project work . I further declare that to the best of my knowledge and belief that the project report does not contain any part of any work which has been submitted for the award of any other degree/diploma/certificate in this University or any other University.

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ABSTRACT

An Automated Teller Machine (ATM) is a safety-critical and real-time system that is highly complicated in design and implementation. This paper presents the formal design, specification, and modeling of the ATM system using a denotational mathematics known as Real-Time Process Algebra (RTPA). The conceptual model of the ATM system is introduced as the initial requirements for the system. The architectural model of the ATM system is created using RTPA architectural modeling methodologies and refined by a set of Unified Data Models (UDMs), which share a generic mathematical model of tuples. The static behaviors of the ATM system are specified and refined by a set of Unified Process Models (UPMs) for the ATM transition processing and system supporting processes. The dynamic behaviors of the ATM system are specified and refined by process priority allocation, process deployment, and process dispatch models. Based on the formal design models of the ATM system, code can be automatically generated using the RTPA Code Generator (RTPA-CG), or be seamlessly transformed into programs by programmers. The formal models of ATM may not only serve as a formal design paradigm of real-time software systems, but also a test bench for the expressive power and modeling capability of exiting formal methods in software engineering.

TABLEOFCONTENT'S

INTRODUCTION

Automated teller machine enables the clients of a bank to have access to their account without going to the bank. This is achieved only by development and application using online concepts. When the product is implemented the user who uses this product will be able to see all the information and service provide by the ATM, when he enters the necessary option and arguments. The product also provides services like request for cheques, deposite cash and other advanced requirements of the user. The data is stored in the data base and is retrieved when never necessary. The implementation needs ATM machine hardware to operate or similar simulated conditions can also be used to successfully use the developed product.

To develop this ATM system the entire operation has been divided into the following steps.

1. Verification process.
2. Language, services and account selection
3. Banking services.
4. Transactions.
5. Special services.

The program is designed in such a way that the user has to card and PIN number. Once verified, he is provided menu and he/she had to enter the option provided in the menu. For example, when the user wants to view the list of payment history then he/she had to enter the option for payment history provided in the main menu. When the option entered alone with the respective argument, then the payment history displayed on the screen.

PROBLEM DEFINITION

The system mainly used by the bank clients. When a client comes to ATM center to update and deletetheir account. It reduces the time consumption and lot of paperwork.

For any single operation it involves numerous references and updating also takes subsequent changes inother places.

SCOPE

As per RBI, for ATM industry, India is a huge market. It is place with 1.2 billion people, where 40% of them were unbanked. ICICI bank General manager OP Srivastava once commented: "where we saw a man in a dhoti in a remote town in South India withdraw moneyfrom an ATM, tuck it in the folds and the ride on his cycle, we were truly inspired by the ATMgrowth in the country."

There is a huge opportunity for growth of ATM market in India. The future will seen multi vendor ATM popularity, which will provide personalized features and a user friendly interface. ATM will be popular "public technology". Original equipment manufactures and vendor will get ample scope for handling ATM machines. Modern ATM are capable of personalized branding, CRM application, integrated fraud alert, customer notifications, and flexible services.

The ATM technology has developed to such an extent that some ATMs can memorize consumer preference as per their past transaction, behavior, and tailor service accordingly. In Inmain cases, ATMs have internet scope which facilitates two way two way communication with live agents , provide biometric options, and have the ability to demonstrate personalized advertisement maintenance of web enabled ATMs are easy. These ATM can be quickly connected to central monitoring system of vendors.

Thought ATM industry is growing rapidly, there are many challenges related to security issues of the software, increase of rental costs by the days in the cities, housekeeping, and replacement of cash. Few banks have introduce biometric ATMs in rural India, which are quite secure and easy to use by common man. Banks are trying to shift slowly from multi vendor to multichannel integration, so as to get a complete picture of the activities of customers.

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OBJECTIVE

1. The render accurate services to customer.
2. The reduction of fraudulent activities.
3. To achieve speedy processing of customer data.
4. To reduce error processing, the guarantee of increase security.

SYSTEM REQUIREMENTS

- **Software Requirement:**

- Turbo C
- Microsoft Visual Studio Code
- Dev C++

HARDWARE REQUIREMENT

- Computer or laptop
- Intel(R)Core(TM)i3-Processor
- RAM-1 GB Minimum
- Storage-100GB

METHODOLOGY

This study adopts survey research. It proves deeply in to the opinion of respondents regarding their satisfaction with automated teller machine services. The study carefully selects samples from intensive study of the characteristics of the population. However, the research focuses on user of United bank of Africa in Sokoto metropolis. The rationale for the selection of the states is that they constitute a relatively a new area where much empirical research has not been conducted. Most if related researchesconcentrated on other zones and countries. The study has one independent Variable (satisfaction) four dependent variable perceived ease of use, availability of money in the booth, transaction cost and service security. Data will be collected on user satisfaction through the use of questionnaire.

- Algorithm:

- Step 1 :- Start.

- Step 2 :- Insert card.

- Step 3 :- Enter pin.

- Step 4 :- Process.

- Step 5 :- Select option.

- Step 6 :- Option process.

- Step 7 :- End.

Flow Diagram (Flow Chart)
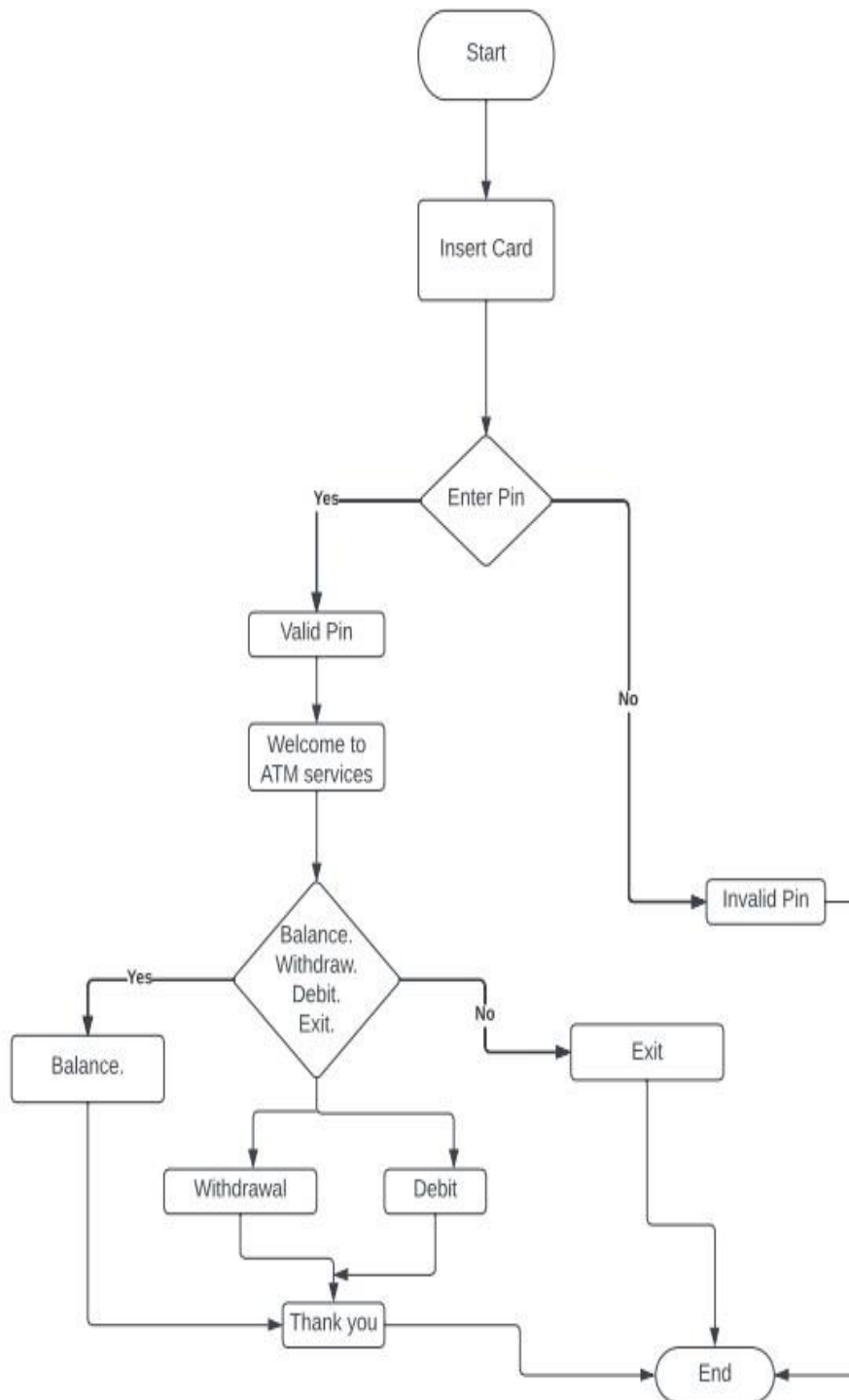
IMPLEMENTATION

The ATM machines as mentioned earlier come in variety of shapes and design; the GUI design chosen and implemented was based on the analysis and design phases. And better to support it, the prototype was given to several ATM user for a test drive to get the accessibility testing feedback. The login screen as shown in image appears to the system user.

The login screen requires from the system user to enter the pin number;from this pin, we can recognize the system user (manager, officer and customer). The process started with enter the pin then send the information to the data base to identify the system user. The system user enter the wrongly the three times, the ATM displays a message for system user the ATM will keep the card of the user.

ATM functions designed as buttons to make it useable for all kinds of users.The screen of manager as shown in image

From the manager screen the manager would collect the total of withdrawals and deposits and even print the result and make daily report officers screen asshown below

SOURCE CODE

```cpp
#include <iostream>
using namespace std;

int main() {
    int balance = 1000;
    string password = "Pankya@8663";
    string inputPassword;
    int choice;

    cout << "Welcome to the ATM machine!" << endl;
    cout << "Please enter your password: ";
    cin >> inputPassword;

    if (inputPassword == password) {
        cout << "Login successful." << endl;

        while (true) {
            cout << "\nOptions:\n1. Check Balance\n2. Withdraw\n3. Deposit\n4. Exit\n";
            cout << "Enter your choice: ";
            cin >> choice;

            switch (choice) {
                case 1:
                    cout << "Your balance is $" << balance << endl;
                    break;
                case 2:
                    int withdrawAmount;
                    cout << "Enter the amount to withdraw: ";
                    cin >> withdrawAmount;
                    if (withdrawAmount <= balance) {
                        balance -= withdrawAmount;
                        cout << "Transaction successful. Remaining balance: $" << balance << endl;
                    } else {
                        cout << "Insufficient balance!" << endl;
                    }
                    break;
                case 3:
                    int depositAmount;
                    cout << "Enter the amount to deposit: ";
                    cin >> depositAmount;
                    balance += depositAmount;
                    cout << "Deposit successful. New balance: $" << balance << endl;
                    break;
                case 4:
                    cout << "Thank you for using the ATM. Goodbye!" << endl;
                    return 0;
                default:
                    cout << "Invalid choice. Please select a valid option." << endl;
            }
```

```
      }
   } else {
      cout << "Incorrect password. Exiting..." << endl;
   }

   return 0;
}
```

Result

```
Welcome to the ATM machine!
Please enter your password:  Pankya@123
```

```
Welcome to the ATM machine!
Please enter your password: Pankya@123
```

```
Welcome to the ATM machine!
Please enter your password: Pankya@123
Login successful.

Options:
1. Check Balance
2. Withdraw
3. Deposit
4. Exit
Enter your choice: |
```

```
Welcome to the ATM machine!
Please enter your password: Pankya@123
Login successful.

Options:
1. Check Balance
2. Withdraw
3. Deposit
4. Exit
Enter your choice: 2
Enter the amount to withdraw: 555
Transaction successful. Remaining balance: $445

Options:
1. Check Balance
2. Withdraw
3. Deposit
4. Exit
Enter your choice: 4
Thank you for using the ATM. Goodbye!

-------------------------------
Process exited after 35.96 seconds with return value 0
Press any key to continue . . .
```

```
Welcome to the ATM machine!
Please enter your password: Pankya@123
Login successful.

Options:
1. Check Balance
2. Withdraw
3. Deposit
4. Exit
Enter your choice: 2
Enter the amount to withdraw: 555
Transaction successful. Remaining balance: $445

Options:
1. Check Balance
2. Withdraw
3. Deposit
4. Exit
Enter your choice:
```

CONCLUSION & FUTURE SCOPE

Future Scope:

1.smart phone integration NFC, and ATMs.

2.Fingerprints scanning.

3.Seeing eye to eye

4.International currency

5.Cryptocurrency

CONCLUSION

The conclusions from this study, based on the findings, are given below. Proposed Proposed fingerprint and PIN system works perfectly with 94%, FAR 4%, FRR 2%, TER 6% and GAR 98%. Compared to other fingerprint identification systems and verification systems, the proposed system provides improved simultaneous performance and partial elimination of false minutiae on its fingerprint site. The proposed system is a good way to charge the cost of starting a secure ATM transaction to protect ATM users from fraudsters.The recommendations of this study can be summarized as follows: Decision-makers need to value a guaranteed level of security through biometric systems and the potential for change between perception and reality. The Bank of Ghana (BoG) and the Ghana Association of Bankers (GAB) which is responsible for strategic action in the banking sector in Ghanashould initiate the installation of improved ATMs through this system as a strategy to reduce costs and security for their customers and customers. The significant differences found in the Intra -class variability study in this study indicate that, if clients thumbprints are not different from the thumb whenverified, a false positive will be rejected. The Electoral Commission (EC) of Ghana should therefore ensure that voters' thumbs during registration and voting days are properly placed on a fingerprint scanner, to prevent false positives, causing confusion on polling days. Test verification should be doneto verify the file The proposed system is a good way to charge for the cost of starting a secure ATM transaction to protect ATM users from fraudsters.

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Books:

1. **Let's C++**

2. **C++ Programming Absolute Beginner's Guide**