Software Requirements Specification

For

*Internet Banking System*

**Version** *1.6*

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**Revision History**

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# Introduction

## Purpose

The purpose of this document is to outline the requirements for *version 1.4* of the internet banking system to be developed. The internet banking system aims to provide banking services for its clients. This document includes all functional and nonfunctional features for the first release. It will describe the system's goal and features as well as the system's interfaces, what the system will do, and the constraints under which it operates.

## Document Conventions

There are IDs used in this document for higher and lower level requirements. The ID for each of the higher level requirements elaborated in this document is in the format BS\_REQ\_Feature Abbreviation. However, the IDs for each of the lower level requirements are in the format BS\_REQ\_Feature Abbreviation-Requirement Number. Each Feature (higher level requirement) consists of one or more lower level requirements. Numbering starts from 1 for each feature. Moreover, assumptions also have IDs in the format BS\_AS Assumption Number.

## Intended Audience and Reading Suggestions

This document is intended for all the system's stakeholders such as developers, project manager, client, testers, reviewers and quality auditors. The SRS contains an overview about the overall project scope, product perspective, assumptions and dependencies, a high level description of product features in section 2.2 and a more detailed description of lower level requirements in section 3. Moreover, it contains information about external interfaces requirements and non-functional requirements.

## Project Scope

The internet banking system is relevant everywhere where banking exists. All banks will favor an online banking system over the traditional banking systems as it has more features and provides faster transfer methods. The scope of this project includes all development activities of the internet banking system. The internet banking system is a web-based system that offers clients access to multiple banking services through their banking accounts such as transferring money, and viewing their transfer history. The internet banking system allows clients to transfer money in a secure and time saving manner.

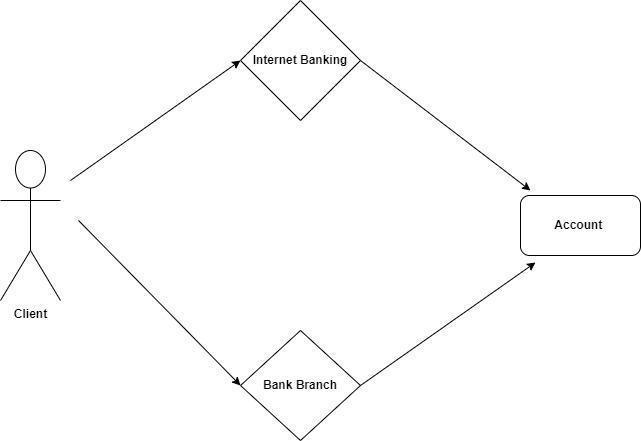
## References

No references for now.

# Overall Description

## Product Perspective

The internet banking system developed is a standalone web application. It’s a self-contained product that’s not a part of a specific product family. Following is the context and origin of the banking system in addition to a comparison between the traditional system and the internet system.



## Product Features

The internet banking system will have two user roles with different product features. The user roles are:

1. Client
2. Admin

Client has a different GUI from admin due to the difference in features between each of them.

Following product features will be available to these two user roles:

|  |  |
| --- | --- |
| **Client** | **Admin** |
| Client Register | Login & Logout |
| Login & Logout | Add Client |
| Transfer Money | Edit Client |
| Transfer History | Delete Client |
|  | Add Account |

Description of the product features:

|  |  |  |  |
| --- | --- | --- | --- |
| **Feature ID** | **Feature Name** | **Applicable**  **User Role** | **Description** |
| BS – REQ – CR | Client Registration | Client | A client can use their data to register to the internet banking system. |
| BS – REQ – L | Login & Logout | Client  Admin | Both user roles can use their credentials to login to the internet banking system. They can also log out from the system. |
| BS – REQ – TM | Transfer Money | Client | A client can transfer money from any source account they own to any destination account. |
| BS – REQ – TH | Transfer History | Client | A client can view all of their transfer history. |
| BS – REQ – AC | Add Client | Admin | An admin can add a new client. |
| BS – REQ – EC | Edit Client | Admin | An admin can edit all client data. |
| BS – REQ – DC | Delete Client | Admin | An admin can delete a client. |
| BS – REQ – AA | Add Account | Admin | An admin can add a saving or a current account for a client. |

## Operating Environment

The internet banking system being developed is a web application that’s accessed through PCs. Accessing the banking system through the web using a mobile device is not required. The supported browsers for this app are all versions of Google Chrome. There are no hardware constraints.

## Design and Implementation Constraints

As this system is an online web-based application so a PC with a good internet connection will be needed for this system. System should be user friendly and easy to understand. The time constraint for the internet banking system is four weeks. The security protocol is http. There are no constraints or language requirements for tools or databases to be used.

## User Documentation

A user manual will be included in the future to help the user interact with the internet banking system.

## Assumptions and Dependencies

The assumptions that could affect the requirements written in this SRS are:

|  |  |
| --- | --- |
| **Assumption No.** | **Assumption** |
| BS-AS1 | System development language is C#. |
| BS-AS2 | Operating system needed is Windows 7, XP, Vis. |
| BS-AS3 | Recommended configuration: 4Gb RAM or higher, 500mb Disk. |
| BS-AS4 | All validations on the pattern of the inputs and the blank inputs should appear on the text box itself but any other validations should be done in the backend code. |

# System Features [Functional Requirements]

## Client Registration

**3.1.1 Description**

A client shall use their username, password, confirmed password, account number, email and phone number to register to the internet banking system.

**3.1.2 Stimulus/Response Sequences**

**Stimulus:** Client requests to register to the internet banking system.

**Response**: System provides a registration form for the client to enter their data.

**Stimulus:** Client enters their data.

**Response**: System allows client to register.

**3.1.3 Functional Requirements**

**Client registration feature** **(BS – REQ – CR)** requirements:

**3.1.3.1 Client registration username requirements:**

[BS – REQ – CR1]:

The client shall enter a unique username to register. If not, the system should display an error message that this username is already taken.

[BS – REQ – CR2]:

The client shall enter a username with no special characters. If not, the system should display an error message that the username can’t include special characters.

[BS – REQ – CR3]

Username can’t be blank. If it’s blank, the system should display an error message that asks the client to fill out this field.

[BS – REQ – CR4]

When the client presses the register button with valid data in all fields, a message box Client registered successfully pops then redirects to the home page .

**3.1.3.2 Client registration password requirements:**

[BS – REQ – CR5]

The client shall enter the same password twice to register. If a client enters a different second password, the system should display an error message that passwords don’t match.

[BS – REQ – CR6]

Passwords can’t be blank. If it’s blank, the system should display an error message that asks the client to fill out this field.

[BS – REQ – CR7]

Password should be strong and contains the following [Upper and lowercase characters and one special character and at least 8 numbers].

**3.1.3.3 Client Registration account number requirements:**

[BS – REQ – CR8]

The client shall enter an account number that consists only of numbers to register. If a client enters characters or special characters, the system should display an error message that the account number can’t include characters or special characters.

[BS – REQ – CR9]

Account number can’t be blank. If it’s blank, the system should display an error message that asks the client to fill out this field.

**3.1.3.4 Client Registration email requirements:**

[BS – REQ – CR10]

The client shall enter a valid email to register based on the pattern [example@example.com]. If not, the system should display an error message that the email format must be valid.

[BS – REQ – CR11]

Email can’t be blank. If it’s blank, the system should display an error message that asks the client to fill out this field.

**3.1.3.5 Client Registration phone number requirements:**

[BS – REQ – CR12]

The client shall enter a phone number that consists only of numbers to register. If not, the system should display an error message that phone can only have numbers.

## Login & Logout

**3.2.1 Description**

A user can use their username and password to login to the internet banking system. A user can also log out from the system.

**3.2.2 Stimulus/Response Sequences**

**Stimulus:** User requests to login to the internet banking system.

**Response**: System provides a login form for the user to enter their credentials.

**Stimulus:** User enters their credentials.

**Response**: System authenticates credentials and redirects user to their GUI where they can access their features.

**Stimulus:** User requests to log out from the internet banking system.

**Response**: System redirects user to the main home page.

**3.2.3 Functional Requirements**

**Login & Logout feature** **(BS – REQ – L)** requirements:

**3.2.3.1 Client login username & password requirements:**

[BS – REQ – L1]:

When the client enters a valid username and password and presses the login button, the system shall redirect the client to their client profile page.

[BS – REQ – L2]:

The client can’t login if they leave the username field blank. If the username field is blank and the client clicks the login button, the system should display an error message that asks the client to fill out this field.

[BS – REQ – L3]:

The client can’t login if they leave the password field blank. If the password field is blank and the client clicks the login button, the system should display an error message that asks the client to fill out this field.

[BS – REQ – L4]:

The client should enter a valid username & password that are stored in the database. If not, the system should display an error message that username or password is wrong.

[BS – REQ – L5]:

The client shall enter a username with no special characters. If not, the system should display an error message that the username can’t include special characters.

**3.2.3.2 Client logout requirements:**

[BS – REQ – L6]:

When the client presses the logout button, the system should redirect the client to the home page.

**3.2.3.3 Admin login username & password requirements:**

[BS – REQ – L7]:

An admin should enter a valid username & password that are stored in the database. If not, the system should display an error message that username or password is wrong.

[BS – REQ – L8]:

An admin can’t login if they leave the username field blank. If the username field is blank and the admin clicks the login button, the system should display an error message that asks the admin to fill out this field.

[BS – REQ – L9]:

An admin can’t login if they leave the password field blank. If the password field is blank and the admin clicks the login button, the system should display an error message that asks the admin to fill out this field.

[BS – REQ – L10]:

When an admin enters the right username and password and presses the login button, the system shall redirect them to their admin dashboard page.

[BS – REQ – L11]:

The Admin shall enter a username with no special characters. If not, the system should display an error message that the username can’t include special characters.

**3.2.3.4 Admin logout requirements:**

[BS – REQ – L12]:

When an admin presses the logout button, the system should redirect them to the home page.

## Transfer Money

**3.3.1 Description**

A client can transfer a specific amount of money from any account they own to any destination account given that the max amount per transfer is 20000 pounds or what’s equivalent in other currencies.

Supported Currencies are: Egyptian Pound and US Dollar.

The US Dollar should have a default value. It should also be equal to 15 EGP.

**3.3.2 Stimulus/Response Sequences**

**Stimulus:** Client requests to transfer money.

**Response**: System provides a form for the client to enter the source, destination account numbers, amount and currency.

**Stimulus:** Client enters the source, destination account numbers, amount and currency.

**Response**: System displays a message that money is successfully transferred.

**3.3.3 Functional Requirements**

**Transfer Money feature** **(BS – REQ – TM)** requirements:

**3.3.3.1 Transfer money source account number requirements:**

[BS – REQ – TM1]:

The client shall enter a valid source account number that exists on the database. If not, the system should display an error message that source account number is invalid.

[BS – REQ – TM2]:

The client shall enter a valid source account number that they own. If not, the system should display an error message that this client does not own this source account number.

[BS – REQ – TM3]:

The client shall enter a source account number that has the necessary balance. If not, the system should display an error message that the source account number doesn’t have the necessary balance.

[BS – REQ – TM4]:

Source account number can’t be blank. If it’s blank, the system should display an error message that asks the client to fill out this field.

[BS – REQ – TM5]

Source account numbers can only consist of numbers. If a client enters characters or special characters, the system should display an error message that source account number can’t include characters or special characters.

**3.3.3.2 Transfer money destination account number requirements:**

[BS – REQ – TM6]:

The client shall enter a valid destinationaccount number that exists on the database. If not, the system should display an error message that destinationaccount number is invalid.

[BS – REQ – TM7]:

The client shall enter a valid destinationaccount number that’s not the same as source account number. If it is, the system shall display an error message that the source account number and destinationaccount number are the same.

[BS – REQ – TM8]:

Destination account number can’t be blank. If it’s blank, the system should display an error message that asks the client to fill out this field.

[BS – REQ – TM9]

Destination account numbers can only consist of numbers. If a client enters characters or special characters, the system should display an error message that destination account number can’t include characters or special characters.

**3.3.3.3 Transfer money amount requirements:**

[BS – REQ – TM10]:

Client shall enter an amount that doesn’t exceed 20000 pounds or what’s equivalent in other currencies. If it does, the system shall display an error message that amount exceeds the allowed limit of 20,000 EGP.

[BS – REQ – TM11]:

Client shall only enter float or integer numbers in the amount field. If a client enters characters or special characters, the system should display an error message that the amount field Amount field can only contain positive numbers.

[BS – REQ – TM12]:

Amount can’t be blank. If it’s blank, the system should display an error message that asks the client to fill out this field.

**3.3.3.4 Transfer money currency requirements:**

[BS – REQ – TM13]

When the client presses the transfer button with valid data in all fields, the amount entered should be transferred from the source account number to the destination account number according to the selected currency whether it’s Egyptian Pound or US Dollar.

[BS – REQ – TM14]

When the client presses the transfer button with valid data in all fields and the selected currency is US Dollar, the US Dollar should have a default value.

[BS – REQ – TM15]

When the client presses the transfer button with valid data in all fields and the selected currency is US Dollar, the US Dollar is equal to 15 EGP.

**3.3.3.5 Transfer money other requirements:**

[BS – REQ – TM16]

When the client presses the transfer button with valid data in all fields, the amount entered should be transferred according to the selected currency and the system shall display a message that money is successfully transferred.

[BS – REQ – TM17]

The client should select a valid currency from a drop down list that contains Egyptian Pound and US Dollar as currency options. If the client presses the transfer button without selecting a valid currency , the system shall display a message that asks the client to choose a valid currency.

## Transfer History

**3.4.1 Description**

A client can view all of their transfer history. For each transfer, source account number, destination account number, amount, date, currency.

**3.4.2 Stimulus/Response Sequences**

**Stimulus:** Client requests to view their transfers.

**Response**: System provides clients with their history of transfers.

**3.4.3 Functional Requirements**

**Transfer History feature** **(BS – REQ – TH)**:

**3.4.3.1 Transfer History requirements:**

[BS – REQ – TH1]:

If the client clicks Transfer History, the system shall allow the client to view their transfer history.

[BS – REQ – TH2]:

If the client attempts to view their transfers when they have made no previous transfers, the system should display an error message that no previous transfers were made.

[BS – REQ – TH3]:

All transfers shall include the source account number uploaded from the database.

[BS – REQ – TH4]:

All transfers shall include the destination account number uploaded from the database.

[BS – REQ – TH5]:

All transfers shall include the amount uploaded from the database.

[BS – REQ – TH6]:

All transfers shall include the currency uploaded from the database.

[BS – REQ – TH7]:

All transfers shall include the exact date of transfer uploaded from the database.

## Add Client

**3.5.1 Description**

An admin can add a new client to the system by inserting client data like client username, password, confirmed password, account number, email and phone number.

**3.5.2 Stimulus/Response Sequences**

**Stimulus:** Admin requests to add a client.

**Response**: System provides admin with a form where they can enter client data.

**Stimulus:** Admin enters client data.

**Response**: System adds client to the database.

**3.5.3 Functional Requirements**

**Add Client feature** **(BS – REQ – AC)**:

**3.5.3.1 Add client username requirements:**

[BS – REQ – AC1]:

An admin can’t add a client username with special characters in the username field. If they did, the system should display an error message that the username can’t include special characters.

[BS – REQ – AC2]:

An admin can’t add a client username that already exists in the database. If they did, the system should display an error message that this username is already taken.

[BS – REQ – AC3]:

An admin can’t add a client name with a blank value in the username field. If he did, the system should display an error message that asks the admin to fill out this field.

[BS – REQ – AC4]

When an admin presses the add client button with valid data in all fields,the system shall pop a message box that client added successfully & the username entered should be stored in the database as the username for the added client.

**3.5.3.2 Add client password requirements:**

[BS – REQ – AC5]

An admin shall enter the same password twice to register. If they enter a different second password, the system should display an error message that passwords don’t match.

[BS – REQ – AC6]

Passwords can’t be blank. If it’s blank, the system should display an error message that asks the admin to fill out this field.

[BS – REQ – AC7]

Passwords should be strong and contain the following [Upper and lowercase characters and one special character and at least 8 numbers].

**3.5.3.3 Add client account number requirements:**

[BS – REQ – AC8]

An admin shall enter an account number that consists only of numbers to add client. If an admin enters characters or special characters, the system should display an error message that the account number can’t include characters or special characters.

[BS – REQ – AC9]

Account number can’t be blank. If it’s blank, the system should display an error message that asks the admin to fill out this field.

**3.5.3.4 Add client email requirements:**

[BS – REQ – AC10]

An admin shall enter a valid email to add a client based on the pattern [example@example.com]. If not, the system should display an error message that the email format must be valid.

[BS – REQ – AC11]

Email can’t be blank. If it’s blank, the system should display an error message that asks the admin to fill out this field.

**3.5.3.5 Add client phone number requirements:**

[BS – REQ – AC12]

An admin shall enter a phone number that consists only of numbers to add client. If not, the system should display an error message that phone can only have numbers.

[BS – REQ – AC13]

Phone number can’t be blank. If it’s blank, the system should display an error message that asks the admin to fill out this field.

## Edit Client

**3.6.1 Description**

An admin can edit all client data using the current client username including client username, password, confirmed password, account number, email and phone number.

**3.6.2 Stimulus/Response Sequences**

**Stimulus:** Admin requests to edit a client.

**Response**: System provides admin with a form where they can enter the username of the client they want to edit.

**Stimulus:** Admin enters client username.

**Response**: System provides admin with a form where they can edit any of the client data.

**Stimulus:** Admin edits the fields they want to edit.

**Response**: System updates the client data in the database.

**3.6.3 Functional Requirements**

**Edit Client feature** **(BS – REQ – EC)** requirements:

**3.6.3.1 Edit client’s current client username requirements:**

[BS – REQ – EC1]:

An admin shall enter a valid client username with no special characters. If not, the system should display an error message that username can’t include special characters.

[BS – REQ – EC2]:

An admin shall enter a valid client username that exists on the system. If not, the system should display an error message that this client username doesn’t exist on the system, then the admin gets redirected to the admin dashboard.

[BS – REQ – EC3]:

Current client username can’t be blank. If it’s blank, the system should display an error message that asks the admin to fill out this field.

[BS – REQ – EC4]:

When an admin enters a valid client’s username that exists on the system, he will be redirected to another page containing the client data ready for editing.

**3.6.3.2 Edit client’s new client username requirements:**

[BS – REQ – EC5]:

An admin shall enter a unique new client username. If not, the system should display an error message that this username is already taken..

[BS – REQ – EC6]:

An admin shall enter a new client username with no special characters. If they do, the system should display an error message that username can’t include special characters.

[BS – REQ – EC7]:

New client username can’t be blank. If it’s blank, the system should display an error message that asks the admin to fill out this field.

[BS – REQ – EC8]

When the admin presses the edit client button with valid data in all fields, the system pops a messagebox that client is edited successfully, the username entered should be updated in the database as the username for the edited client, then the admin gets redirected to the admin dashboard.

**3.6.3.3 Edit client password requirements:**

[BS – REQ – EC9]:

An admin shall enter the same password twice while editing a client’s password. If an admin enters a different second password, the system should display an error message that passwords don’t match.

[BS – REQ – EC10]:

Passwords can’t be blank. If it’s blank, the system should display an error message that asks the admin to fill out this field.

[BS – REQ – EC11]

Password should be strong and contain the following [Upper and lowercase characters and one special character and at least 8 numbers].

[BS – REQ – EC12]

When an admin presses the edit client button with valid data in all fields, , the system pops a messagebox that client is edited successfully, the password entered should be updated in the database as the password for the edited client, then the admin gets redirected to the admin dashboard.

**3.6.3.4 Edit client account number requirements:**

[BS – REQ – EC13]:

An admin shall enter an account number that consists only of numbers while editing a client’s account number. If an admin enters characters or special characters, the system should display an error message that the account number can’t include characters or special characters.

[BS – REQ – EC14]:

Account number can’t be blank. If it’s blank, the system should display an error message that asks the admin to fill out this field.

[BS – REQ – EC15]

When an admin presses the edit client button with valid data in all fields, the system pops a messagebox that client is edited successfully, the account number entered should be updated in the database as the account number for the edited client, then the admin gets redirected to the admin dashboard.

**3.6.3.5 Edit client email requirements:**

[BS – REQ – EC16]:

An admin shall enter a valid email while editing a client’s emai based on the pattern [example@example.com]l. If not, the system should display an error message that the email format must be valid.

[BS – REQ – EC17]:

Email can’t be blank. If it’s blank, the system should display an error message that asks the admin to fill out this field.

[BS – REQ – EC18]

When an admin presses the edit client button with valid data in all fields, the system pops a messagebox that client is edited successfully, the email entered should be updated in the database as the email for the edited client, then the admin gets redirected to the admin dashboard.

**3.6.3.6 Edit client phone number requirements:**

[BS – REQ – EC19]

An admin shall enter a phone number that consists only of numbers while editing a client’s phone number. If not, the system should display an error message that phone can only have numbers.

[BS – REQ – EC20]:

phone number can’t be blank. If it’s blank, the system should display an error message that asks the admin to fill out this field.

[BS – REQ – EC21]

When an admin presses the edit client button with valid data in all fields, the system pops a messagebox that client is edited successfully, the phone number entered should be updated in the database as the phone number for the edited client, then the admin gets redirected to the admin dashboard.

## Delete Client

**3.7.1 Description**

An admin can delete a client using the current client username.

**3.7.2 Stimulus/Response Sequences**

**Stimulus:** Admin requests to delete a client.

**Response**: System provides admin with a form where they can enter the username of the client they want to delete.

**Stimulus:** Admin enters client username.

**Response**: System removes the client from database removing all associated accounts.

**3.7.3 Functional Requirements**

**Delete Client feature** **(BS – REQ – DC)**:

**3.7.3.1 Delete client requirements:**

[BS – REQ – DC1]:

An admin shall enter a valid client username with no special characters. If not, the system should display an error message that username can’t include special characters.

[BS – REQ – DC2]:

An admin shall enter a valid client username that exists on the system. If not, the system should display an error message that this client username doesn’t exist on the system and redirect the admin to the admin dashboard.

[BS – REQ – DC3]:

Current client username can’t be blank. If it’s blank, the system should display an error message that asks the admin to fill out this field.

[BS – REQ – DC4]:

When an admin presses the delete client button with valid data in all fields, the client with the entered client username should be deleted from the database. The system should display a message that says “client deleted successfully” and redirect the admin to the admin dashboard.

## Add Account

**3.8.1 Description**

An admin can add a saving or a current account for a client. System provides two account types: saving and current. A client can have up to 2 different accounts.

**3.8.2 Stimulus/Response Sequences**

**Stimulus:** Admin requests to add a new account for a client.

**Response**: System provides a form for the admin to enter the username of the client they want to add an account for, the new account number and account type.

**Stimulus:** Admin enters client username, new account number and account type.

**Response**: System displays a message that the account is successfully created for the client.

**3.8.3 Functional Requirements**

**Add Account feature** **(BS – REQ – AA)**:

**3.8.3.1 Add account username requirements:**

[BS – REQ – AA1]:

An admin shall enter a valid client username with no special characters. If not, the system should display an error message that username can’t include special characters.

[BS – REQ – AA2]:

An admin shall enter a valid client username that exists on the system. If not, the system should display an error message that this client username doesn’t exist on the system and redirect the admin to the admin dashboard.

[BS – REQ – AA3]:

An admin can’t leave the username field blank. If they do, the system should display an error message that asks them to fill out this field.

**3.8.3.2 Add account’s account number requirements:**

[BS – REQ – AA4]:

An admin can’t enter characters or special characters in the account number field. If they did, the system should display an error message that account number can’t include characters or special characters.

[BS – REQ – AA5]:

An admin can’t enter an account number that belongs to another client. If they do, the system should display an error message that another client already owns this account number and redirect the admin to the admin dashboard.

[BS – REQ – AA6]:

An admin can’t enter an account number that already belongs to the client with the username entered. If they do, the system should display an error message that this client already owns this account number and redirect the admin to the admin dashboard.

[BS – REQ – AA7]:

Admin can’t leave the account number field blank. If they do, the system should display an error message that asks them to fill out this field.

**3.8.3.3 Add account other requirements:**

[BS – REQ – AA8]:

If an admin attempts to add an account for a client that already has two different accounts, the system should display an error message that a client can’t have more than two different accounts and redirect the admin to the admin dashboard.

[BS – REQ – AA9]:

When an admin presses the add account button with valid data in all fields, an account for the client with the username entered should be added with the right account type in the database and the system should display a pop up message that says Account is successfully created and redirects the admin to the admin dashboard.

[BS – REQ – AA10]

The admin should select a valid account type from a drop down list that contains saving and current account types. If the client presses the add account button without selecting, the system shall display a message that asks the admin to choose a valid account type.

# External Interface Requirements

**User Interface:**

When the system is opened, home page is displayed with information about the bank and two buttons that allow user to register or login.

If a user clicks on the login button, then they are redirected to a login page where they can enter their credentials.

There are two types of users: client and admin.

A client shall be able to communicate with the banking system through their client profile. It is a web-based interface of the internet banking system where they can transfer money or view their transfer history.

An Admin will have a different interface called the admin dashboard. This administrative interface provides a separate environment for the admin to add, edit, delete clients and add accounts for existing clients.

**Software Interface:**

The system is web-based application clients that require using a modern web browser such as Chrome. The tools and programming languages used are HTML, CSS, JavaScript, and .Net.

**Hardware Interface:** User on the Internet, Web Browser, Operating System (any).

# Nonfunctional Requirements

## Performance Requirements

The system should be able to handle a large amount of traffic. It should not hang or display any other issues as a result of a huge number of concurrent users. The system must be quick enough to suit the needs of the consumer. The device's performance should be unaffected by extreme temperatures. It is necessary to complete the transfer in a timely manner.

## Safety Requirements

Requirements for safety, business continuity, backup, and recovery Banks should guarantee that they have appropriate data backup in case their operations require it. Banks should also have well-documented and thoroughly tested business continuity plans that include all parts of their operations. Both data and software should be backed up on a regular basis. Recovery from catastrophic failures necessitates an off-site backup.

## Security Requirements

Because our banking system places a premium on the safety and security of its clients' accounts and personal information, it must be completely accessible to only authentic users.  It ought to be necessary. Your username and password are your unique identifier and one of the most critical security features for Online Banking. Make sure you don't share them with anyone.

## Software Quality Attributes

A Software Quality Attribute is a nonfunctional feature of a component or system. There are multiple characteristics which are further classified into sub characteristics. Clients can use internet banking to make transfers that would otherwise require long-distance travel or the exchange of papers, both of which include the risk of loss. With online banking (internet), you can examine transfers at your leisure, from the comfort of your own home, at any time, transfer funds. Some characteristics such as:

**Reliability**

Determine whether the product is dependable enough to last in any situation. It should continuously produce accurate results. Product reliability is determined by how well the product performs in a variety of working contexts and conditions.

**Maintainability**

Different versions of the product should be simple to keep up with. It should be simple to add code to an existing system, as well as to upgrade for new features and technologies as they become available. Maintenance should be both inexpensive and simple. It's simple to maintain the system and fix bugs or make software changes.

**Usability**

Usability is a concept that refers to how easy something is to use. The application should be simple to use. It should be simple to grasp. The navigation should be straightforward.

**Portability**

This can be measured in terms of porting-related costing concerns, technical issues, and behavioral issues.

**Accuracy**

The programme should be accurate in terms of its functionality, internal calculations, and navigation. This means that the app must meet all of the functional requirements.

**Efficiency**

One of the most important aspects of a system is quality. Measured in terms of the time it takes for the system to execute any given task. For example, the system should make optimal use of CPU capability, disc space, and memory. If the system consumes all available resources, the user's performance will suffer, and the system would be deemed inefficient. It is impossible to employ a system in real-time applications if it is inefficient.

**Flexibility**

It should be possible to change it. It can be adapted to work with other goods with which it needs to interface. It should be simple to integrate with other common third-party components.

**Appendix A: Glossary**

**Admin**: He is the administrative power of this system that can add new clients to the banking system, and assigns corresponding username, password, account type, and other details.

**Client**: After logging in he can transfer money from a source account that they own to another account and view their own transfer history.

**Web browser**: A web browser (also referred to as an Internet browser or simply a browser) is application software for accessing the World Wide Web or a local website.

HTML: Hyper Text Markup Language is a markup language used to design static web pages.

**CSS**: is the language we use to style an HTML document. CSS describes how HTML elements should be displayed.

**JavaScript**: is a high-level, often just-in-time compiled language that conforms to the ECMAScript standard. ... It has dynamic typing, prototype-based objects.

**.NET**: is a developer platform with tools and libraries for building any type of app, including web, mobile, desktop, games, IOT, cloud, and micro services.

**HTTP**: Hypertext Transfer Protocol is a transaction oriented client/server protocol between a web browser & a Web Server.

**HTTPS**: Secure Hypertext Transfer Protocol is an HTTP over SSL (secure socket layer) TCP/IP: Transmission Control Protocol/Internet Protocol, the suite of communication protocols used to connect hosts on the Internet.

**Appendix B: Analysis Models**

No analysis models for now.