

LAB 3

Group:4

Functional Requirements

- **Login:**

The user would be required to use his face and his fingerprint to gain access to his account. This is a step towards ensuring the security of the system and further ensuring that the authenticity of the user can be checked. This will be done for any user who is trying to operate the ATM regardless of the fact whether that person is a client of the bank or an employee. The authentication will automatically determine the person's role and would provide him with user privileges accordingly only.

- **Balance:**

The client of the bank (user of the atm) would be able to obtain his balance statement (i.e. the amount of money in their account) and also get a receipt like mini-statement (containing just the last 5 transactions of the client).

- **Add Money:**

The client of the bank would be able to add money into their account using the atm.

- **Maintenance:**

The employee of the bank would be able to add money into the atm to ensure that the atm does not run out of money.

- **Transaction details:**

The client would be able to check their past transactions and search their past transactions using keywords.(This would be an elastic search)

- **Profile :**

The client should be able to edit their basic profile and update the necessary changes as well book appointments to bank branches regarding an issue they are facing.

- **Withdraw :**

The client would be able to withdraw money provided the atm has money upto a certain amount.

- **Cheque renewal:**

The client should be able to choose an option to have a new cheque book to send to their respective address.

- **Read Fingerprint:**

The system would take the fingerprint of the client as input for authentication purposes.

- **Read Face Image:**

The system would take the image of the client as input for authentication purposes.

- **Check Image Quality:**

The system would check the quality of the images before processing or verifying them with the database.

- **Verify Image:**

The system would check the input images and compare it with the database to search for a match.

Non-Functional Requirements

- **Security :**

There should be an end-to-end side security. The data that is stored in the server side should be secured and only essential personnel can have access to it.

- **Authentication:**

The user must be authenticated using fingerprint and face to be able to use the ATM.

- **Consistency:**

The transaction that happens in the ATM should be consistent with the data that the ATM has. If any transaction fails, then the system should be able to recover it's previous consistent state.

- **Performance :**

The response time for any query to the atm server should be as small as possible to enhance the user experience.

- **Atomicity:**

The system should be atomic during the transaction of money to prevent inconsistency in the system.

- **Ease of Use:**

The ATM interface should be user-friendly and highly easy to use for even the novice users. It should also be able to operate the atm in various languages like English , Hindi and some other languages. We should also include the user's native language.