1. **Introduction:**

**Purpose**

The Traditional way of maintaining details of a user in a bank was to enter the details and record them. Every time the user needs to perform some transactions he has to go to bank and perform the necessary actions, which may not be so feasible all the time. It may be a hard-hitting task for the users and the bankers too. The project gives real life understanding of Internet banking and activities performed by various roles in the supply chain. Here, we provide an automation for banking system through Internet. Internet banking system project captures activities performed by different roles in real life banking which provides enhanced techniques for maintaining the required information up-to-date, which results in efficiency. The project gives real life understanding of Internet banking and activities performed by various roles in the supply chain.

**Scope**

Internet banking has made life simpler for millions and millions of people around the world. Especially in India, where a bank visit implies waiting in never-ending queues, online banking is definitely a blessing. 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.

**References**

This web application has been prepared on the basis of information taken from following books & website.

1. Websites:

1.1. www.google.com

1.2. www.wikipedia.org

1. **General Descriptions:**

**2.1. Product Perspective:**

Comparison b/w the Tradition system and the new system can also be cleared through the system models. In traditional system, customer should have to visit the Bank branch physically for the transactions or some other task. It wastes time. After implementing the online banking system customer will be able to connect to his account through the internet connection. Time usage will be minimized, task will be done fast instead of waiting someone other to complete his task.

**2.2. Functionalities:**

• **Customer**

The valid customer on internet banking has a set of requirements he/she does on internet banking. These requirements are offered on next pointes.

• **Login**

A customer to be able to use this system, he/she has to enter username and password which he/she has created before and been saved in the database in the Login page. This function might be a customer or an Admin also. The input in this function most be valid username and valid password and the output if the user is valid user then he/she will get into a page which can makes has/her transaction, but if the user made wrong in username or password then he/she will be invalid user and will see a message “Alert Invalid Username and Password” and to login again.

• **View** **Account**

View Account allows to a customer to view today’s up-to the minute balance information on deposit (saving/current), credit card, etc. The customer can also view transaction history with retention period up to a maximum of 90 days. Within this feature, the customer can request for account such as “view online, by e-mail or by post option. But the customer most be logged in the internet banking.

• **Transfer Funds**

The customer must be logged into Banking System to be able to make his/her transaction for transfer funds. Transfer Funds allows customer to transfer funds between authorized accounts – own personal accounts. Requested transfer take place immediately or at a selected future date specified by customer. The customer can save up to a maximum of 10 accounts and update or delete the account details. All the outstanding future transfers are recorded in a table. The customer can enquire whether there is any funds transfer pending and. when the customer selects the Transfer funds, the system will display Menu to select Transfer Funds function for transfer funds or Transfer History function for display the transaction he/she done.

• **Pay Bills**

The customer most be logged into Banking System. With internet banking, customers can make payments to corporations that include utilities, assessments, Insurance, telecommunications, and other services. The customers can use Online Pay Bill service to pay bills by debiting their account. This payment made to payee corporations that the customer has registered with internet banking by using the Registered Bill. But with new payee corporations that the customer has not registered, this payment can be made immediately or at a later date. The customer needs to key in his/her bill account number each time you make a payment. Also, the customer makes payment (up to the outstanding balance) to his/her owns credit card and balance transfer account. And he /she can register the bills. After the registration, uses "Registered Payment" for subsequent payments by Bill registration. He /she doesn’t have to enter his/her bill account number anymore. And remove bills from list of "Registered Payment" by using the Bill Deregistration function. For Pay Bill Any bill can be changed or cancelled, so There are Enquiry Future Payment Status, this function lets customer enquires whether it has scheduled any future payments or not. And Cancel Future Payment lets customer cancels his/her scheduled future payments if he/she changes his/her mind.

• **Cheque Services**

The customer most be logged into Banking System. The customer may enquiries cheque status, whether it is paid, unpaid, stopped or returned. It also allows customer to stop cheque payment and to request for a cheque book online.

• **Utility**

The customer most be logged into Banking System. Utility allows customer to change password and the secure delivery contact information. Within this feature, the customer can also change the online profile personal information that is retained by the internet banking system only. And the customer can cancel the ATM facilities.

• **Logout**

The customer most be logged into Banking System. This function is used when a logged in user finishes his/her job and wants to be logged out so that no one can abuse his username. The system will state the user has been logged out successfully.

• **Administrator**

An administrator is that person who makes some editing for the internet banking system like add/cancel customer, check the transactions etc. but this administrator must be valid user. Therefore, the administrator must have a username and password. In the project we will not go deep in an administrator because we will focus on the customer and his/her requirements more than the administrator.

**Functional Requirement Specification**

A Functional Requirements Specification describes what is required to meet the users' business needs. Functional requirements specify which actions the design must provide in order to benefit the system's users. Functional requirements are determined by the needs, user, and task analysis of the current system.

¬ **Customer**

We mention to what the customer needs to do on internet banking system and we are going to go through these needs and how the customer can do it.

⎫ **Login**

Definition: For the users to be able to use this system, they have to enter username and password which they have created before and been saved in the database in the Login page. The user might be a customer or an Admin also.

Inputs: Username and password.

Outputs: The system will state whether inputs are correct or not.

Pre conditions: The user must have signed in the system and have a valid username and password. Then the system will show the main page to the valid customer and display message “welcome to the internet banking system please click on the left menu bar to choose your option!” he/she can make has/her transaction, but if the user made wrong in username or password then he/she will be invalid user and will see a message “Alert Invalid Username and Password” and to login again.

Post conditions: The user will enter the main page of him/her self.

⎫ **View Account**

Definition: View Account allows to a customer to view today’s up-to-the minute balance information on deposit (saving/current), credit card, etc. The customer can also view transaction history with retention period up to a maximum of 90 days. Within this feature, the customer can request for account such as “view online, by e-mail or by post option. But the customer most be logged in the internet banking.

Inputs: there are not inputs in this function.

Outputs: the system will show the View Account page and display a message” Please click on the respective account/card types for more details. Customer can choose current account or saving account for more details.

Pre conditions: The customer must be a valid customer and signed in the system.

Post conditions: The customer clicks on the logout button or select other functionality options.

⎫ **Transfer Funds**

Definition: Transfer Funds allows customer to transfer funds between authorized accounts – own personal accounts. Requested transfer take place immediately or at a selected future date specified by customer.

Inputs: amount, target account and TAC. Also if he/she wants to enter his/her e-mail, and select the current account or saving account.

Outputs: the system will display Transfer Funds function for transfer funds or Transfer History function for display the transaction he/she done.

Pre conditions: The customer must be a valid customer and signed in the system.

Post conditions: The customer clicks on the logout button or select other functionality options.

¬ **Pay Bills**

Definition: The customer selects the Bill Payment functionality then the system displays Bill Payment Menu, and the customer selects one of four functionalities from Bill Payment menu.

⎫ **Pay Registered Payment**

This function allows a customer to pay Immediate and future payment to corporations, those customers have registered when he/she selected it.

Inputs: Select Corporation Name from the list provided and enters the payment Amount (without “RM) and Bill Reference Number, if required. And Select Effective Date.

Outputs: the system will display the Confirm message and show the payment details.

⎫ **Open Payment**

This function allows a customer to pay Immediate and future Payment to corporations that customer has not registered.

Inputs: Select Corporation Name either: 1. Select from Top Ten Payees list provided if the corporation you would like to pay is in this list. 2. The customer can write the payee name. Then enter Account No, and Enter your bill account holder name, bill account number and payment amount and bill reference number if required and select Effective Date.

Outputs: the system will display the Confirm message and show the payment details.

⎫ **Pay Registration/Delete Registration Bills**

1. Pay Registration Bill

Select Corporation Name from the list provided Enter the Bill Account Number, Bill Account Holder Name. And key information required, and then click’ Register. The system will appear the confirm message to confirm the transaction. The status and details of the customer’s registration bill will appear.

1. Pay Delete registration Bill

When the customer selects and clicks on Deregistration Bill. The screen will display all the registered bills. Tick the box of payee(s) the customer intends to delete from the list and click cancel. Then the system will appear message confirmation to confirm the transaction.

⎫ **Bill Payment History**

If the customer wants to display his/her payment history just he/she has to click on Bill Payment History, the system will display the transaction he/she done.

Pre conditions: The customer must be a valid customer and signed in the system for all these functions.

Post conditions: The customer clicks on the logout button or select other functionality for all these functions.

¬ **Cheque Services**

Definition: The customer may enquiries cheque status, whether it is paid, unpaid, stopped or returned. It also allows customer to stop cheque payment and to request for a cheque book online. Inputs: cheque number.

Outputs: the system will display the confirm message and show the details transaction.

Pre conditions: The customer must be a valid customer and signed in the system.

Post conditions: The customer clicks on the logout button or select other functionality options.

¬ **Utility**

Definition: Utility allows customer to change password and the secure delivery contact information. Within this feature, the customer can also change the online profile personal information that is retained by the internet banking system only. And the customer can cancel the ATM facilities.

Inputs: In change password function a customer should enter new password and IC/Passport No. and in update profile the customer should change information that he/she wants to change.

Outputs: The system will show the user has been logged out successfully.

Pre conditions: The customer must be a valid customer and signed in the system. Post conditions: The customer clicks on the logout button or select other functionality.

¬ **Logout**

Definition: This function is used when a logged in user finishes his/her job and wants to be logged out therefore, that no one can abuse his/her username.

Inputs: there are not inputs in this function.

Outputs: The system will show the user has been logged out successfully.

If the customer wants to display his/her payment history just he/she has to click on Bill Payment History, the system will display the transaction he/she done.

Pre conditions: The customer must be a valid customer and signed in the system for all these functions.

Post conditions: The customer clicks on the logout button or select other functionality for all these functions.

**2.3Non-functional Requirements**

Non-functional requirements are requirements that are not directly concerned with the specific functions delivered by the system. They may relate to emergent system properties such as reliability, response time and store occupancy. They may specify system performance, security, availability, and other emergent properties. This means that they are often more critical than individual functional requirements. System users can usually find ways to work around a system function that doesn’t really meet their needs. However, failing to meet a non-functional requirement can mean that the whole system is unusable. Non-functional requirements needed in this internet banking system are identified as performance requirements, safety requirements, security requirements and software quality attributes.

**2.3.1 Performance Requirements**

• Increase Customer Satisfaction

Internet banking system must allows customers to access banking services 24 hours a day, 365 days a year with minimum downtime period for backup and maintenance.

• Expand Product Offerings

The new services allows bank to capture a larger percentage of their customers’ asset base. The internet banking system will provide facilities for bank to offer new services and products onto its homepage.

• Reduce Overall Costs

It will help to reduce a bank’s costs in two fundamental ways: it minimizes the cost of processing transactions and reduces the number of branches required to service an equivalent number of customer.

**2.3.2 Safety Requirements**

• Backup, recovery & business continuity

Banks should ensure adequate back up of data as may be required by their operations. Banks should also have, well documented and tested business continuity plans that address all aspects of the bank’s business.

**2.4) External Interface Requirements:**

These requirements are discussed under the following categorisation.

2.4.1. User interface:

Application will be accessed through a Browser Interface. The interface would be viewed best using 1024 x 768 and 800 x 600 pixels resolution setting. The software would be fully compatible with Microsoft Internet Explorer for version 6 and above. No user would be able to access any part of the application without logging on to the system.

2.4.2. Hardware Interface:

2.4.2.1. Server Side:

a) Operating System: Windows 9x/xp ,Windows ME.

b) Processor: Pentium 3.0 GHz or higher.

c) RAM: 256 Mb or more.

d) Hard Drive: 10 GB or more.

2.4.2.2. Client side:

a) Operating System: Windows 9x or above, MAC or UNIX.

b) Processor: Pentium III or 2.0 GHz or higher.

c) RAM: 256 Mb or more.

2.4.2.3. Software Interface:

2.4.3.1 Client Side: HTML, Web Browser, Flash Player, MS Office, Windows XP/9x/ME.

2.4.3.2. Web Server: HTML, MS Office, Windows XP/9x/ME.

2.4.3.4. Communication Interface:

The Customer must connect to the Internet to access the Website:

a) Dialup Modem of 52 kbps.

b) Broadband Internet.

c) Dialup or Broadband Connection with a Internet Provider.

1. **CONCLUSION**

In this paper, an analytical study for internet banking system has been presented. The banking system should be built within special requirements, since that the functional requirements and its specification has been proposed. The non-functional requirements represent the quality of the system but in internet banking system consider as most important requirements for the system. The security is one of these requirements which is considered as non-functional requirements and in many systems it’s still not achieved. While in internet banking system it considered as one of the main requirements for the system what determine the success or fail of the system. Suggestion for best use for these requirements has been proposed in order to identify the requirements and how it is possible to achieve it.