Software Requirements Specification

for

INTERNET BANKING SYSTEM

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**Software Requirement Specification**

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**1. Introduction**

**1.1 Purpose**

An online comprehensive solution to manage Internet banking. This will be accessible to all customers who have a valid User Id and Password. This system provides the following facilities: Balance Enquiry, Funds Transfer to another account in the same bank, Request for cheque book/change of address/stop payment of cheques, viewing Monthly and annual statements.

**1.2 Document conventions**

The first section of SRS gives a brief introduction on internet banking. Then section provides the reference information for further studying, intended, audience need and purpose of the product.

The second section provides an overall description of the application product features and function, users an operating environment (hardware software and environment).

The third section is about the specific requirement like external interface, performance requirement, design constraints and additional comments.

**1.3 Intended audience and reading suggestion**

The SRS would be used by management team, designers and developers. They would be using this SRS to understand the various banking functionalities and for understanding the concept of implementations.

**1.4 Product scope**

This software will serve almost all the features provided by a bank without being physically present at the bank.

This system will be designed to minimize the customer’s access to all the banking needs with some simple click which would otherwise have to be performed manually by visiting the bank.

This software will be available 24x7 for customer convenience.

**2. Overall description**

**2.1 Product prospective**

The idea for product comes after when the bank official found the bank premises crowded with long queues and also to make bank transaction easily accessible anywhere and anytime. This software is a follow project from some already existing software product with similar functionalities like register, login, etc. with some added new features.

**2.2 Product functions**

There are various functionalities of the software it is described in below:

1. customer registration
2. customer login
3. bank account details and bank account enquiry
4. weekly , monthly, and annual statement.
5. Fund transfer with same bank or other bank.
6. Online payments to merchandise.

**2.3 Use classes and characteristics**

Administrator: Is the super user who can add new customer into banking system and assign corresponding user name password a/c type and other details.

general customers: After login he can be able to request for balance enquiry in his account, fund transfer to another account in the same bank, request for cheque book and other operations.

* 1. **Operating environment**

1. Front­end:

* GTK+ 3.22
* GCC 8.2
* PHP 5.20
* Glade 2.10.1 (For CBS)

1. Backend:

* MySQL 5.7.23

1. Web Server:

* Apache 2.4.34

1. Platform used:

* Peppermint 8 respin Linux

1. 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.

1. Hardware requirement:

* Standard pc
* Pentium IV 1.7 GHz class or better processor
* RAM 512 mb at least
* at least 500GB hard disk space

1. Software requirement

* The software will be available 24x7
* The web browsers are: Firefox, internet explorer, chrome, etc.

* 1. **Design and implementation of constraints**
* Hardware
* Database
* Language
* Parallel operations
* Communication protocol
  1. **user documentation**

The software will be involve three user manuals for the reference.

1. User manual for customer:

It will contain the information regarding the usage of the software by the end user for carrying out the bank transactions.

1. User manual for bank officials :

This will contain the manual for managing and updating the software like updating the contents of the homepage and also guides the various setting.

1. User manual for various options and behavior of the software:

This will contain all the options which will be popping of in various situation and the necessary steps to be taken at the moment.

* 1. **Assumption and dependencies**

This software has been assumed robust and free from system crashes assuming all the external features added hence like database, communication protocol, system in which the software has been running are properly run in the recommended requirements.

The common features like login and register has its code divided from an existing project in our repository.

**3. External interface requirements**

* 1. **user interface**

each interface of the software will be linked to one another. For example, the first page registered and login section will be linked by two other pages with each having success or error display page.

All the pages will be designed using at least version of the html and CSS along with JavaScript to make the site more interactive and attractive.

* 1. **hardware interface**

all the device maintaining the requirement as specified in section 2.4. the control interaction between the hardware and the software will be done via the operating system running on this specific device.

* 1. **software interface**

the IBS system should communicate with the configurator to identify all the available component to configure the product. It will also communicate with the manager to get the product specification, offering, and promotion that would be updated regularly on the front page.

In addition, on the otp will be sent via mobile messaging service before every payment.

* 1. **communication interface**

this product will involve all the transfer and communication protocol like mail, network server, communication protocol for transforming all types of data to the form from bank. It will include a page when a user can send an email to the bank official regarding any service or queries. Also, it will contain a inbox page where a user can check his/her email.

It will also include the various transfer protocol like TCP/IP, FTP, SFTP, etc. to transfer the file from the server.

1. **System feature**
   1. **Customer**
      1. **Registration:** an existingbank customer can avail internet banking system by registering for the net banking system.

**Stimulus /response sequence:** On successful validation of each data field (customer details), the registration takes place and the success message is displayed.

**Priority:** high

**Input:** CIF number,

IFSC code,

account number,

customer name,

registered mobile number,

OTP,

capcha

**Output:** if above information matches move to utility () function,

else **Register** again.

* + 1. **Login:** for user to able to use this system, they have to enter user name and password; which they have created before in utility( ) function, and saved in the data base in the login page. The user may be a customer or an admin also.

**Stimulus /response sequence:** When the user gives the correct username and password combination, he/she is transferred to the main screen or the main page

**Priority:** medium

**Input:** user name,

password

**Output:** if correct move to home page,

Else re-enter password and user name again.

* + 1. **View account:** it allows the customer to view today’s up to-the-minute balance information on deposit (saving/current/credit card). the customer can also view transaction history with retention period up to 90 days and 150 transactions.

**Stimulus /response sequence:** On successful validation of the Account Number, the respective details are displayed.

**Priority:** low

**Input:** choose view online,

By e-mail,

By postal.

**Output:** move to the respective page.

* + - 1. **View online:** instant view of the transaction history and current balance.

**Stimulus /response sequence:**

By clicking on view online option transaction history shown according to the filter chosen by the customer.

**Priority:** low

**Input:** deposit /withdraw,

Time interval,

Current, saving, credit card.

**Output:** show table of transaction history

* + - 1. **E-mail:** transaction history and current balance sent to the verified e-mail account of customer.

**Stimulus /response sequence:**

After verifying the e-mail id; now on each date chosen by the customer e- mail will reach to the customer carrying the transaction history up to that date.

**Priority:** low

**Input:** enter e-mail id,

Confirm by OTP,

Interval of e-mail,

Date of e-mail.

**Output:** successful message shown by system.

* + - 1. **By postal:** transaction history of customers is sent to the customer via postal system.

**Stimulus /response sequence:**

After verifying the address successful message will show on the screen. and on end of the month transaction history will reach to customer via letter.

**Priority:** medium

**Input:** confirm address,

Interval of post.

**Output:** successful message shown by system.

* + 1. **Transfer fund:** transfer funds allow customer to transfer funds between authorized account and own personal account. Customer can Request transaction that can take place immediate or at specific future specified by customer.

**Stimulus /response sequence:**  After filling the required data, when the Transfer button is clicked, the fields are

validated and the transfer takes place.

**Priority:** highest

**Input:** amount,

Target account,

PIN,

OTP,

Time of transaction.

**Output:** system will display transfer fund function for transfer(successful/error),

Shows transaction detail,

Show remaining balance,

Logout.

* + 1. **Cheque service:** the customer may can enquire cheque. status(paid/unpaid/stopped/returned).it also allow customer to stop cheque payment and also allow to request cheque book online.

**Stimulus /response sequence:**

after clicking on cheque service it will lead you to the facilities available about cheque.

**Priority:** medium

**Input:** choose one: cheque status,

Request cheque book,

Stop cheque.

**Output:** move to relative page.

* + - 1. **Cheque status:**

**Stimulus /response sequence:**

**Priority:** low

**Input:** cheque number

**Output:** show status

* + - 1. **Stop cheque:** This feature would enable the user to block any of the cheque leafs that are issue

 to him/her.

**Stimulus /response sequence:** 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.

**Priority:** high

**Input:** cheque number,

Reason(optional),

Enter PIN,

Enter OTP.

**Output:** successful message shown by system

* + - 1. **Request cheque book:** This feature would enable the user to order a new cheque book.

**Stimulus /response sequence:** A order confirmation would be displayed on clicking the order link. A user can

have only one order pending at all times.

**Priority:** medium

**Input:** confirm address

**Output:** show request successful.

* + 1. **Utility:** utility allows customer to change password and PIN; and address of the customer online. within this feature, the customer can also change the online profile personal information that is retained by the internet banking database.

**Stimulus /response sequence:** On validation of the data entered i.e. the Current password, the password tokens are

 updated in the database.

**Priority:** medium

**Input:** old PIN then new PIN,

Old password then new password,

Add new address.

Edit profile.

**Output:** successful message shown by system

* + 1. **Log out:** the function is used when a logged in user finishes job and wants to be logged out .so that no one can abuse his/her user name.

**Stimulus /response sequence:** On clicking the Logout Button, the session is terminated and the Login screen appears.

**Priority:** high

**Input:** press logout option.

**Output:** successful logout message shown by system.

* 1. **Branch manager**
     1. **Log in:**

**Priority:** high

**Input:** user name,

Password.

**Output:** if correct, move to the home page,

Else re-enter username and password.

* + 1. **See notifications:** this function will show the branch manager about the changes done by the customer having account in that branch.

**Stimulus /response sequence:**

by clicking on this option, it will appear block ATM, address change etc. notifications.

**Priority:** low

**Input:** click on notification option

**Output:** notification of address change, cheque stop, cheque book request.

* + 1. **Cheque:** get the explicit notifications about cheque book order and cheque stop request.

**Stimulus /response sequence:**

It will show the requests related to cheques to the manager for approval.

**Priority:** medium

**Input:** chose one(cheque book request/stop cheque)

**Output:** move to concerned page

* + - 1. **Cheque book request:** requests done by bank customers for new cheque book appear.

**Stimulus /response sequence:**

Requests will appear before manager for approval.

**Priority:** medium

**Input:** approve/disapprove

**Output:** successful message shown by system

* + - 1. **Stop cheque:** notification for blocking of cheque of branch customers.

**Stimulus /response sequence:**

Requests will appear before manager for approval

**Priority:** high

**Input:** approve/disapprove after viewing current status of the cheque.

**Output:** successful message shown by system.

* + 1. **Log out:**

**Priority:** high

**Input:** select logout option

**Output:** successful logout message shown by system.

1. **Other non-functional requirement**
   1. **performance requirement**

database can store the data details up to about a hundred thousand accounts but that can very according to banks need and would depend upon data storage capacity of server and not on the database.

Its searching time should be less.

* 1. **safety requirement**

safety of user’s personal information are important and to save all this information security features like automatically logoff in three minutes.

Possible loss of information can take place if database crashes and hence server steps must be taken to keep system database from deadlock and other circumstances.

* 1. **security requirement**

the data abstraction is primary concern in this type of software product as it details with money.

That’s why the software has been integrated with the modern cipher techniques.

The user data are stored in the database in encrypted format so that no one can access the data even if the database is hacked for the same moment.

* 1. **software quality attribute**

robust: the software will be immune to all kinds of software crashes so that all the transaction can be done in a smooth manner. It will have the ability to cope with errorless input.

* 1. **business rule**

during update all the transactions must avoided through internet banking system.

If some bug/error found in system in must initiate certain protocol to find the bug/error and replace it with correct information from backup storage.

1. **Other requirements**
   1. **Accessibility**

The software would be serving 24x7 and providing the banking service anytime and anywhere through the use of distributed system.

* 1. **Recoverability**

Back up data to a secure location.

Easy pathway to instant recovery of the information from secure location to main system in case of system failure.

* 1. **Interoperability**

It will have the ability to exchange and make use of information between device made by different manufactures and carry all transaction in a smooth way.

* 1. **Traceability**

It need to be easy and fast to trace the source and destination of the transaction.

In case of error and bug in the ssytem,it need to be fast and efficient to find it.