

SOFTWARE REQUIREMENT SPECIFICATIONS

OF

A COREBANKING SOLUTION WITH e-BANKING SOLUTION

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1. Introduction

This Software Requirements Specification (SRS) specifies the requirements of the Core Banking Solution (CBS) and e-Banking Solution (EBS), which will be used in the Banks. This document will be used by the customer to ensure all specifications are correct and verified by the software engineer to design the system.

1.1 Purpose

This Software Requirements Specification (SRS) specifies the requirements of the Core Banking Solution (CBS) and e-Banking Solution (EBS), which will be used in the Banks and by its customers. This document will be used by the customer to ensure all specifications are correct and verified by the software engineer to design the system.

1.2 Document Conventions

Main Section Title: Font: Nimbus Roman: Bold: Size: 12

Sub Section Title: Font: Nimbus Roman: Bold: Size: 12

Other Text matter: Font: Nimbus New Roman: Size: 12

1.3 Intended Audience and Reading Suggestions

This SRS would be used by the following persons :

Bank Employees : They would be using the Core Banking Solution to perform the various banking functionalities.

Bank Customers : They would be using the e-Banking Solution to view their account details.

Research Students : Research students are advised to read all the sections of this document to get an overall idea of the workflow and technicalities of the software.

Testers: It can be used as a documentation to know the interfaces.

1.4 Scope of the Development Project

As competition has intensified and customer needs have also increased, so too have the challenges faced by banks. The pressure on margins has increased, often driven by new market entrants with lower cost bases, and the avalanche of new regulations and compliance seems to gather pace daily. Customers demand access to their financial information regardless of their location or the time of day, and if their current financial institution can't provide it they can always go to someone else who can.

Often installed decades ago, legacy core banking systems just can't cope – it may be impossible to support the latest products and when it is, the process is complex, time consuming and expensive. Just keeping these systems running can often consume more than 70% of the IT budget leaving little money to gain advantage over competitors.

Gaining insight into customer needs can be extremely difficult, involving the collation of a large amount of data from disparate systems held in different formats. And by the time the data is collected it is often too late – the customers' needs have moved on.

We can see long queues of customers in a bank every now and then. This queue is the final result of the slow processing speed (Due to manual entries or non-interactive Software) of the Bank. So, a highly interactive and user-friendly solution should be developed.

With the implementation of Core Banking Solution(CBS), the customers' status has been changed from 'Branch Customers' to " Bank Customers". It is immaterial with which branch of the Bank the customer deals with. When he is a CBS branch customer, all the banking facilities are extended through multiple branches connected under CBS. The customer can walk into any of the CBS branches (need not necessarily his own branch) for the banking needs such as Cash deposit, Cash withdrawal, Cheque deposit, Transfer of funds, etc.

For the smooth working of the bank, the Core Banking Solution needs to be designed in such a way that, all the operations that were previously performed with difficulties are performed easily in this system. For the customers an internet solution is the most appropriate one as almost all customers have access to it.

The project is mainly based on the idea of developing an open source banking solution which would replace the existing costlier banking solutions. All the operations that are carried out in the bank manually (like new account registration, deposit, withdrawal, cheque book issue etc.) would be performed automatically and easily by the Core Banking Solution. This would also enable the banks to reduce their annual budget on software expenditures by a greater

percentage. There would just be no need to spend hundreds of crores on the banking software any more, as the project would be developed on Open Source License based Technologies. It could also be modified by a group of experts as per requirements and at any time. The concept of Centralized Banking is taken into account in this solution. A well interfaced GUI would be used for connecting to the main database server for updating and retrieving the data of the customers. It would also deal with the Employees of the Bank, their registration, removal , manager allotment, etc

The e-Banking Solution deals with the customers. It would facilitate the customers to perform a wide range of functions like check blocking, fund transfer, cheque book request, viewing account statement etc over the internet. This would reduce their pains to go to the bank each for each and everything. The Customer would no more be considered as the 'Customer of the Branch' but shall be considered as 'Customer of the Bank - No Geographical Limits'.

1.5 Definitions, Acronyms, and Abbreviations

Bank	: A place where the customers deposit money for safe keeping.
Bank Employee	: The employees of the bank who perform the banking operations.
Bank Customer	: The people who have an account in the bank.
CBS	: Core Banking Solution
EBS	: e-Banking Solution
User	: The person who will be using the Product (CBS or EBS)

1.6 References

www.redhat.com
www.mysql.com
www.php.nets
www.apache.org
www.gtk.org
www.linuxheadquarters.com

Books Referred :

PHP5 Unleashed By John Coggeshall,Sams Publishing,
Apache Server 2 Bible By Mohammed J. Kabir, Hungry Minds Publishing,
Sams Teach Yourself PHP, MySQL and Apache All in One By Julie C. Meloni, Sams Publishing
MySQL Building User Interfaces, By Matthew Stucky, New Riders Publishing

The Definitive Guide to MySQL, Second Edition , By Michael Kofler, Apress

1.7 Overview of Document

The first section of SRS gives a brief idea on Core Banking Solution (CBS) and e-Banking Solution (EBS). This section also provides the reference information for further study, design and implementation of the product.

The second section provides an overall description of the application, product functions, operating environment, design and implementation constraints, assumptions and data inputs required.

The third section gives description of the external interfaces like user interface, hardware interface, communication interface and software interface.

The fourth section provides a detailed description of the system features. The subsections describe the features in much more detail.

The fifth section gives details of non-functional requirements such as performance requirements, security requirements, safety requirements etc.

2. Overall Description

2.1 Product Perspective

Our Product consists mainly of two parts i.e. the Core Banking Solution (CBS) and the e-Banking Solution (EBS).

The CBS would deal with the internal banking functions like new account registration, withdrawal, deposit, account closure etc. The EBS would be exclusively for the customers, who could access it from anywhere having an internet connection. The CBS uses a well interfaced GUI whereas the EBS uses well designed Web Forms for specific actions required by the users. Both of them connect to a main database server for storing and retrieving the data of the customers.

2.2 Product Functions

MAIN FUNCTIONS OF THE CBS

- Login System of the CBS
- New General Account Creation
- New Customer Registration
- Update Customer Info & Account Info
- Close General Account
- Display Account Info
- General Account Transaction (General Account & Loan Account Transaction)
- Loan Account Transaction
- New Loan Account Creation
- Loan Account Closing
- Cheque Book Stock Entry, Issue, Blocking, Status Inquiry
- Pass Book Issue
- Pass Book Info
- Update Branch Info
- Add User To CBS User List
- Remove user From CBS User List
- Super Administrator Creation
- Administrator Creation
- Administrator Removal
- New Bank Employee Registration
- Remove Bank Employee
- New Branch Registration
- Assigning Managers to different Branches
- Add New Account Type
- Add New Loan Account Type
- Modify Interest Rate (General Account)
- Display Branch Information
- Display Employee Information
- Logout System (CBS)

MAIN FUNCTIONS OF THE EBS

- Login System of EBS
- Viewing the Accounts Linked with an UserId

- Viewing the Transaction Summary of an Account
- Fund Transfer Among Own Accounts
- Cheque Book Ordering System
- Cheque Book Blocking System
- Updating Personal Profile
- Change User Password
- Change Transaction Password
- Logout System (EBS)

2.3 User Classes and Characteristics

BANK EMPLOYEE : The Bank Employees would be the sole users of the CBS. They would also use the EBS for their personal accounts in that Bank

BANK CUSTOMERS : The customers would use the EBS.

RESEARCH STUDENTS : Research students need to get acquainted with characteristics of both the CBS as well as EBS , before they can suggest any new enhancements to them. They should have enough understanding of this product so as to identify shortcomings in it. More-over in this project a certain task would be accomplished by different ways in different places. This would be done in order to put forth an array of options before the Students who would be aspiring to do something similar .

OPEN SOURCE COMMUNITY : The Open Source Community would be a major user class of this product. The users could go through the document for adding extra functionalities to the product.

2.4 Operating Environment

This product is developed mainly using open source technologies like apache, php, gtk+ etc. So, we are using the Linux Fedora Core 4 Operating System for developing this product.

Software Requirements

Front-end	: GTK+ 2.8.20 , GCC 4.0.0, PHP 5.20 , Glade 2.10.1 (For CBS)
Backend	: MySql 4.17
Web Server	: Apache 2.2
Platform used	: Fedora Core 4 Linux

Hardware Requirements

- Pentium IV 1.7 GHz class or better processor
- 128MB or more RAM (256 recommended)
- At least 500 MB Harddisk space.

Network Requirements

- The project needs Internet to fully demonstrate its capabilities.
- A minimum of 5KBps continuous connection is required for showing any improvement brought forth by the product.
- A 64 KBps connection is recommended.

2.5 Design and Implementation Constraints

- Enhancements to the security features might lead to performance overhead.
- Recommended bandwidth is 64 KBps
- Central Server should be online round the clock

2.6 User Documentation

After the completion of the project, a well documented user manual will be provided.

2.7 Assumptions and Dependencies

We have made the following assumptions :

The CBS will be connected to the internet during the working hours of the bank.

The main server would never go offline.

2.8 Overview of Data Requirements

The product is completely data oriented.

In CBS , the users would input the various details of the transactions customers, employees etc for updating , processing or retrieval of data.

The CBS would store, update or delete the data from the database as per the instructions given and display an acknowledging message to the user.

In EBS, the users would input less amount of data (like, only when updating their personal profile or requesting for a cheque book). Requesting for the information would be the major task

they would do, in EBS.

The output of the EBS would be : If the user had requested for information then it would be displayed before him/her and if the user had modified any data, then the same will be updated.

2.9 General Constraints, Assumptions, Dependencies, Guidelines

Not Applicable

3. External Interface Requirements

3.1 User Interfaces

CBS :

It will mainly consist of the login screen which would ask for the username and password of the user. On successful verification, it would transfer the user to the main page of CBS. In the main page , there would be well designed menus and sub-menus (as well as buttons) for performing a specific action.

On clicking on the desired button or menu item, the user will be shown the respective screen. The user would then enter the required data for processing and press the 'Confirm or Done' button , after which the processing would be done and the user would be returned to the main page.

There would also be a Logoff button which would help the user to end his session with the CBS and he will be transferred back to the Login screen.

EBS :

The first page of EBS would be a login screen which would ask for the username and password of the customer and on successful verification would transfer the user to the main page where the user would be able to see all his/her linked accounts.

The user would then be able to use the different functionalities of the EBS by clicking on various links that are provided on each page.

There would be a logout link, pressing which, the user would be logged of the EBS immediately.

3.2 Hardware Interfaces

Not Applicable

3.3 Software Interfaces

The product is implemented in the Linux Operating System Environment (Fedora Core 4).

The GUI of the CBS would be designed using the GTK+ toolkit. The concepts of Glade will be used during the programming (Like use of Lookup_widget () , signal functions etc)

The interface of the EBS would be designed using PHP5.

3.4 Communications Interfaces

This product uses an internet connection to connect to the main database server of the bank.

4. System Features

4.1 LOGIN

4.1.1 DESCRIPTION & PRIORITY

This feature will be used to LOG IN into the CBS (only permitted users can use the CBS). It is done in order to prevent any misuse of CBS

4.1.2 STIMULUS / RESPONSE SEQUENCES

When the user gives the correct username and password combination, he/she is transferred to the main screen or the main page.

4.1.3 FUNCTIONAL REQUIREMENTS

Purpose

To check the credibility of an user and to prevent any misuse of the product

Inputs

The input will be username and password combination

Output

The user will be transferred to the main page on successful validation and will be alerted if the validation is unsuccessful

4.2 NEW CUSTOMER REGISTRATION

4.2.1 DESCRIPTION & PRIORITY

Its purpose is to create a new customer of the Bank. A Customer must be registered before he/she can create any new accounts in any of the branches.

4.2.2 STIMULUS / RESPONSE SEQUENCES

On successful validation of each data field (customer details), the registration takes place and the success message is displayed.

4.2.3 FUNCTIONAL REQUIREMENTS

Purpose

To register a new customer

Inputs

The required data for registration of a new customer in the bank (Like Name, Address , Designation etc)

Output

A Success Message be displayed on successful registration or else an error message will be displayed.

4.3 NEW GENERAL ACCOUNT CREATION

4.3.1 DESCRIPTION & PRIORITY

Its purpose is to create a new account of a customer.

4.3.2 STIMULUS / RESPONSE SEQUENCES

On successful validation of each data field, the registration takes place and the account number is displayed.

4.3.3 FUNCTIONAL REQUIREMENTS

Purpose

To create a new account for the customer

Inputs

The required data for registration of a new account (Joint Account Details, Balance, Account Type etc) in the bank

Output

Account Number & Pass Book Number will be displayed on successful registration or else error message will be displayed.

4.4 UPDATING CUSTOMER INFORMATION

4.4.1 DESCRIPTION & PRIORITY

To update and change the Customer profile

4.4.2 STIMULUS / RESPONSE SEQUENCES

On successful validation of each data field, the updation procedure takes place

4.4.3 FUNCTIONAL REQUIREMENTS

Purpose

To update the Customer profile

Inputs

The required data for updating the information of a customer would be given

Output

Either a successful acknowledgment is displayed or else an error message is displayed.

4.5 UPDATING ACCOUNT INFORMATION

4.5.1 DESCRIPTION & PRIORITY

To update and change certain features of an Account like Overdraft Status, Overdraft Limit, Operation Mode etc.

4.5.2 STIMULUS / RESPONSE SEQUENCES

On successful validation of each data field, the updation procedure occurs

4.5.3 FUNCTIONAL REQUIREMENTS

Purpose

To update and change the selected Account Details

Inputs

The required data for updating the information of an Account would be given

Output

Either a successful acknowledgment is displayed or else an error message is displayed.

4.6 ACCOUNT CLOSING SYSTEM

4.6.1 DESCRIPTION & PRIORITY

Its purpose is to close the account of a customer.

4.6.2 STIMULUS / RESPONSE SEQUENCES

On successful validation of each data field, the closing procedure takes place and the account is closed

4.6.3 FUNCTIONAL REQUIREMENTS

Purpose

To close the account of a customer.

Inputs

The required data for closing an account in the bank i.e. the Account Number

Output

Either a successful acknowledgment is displayed or else an error message is displayed.

4.7 VIEW DETAILS OF AN ACCOUNT

4.7.1 DESCRIPTION & PRIORITY

This feature would be used to view the details of a an Account (customer info and account info).

4.7.2 STIMULUS / RESPONSE SEQUENCES

On successful validation of the Account Number, the respective details are displayed

4.7.3 FUNCTIONAL REQUIREMENTS

Purpose

To view the details of an account.

Inputs

The required data for viewing the information of an account i.e. Account Number

Output

On successful verification, the details of the respective entities are displayed or else an error message is displayed.

4.8 GENERAL ACCOUNT TRANSACTION

4.8.1 DESCRIPTION & PRIORITY

It would be used frequently and it would perform the different transaction functions like withdrawal, deposit (cash, cheque or draft), fund transfer of a General Account.

4.8.2 STIMULUS / RESPONSE SEQUENCES

On successful validation of each data field, the transaction takes place.

4.8.3 FUNCTIONAL REQUIREMENTS

Purpose

To perform the different transaction functions in a general account like withdrawal, deposit (of cash, cheque or draft), fund transfer, loan transaction.

Inputs

The required data for performing the specific transaction operation like Account Number , Amount, Instrument type, Instrument Number, Instrument Date, Instrument bank, Instrument Payable-At etc.

Output

The success message is displayed if the transaction was successful or else an error message is displayed.

4.9 LOAN ACCOUNT TRANSACTION

4.9.1 DESCRIPTION & PRIORITY

It would be used for depositing the Loan EMIs of a Loan Account.

4.9.2 STIMULUS / RESPONSE SEQUENCES

On successful validation of each data field, the transaction takes place.

4.9.3 FUNCTIONAL REQUIREMENTS

Purpose

It would be used for depositing the Loan EMIs of a Loan Account .

Inputs

The required data for performing the specific transaction operation like Account Number , Amount etc.

Output

The success message is displayed if the transaction was successful or else an error message is displayed.

4.10 NEW LOAN ACCOUNT CREATION

4.10.1 DESCRIPTION & PRIORITY

Its purpose is to create a new loan account of a customer.

4.10.2 STIMULUS / RESPONSE SEQUENCES

On successful validation of each data field, the registration takes place and the account number is displayed.

4.10.3 FUNCTIONAL REQUIREMENTS

Purpose

To create a new loan account for the customer

Inputs

The required data for registration of a new loan account in the bank i.e. Customer Id, Loan Type, Loan Amount , Period etc.

Output

Loan Account Number, Pass Book Number, Loan Starting Date, No. of EMIs, EMI Amount will be displayed on successful registration or else error message will be displayed.

4.11 LOAN ACCOUNT CLOSING SYSTEM

4.11.1 DESCRIPTION & PRIORITY

Its purpose is to close the loan account of a customer.

4.11.2 STIMULUS / RESPONSE SEQUENCES

On successful validation of the standing dues etc., the closing procedure takes place and the account is closed

4.11.3 FUNCTIONAL REQUIREMENTS

Purpose

To close the loan account of a customer.

Inputs

The Loan Account Number is provided by the User

Output

Either a successful acknowledgment is displayed or else an error message is displayed.

4.12 CHEQUE BOOK STOCK ENTRY

4.12.1 DESCRIPTION & PRIORITY

This feature would be used for entering cheque books into the stock of the Bank Branch. A cheque book can only be issued to a customer if it is present in the Stock.

4.12.2 STIMULUS / RESPONSE SEQUENCES

On successful validation of each data field, the required information is displayed.

4.12.3 FUNCTIONAL REQUIREMENTS

Purpose

To enter a cheque book into the stock of the bank inorder to make it available to the customers.

Inputs

The First Leaf number of the Cheque Book to be entered into the stock

Output

The details i.e. The First Leaf number and Last Leaf number is displayed if the opeartion is successful or else the failure message is displayed.

4.13 CHEQUE BOOK ISSUE

4.13.1 DESCRIPTION & PRIORITY

This feature would be used for issuing a cheque book to the Customer

4.13.2 STIMULUS / RESPONSE SEQUENCES

On successful validation of each data field, the required information is displayed.

4.13.3 FUNCTIONAL REQUIREMENTS

Purpose

To issue a new cheque book to the customer

Inputs

The Account Number of the customer

Output

If there are cheque books available in the stock then a success message is issued or else a message is displayed that an Order has been placed for the Cheque Book

4.14 CHEQUE BLOCKING

4.14.1 DESCRIPTION & PRIORITY

This feature would be used for blocking a cheque leaf to prevent any misuse, if it is misplaced.

4.14.2 STIMULUS / RESPONSE SEQUENCES

On successful validation of each data field, the blocking of the cheque is done.

4.14.3 FUNCTIONAL REQUIREMENTS

Purpose

To block a cheque leaf if it is Unused

Inputs

The Cheque Leaf Number to be Blocked

Output

If the cheque leaf number is Blocked or Not Allotted or Encashed then a corresponding error message is displayed or else a success message is displayed.

4.15 CHEQUE STATUS

4.15.1 DESCRIPTION & PRIORITY

This feature would be used for getting information about the status of a cheque leaf (i.e. whether it is Unused, Blocked, Encashed or Not Allotted)

4.15.2 STIMULUS / RESPONSE SEQUENCES

On successful validation of the Cheque Leaf Number the details are displayed

4.15.3 FUNCTIONAL REQUIREMENTS

Purpose

To view the details of a Cheque Leaf

Inputs

The Cheque Leaf Number whose details are to be viewed

Output

If the cheque leaf number is a valid one then the details are displayed or else an error message is displayed.

4.16 PASS BOOK ISSUE

4.16.1 DESCRIPTION & PRIORITY

This feature would be used for issuing a new pass book or a continuation passbook to a customer (both for a General Account or a Loan Account).

4.16.2 STIMULUS / RESPONSE SEQUENCES

On successful validation of the Account Number , the required action is performed.

4.16.3 FUNCTIONAL REQUIREMENTS

Purpose

To issue a new pass book or a continuation passbook to the customer

Inputs

The required data for performing the specific operations are Account Number, Account Type etc.

Output

If the Account Number is valid then the success message is displayed or else an error message is displayed.

4.17 PASS BOOK INFORMATION

4.17.1 DESCRIPTION & PRIORITY

This feature would be used for viewing the information of a pass book

4.17.2 STIMULUS / RESPONSE SEQUENCES

On successful validation of the Pass Book Number , the details are displayed.

4.17.3 FUNCTIONAL REQUIREMENTS

Purpose

To display the details of a Pass Book

Inputs

The Passbook number of the customer.

Output

If the Pass Book number is valid then the details are displayed or else an error message is displayed.

4.18 UPDATING BRANCH INFORMATION

4.18.1 DESCRIPTION & PRIORITY

To update and change the information related to a specific branch. Respective branch administrators would be able to change only the information relating to their branch.

4.18.2 STIMULUS / RESPONSE SEQUENCES

On successful validation of each data field, the updating procedure takes place

4.18.3 FUNCTIONAL REQUIREMENTS

Purpose

To update and change the information related to a specific branch.

Inputs

The required field of the branch which is to be updated (Branch Name, Address, City, State, Pin, Telephone) is to be selected from a list and the corresponding new information is to be given

Output

Either a successful acknowledgment is displayed or else an error message is displayed.

4.19 ADD USER TO CBS USER LIST

4.19.1 DESCRIPTION & PRIORITY

This feature would be used by the Administrator for adding a certain bank employee to the CBS Users List i.e. giving him/her permission to use the CBS

4.19.2 STIMULUS / RESPONSE SEQUENCES

On successful validation of the Userid or Employee Serial Number the details of the Employee is displayed and then the user is asked for the confirmation . On confirming, the Employee is added to the CBS User List.

4.19.3 FUNCTIONAL REQUIREMENTS

Purpose

To add an employee to the CBS Users List

Inputs

The User Id or Employee Serial Number of the Employee.

Output

On successful validation of the data a success message is displayed or else an error message is displayed.

4.20 REMOVE USER FROM CBS USER LIST

4.20.1 DESCRIPTION & PRIORITY

This feature would be used by the Administrator for removing a certain bank employee (who is already in the CBS User List) from the CBS Users List i.e. restraining him/her from using th CBS

4.20.2 STIMULUS / RESPONSE SEQUENCES

On successful validation of the User Id or Employee Serial Number the details of the user is displayed then the user is then asked for the confirmation . On confirming , the Employee is removed from the CBS User List.

4.20.3 FUNCTIONAL REQUIREMENTS

Purpose

To remove an employee from the CBS Users List

Inputs

The User Id or Employee Serial Number of the Employee.

Output

On successful validation of the data a success message is displayed or else an error message is displayed.

4.21 SUPERADMINISTRATOR CREATION

4.21.1 DESCRIPTION & PRIORITY

This feature would be used by the Super Administrator for changing the current Super Administrator (The user who has the highest Privileges)

4.21.2 STIMULUS / RESPONSE SEQUENCES

On successful validation of the User Id and Employee Serial Number the details of the Employee is displayed and then the user is asked for the confirmation . On confirming, the Employee is added to the CBS User List as an Super Administrator

4.21.3 FUNCTIONAL REQUIREMENTS

Purpose

To add an employee as an Super Administrator in CBS Users List

Inputs

The User Id and Employee Serial Number of the Employee.

Output

On successful validation of the data a success message is displayed or else an error message is displayed.

4.22 ADMINISTRATOR CREATION

4.22.1 DESCRIPTION & PRIORITY

This feature would be used by the Super Administrator for adding a Bank Employee as an Administrator (The user who has the highest Privileges in a certain branch of the Bank) to the CBS User List

4.22.2 STIMULUS / RESPONSE SEQUENCES

On successful validation of the User Id or Employee Serial Number the details of the Employee is displayed and then the user is asked for the confirmation . On confirming, the Employee is added to the CBS User List as an Administrator

4.22.3 FUNCTIONAL REQUIREMENTS

Purpose

To add an employee as an Administrator in CBS Users List

Inputs

The User Id or Employee Serial Number of the Employee.

Output

On successful validation of the data a success message is displayed or else an error message is displayed.

4.23 ADMINISTRATOR REMOVAL

4.23.1 DESCRIPTION & PRIORITY

This feature would be used by the Super Administrator for removing a Bank Employee (who is an Administrator) from the CBS User List

4.23.2 STIMULUS / RESPONSE SEQUENCES

On successful validation of the User Id or Employee Serial Number the details of the Employee is displayed and then the user is asked for the confirmation . On confirming, the Employee is removed from the CBS User List

4.23.3 FUNCTIONAL REQUIREMENTS

Purpose

To remove an employee (who is an Administrator) from the CBS Users List

Inputs

The User Id or Employee Serial Number of the Employee.

Output

On successful validation of the data a success message is displayed or else an error message is displayed.

4.24 NEW EMPLOYEE REGISTRATION

4.24.1 DESCRIPTION & PRIORITY

This feature would be used by the Super Administrator to register a new employee of the Bank.

4.24.2 STIMULUS / RESPONSE SEQUENCES

On successful validation of each data field, the registration takes place and the employee number is displayed.

4.24.3 FUNCTIONAL REQUIREMENTS

Purpose

To register a new employee in the bank

Inputs

The required data for registration of a new employee (Name, Address, Telephone, Mobile, Email, User Id, Password, Account Number etc) are to be given by the user.

Output

Employee Registration Number will be displayed on successful registration or else error message will be displayed.

4.25 EMPLOYEE REMOVAL

4.25.1 DESCRIPTION & PRIORITY

This feature would be used by the Super Administrator to remove a Bank Employee from the database

4.25.2 STIMULUS / RESPONSE SEQUENCES

If the employee serial number is valid then it is checked whether he/she was a Manager. If yes, then the Employee Serial Number of the person who will be replacing him/her as a Manager is asked and then the removal process takes place.

4.25.3 FUNCTIONAL REQUIREMENTS

Purpose

To remove a bank employee from the database.

Inputs

The Employee Serial number of the employee who is to be removed

Output

On successful validation in each step, the Success Message is displayed or an error message is displayed..

4.26 NEW BRANCH REGISTRATION

4.26.1 DESCRIPTION & PRIORITY

This feature would be used by the Super Administrator to register a new branch of the bank.

4.26.2 STIMULUS / RESPONSE SEQUENCES

On successful validation of each data field, the new branch is registered

4.26.3 FUNCTIONAL REQUIREMENTS

Purpose

To register a new branch of the bank.

Inputs

The required data needed for the registration of a new branch of the bank. (Name, Address, City, State, Pin, Telephone etc)

Output

On successful registration, the Branch ID is displayed or else the error message is displayed.

4.27 ASSIGN MANAGER TO BRANCH

4.27.1 DESCRIPTION & PRIORITY

This feature would be used by the Super Administrator to assign a manager to a certain branch of the bank.

4.27.2 STIMULUS / RESPONSE SEQUENCES

On successful validation of each data field, the respective process is performed.

4.27.3 FUNCTIONAL REQUIREMENTS

Purpose

To assign a manager to a branch

Inputs

The required fields i.e. the Manager's Employee Serial Number and the Branch ID are to be given

Output

Once the data given are validated, the manager is assigned to the specified branch and a confirmation is displayed.

4.28 ADD NEW ACCOUNT TYPE

4.28.1 DESCRIPTION & PRIORITY

This feature would be used by the Super Administrator to add a new General Account Type to the Database.

4.28.2 STIMULUS / RESPONSE SEQUENCES

On successful validation of the Account Name (i.e. it doesn't exist before hand) the Addition is performed

4.28.3 FUNCTIONAL REQUIREMENTS

Purpose

To add a new General Account Type to the database

Inputs

The New Account Type Name.

Output

On Successful validation, the Success message is displayed or the corresponding error message is displayed

4.29 ADD NEW LOAN ACCOUNT TYPE

4.29.1 DESCRIPTION & PRIORITY

This feature would be used by the Super Administrator to add a new Loan Account Type to the Database.

4.29.2 STIMULUS / RESPONSE SEQUENCES

On successful validation of the Account Name (i.e. it doesn't exist before hand), interest rate, Maximum Amount, Maximum Period etc the Addition is performed

4.29.3 FUNCTIONAL REQUIREMENTS

Purpose

To add a new Loan Account Type to the database

Inputs

The New Loan Account Type Name, Maximum Amount that can be Sanctioned, Maximum Loan Period and Interest rate.

Output

On Successful validation, the Success message is displayed or the corresponding error message is displayed

4.30 MODIFY INTEREST RATE OF A GENERAL ACCOUNT TYPE

4.30.1 DESCRIPTION & PRIORITY

This feature would be used by the Super Administrator to modify the Interest rate of a General Account Type.

4.30.2 STIMULUS / RESPONSE SEQUENCES

On successful validation of the Account Type Name , new Interest Rate, the period for which this rate is applicable (ex : 1-60 days), the Updation is performed

4.30.3 FUNCTIONAL REQUIREMENTS

Purpose

To modify the Interest Rate of a General Account Type

Inputs

The Account Type Name, New Interest Rate, Interest Period.

Output

On Successful validation, the Success message is displayed or the corresponding error message is displayed

4.31 VIEW DETAILS OF A BRANCH

4.31.1 DESCRIPTION & PRIORITY

This feature would be used to view the details of any branch.

4.31.2 STIMULUS / RESPONSE SEQUENCES

On selecting a Branch Id from a List the corresponding branch details would be displayed

4.31.3 FUNCTIONAL REQUIREMENTS

Purpose

To view the details of any branch registered.

Inputs

The Branch Id would be selected by the user from the List of All the Branches registered under the Bank

Output

On successful validation, the branch details are displayed or else an error message is displayed.

4.32 VIEW DETAILS OF AN EMPLOYEE

4.32.1 DESCRIPTION & PRIORITY

This feature would be used to view the details of an employee

4.32.2 STIMULUS / RESPONSE SEQUENCES

On successful validation of the User Id or Employee Serial Number the Employee details are displayed

4.32.3 FUNCTIONAL REQUIREMENTS

Purpose

To view the details of an employee of the Bank

Inputs

The Employee User Id or the Employee Serial Number

Output

On successful verification, the details of the respective employee is displayed or else an error message is displayed.

4.33 LOGOUT SYSTEM (CBS)

4.33.1 DESCRIPTION & PRIORITY

This feature would enable the user to successfully end his session and Logout of the CBS. After Logging Out , he/she would not be able to perform any of the CBS operations until he/she is again Logged In.

4.33.2 STIMULUS / RESPONSE SEQUENCES

On clicking the Logout Button, the session is terminated and the Login screen appears.

4.33.3 FUNCTIONAL REQUIREMENTS

Purpose

To successfully end the user session and Logout of the CBS.

Inputs

---NA---

Output

On successful termination of the session, the Login Screen is displayed

MAIN FUNCTIONS OF THE EBS

4.34 LOGIN

4.34.1 DESCRIPTION & PRIORITY

This feature would be use by the Customer to Login into the EBS and create an user session. (Login is necessary for accessing the facilities of EBS)

4.34.2 STIMULUS / RESPONSE SEQUENCES

When the user gives the correct Username and Password combination, he/she is transferred to the main screen or the main page.

4.34.3 FUNCTIONAL REQUIREMENTS

Purpose

To check the credentials of an user and to prevent any misuse of the product

Inputs

The input will be Username and Password combination

Output

The user will be transferred to the main page on successful validation and will be

redirected to the Login Page if the validation is unsuccessful

4.35 ACCOUNT SUMMARY

4.35.1 DESCRIPTION & PRIORITY

This feature would display all the accounts linked with a certain account.

4.35.2 STIMULUS / RESPONSE SEQUENCES

This is displayed once the login process is successfully validated. On clicking on each account, the user is shown the transaction details of that account.

4.35.3 FUNCTIONAL REQUIREMENTS

Purpose

To display all the accounts linked with that account.

Inputs

No inputs are needed. Only successful validation of the account is needed, which is done in the Login step.

Output

The account numbers are displayed as Hyperlinks

4.36 TRANSACTION DETAILS

4.36.1 DESCRIPTION & PRIORITY

This feature would display the transaction details of an account when the Account Number Hyperlink is clicked in the Account Summary page or Main Page

4.36.2 STIMULUS / RESPONSE SEQUENCES

On clicking the hyperlink the transaction details are displayed.

4.36.3 FUNCTIONAL REQUIREMENTS

Purpose

To display the transactional details of an account

Inputs

The user has to click on the Account Number Hyperlink in the Account Summary page or Main Page

Output

The transaction details are displayed in a tabular format

4.37 FUND TRANSFER

4.37.1 DESCRIPTION & PRIORITY

This feature would enable the user to transfer funds to another account either linked to his User Id

4.37.2 STIMULUS / RESPONSE SEQUENCES

After filling the required data, when the Transfer button is clicked, the fields are validated and the transfer takes place.

4.37.3 FUNCTIONAL REQUIREMENTS

Purpose

To transfer funds to other accounts

Inputs

The Source Account Number , the Destination Account Number , Amount to be transferred, and the Transaction Password are the inputs.

Output

If all the fields are validated successfully, then amount will be transferred successfully or else an error message is displayed.

4.38 CHEQUE BOOK ORDER SYSTEM

4.38.1 DESCRIPTION & PRIORITY

This feature would enable the user to order a new cheque book.

4.38.2 STIMULUS / RESPONSE SEQUENCES

A order confirmation would be displayed on clicking the order link. A user can have only one order pending at all times.

4.38.3 FUNCTIONAL REQUIREMENTS

Purpose

To order a new cheque book.

Inputs

The user has to click on the Order Cheque Book Hyperlink and select the Account Number whose Cheque Book is to be Ordered

Output

A confirmation will be displayed that an order has been placed or else an error message will be displayed

4.39 CHEQUE BLOCKING SYSTEM

4.39.1 DESCRIPTION & PRIORITY

This feature would enable the user to block any of the cheque leafs that are issued to him/her.

4.39.2 STIMULUS / RESPONSE SEQUENCES

The user would enter the cheque leaf number and would then block it. On successful validation of the leaf number with the concerned Account Number, it would be blocked.

4.39.3 FUNCTIONAL REQUIREMENTS

Purpose

To block cheque leafs.

Inputs

The leaf number is given as input

Output

If the cheque leaf number is validated to the concerned user, then it is blocked and a confirmation is displayed.

4.40 UPDATING USER PROFILE

4.40.1 DESCRIPTION & PRIORITY

This feature would enable the user to update his personal profile like telephone number, mobile, email, password etc.

4.40.2 STIMULUS / RESPONSE SEQUENCES

On successful validation of the fields , the profile would be updated and a confirmation would be displayed.

4.40.3 FUNCTIONAL REQUIREMENTS

Purpose

To update the personal profile of the customer

Inputs

The required fields , which are to be updated, are selected from a List and the new information is given as input.

Output

On validation of the data entered , the profile is updated and a message is displayed.

4.41 CHANGE USER PASSWORD

4.41.1 DESCRIPTION & PRIORITY

This feature would enable the user to update his general password (the one which is used during the Login of EBS)

4.41.2 STIMULUS / RESPONSE SEQUENCES

On validation of the data entered i.e. the Current password , the password tokens are updated in the database .

4.41.3 FUNCTIONAL REQUIREMENTS

Purpose

To change the user login password

Inputs

The Current Password and the New Password (with Confirmation)

Output

On validation of the data entered , the success message is displayed or else an error message id displayed.

4.42 CHANGE TRANSACTION PASSWORD

4.42.1 DESCRIPTION & PRIORITY

This feature would enable the user to update his Transaction password (the one which is used during the Fund Transfers in the EBS)

4.42.2 STIMULUS / RESPONSE SEQUENCES

On validation of the data entered i.e. the Current transaction password , the password tokens are updated in the database .

4.42.3 FUNCTIONAL REQUIREMENTS

Purpose

To change the user transaction login password

Inputs

The Current Transaction Password and the New Password (with Confirmation)

Output

On validation of the data entered , the success message is displayed or else an error message is displayed.

4.43 LOGOUT SYSTEM (EBS)

4.43.1 DESCRIPTION & PRIORITY

This feature would enable the user to successfully end his session and Logout of the EBS. After Logging Out , he/she would not be able to perform any of the EBS operations until he/she is again Logged In.

4.43.2 STIMULUS / RESPONSE SEQUENCES

On clicking the Logout Link, the session is terminated and the Login screen appears.

4.43.3 FUNCTIONAL REQUIREMENTS

Purpose

To successfully end the user session and Logout of the EBS.

Inputs

Output

On successful termination of the session, the Login Page is displayed

5. Other Nonfunctional Requirements

5.1 Performance Requirements

The most important factor in the working of the whole project is its Connectivity with the Server and the Mode of Connection. If the connection is a 64 Kbps one then the performance of the Products (EBS & CBS) would be much better than that with a 10 Kbps connection.

5.2 Safety Requirements

Not Applicable

5.3 Security Requirements

The Central Server comprises of the Apache Server 2.2 and MySql Server 4.17 . Both are open source software solutions and the best among their fields. They have their respective Security Mechanism which would prevent any unauthorised access or exploitation of the Server.

5.4 Software Quality Attributes

This project would be developed completely using open source software and platforms. So, anybody can use and enhance the software further without spending any money.

5.5 Business Rules

Not Applicable

5.6 Special User Requirements

The users should have banking knowledge (for CBS only). The users of EBS need no prior knowledge for using the product except that they should know about browsing and surfing.

5.6.1 Backup and Recovery

Not Applicable at present

5.6.2 Data Migration

Not Applicable present

5.6.3 Data retention

Not Applicable at present

5.6.4 User Training

The users would be supplied with User Manuals which would guide them efficiently on how to use the software

5.6.5 Installation

Not Applicable

6. Other Requirements

Not Applicable