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*Software Requirement Specification for Fingerprint Based ATM System*

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3. **INTRODUCTION**

**1.1 Purpose**

* To maintain/process complete detail of student about their personal and academic detail.
* The software requirements specified also provide the complete description of the functions and the specified of the automated transaction system installed within a bank.
* The purpose of this project is to provide secure access to the automated transaction machines.
* This requirements specification document defines Exterior Interface, Presentation and Software System Characterizes requirements of automated transaction system incorporated within a machine or a web portal.
  1. **Document Convention**

The following document conventions are followed while preparing this document

* The Main-Headings in Calibri Format of size 16 while Sub-headings in Cambria Format of size 16 and material in it in Times New Roman of font-size 14.
* Official Document is used while organizing this SRS document.
  1. **Intended Audience and Reading Suggestion**

This document is created for:

* The Developers for the purpose of maintaining the software and new releases of the firmware.
* Management, Testers and Project Engineers.
  1. **Product Scope**
* The ATM system is designed to run for 24 hours and to allow bank clients to carry out transactions in a secured way.
* The data will be held in a bank database. The system is connected to the bank database using a modem.
  1. **References**
* Biometric Fingerprint Based ATM System by Dr. Moneeb Gohar

1. **OVERALL DESCRIPTION**

**2.1 Product Perspective**

The Automated transaction system incorporates numerous GUI menus as well as the device for fingerprint sensor, to provide high safety. It delivers secure admittance to the account of a client.

**2.2 Product Function**

This software package is expected to offer the following services:

* Customer to login and view account, make transaction, updates and edit different data/records limited to his/her account only.
* Email Scheduling and message generation on run-time.
* Withdrawal and Balance check from account.
* Biometric fingerprint reader and match from database.

**2.3 User Classes and Characteristics**

* The customer will only be able to make transactions, balance transfer, account info update and delete from his/her account only and will not be allowed privileges except their account limitations.
* Administrator can add and modify any data and Scheduling systems.
* The administrator will be a single entity and will be added to the database.
* User has a class of name account in which all attributes are defined.

**2.4 Operating Environment**

This software package is expected to work in following atmosphere:

* Windows 7 and above
* Microsoft SQL Server
* Visual Studio

**2.5 Design and Implementation Constraints**

* Processor – i3
* Hard Disk – 5 GB
* Memory – 1GB RAM
* The specific constraints in terms of design can be specified as internet connection is an important constraint in running the basic web portal needed to execute the system capabilities. As all systems need data from the database, so in terms an internet connection is necessary.
* The design also functions for a module that matches fingerprints.

**2.6 User Documentation**

* This software package will come with a user small manual as a guide to its interface action.
* The description of Analysis, Design, and Test case of this software package will be delivered along with this software.
  1. **Assumptions and Dependencies**
* The user fingerprint should be clear and net, there should be no cut

1. **EXTERNAL INTERFACE REQUIREMENTS**
   1. **User Interfaces**

The set of user interfaces consist of:

* To log-in to their respective account by user.
* To deposit, withdraw or transfer the money.
* To sign-up for registration.
  1. **Hardware Interfaces**
* Fingerprint Recognizer
* Sensor
  1. **Software Interfaces**
* .NET Framework
* Operating System
* Front End
  1. **Communication Interfaces**
* This software package should be securely accessible through internet communication channel.

1. **SYSTEM FEATURES**

Here are the features of this system:

**4.1- Sign-Up**

The web portal for fingerprint-based ATM system requires a sign-up process to register an account into the system database. Once the user is registered into the system, he/she can access all the features of the application. The user has to add their email address, name, basic information and fingerprint. To activate his/her account the verification of his fingerprint and correct email is required.

**4.2- Log-In**

For login purposes into the system, the user will provide a valid email and fingerprint that is already registered into the system or saved in the system database. Hence, if the user is not logged into the system due to security reasons an error message is displayed. This method is efficient for fast access and security in a manner that the user cannot access someone else’s account

**4.3- Deposit**

This system functionality allows the user to deposit an amount into their account once the user is logged into the system and database. The requirements for a successful deposit are that the user must successfully be logged into the system and he/she should not enter a negative amount that isn’t defined in system parameters. Once the user deposits an amount into the account an email is generated on their address.

**4.4- Withdraw**

The use of this application can also withdraw an amount from their account. There are two basic requirements for this function to take place. The user must already be logged into the system and connected to the database. The user must enter a valid amount for withdrawal that is already present in his/her account. Once the user successfully withdraws an amount, a mail is generated to their email address.

**4.5- Transfer**

The user is also entitled to functionality. The user can transfer an amount from his/her account to another account, provided that there is an account number for the account being transferred to and the user should be logged into the system. If the amount ready for transfer is not present in primary account, an error message is generated, logging the user out of the system. On the case of successful transfer an email is generated entitled of the amount that was transferred.

**4.6- View Transactions**

User can view his/her monthly transactions these are about deposit, withdraw or transfer money.

1. **OTHER NONFUNCTIONAL REQUIREMENTS**

**5.1 Performance Requirements**

This software should be able to handle the following task:

* Only registered user can log-in to specified account
* A new customer can register himself/herself

**5.2 Safety Requirements**

* This software will ease the process of transaction of any type. The user must provide the authentic and secure E-mail to get notify or alert message.

**5.3 Security Requirements**

* The fingerprint provided by the user to the system requires complete security and all information for these expense and purposes is secured with end-to-end encryption system.
* The Automated system must not store the information or data in its database, for that reason a database is created external to the users limitations.

1. **Front End Description**

The Front-end interface will be fully dependent on .Net framework platform, with

Html and C sharp as the programming linguistic due to these reasons:

1. Flexible interface that is non-technical and easy to use.

2. User information is secured and customizable.

3. The system operates on good performance and is highly reliable.

4. Interface is based on the principles of Human Computer Interaction and has been made to be used at the best of its design.

1. **Back End Description**

In the process of database creation and development we are using MySQL Server- side database due to the following reasons:

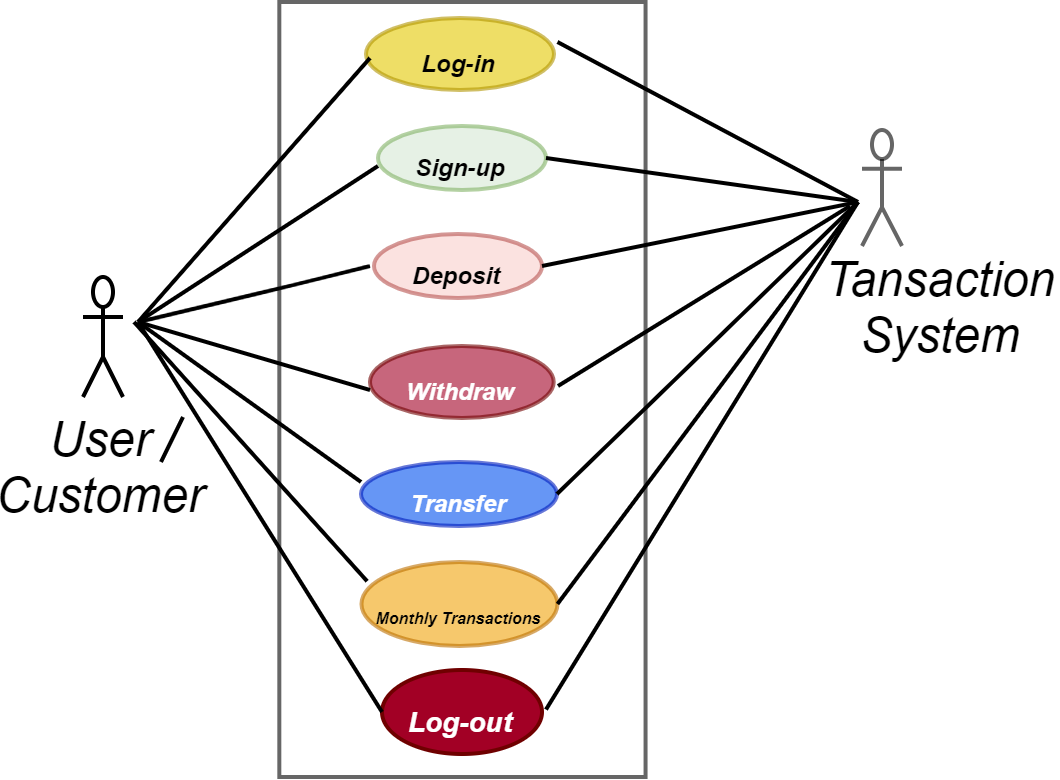
1. Inherent support and complete compatibility with .NET platform.

2. Elastic, Accessible and vigorous database architecture.

3. This system is preferred and used by innovative leading companies worldwide.

4. Easy to manage and secure data protection

**8- Analysis Model**

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