Guru99 Banking Project

Software Requirements Specification

3.0

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Prepared for

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	Version 2.0		● Customized statement Field name "Amount Lower Limit" is changed to "Minimum Transaction Value" ● Change T39 ,T40, T41 ● In Edit Account module, Fields Customer Id and Balance is disabled. Changes made in section 3.1 ● In "Form after submitting Edit Customer" Fields Customer Name, Gender ,Date of Birth cannot be changed.
	Version 3.0		● Added details of web service in section 2.1.3 software interface ● Changed Scope of the Project in section 1.2 ● Changed Functional details in F5, F9, F29, F32, F33, F36. ● In section 3.1 module new customer added password field

1. Introduction

The Guru99 Bank project aims to provide net banking facility to its customers.
This release will have limited features. Over a period of time , new and new functionalities will be added to the site.

1.1 Purpose

The Purpose of this document is to outline the requirements for the Guru99 Banking website to be developed for Guru99 Tech. Pvt. Ltd. This document will be used by all stakeholders including developers and testers.

1.2 Scope

The scope of this project is limited to the testing of the features described in the succeeding sections of this document.
Non-functional testing like stress, performance is beyond scope of this project.
Automation testing is beyond scope.
Functional testing & external interfaces are in scope and need to be tested
No QA support for mobile application developed. Only web service will be tested.
The banking site will be only compatible with Chrome version 27 and above

1.3 Definitions, Acronyms, and Abbreviations

Abbreviation	Word
M	Manager

C	Customer

1.4 References

Nil

2. Specific Requirements

The Guru99 Bank will have 2 roles
1. Manager
2. Customer

Following features/modules will be available to these 2 different roles

Manager	Customer
New Customer	Balance enquiry
Edit Customer	Fund Transfer
Delete Customer	Mini Statement
New Account	Customized Statement
Edit Account	Change Password
Delete Account	Login & Logout
Deposit	
Withdrawal	
Fund Transfer	
Change Password	
Balance Enquiry	
Mini Statement	
Customized Statement	
Login & Logout	

Description of the modules

Module Name	Applicable Roles	Description
Balance Enquiry	Manager Customer	**Customer:** A customer can have multiple bank accounts. He can view balance of his accounts only **Manager:** A manager can view balance of all the customers who come under his supervision
Fund Transfer	Manager Customer	**Customer:** A customer can have transfer funds from his "own" account to any destination account. **Manager:** A manager can transfer funds from any source bank account to destination account
Mini Statement	Manager Customer	A Mini statement will show last 5 transactions of an account **Customer:** A customer can see mini-statement of only his "own" accounts **Manager:** A manager can see mini-statement of any account
Customized Statement	Manager Customer	A customized statement allows you to filter and display transactions in an account based on date, transaction value **Customer:** A customer can see Customized-statement of only his "own" accounts **Manager:** A manager can see Customized -statement of any account
Change Password	Manager Customer	**Customer:** A customer can change password of only his account. **Manager:** A manager can change password of only his account. He cannot change passwords of his customers
New Customer	Manager	**Manager:** A manager can add a new customer.
	Manager	**Manager:** A manager can edit details like address, email , telephone of a customer.
New Account	Manager	Currently system provides 2 types of accounts ● Saving ● Current A customer can have multiple saving accounts (one in his name , other in a joint name etc). He can have multiple current accounts for different companies he owns.

		Or he can have a multiple current and saving accounts. **Manager:** A manager can add a new account for an existing customer.
Edit Account	Manager	**Manager:** A manager can add a edit account details for an existing account
Delete Account	Manager	**Manager:** A manager can add a delete an account for a customer.
Delete Customer	Manager	A customer can be deleted only if he/she has no active current or saving accounts **Manager:** A manager can delete a customer.
Deposit	Manager	**Manager:** A manager can deposit money into any account. Usually done when cash is deposited at a bank branch.
Withdrawal	Manager	**Manager:** A manager can withdraw money from any account. Usually done when cash is withdrawn at a bank branch.

2.1 External Interface Requirements

2.1.1 User Interfaces

None

2.1.2 Hardware Interfaces

None

2.1.3 Software Interfaces

The bank will provide a mobile app wherein a customer can
1. See mini statement for his account.
2. See balance enquiry for his account.

two web service calls are created so the mobile app can connect to net banking database and sink data. Details as below.

Mini Statement
Get last 5 transaction details from server
Output Format
    JSON
API call category

User
API Request

http://demo.guru99.com/V3/sinkministatement.php?CUSTOMER_ID=cust123&PASSWORD=cust123&Account_No=123

Input Parameter	Type	Description
CustomerID	Mandatory	User's customer id
Password	Mandatory	Users' password
AccountNumber	Mandatory	Account Number for which statements are required

Response
{
"result":
{
    "Statements":[
        {
        "Transaction ID":123,
        "Amount":"10000",
        "Transaction Type":"W",
        "ACCOUNT_NO":"123",
        "Date of Transaction":"2013-10-01",
        "Description":"Self"
        },
        {
        "Transaction ID":142,
        "Amount":"10000",
        "Transaction Type":"d",
        "ACCOUNT_NO":"123",
        "Date of Transaction":"2013-10-09",
        "Description":"Self"
        },
        {
        "Transaction ID":1111,
        "Amount":"700",
        "Transaction Type":"d",
        "ACCOUNT_NO":"123",
        "Date of Transaction":"2013-15-09",
        "Description":"Self"
        },
        {

```
            "Transaction ID":148,
            "Amount":"7000",
            "Transaction Type":"d",
            "ACCOUNT_NO":"123",
            "Date of Transaction":"2013-17-09",
            "Description":"Self"
            },
            {
            "Transaction ID":158,
            "Amount":"5500",
            "Transaction Type":"d",
            "ACCOUNT_NO":"123",
            "Date of Transaction":"2013-18-09",
            "Description":"Self"
            }
            ]
    },
        "message":
            {
            "ErrorCode":0,
            "ErrorMsg":"error message"
            }
    }
```

Balance Enquiry

Get Balance from User Account

Output Format

JSON

API call category

User

API Request

Input Parameter	Type	Description
CustomerID	Mandatory	Users customer id
Password	Mandatory	Users password
AccountNumber	Optional	If user enters Account_No then display balance for account associate with Account_No If user not enters Account_No then display balance for all account associated with it.

Response

```
{
"result":
{
        "Balance":[
                {
                "ACCOUNT_NO":123,
                "ACCOUNT_TYPE":"Saving",
                "BALANCE":"10000"
                },
                {
                "ACCOUNT_NO":256,
                "ACCOUNT_TYPE":"Current",
                "BALANCE":"50000"
                },
                {
                "ACCOUNT_NO":298,
                "ACCOUNT_TYPE":"saving",
                "BALANCE":"20"
                }
                ]
},
        "message":
                {
                "ErrorCode":0,
                "ErrorMsg":"error message"
                }
}
```

Error Code Table

Error Code #	Error Code Message
0	Success
1	NoData
2	Connection Issue
3	Login Credentials Incorrect

2.1.4 Communications Interfaces

None

3.1 Front End Details

This section describes the Front end of Guru99 Bank.

It also lists a few use cases to describe the functioning of the system

Following is a list of module wise fields

Fund Transfer
- Payers account no
- Payees account no
- Amount
- Submit
- Reset

Change Password
- Old Password
- New Password
- Confirm Password
- Submit
- Reset

Balance enquiry
- Account No
- Submit
- Reset

Mini Statement
- Account No
- Submit
- Reset

Customized Statement
- Account No
- From Date
- To Date
- Minimum Transaction Value
- Number Of Transaction
- Submit
- Reset

New Customer
- Customer Name
- Gender
- Date of Birth
- Address
- City

- State
- PIN
- Mobile Number
- Email Id
- Password
- Submit
- Reset

New Account
- Customer Id
- Account Type
- Initial deposit
- Submit
- Reset

Deposit
- Account Number
- Amount Deposit
- Description
- Submit
- Reset

Withdraw
- Account Number
- Amount
- Description
- Submit
- Reset

Fund Transfer
- Payers Account Number
- Payees Account Number
- Amount
- Description
- Submit
- Reset

Change Password
- Old Password
- New Password
- Confirm Password
- Submit
- Reset

Delete Customer
- Customer Id
- Submit
- Reset

Edit Account
- Account Number
- Submit
- Reset

Form after submitting Edit Account
- Customer Id (Disabled)
- Account Type (Drop Down - Saving or Current)
- Balance (Disabled)
- Submit
- Reset

Delete Account
- Account Number
- Submit
- Reset

Edit Customer
- Customer Id
- Submit
- Reset

Form after submitting Edit Customer
- Customer Name (Disabled)
- Gender (Disabled)
- Date of Birth (Disabled)
- Address
- City
- State
- PIN
- Mobile Number
- Email Id
- Submit
- Reset

3.2 Technical Requirements

New Account

T1 Customer Id - Customer ID is required
T2 Customer Id - Special character are not allowed
T3 Customer Id - Characters are not allowed
T3.1 Customer Id - First character cannot have space

New Customer

T4 Customer Name – Numbers are not allowed
T5 Customer Name – Special characters are not allowed
T6 Customer Name - Customer name must not be blank
T7 Customer Name - First character cannot have space
T8 Address - Address Field must not be blank
T9 Address - First character can not have space
T10 Address - Special characters are not allowed
T11 City - Special character are not allowed
T12 City - City Field must not be blank
T13 City – Numbers are not allowed
T14 City - First character can not have space
T15 State – Numbers are not allowed
T16 State - State must not be blank
T17 State – Special characters are not allowed
T18 Pin - Characters are not allowed
T19 Pin - PIN Code must not be blank
T20 Pin – Special characters are not allowed
T21 Pin – PIN Code must have 6 Digits
T22 Pin - First character can not have space
T23 Mobile Number – Mobile no must not be blank
T24 Mobile Number – Special character are not allowed
T25 Mobile Number – Character are not allowed
T26 Mobile Number - First character can not have space
T27 Email : Email ID must not be blank
T28 Email : Email ID is not valid

T29 Email : First character can not have space

Balance Enquiry

T30 Account No must not be blank
T31 Special character are not allowed
T32 Characters are not allowed

Customized Statement Form

T33 Account No - Account Number must not be blank
T34 Account No - Characters are not allowed
T35 Account No - Special characters are not allowed
T36 Minimum Transaction Value – Special character are not allowed
T37 Minimum Transaction Value – Amount Lower Limit is required
T38 Minimum Transaction Value – Characters are not allowed
T39 Number of Transaction – Special character are not allowed
T40 Number of Transaction - Minimum Transaction Value must not be blank
T41 Number of Transaction – Character are not allowed

Delete Account Form

T42 Account No must not be blank
T43 Special character are not allowed
T44 Characters are not allowed

Delete Customer

T45 Customer Id - Customer ID is required
T46 Customer Id - Special character are not allowed
T47 Customer Id - Characters are not allowed
T47.1 Customer Id - First character cannot have space

Deposit

T48 Account No must not be blank
T49 Special character are not allowed
T50 Characters are not allowed
T51 Amount field must not be blank
T52 Special characters are not allowed
T53 Characters are not allowed
T54 Description must not be blank

Edit Account

T55 Account No must not be blank
T56 Special character are not allowed
T57 Characters are not allowed

Edit Customer form

T58 Customer Id - Customer ID is required
T59 Customer Id - Special character are not allowed
T60 Customer Id - Characters are not allowed
T60.1 Customer Id - First character cannot have space

Edit Customer

T61 Address - Address Field must not be blank
T62 Address - First character can not have space

T63   Address - Special characters are not allowed
T64   City - Special character are not allowed
T65   City - City Field must not be blank
T66   City – Numbers are not allowed
T67   City - First character can not have space
T68   State – Numbers are not allowed
T69   State - State must not be blank
T70   State – Special characters are not allowed
T70.1 State- First character cannot have space
T71   Pin - Characters are not allowed
T71   Pin - PIN Code must not be blank
T72   Pin – Special characters are not allowed
T73   Pin – PIN Code must have 6 Digits
T74   Pin - First character cannot have space
T75   Mobile Number – Mobile no must not be blank
T76   Mobile Number – Special character are not allowed
T77   Mobile Number – Character are not allowed
T78   Mobile Number - First character cannot have space
T79   Email : Email ID must not be blank
T80   Email : Email ID is not valid
T81   Email : First character cannot have space

Fund Transfer

T82   Payers Account Number must not be blank
T83   Special characters are not allowed
T84   Characters are not allowed
T85   Payees Account Number must not be blank
T86   Special characters are not allowed
T87   Characters are not allowed
T88   Amount Field must not be blank
T89   Characters are not allowed
T90   Special characters are not allowed
T91   Description cannot be blank

Login

T92   User-ID must not be blank
T93   Password must not be blank

Mini Statement Page

T94   Account No must not be blank
T95   Special character are not allowed
T96   Characters are not allowed

Change Password

T97 Old Password must not be blank
T98 New Password must not be blank
T99 Enter at-least one numeric value
T100 Enter at-least one special character
T101 Choose a difficult Password
T102 Confirm Password must not be blank
T103 Passwords do not Match

Withdraw

T104 Account No must not be blank
T105 Special character are not allowed
T106 Characters are not allowed
T107 Amount Field must not be blank
T108 Characters are not allowed
T109 Special characters are not allowed
T110 Description cannot be blank

3.3 Functional validations

Balance Enquiry

Manager
F1 Manager can view balance of accounts associate with him
F2 Account number entered should exist in database

Customer
F3 Customer can view balance of only his accounts
F4 Account number entered should exist in database

Fund Transfer
Manager
F5 If these source and destination account numbers are invalid, system displays an error "Account ### does not exist!!!"
F6 If these source and destination account numbers are same, system displays an error
F7 If the source account does not have the necessary balance, system displays an error
F8 If the source account does not associated with manager, System displays an error

<u>Customer</u>

F9 If the destination account number is not valid, system displays an error "Account ### does not exist!!!"

F10 If these source and destination account numbers are same, system displays an error

F11 If the source account does not have the necessary balance, system displays an error

F12 If the source account is not associate with customer itself, System displays an error.

Withdrawal

<u>Manager</u>

F13 If source account number is invalid, system displays an error

F14 If source account does not have the necessary balance, system displays an error

F15 If source account does not associate with manager, System displays an error.

<u>Customer</u>

F16 If source account number is invalid, system displays an error

F17 If source account does not have the necessary balance, system displays an error

F18 If source account does not associate with customer, System displays an error.

Deposit

<u>Manager</u>

F19 If destination account number is invalid, system displays an error

F20 If destination account number does not associate with manager, System displays an error.

<u>Customer</u>

F21 If destination account number is invalid, system displays an error

F22 If destination account number does not associate with customer, System displays an error.

Delete Customer

<u>Manager</u>

F23 If Customer Id is invalid, system displays an error.

F24 If account associate with Customer Id, System displays an error.

F25 If Customer Id does not associate with manager, System displays an error.

Delete Account

<u>Manager</u>

F26 If Account Number is invalid, system displays an error

F27 If account does not associate with manager logged in, System displays an error.

Edit Account

<u>Manager</u>

F28 If Account Number is invalid, system displays an error.

F29 If Account number does not associate with manager, System displays an error.On success , Account details must be shown.

New Account

<u>Manager</u>

F30 If Customer ID is invalid, system displays an error.

F31 If initial deposit is less than 500, System displays an error.

F32 If Customer Id does not associate with manager, System displays an error. On success account detail must be shown.

New Customer

<u>Manager</u>

F33 If same Email Id exist in the system, system shows an error.On success , user registration details must be shown.

Edit Customer

<u>Manager</u>

F34 If same Email Id exist in the system, system shows an error.

F35 If Customer Id is invalid, System displays an error.

F36 If Customer Id does not associate with Manager, System displays an error.On success , user registration details must be shown.

Change Password

<u>Manager</u>

F37 If Old Password is invalid, System shows an error.

<u>Customer</u>

F38 If Old Password is invalid, System displays an error

Customized Statement
    <u>Manager</u>
    F39 If account no is invalid, System displays an error
    F40 If From Date is greater than To Date, System displays an error.

    <u>Customer</u>
    F41 If account no is invalid, System displays an error
    F42 If From Date is greater than To Date, System displays an error.

Mini Statement
    <u>Manager</u>
    F43 If account no is invalid, System displays an error
    F44 If transaction not exist in system, System displays an error.
    F45 If account not associate with manager itself, System displays an error.
    <u>Customer</u>
    F46 If account no is invalid, System displays an error.
    F47 If account associate with customer itself, System displays an error.

Balance Enquiry
    <u>Manager</u>
    F48 If account no is invalid, System displays an error
    <u>Customer</u>
    F49 If account no is invalid, System displays an error

3.4 Classes / Objects

3.5.1.1 Attributes
3.5.1.2 Functions

3.5 Non-Functional Requirements

Nil

3.6 Inverse Requirements

Nil.

3.7 Design Constraints

Many of the Guru99 Bank users may not have adequate computer knowledge to use the site. Hence, System must be intuitive and easy to understand.

3.8 Logical Database Requirements

Nil

3.9 Other Requirements

Nil

4. Analysis Models

Nil

5. Change Management Process

Changes to the SRS either from the development, testing team or the client side will be communicated to the project sponsor Mr Krishna Rungta.

Any change made to the SRS will require a sign off from the Development lead , QA lead and the client.

Once approved changed will be made to the SRS and the new SRS will be circulated to all stakeholders

A. Appendices

Nil