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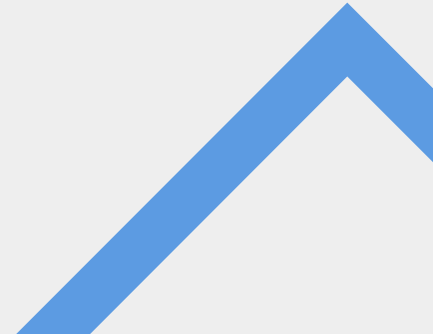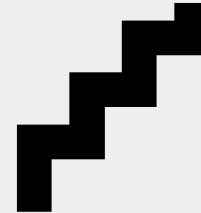
Automated Teller Machines

Made by

Mostafa Tamer Zahran

Saad Mohamed Saad

Table Of Contants

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Introduction

• Introduction

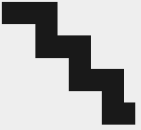|	
❑ **What is the ATM .?**	Is a computerized telecommunications device that provides a financial organization's customers performing financial transactions in a public space without the need for a human bank teller.
❑ **User Interactive**	customers interact with a user-friendly interface that enables them to access their bank accounts and perform various transactions.
❑ **Purpose**	1. **Software takes as input** 1) The login Id 2) the bank account number of the user 2. **Operations** 1) Withdrawals 2) Balance transfers 3) Deposits 4) Credit card advances 5) other banking related operations 3. **Output** 1)Bills 2)Money / Cash 3) Accessing his bank account 4) Money exchange
❑ **Why it is important .?**	1. Automation of Banking Services 2. Security 3. High Availability and Reliability 4. Scalability and Integration with Banking System 5. Cost-Effectiveness for Banks
❑ **What Security Measures are Included?**	1. Transaction Processing Speed 2. System Availability & Uptime 3. Security & Fraud Detection Efficiency 4. Cash Management 5. User Experience & Satisfaction
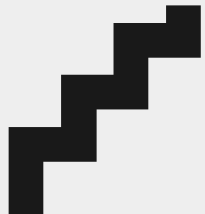
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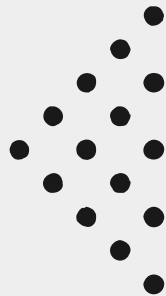
Function Requirement
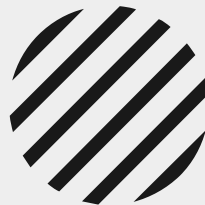
Language Selection

- After the user has logged in, the display provides him with a list of languages from which he can select any one in order to interact with the machine throughout that session. thus making the transaction a bit faster. User also has the freedom.

Account Maintenance

1. **Account Type**

   - The user has the freedom to select his account type to which all the account etc.

2. **Amount of Cash**

   - he amount to be withdrawn or deposited is then mentioned by the user.

3. **Denominations**

   - provided with the facility to mention the required denominations.

4. Withdrawal/Deposit

• The software allows the user to select the kind of operation to be performed whether he wants to withdraw or deposit the money.
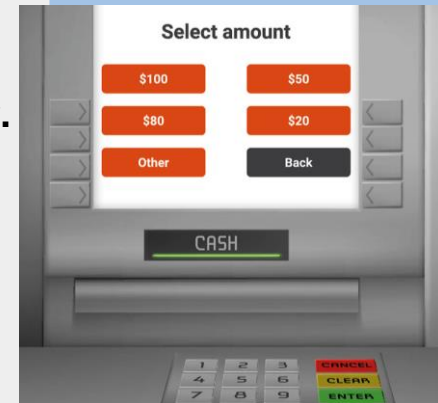
5. Money Deposition

• Money deposition shall be done After typing the amount to be deposited and verification of the same

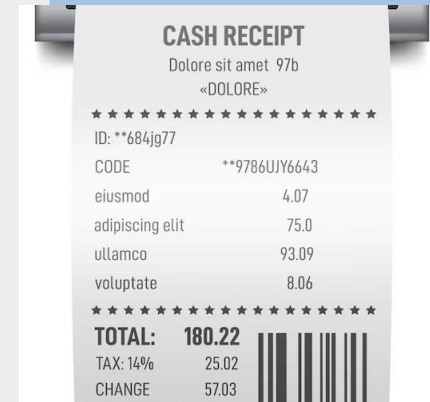**6.** Balance Transfer   /   Enquiry

• Balance transfer shall be facilitated between any two accounts linked to the card / for any account linked to the card

▪ **Billing**

• Any transaction shall be recorded in the form of a receipt and the same would be dispensed to the customer.

▪ **Cancelling**

• The customer shall abort a transaction with the press of a Cancel key. For example : on entering a wrong depositing amount.

CASH RECEIPT
Dolore sit amet 97b
«DOLORE»
★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★
ID: **684jg77
CODE   **9786UJY6643
eiusmod   4.07
adipiscing elit   75.0
ullamco   93.09
voluptate   8.06
★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★
TOTAL: 180.22
TAX: 14%   25.02
CHANGE   57.03
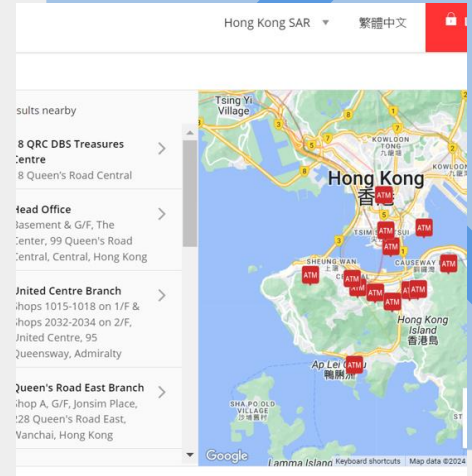
- **Map locating other machines**

• The machine also has a facility of displaying the map that marks the locations of other ATM machines of the same bank in the entire city.

- **Mobile Bills Clearings**

• The machine also allows the user to clear off his pending mobile bills

- **Pin Changing**

• Users can change their card PIN as required.

❑ **User Characteristics**

- **A novice ATM customer**

  • User A will find the product easy to use due to simple explanatory screens for each ATM function. He is also assisted by an interactive teaching mechanism at every step of the transaction

An experienced customer

- This user has used an ATM on several occasions before and does most of his account management through the ATM.

Maintenance Personnel

- This user is in charge of storing cash into the ATM vault and repairing the ATM in case of malfunction. He has the authority to change or restrict various features provided by the software in situations of repair.

❑ The major constraints that the project

1. The ATM must service at most one person at a time.

2. The number of invalid pin entries attempted must not exceed three. After three unsuccessful login attempts, the card is seized/blocked

3. The minimum amount of money a user can withdraw is Rs 100/- and the maximum amount he can withdraw in a day is Rs 20,000/-

4. The minimum amount a user can deposit is Rs 100/- and the maximum amount he can deposit is Rs 10,000/-
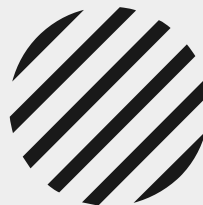
5. The database used should be Oracle7.0.
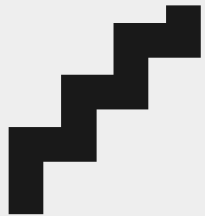
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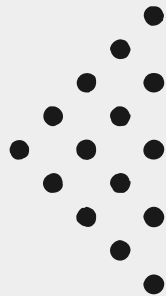
User interface

- **User interface**

- The interface provided to the user should be a very user-friendly one and it should provide an optional interactive help for each of the services listed.

    1. A login screen is provided in the beginning for entering the required username/pin number and account number.

    2. An unsuccessful login leads to a reattempt (maximum three) screen for again entering the same information.

    3. The successful login leads to a screen displaying a list of supported languages from which a user can select any one.

    4. In case of administrator, a screen will be shown having options to reboot system and shut down system, block system, disable any service

    5. After the login, a screen with a number of options is then shown to the user. It contains all the options along with their brief description.

    6. A screen will be provided that displays the location of all other ATMs of same bank elsewhere in the city.
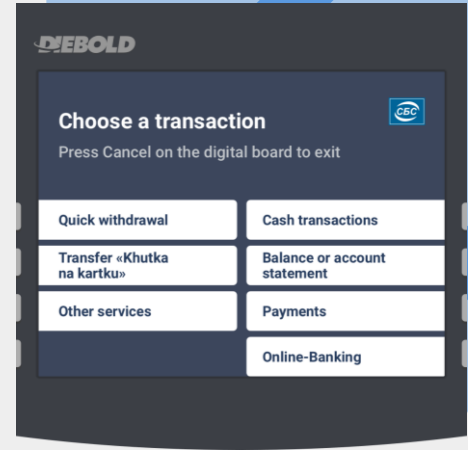
- **User Interface Requirements**

  1. Display screen with high resolution.

2. The display screen shall also support touchscreen facilities.

3. The speakers shall support / keypad shall consist of 16 tactile keys will be weather resistant.

- **Hardware Interface Requirements**

1. The ATM power supply

2. The card reader shall have a smart card option.

3. There shall be a receipt printer.

4. There must be a money repository.

- **Software Interface Requirements**

1. The transaction management software used to manage the transaction and keep track of resources .

2. The card management software used to verify pin number and login .

3. The database used to keep record of user accounts shall be Oracle .

Communication Interface Requirements

- The machine needs to communicate with the main branch for each session for various functions such as login verification, account access etc.

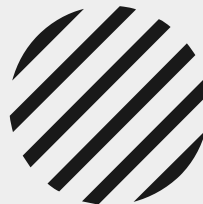1. The communication protocol used shall be TCP/IP.

2. Protocol used for data transfer shall be File Transfer Protocol.(FTP)
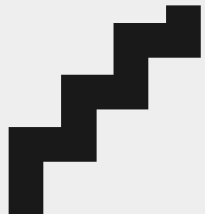
04

Non-Function Requirement ✚

- **Non-Function Requirement**

  ❑ **Performance Requirements**

        1. The ATM shall provide customers a 24 hour service.

  2. The card verification time must not exceed 0.8 sec. under normal server workload and 1 sec under peak server workload.

  3. The pin number verification time must not exceed 0.3 sec. under normal server workload and 0.5 sec. under peak server workload.

  4. Account balance display time must not exceed 2 sec. under normal server workload and 3 sec.

  ❑ **Quality**

- **The primary objective is to produce quality software. As the quality of a piece of software is difficult to measure quantitatively, the following guidelines will be**

        1. Consistency: All code will be consistent with respect to the style.

        2. Test cases: All functionality will be thoroughly tested.

❑ **Security**

1. The system shall be compatible with AIMS security standards. .

2. The encryption standard used during pin transmission shall be triple DES.

3. The password shall be 6–14 characters long. contain digits, hyphens, and underscores.

4. The user should be provided with only three attempts for login failing, after which his card needs to be blocked.

5. There shall be a security camera installed near the ATM.

6. There shall be a secured cash vault with a combination locking system.

❑ **Maintainability**

The system components i.e. modem, memory, disk, drives shall be easily serviceable.

1. The system should have the mechanism of self-monitoring periodically in order to detect any fault.

2. The system should inform the main branch automatically as soon as it detects any error.

❏ Business Rules

- The Administrator has the authority to fix the rules and update the policies as and when required.

  - The staff at the bank performs the following:

  1. keeping the bank account of the user updated as soon as changes are encountered .

  2. Blocking the account of the user on discovery of any illegal transaction.

  3. Constantly monitor all the ATMs in the city to check whether any one of them is encountering any fault.

  4. Unblocking of an ATM card that got blocked due to more than three unsuccessful login attempts.

  5. Maintain the backup of all the accounts for reliability purposes.

Thanks