**FINGERPRINT BASED BANKING SYSTEM**

**MINOR PROJECT REPORT**

***Submitted in partial fulfillment of the requirements for the award of***

***the degree of***

**BACHELOR OF ENGINEERING**

***In***

**MECHANICAL ENGINEERING**

**AI MONEY X**

***Undertaken By***

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**TABLE OF CONTENT**

**CANDIDATES’ DECLARATION ................................................................................................**

**ABSTRACT ............................................................................................................................**

**ACKNOWLEGEMENT.............................................................................................................**

**CHAPTER 1: INTRODUCTION ..................................................................................................**

Introduction ............................................................................................................................

Problem Statement .................................................................................................................

Innovative Ideas of Project ....................................................................................................

Project Objective ....................................................................................................................

Scope of The Project ..............................................................................................................

**CHAPTER 2: PRODUCT OVERVIEW ....................................................................................**

Users and Stakeholders ........................................................................................................

Project Perspective: ..............................................................................................................

Interface: ..............................................................................................................................

Functional and Non-Functional Requirements: - ................................................................

Functional Requirements ................................................................................................

Non-Functional Requirements ........................................................................................

Use Case Table ....................................................................................................................

# CANDIDATES’ DECLARATION

It is hereby certified that the work which is being presented in the B. Tech Minor Project Report entitled **"FINGERPRINT BASED BANKING SYSTEM"** in partial fulfilment of the requirements for the award of the degree of **Bachelor of Technology** and submitted in the **Department of Mechanical Engineering** of **R.M.K Engineering college (An Autonomous Institution ) Approved by AICTE , New Delhi & Affiliated to Anna University , Chennai** is an authentic record of our own work carried out in month November 2022 under the guidance of **Dr.K.Manikannan, Associate Professor .**

The matter presented in the B.E Major Project Report has not been submitted by us for the award of any other degree of this or any other Institute.

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This is to certify that the above statement made by the candidate is correct to the best of my knowledge. They are permitted to appear in the External Major Project Examination.

|  |  |
| --- | --- |
| **Dr.K.Manikannan** |  |
| **AsstociateProf.;ME** |  |

The B.E Minor Project Viva-Voce Examination of

**ABSTRACT**

Nowadays banks allow their customers to conduct financial transactions from anywhere in the world using a mobile device such as a smart phone or tablet. This service is known as mobile banking and utilizes software called an app provided by the bank itself. In recent times, the popularity of mobile banking has grown by leaps and bounds due to the convenience and flexibility that it offers to customers. The potential of this technology is immense and so are the risks associated with it.

# ACKNOWLEGEMENT

We express our deep gratitude to **.Dr.K.Manikannan**, Assistant Professor, Department of Mechanical engineering for her valuable guidance and suggestion throughout my project work.

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We would also like to thank our families and friends, who helped us in every possible way.

**INTRODUCTION:**

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**This is a desktop application that uses the fingerprint of users for authentication. Since each individual has a unique fingerprint, this method of using fingerprint as a means of authentication to access your ATM is safer and more secure than using an ATM card. Users need not carry their ATM cards with them at all times – they can use their fingerprint to access ATM services.**

**OBJECTIVES:**

* **To groove into the AI world with super-fast banking.**
* **In this project, we can implement the procedure of 2-way safe banking.**
* **To access the user’s fingerprint and few other biometrics for authentication.**
* **And transfers between 2 users, user to market window and QR code scanning etc.**

**PROJECT REQUIREMENTS:**

**HARD COMPONENTS:**

* **Fingerprint Scanner.**
* **High End Configured Laptop.**
* **In and out speaker.**

**SOFT COMPONENTS:**

* **Python’s GUI (Tkinter) for front end user.**
* **MySQL Relational Database Management System for back end user**

**SCOPE OF THE PROJECT:**

* **To use the fingerprint-based ATM system, users must log in to their account using their fingerprint.**
* **After logging in, once they provide their unique pin, they can conduct all kinds of banking transactions, from withdrawing cash to money transfer, and even viewing their account balance.**
* **Furthermore, users can also check the last five transactions from their accounts.**

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**PRODUCT SYNOPSIS:**

**The functionality of this AI application delivers the ability to pay wherever, whenever, whomever, however in every corners of the world. The consultancies and the users can access anytime, anywhere each other for the process of this new era of banking. This way of banking introduces the 2 step verification and authentication banking. The use cases will be available to the end users and the functional and nonfunctional requirements will be covered up by the end user.**

**CUSTOMER AND STAKE HOLDERS:**

|  |  |
| --- | --- |
| *Team and I* | We will be producing, developing, maintaining and testing the AI Powered bank application through it’s phases of this project. |
| *Customers* | The customers will be anyone who possess the application and registers their fingerprint and other biometrics for further information about them. |

**PROJECT PERSPECTIVE:**

**So, from this we come to know about the thing or the project undertaken: -**

**Importance of having a Fingerprint-based ATM system**

* **Safer and secure transactions**
* **Fingerprints are unique to individuals. Hence losing the ATM card does not pose a big issue.**
* **No requirement to carry an ATM card all the time.**
* **Non-transferable feature.**
* **Helps in making transactions easier at any place.**

**INTERFACE:**

PHYSICAL INTERFACE:

**By the mission we have been undertaken, there is a simple and important day to day life device, the smartphone acts as a physical interface between the consultancies and the customers.**

VIRTUAL INTERFACE:

**Here, the Python’s GUI, Tkinter and MySQL’s Relational Database Management System acts as the soft interface between the consultancies and the customers**

## FUNCTIONAL AND NON-FUNCTIONAL REQUIREMENTS: -

**FUNCTIONAL REQUIREMENTS**

User Registration

User must be able to register for the application through Email,

Username and Password. On Opening the application, user must be able to register themselves or they can directly login if there have an account already. If user skips this step, user should able to do banking. The user’s email will be the unique identifier of his/her account on payment Application.

Registering the account details

User should give the full details of their account including account number, IFSC code, CIF number etc. This can be avoided when the user had already logged in.

Registering the security details

After the registration of account, application asks for the fingerprints, face and eye scans for the biometrics authentication. Then it asks for UPI pin to be set for an alternative authentication. This can be avoided when the user had already logged in.

**Non-Functional Requirements**

1. **Privacy:** Transactions between users must be encrypted to maintain privacy.
2. **Robustness:** If user’s device crashes, a backup of their transaction history must be stored on remote database enable recoverability.
3. **Performance:**  Application must be feasible and size must be smaller when compared with other apps and also must do transactions instantly.

## Use Case Table

***Level 0 Level 1 Level 2 Actor***

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | ***AI featured Banking*** ***Application*** | Authentication System |  | Registrar,  Login,  Logout |  | User and  Consultant |
|  | Banker Form |  | Search for users using account number etc. |  | User |
|  | Transaction Form |  | Do Trannsactions |  | User |
|  | Monitor |  | Transaction History |  | User and Admin |