Internet Banking System

Software Requirements Specification

February 9 ,2021
Version 1.0

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This document, Software Requirements Specification (SRS), is created to document the software requirements for the Internet Banking System, as described in section 1, Introduction, of this document. This is the first version of the SRS.

1. Introduction

Technology has touched every aspect of our lives. Banking is definitely not a stranger to technology. Internet banking has made life simpler for millions and millions of people around the world. Online banking has made it possible for customers to do simple tasks like accessing their savings account anytime, keep track of their account balance, get e-statements, pay bills online, shop online, transfer funds and much more in under a few clicks and within a matter of minutes.Thus, the Internet Banking System offers the automation of the banking system by gathering tasks undertaken in real-life banking, offering improved strategies, and bundling them together in a single application.

1.1 Purpose

Services provided by the banks will require the customers to go to the bank directly, stand in queues and then avail the services. The banks are not open 24x7 and have strict closing times. The growth of Internet Banking has made it possible for customers to avail themselves of small services at home. It has made transferring money between accounts hassle-free and has also helped customers access their accounts at their convenience.

Internet banking makes it quite convenient to carry out transactional activities like transfer of funds, payment of bills, etc. this means, no longer having to wait in queues for bill payments or having to safely keep receipts of bill payments, which are also perishable. All records of payments and bills are stored online on your account.Another indisputable advantage about online banking is that it is available round the clock, throughout the year. You don't have to schedule a time when you can carry out banking activities, regardless of it being a weekend, time of the day or even holidays.

E-banking is not only fast but also highly efficient in letting you carry out transactions within a few minutes. Transfer of funds, account opening, bill payments take no more than a few minutes to process, which helps save a lot of time. Furthermore, it allows you to track your account activity at all times. One can keep an eye on their account transactions and balance at all times.

Any unauthorized transaction or discrepancy can be immediately tracked and reported to the bank immediately, allowing one to keep their money safe at all times.

1.2 Scope

Digital payments have seen a surge ever since there has been demonetisation of high currency notes. More and more people have realised the convenience of making payments digitally. With the help of online banking, there are several indispensable services which are

made available to customers, without them having to personally visit the bank. Customers can perform financial transactions like transfer funds online, pay bills, apply for loans and open a savings account among various other debit card transactions.

Under non-financial transactions, customers can carry out several activities which may require going to the bank like applying for a new cheque book, getting account statements, updating contact information, starting/stopping payment, etc.

1.3 Glossary

NEFT - National Electronic Fund Transfer
PIN - Personal Identification Number

1.4 References

The SRS document used the following documents for reference:

- *Guidelines on Internet Banking Facility proposed by the RBI*
- *IEEE Recommended Practice for Software Requirements Specifications, 1998*

1.5 Document Overview

The SRS will provide a detailed description of the Internet Banking system and its functionalities.

Section 2 covers the product perspective, user characteristics and functional requirements of the Internet Banking System.

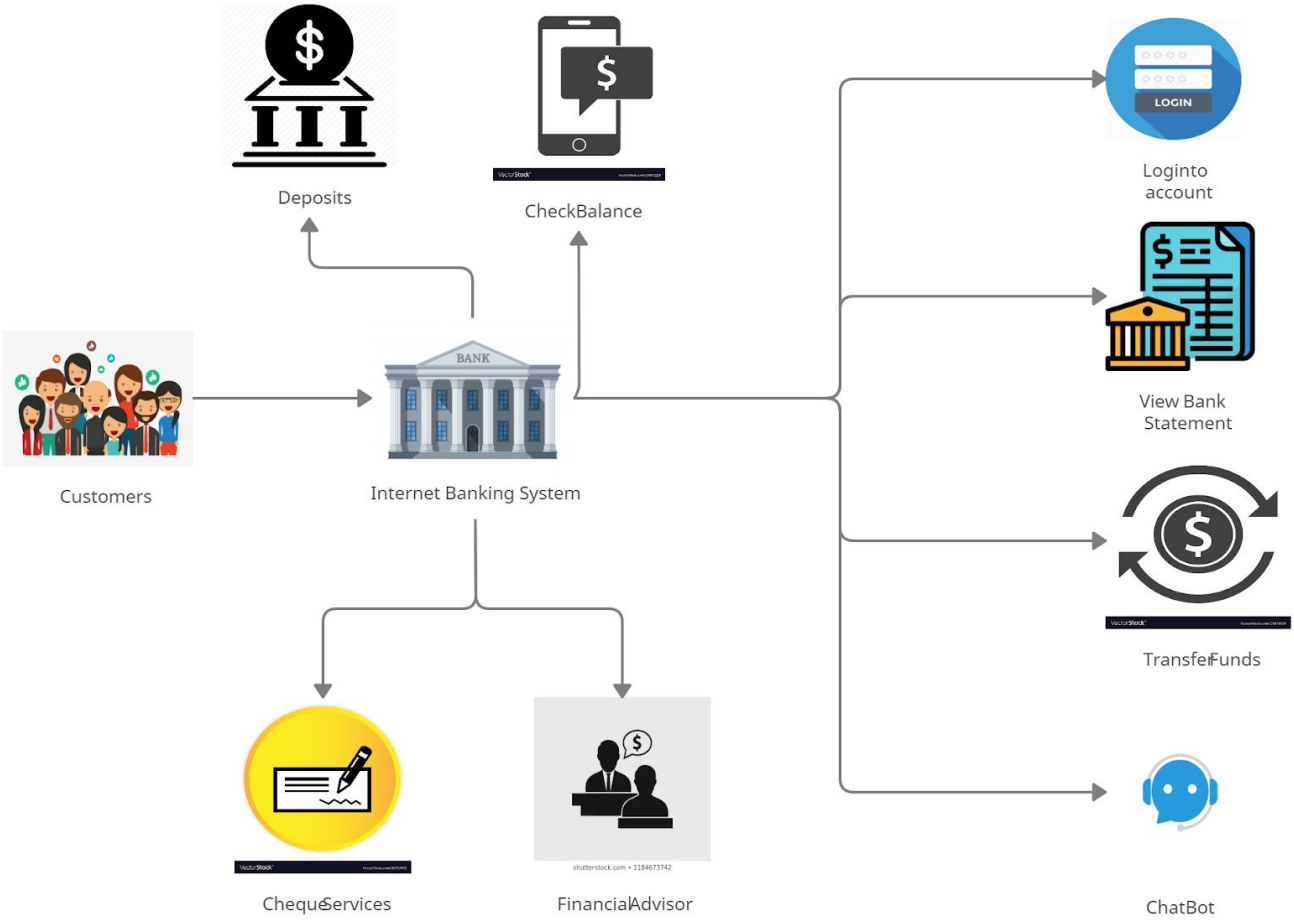
Section 3 covers the specific requirements in terms of non-functional requirements and also sheds light on the hardware and software interfaces to be used.

2. Overall Description

2.1. Product Perspective

The Online Banking System to be developed would greatly benefit the customers and help them manage all of their financial tasks and duties in one place. The system provides a great number of features and functionalities and allows the customers to avail the services of their bank through the internet.

The complete overview of the system is as shown in the overview diagram below:



2.2. Product functions

The online banking system provides real-time updates on your bank account and lets you perform transactions at your convenience. The functions of the system are listed and briefly described as follows

- **Funds Transfer**:

With the increase in use of debit and credit cards, online transactions have become more common. Customers can transfer funds to other bank accounts through services like NEFT by providing the recipient's account number. This will be reflected in their account

instantly. With the help of online transactions, payments are made easy and they help save our time and effort.

- **View Balance:**

  The need to go to the bank, stand in queues for a long time, fill out a form and pay extra charges to check the balance amount has been replaced by Online Balance Enquiry service. The customer just needs to log in to their account using the credentials provided to them to check the balance. As the credentials are unique, this service is more secure. As we can access our account remotely we can also save time and cost.

- **Checkbook allotment:**

  Applying for new cheque books online is made easier with no additional charges. Banks also have the option to deliver the cheque book to the customer's address. This method would not require the customers to be physically present at the bank waiting for hours just to apply for a new checkbook.

- **Change password/pin:**

  If the password is forgotten it can be changed using the registered mail id and a security question. If the customer wishes to change the pin for their account all it would require is for them to log in to their

account using their previous credentials and change the pin. It saves time as the pin change can be easily verified and approved by the bank and does not require the customer to go and fill any forms.

- **View Bank Statement:**

  Online banking allows you to access your account history and transactions from anywhere. This is the quickest way to see whether a transaction has cleared your account. It also enables you to find out about any unauthorized transactions quickly, so you can dispute them right away. With this service it is also possible to view all the pending requests. Customers can view their monthly and annual report which helps them keep tabs on how much they have spent.

- **Open/Renew/Manage Deposits:**

  Customers can open/renew their deposits online. They can aso calculate their maturity amount and the returns they will receive at the end of the term for different schemes of deposit. The deposits also have fixed interest rates throughout their period. It facilitates the opening, managing, and withdrawal of funds from the deposit in cash or by bank transfer with no additional cost.

- **Financial Advisor**

  The system analyses the different deposit schemes that are available and suggests the most profitable one based on the returns.

The system also provides suggestions based on the customer's spending habits advising them to spend less and save more if their savings to expense ratio goes below a certain threshold value.

- **View Insurance Details**

  The customers can view the maturity amount, due dates for payment, expiry date and so on for the insurance policies that they have taken through the bank. It provides an interface for the customers to manage their policies and pay dues with ease.

- **Chatbot**

  A helpful virtual assistant in the form of a chatbot is also integrated with the system to help customers navigate around the Internet Banking portal and find the specific services that they are looking for.

2.3. User Characteristics

The users of the system are registered bank customers and the administrators who maintain the Internet Banking system. The customers are assumed to have basic knowledge of the computers and Internet browsing. Even though the customers have a non-technical background, they should be familiar with surfing the web and using a computer. The administrators of the system must have more

knowledge of the internals of the system and its workings. They should be able to rectify the small problems that may arise due to disk crashes, power failures and other catastrophes to maintain the system. The proper user interface design, user manual, online help and the guide to use the system must be sufficient to educate the end users on how to use the system without any problems.

2.4. Constraints

- The information of all the users must be stored in a database that is accessible by the Internet Banking System.
- The Online Banking service must be available and accessible to all users 24x7.
- The users will need an active Internet Connection to access the system and avail the banking services.
- The users must provide the correct usernames and passwords to login. Three continuous failed attempts will result in the blocking of the account and can be resolved only by going to the bank in person.
- The Internet Banking System shall conform to all the rules and regulations that have been established for the conduct of Internet Banking by the State.

2.5. Assumptions and Dependencies

- The following assumptions have been made regarding the system under consideration:
    - The end users of the system have sufficient knowledge of computers to use the system safely and appropriately.
    - The users must be familiar with the English language since the system's interface will be provided in english.
    - The database that stores the customer's financial details is encrypted and secure.
    - The banking system can access the central datastore to get the customer's data if and when needed.

3. Specific Requirements

3.1. Functionality

3.1.1. Logon Capabilities

The system shall provide the user with login capabilities once they get an approval from the bank manually.

3.1.2. Alerts

The system alerts the employees in the backend in case of any data corruption or server errors.

3.2. Usability

The system shall allow the user to access the system via an application or its related web page.

The system has an inbuilt tutorial on ‘how to use’ the application using which the users can get familiarized with the environment. Also, the system models the real world scenario.

The system has an appealing and easy to use interface with simple navigations implemented. It has a chat assistant which can clarify most of the doubts that regular users have.

3.3. Reliability

The system has to be very reliable due to the importance and value of data that the system deals with. Huge losses will be incurred if the system goes down or gets compromised.

3.3.1. Availability

The system is available 100% for the user and is used 24 hrs a day and 365 days a year. The system shall be operational 24 hours a day and 7 days a week.

3.3.2. Mean Time between Failures (MTBF)

The system will be developed in such a way that it may fail once in a year.

3.3.3. Mean Time to Repair (MTTR)

Even if the system fails, the system will be recovered back up within an hour or less.

3.3.4. Accuracy

The accuracy of the system is limited by the accuracy of the speed at which the employees of the backend and the users use the system.

3.3.5. Maximum Bugs or Defect Rate

Not specified.

3.3.6. Access Reliability

The system shall provide 100% access reliability.

3.4. Supportability

The system designers shall take into consideration the following supportability and technical limitations.

3.4.1. Internet Protocols

The system shall comply with the TCP/IP protocol standards and shall be designed accordingly.

3.4.2. Information Security Requirement

The system shall support the RBI information security guidelines and policies and also follow the security standards for the Financial Technology sector that have been established.

3.4.3. Collection System Data Compatibility

The collection system shall provide the balances to be paid for every month and keeps track of their progress. It also notifies the bank in case of missing payment. It is compatible and encrypted with the data types of the database.

3.4.4. Maintenance

The maintenance of the system shall be done as per the maintenance contract.

3.4.5. Standards

The coding standards and naming conventions will be as per the American standards.

3.5. On-line User Documentation and Help System Requirements

The online banking system is supported by a chat bot which represents most of the users problems and there is also a video tutorial inside the application on how to use the application. It provides a helpline number and a mail id to which the users can post queries related to the application usage and ideas for development.

There is also a section for FAQ's which comprises the frequently asked questions by a user. This can allow them to visit and clarify any common doubts regarding application.

Online help is provided for each of the features available with the Online banking System. All the applications provide an on-line help system to assist the user. The nature of these systems is unique to application development as they combine aspects of programming (hyperlinks, etc) with aspects of technical writing (organization, presentation). Online help is provided for each and every feature provided by the system.

The User tutorial describes the use of the system to backend employees and users. The user tutorial should be available as a video and also as online help.

3.6. System Evolution

In the future this system could be expanded with new functionalities as introduced by the bank and the performance of the system can be improved.