

**AN INTERNSHIP REPORT ON**  
**INFORMATION TECHNOLOGY**  
**DIVISION OF NATIONAL BANK LTD.**

*A Thesis/Project Submitted in Partial Fulfillment of the Requirements for the  
Degree of*

Bachelor of Science in Computer Science and Engineering

*by*

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# **Abstract**

The banking sector has been witnessing a remarkable transformation over the last few years. Technology adoption has changed the way of working of one bank these days. Now modern banking is fully dependent on information system, technology and networking. Information Technology Division of the Bank is working dedicatedly and with full enthusiasm to provide best service by efficiently handling the in-house software development, maintenance, hardware or software troubleshooting, data management and networking system and uninterrupted support to all the branches. This site provides a way to request for ID to work in core banking software. After having valid ID, an employee can access core banking software as he/she is approved and has an ID for access to the core banking software.

# Approval

An Internship report on “User Id Request Processing System of National Bank Limited IT Division” submitted by Pritoma Debnath ID: CSE05106506 to the Department of Computer Science & Engineering has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of Bachelor of Science (B.Sc.) in Computer Science & Engineering and as to its style and contents.

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**(Shah Sharfuddin Mahin)**

Date:

Supervisor’s Signature and Date:

.....

**Md. Towhidul Islam Robin**

Date:

# Declaration

We, hereby, declare that the work presented in this Internship is the outcome of the investigation performed by us under the supervision of Md. Towhidul Islam Robin, Lecturer, Department of Computer Science & Engineering, Stamford University Bangladesh. We also declare that no part of this Internship and thereof has been or is being submitted elsewhere for the award of any degree or Diploma.

Signature and Date:

.....

**Pritoma Debnath**

ID: CSE05106506

Dedicated to my family

## Acknowledgements

I am extremely grateful and remain indebted to Al-mighty GOD who has guided in all ventures to successfully complete my Internship Report. The Internship Report would not be success, without the constant and valuable guidance of **Md. Towhidul Islam Robin**, my supervisor for the Internship Report, who is rendering all sorts of help as and when required.

I am thankful for his constant constructive criticism and valuable suggestions, which benefited us a lot while implementing the Internship on “Internship Report on Information Technology Division of National Bank Limited”. He had been a constant source of inspiration and motivation for hard work. He had been very cooperative throughout this Internship work. Through this column, it would be my utmost pleasure to express our warm thanks to him for his encouragement, cooperative and consent. I am also thankful to Dr. Kamruddin Md. Nur, Head of the Department of Computer Science and engineering for his valuable guidance.

I am greatly indebted to all teachers and staffs of the Department of Computer Science and Engineering and other Departments of the Stamford University Bangladesh for their kind assistance in accomplishment of the Internship paper. One can never find the right words to thank one's parents. I am always be indebted for the love and care that our parents have showed on us, and have done every possible effort to reach us at this stage. I am very lucky to get such caring and loving parents. I feel the same way for my parents who have been a source of inspiration for me.

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# 1 Introduction

The User ID creation request system for the core banking system of the Bank is a system to make a request to create an specific ID for the employees by which an employee can use and access the main core banking software. The target of this internship was to develop such a system which can receive the request from employees of the bank to make their ID for the bank to use its core banking software. Using the site or system all the employees can request their ID by filling the gap of the information needed. The system will receive employee’s name, designation, official ID no. and other information required. The request from the system will be forwarded to the branch officer and IT executive to grant/reject every request for the ID creation from the employees of the Bank. The system will also provide the status of the request so that employees can know the current condition of their request.

## 1.1 History of User Id Request Processing System

In early days of office and banking system any data from any employee was taken by a simple word file or in excel sheet. Employees had to type the information to create an ID individually. So they had to suffer and needed much time to process any registration online. The requested process page as

**National Bank Limited**  
T24 User ID Request Form

**Burimari Branch**

**The Head of IT Division**  
National Bank Limited  
Head Office, Dhaka

**Sub: - Request for providing User ID and Access Privileges to Temenos Banking Software.**

Dear Sir,

Here we are providing necessary information of our officer/executive to create a user and provide Access Privilege in Core Banking Software T24 as mentioned below.

User Information			
Employee Name	Md. Anisuzzaman	Employee/PF ID	4103
Designation	FEO	Probation Period (Yes/No)	No
Previous T24 ID (if any)	MDANIS006	Previous Branch Name	Rangpur
Assigned Desk		Cell No.	01716077331
Replacing Official Name	Md. Abul Hasan	Replacing official's T24 ID	HASAN189
Total No. of existing T24 Branch Users :	6	E-mail address	Anisnb1980@gmail.com

**Privileges/Access Criteria:**

I= Input	A=Authorize	S= See	D=Delete	E=Exception
V=Verify	L=List	C=Copy	R=Reverse	Teller ID = T

**Areas in which the user would have Access Power:**

**Teller/Cash:**

Sl. No	Area of Functionality	Tax Limit	Mention Access Power (I, A, R, S etc)
1	Cash (Only Receive)		I & A
2	Cash (Only Payment)		I & A
3	Reports/Statement		I & A

**Retail Banking:**

Sl. No	Area of Functionality	Tax Limit	Mention Access Power (I, A, R, S etc)
1	Customer, Account Opening & Account Operation		I & A
2	FDR & All Scheme Deposit Opening & Operation		I & A
3	Clearing		I & A
4	Accounts, Remittance, Reports/Statement		I & A

**Limit:**

Sl. No	Area of Functionality	Mention Access Power (I, A, R, S etc)
1	Limit Setup	I & A
2	Collateral Setup, Collateral Rights	I & A

1 of 2 | Page

Figure 1.1: User Id Request Form (First page)

**National Bank Limited**  
T24 User ID Request Form

**Credits:**

Sl. No	Area of Functionality	Mention Access Power (I, A,R,S etc)
1	Customer, Account	I & A
2	Continuous Loan	I & A
3	Term Loan	I & A
4	Demand Loan	I & A
5	Overdue Management	I & A

**Trade Finance**

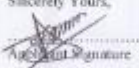
Sl. No	Area of Functionality	Mention Access Power (I, A,R,S etc)
1	Customer, Account	
3	LC Cash, BTB LC (Sight/Deferred), Local & Foreign	
4	Lodgment	
5	Acceptance	
6	Packing Credit, PAD, LTR	
7	EDF	
8	SOD (Export)	
9	Export LC	
10	FDMP, FDBC	
11	IDBP	
12	Proceed Realization (Local/Foreign )	
13	LC Settlement (Local/Foreign )	

**Foreign Remittance**

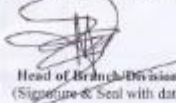
Sl. No	Area of Functionality	Mention Access Power (I, A,R,S etc)
1	FC Account	
2	FTT/FDD issue	
3	Cash Foreign Currency Sale/Buy	
4	Inward Remittance	
5	Student File	


You are therefore requested to take necessary steps to create user with privileges mentioned above to facilitate smooth operation of the branch/division.

Sincerely Yours,

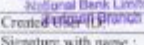
  
Manager Operation

Recommended for the ...../...../..... Credentials for the above mentioned user of our Branch.

  
Head of Branch/Division  
(Signature & Seal with date)

  
Manager Operation  
(Signature & Seal with date)  
MD. DELOANUR HOSSAIN  
Senior Executive-CA/COO  
National Bank Limited

To be filled in by the ITD official

Created by: 	Created Teller ID -
Signature with name :	

2 of 2 | Page

Figure1.2: User Id Request Form (Second page)

## 1.2 Project Overview

The Project overview will give an overview of the whole project. The total overview of my project is given below:

### 1.2.1 Project

The project is focused on taking information needed to pass and create User ID and access privileges.

From the SSO page an employee can login into the services. After login into page employees can fill up the page of information like employee name, designation, employee Id, assign desk, cell no, email etc. and send request to branch manager. Then branch manager give access privileges and forward to IT (Information Technowledgy) division where IT executive will be approve if all information is right. When a request will be approve by IT executive then IT officer create a User ID.

### ***1.2.2 Aim of the project:***

- The main aim/goal of my project is to develop a system that a user or employee send easily request for create a User Id and finally he/she will be get a User Id.
- To know about the information of the employees of the National Bank Limited.
- To find out exact person who is able to get ID from the officer and who is not.
- To collect the request to higher officer for the urgent ID creation with some inabilities.
- Finally to deliver a valid ID.

### ***1.2.3 Features of the project***

- Requesting of the ID.
- Service to see the pending and the approved requests.
- Communication through main automation system to the higher officer.
- Easy to use

### ***1.2.4 Scope of the project:***

The main purpose of the my project is to provide a flexible ID creation for the employees for further process.

From the information bank officer can view and grant the employees according to their banking needs and ensure the registration of ID creation.

### ***1.2.5 Project Scheduling***

A schedule is the important part of a project or thesis proposal. It defines what we're going to do and when we're planning to do it. We should consider how long each activity will take, which activities must lead others and how much overlap is desirable or possible.

The schedule recognizes tasks to be performed, the estimated number of hours for each task and milestones to be met.

I work closely with our advisor to develop the schedule. It will help us to define the scope of my project and establish a baseline for measuring progress.

My project schedule is for one-semester that means 4 months which was enough time to develop my project I were able to complete my project within this time.



The Gantt chart for our project schedule is shown in Table 1.1

Month	March		April		May		June		%
Planning									12.5
Requirement Specification									12.5
UI- Design									25
Design- DB									12.5
Code & Unit Test									25
Write Final report									12.5
Total %	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	100

Table 1.1: Working Time Schedule

## **2 Backgrounds**

### ***2.1 Banking Sector in Bangladesh***

Modern banking system plays a vital role for a nation's economic development. Over the last few years the banking world has been undergoing a lot of changes due to deregulation, technological innovations, globalization etc. These changes in the banking system also brought revolutionary changes in a country's economy. Present world is changing rapidly to face the challenge of competitive free market economy. It is well recognized that there is an urgent need for better, qualified management and better-trained staff in the dynamic global financial market. Bangladesh is no exceptions of this trend. Banking Sector in Bangladesh is facing challenges from different angles though its prospect is bright in the future.

The Bangladesh banking sector is made up of four nationalized commercial banks (NCBs), five government-owned specialized banks, thirty domestic private banks, twenty-two non-bank financial institutions, including the Dhaka Stock Exchange and the Chittagong Stock Exchange, and nine foreign banks. The percentage of non-performing loans in the banking system is extremely high. The U.S. Government and donor institutions are assisting with financial sector reforms. Part of the reform effort is to upgrade regulations and accounting standards to international standards as far as possible. Bangladesh Bank regulates all banking institutions and, as in many countries, the Ministry of Finance rather than being independent controls the central bank. Bangladesh Bank supervises the activities of all banks.

The Bangladesh Bank is now carrying out a reform programs to ensure quality services by the banks. Bangladesh Bank (BB) has been working as the central bank since the country's independence.

Every bank has different divisions and every division has units or departments and every department has their own functions to serve the customers according to customer's requirement. The departments are:

✓ General Banking

Loans & Advances

### ***2.2 National Bank Limited***

National Bank Limited is one of the pioneers of first generation private commercial bank incorporated in 1983. National Bank Limited has its prosperous past, glorious present, prospective future and under processing projects and activities. Established as the first private sector bank fully owned by Bangladeshi entrepreneurs, NBL has been flourishing as the largest private sector Bank with the passage of time after facing many stress and strain.

At present we have 192 branches under our branch network. In addition, our effective and diversified approach to seize the market opportunities is going on as continuous process to accommodate new customers by developing and expanding rural, SME financing and offshore banking facilities. We have opened 10 branches and 5 SME/Agri branches during 2011.

The then President of the People's Republic of Bangladesh Justice Ahsanuddin Chowdhury inaugurated the bank formally on March 28, 1983 but the first branch at 48, Dilkusha Commercial Area, Dhaka started commercial operation on March 23, 1983. The 2nd Branch was opened on 11th May 1983 at Khatungonj, Chittagong.

### ***2.3 Overview of National Bank Limited***

National Bank Limited has its prosperous past, glorious present, prospective future and under processing projects and activities. Established as the first private sector bank fully owned by Bangladeshi entrepreneurs, NBL has been flourishing as the largest private sector Bank with the passage of time after facing many stress and strain. The members of the board of directors are creative businessmen and leading industrialists of the country. To keep pace with time and in harmony with national and international economic activities and for rendering all modern services, NBL, as a financial institution, automated all its branches with computer networks in accordance with the competitive commercial demand of time. Moreover, considering its forth-coming future, the infrastructure of the Bank has been rearranging. The expectation of all class businessmen, entrepreneurs and general public is much more to NBL.

National Bank Limited was born as the first hundred percent Bangladeshi owned Bank in the private sector. From the very inception, it was the firm determination of National Bank Limited to play a vital role in the national economy. We are determined to bring back the long forgotten taste of banking services and flavors. We want to serve each one promptly and with a sense of dedication and dignity.

NBL was also the first among domestic banks to introduce international Master Card in Bangladesh. In the meantime, NBL has also introduced the Visa Card and Power Card. The Bank has in its use the latest information technology services of SWIFT and REUTERS. NBL has been continuing its small credit program for disbursement of collateral free agricultural loans among the poor farmers of Barindra area in Rajshahi district for improving their livelihood.

NBL focused on all key areas covering capital adequacy, maintaining good asset quality, sound management, satisfactory earning and liquidity. As a consequence, it was possible to a record growth of 175.51 percent with Tk. 8,809.40 million pretax profit in the year under review over the preceding year. The net profit after tax and provision stood at Tk. 6,860.34 million which was Tk. 2,070.47 million in the previous year registering a 231.34 percent rise. The total deposits increased to Tk. 102,471.83 million being 33.37 percent increase over the preceding year. Loans and advances stood at Tk.92,003.56 million in the year under report which was Tk. 65,129.289 million representing 41.26 percent rise over the preceding year. Foreign trade stood at Tk. 144,255.00 million in 2010 compared to Tk. 115,939.00 million, increased by 24.42 percent compared to that of the previous year. During 2010, the bank handled inward remittance of Tk. 49,145.30 million, 10.73 percent higher than that of the previous year. Return on Equity (ROE) registered a 77.84 percent rise over the preceding year.

National Bank, has now acquired strength and expertise to support the banking needs of the foreign investors. NBL stepped into a new arena of business and opened its Off Shore Banking Unit at Mohakhali to serve the wage earners and the foreign investors better than before.

Since its inception, the bank was aware of complying with Corporate Social Responsibility. In this direction, we have remained associated with the development of education, healthcare and have sponsored sporting and cultural activities. During times of natural disasters like floods, cyclones, landslides, we have extended our hand to mitigate the sufferings of victims. It established the National Bank Foundation in 1989 to remain involved with social welfare activities. The foundation runs the NBL Public School & College at Moghbazar where present enrolment is 1140. Besides awarding scholarship to the meritorious children of the employees, the bank has also extended financial support for their education. It also provided financial assistance to the Asiatic Society of Bangladesh at the time of their publication of Banglapedia and observance of 400 years of Dhaka City.

The Transparency and accountability of a financial institution are reflected in its Annual Report containing its Balance Sheet and Profit & Loss Account. In recognition of this, NBL was awarded Crest in 1999 and 2000, and Certificate of Appreciation in 2001 by the Institute of Chartered Accountants of Bangladesh.

The bank has a strong team of highly qualified and experienced professionals, together with an efficient Board of Directors who play a vital role in formulating and implementing policies.

### ***2.3.1 Role of Information Technology***

Information technology is currently taking centre stage. The enormous advantages it has in easing the delivery of information around the world, as well as the central role of information in the global economy, means that information technology will shape the dynamics of the new millennium.

In the present day, IT provides the communication and analytical power that organizations need for conducting trade and managing business at global level with much ease. To coordinate their worldwide network of suppliers, distributors and consumers, organizations have developed global information systems that can operate the business operation automatically round the clock. This has been possible because of the development of IT in its present form. In the broadest sense, information technology refers to the communication, hardware and software that are used according to business need. This shows, Information technology (IT) is playing a temporary society.

### ***2.4 Features of National Bank Limited***

- National Bank builds up strong pillar of capital, promote trade, commerce and industry, and discover strategies for achieving systematic growth.
- It is the pioneer in introducing and launching different customer friendly deposit Schemes to tap the savings of the people for channeling the same to the productive sectors of the economy.
- It has created congenial atmosphere so that the client becomes interested to deal with the National bank limited.
- For uplifting the standard of living of the limited income group of the population, the

Bank has introduced Retail Credit Scheme by providing financial assistance in the form of loan to the consumers for procuring household durables.

- The Bank is committed to maintain continuous research and development to keep pace with modern banking.
- Recently the bank starts internet banking in order to provide prompt and efficient services to the customers.
- The bank has introduced customer relations management system to assess the needs of various customers and resolve any problem on the spot.

### ***2.5 Objectives of National Bank Limited***

- To be a dynamic leader in the financial market in innovating new products as to the needs of the society.
- To earn positive economic value addition (EVA) each year to come.
- To top the list in respect of cost efficiency of all the commercial Banks.
- To become one of the best financial institutions in Bangladesh economy participating in the most significant segments of business market that we serve.

### ***2.6 Vision of NBL***

Ensuring highest standard of clientele services through best application of latest information technology, making due contribution to the national economy and establishing ourselves firmly at home and abroad as a front ranking bank of the country are our cherished vision.

### ***2.7 Mission of NBL***

Efforts for expansion of our activities at home and abroad by adding new dimensions to our banking services are being continued unabated. Alongside, we are also putting highest priority in ensuring transparency, account ability, improved clientele service as well as to our commitment to serve the society through which we want to get closer and closer to the people of all strata. Winning an everlasting seat in the hearts of the people as a caring companion in uplifting the national economic standard through continuous up gradation and diversification of our clientele services in line with national and international requirements is the desired goal we want to reach.

## 2.8 Corporate information of NBL

Following Table Shows the Corporate Information of NBL


Name of the Company	National Bank Limited
Logo	 <b>National Bank Limited</b> A Bank for Performance with Potential
Head Office	18 Dilkusha Commercial Area, Dhaka, Bangladesh
Telephone	88-02-956-3081, 88-02-966-6584
Fax	88-02-956-3953, 88-02-966-9404
SWIFT code	NBLBDDH
Email	ho@nblbd.com
Web page	www.nblbd.com
IT Division	Printers Building (7 <sup>th</sup> floor), 5, Rajuk Avenue Dhaka-1000 Bangladesh
Year of Establishment	March 1983

Table 2.2: NBL at a Glance

**2.9 Organogram of National Bank Limited**

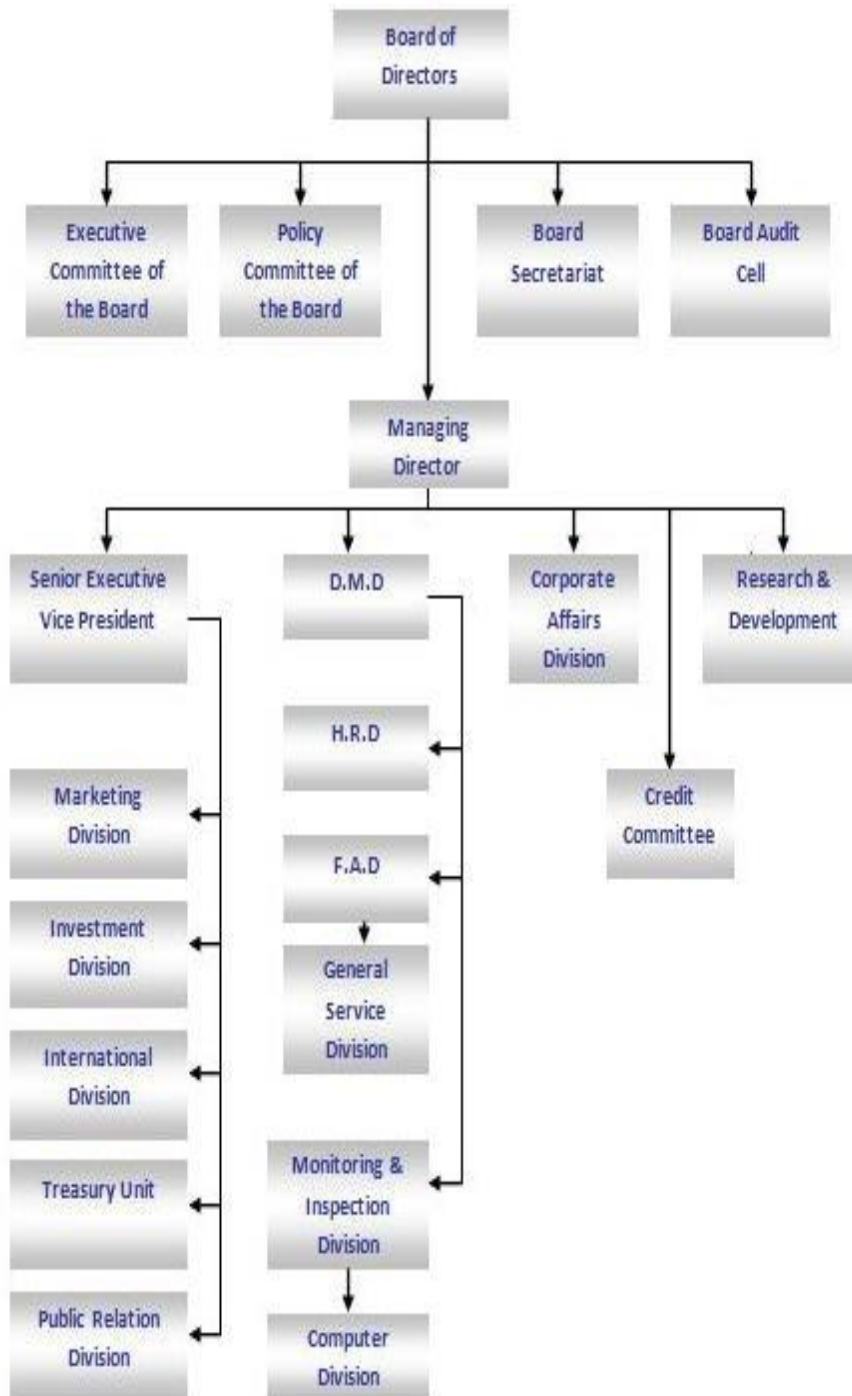


Figure2.1: Organogram of National Bank Limited

## 2.10 Organizational Hierarchy of NBL

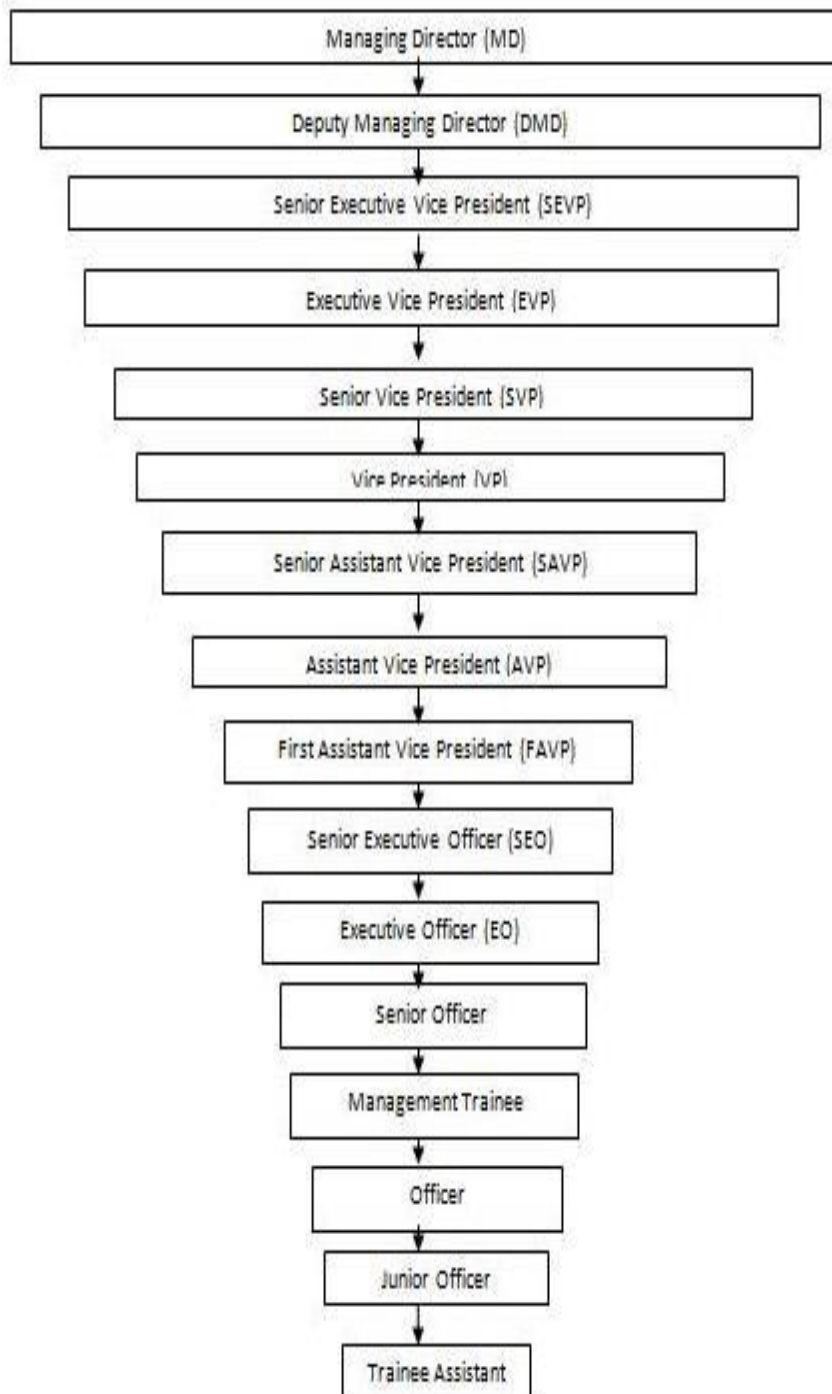


Figure 2.2: Organizational Hierarchy of NBL



## 3 Requirement Analysis

Requirements analysis in systems engineering and software engineering, encompasses those tasks that go into determining the needs or conditions to meet for a new or altered product, taking account of the possibly conflicting requirements of the various stakeholders, such as beneficiaries or users.

Requirements analysis is critical to the success of a development project. Requirements must be actionable, measurable, testable, related to identified business needs or opportunities, and defined to a level of detail sufficient for system design. Requirements can be functional and non-functional. When a person wants a website there must be some kind of specifications like how the site will look like, how it will work, what s/he wants to achieve, what is his her targeted audience. That information's must be known before developers build it. When the information is gathered, then we can put the requirement into more concise format and can start the development.

### *3.1 User Requirement*

To provide the best service to the users I tried to find out the users requirements which are given below:

Administrator Aspect

- Logging into the system.
- Insert data which are save in a database.
- Update the information.
- Taking back up of the database.
- Editing/Deleting/Creating the records.
- Authenticating users based on username and password
- Create a searching option where show how many request have from branch wise.
- Create a T24 Id after a request
- View status in girdview.
- View PF Id in girdview.
- Date wise get a report .

User's Aspect

- Logging into the system.
- Easily input their information.
- Easily send a request to create a User Id.
- View status in girdview.
- Finally create a user ID.

### ***3.2 Computing device requirements***

The requirements are:

- Local area access.
- Internet connection.

### ***3.3 Hardware requirements***

- Server side hardware.
- Hardware recommended by all the software needed.
- RAM: 256 MB or more.
- Hard Drive: 10 GB or more.
- Communication hardware to serve employee requests.
- Employee side hardware.
- Hardware recommended by respective employee's operating system and web browser.
- RAM: 256 MB or more.
- Communication hardware to communicate the server.

### ***3.4 Functional requirements***

The functional requirements are as follows:

- The administrator will be given more powers (enable/disable/update) than other users.
- It will be ensured that the information entered is of the correct. For example name cannot contain numbers. In case if incorrect information is added and send, authorizer can be reject, hold etc. status for this request.
- The system can be accessed anytime.

### ***3.5 Nonfunctional requirements***

- Performance:

After creating a User Id, a user (officer/executive) can use Temenos Banking Software his/her banking work. The software shall support use of multiple users at a time.

- Usability:

The software should be user friendly and should require least effort to operate.

- Safety Requirements:

The database may get crashed at any certain time due to virus or operating system failure.

Therefore, it is required to take the database backup.

- Security Requirements:

I am going to develop a secured database. Administrator will be able to view either all or some specific information from the database. Depending upon the category of user the access rights are varied. It means if the user is an administrator then he is able to add new data or modify the existing data but all the other users only show status and also show his/her User Id in gridview when it will be create.

## 4 Technical Overview

For develop a software technical tools are most important things. Because of software can't make without technical tools.

### 4.1 Tools

For my project, I used several design tools like MSSQL (2008R2), C#, JavaScript., HTML and Visual Studio(2010). Here C# is used for logical operations, MSSQL used in manipulating the database, HTML and CSS used in design running the program, JavaScript is used to make things happen in the user's browser without sending messages back and forth to the server and Visual Studio is used for editor. And Crystal report makes a PDF file.

Table of the design tools is given below:

<b>Names of the tools</b>	<b>Purpose of the user</b>
C#	ASP. Net Framework
MSSQL(2008R2)	Database
HTML	Markup language
CSS	Markup language
JavaScript	Browser Scripting Language
Visual Studio(2010)	Editor
Crystal Report	Create a PDF file

Table 4.1: Design tools

### 4.2 Software Requirements

- Windows 7, Windows XP, Windows Tab, Windows 8 or above.
- MSSQL (2008R2).
- Visual Studio (2010).
- Crystal Report.

#### 4.2.1 C#

C# (pronounced as see sharp) is a multi-paradigm programming language encompassing strong typing, imperative, declarative, functional, generic, object-oriented (class-based), and component-oriented programming disciplines. It was developed by Microsoft within its .NET initiative and later approved as a standard by Ecma (ECMA-334) and ISO (ISO/IEC 23270:2006). C# is one of the programming languages designed for the Common Language Infrastructure.

### **4.2.1.1 Features of C#**

- C# is a simple, modern, oriented language derived from C++ and Java.
- It aims to combine the high productivity of Visual Basic and the raw power of C++.
- It is a part of Microsoft Visual Studio 7.0.
- Visual studio supports Vb, VC++, C++, Vbscript, and Jscript. All of these languages provide access to the Microsoft .NET platform.
- .NET includes a Common Execution engine and a rich class library.
- Microsoft JVM equiv is Common language run time (CLR).
- CLR accommodates more than one language such as C#, VB.NET, Jscript, ASP.NET, C++.
- Source code ---> Intermediate Language code (IL) ---> (JIT Compiler) Native code.
- The classes and data types are common to all of the .NET languages.
- We may develop Console application, Windows application, and Web application using C#.
- In C# Microsoft has taken care of C++ problems such as Memory management, pointers etc.
- It supports garbage collection, automatic memory management and a lot.

### **4.2.2 ASP.NET**

ASP.NET stands for Active Server Pages .NET and is developed by Microsoft. ASP.NET is used to create web pages and web technologies and is an integral part of Microsoft's .NET framework vision. As a member of the .NET framework, ASP.NET is a very valuable tool for programmers and developers as it allows them to build dynamic, rich web sites and web applications using compiled languages like VB and C#.

ASP.NET is not limited to script languages, it allows to make use of .NET languages like C#, J#, VB, etc. It allows developers to build very compelling applications by making use of Visual Studio, the development tool provided by Microsoft. ASP.NET is purely server-side technology. It is built on a common language runtime that can be used on any Windows server to host powerful ASP.NET web sites and technologies.

#### **4.2.2.1 Advantages of ASP.NET**

Important advantages ASP.NET offers over other Web development models:

- ASP.NET drastically reduces the amount of code required to build large applications.
- With built-in Windows authentication and per-application configuration, your applications are safe and secured.
- It provides better performance by taking advantage of early binding, just-in-time compilation, native optimization, and caching services right out of the box.
- The ASP.NET framework is complemented by a rich toolbox and designer in the Visual Studio integrated development environment. WYSIWYG editing, drag-and-drop server controls, and automatic deployment are just a few of the features this powerful tool provides.
- Provides simplicity as ASP.NET makes it easy to perform common tasks, from simple form submission and client authentication to deployment and site configuration.

### **4.2.3 MS SQL**

MS SQL is short for Microsoft SQL Server. It is a relational web hosting database that is used to store web site information like blog posts or user information. MS SQL is the most popular type of database on Windows servers. It is not free but it has many advanced features that make it suitable for businesses.

#### **4.2.3.1 Features of MSSQL Server 2008 R2**

SQL Server 2008 R2 is Microsoft's latest release of its enterprise relational database and business intelligence (BI) platform, and it builds on the base of functionality established by SQL Server 2008. However, in spite of the R2 moniker, Microsoft has added an extensive set of new features to SQL Server 2008 R2.

Although the new support for self-service BI and Power Pivot has gotten the lion's share of attention, SQL Server 2008 R2 includes several other important enhancements.

- **Multiserver Management:**

Some of the most important additions to SQL Server 2008 R2 on the relational database side are the new multiserver management capabilities. Prior to SQL Server 2008 R2, the multiserver management capabilities in SQL Server were limited. Sure, you could add multiple servers to SQL Server Management Studio (SSMS), but there was no good way to perform similar tasks on multiple servers or to manage multiple servers as a group.

SQL Server 2008 R2 includes a new Utility Explorer, which is part of SSMS, to meet this need. The Utility Explorer lets you create a SQL Server Utility Control Point where you can enlist multiple SQL Server instances to be managed, as shown in Figure 4.1.

The Utility Explorer displays consolidated performance, capacity, and asset information for all the registered servers. However, only SQL Server 2008 R2 instances can be managed with the initial release; support for earlier SQL Server versions is expected to be added with the first service pack.

Note that multiserver management is available only in SQL Server 2008 R2 Enterprise Edition and Datacenter Edition.

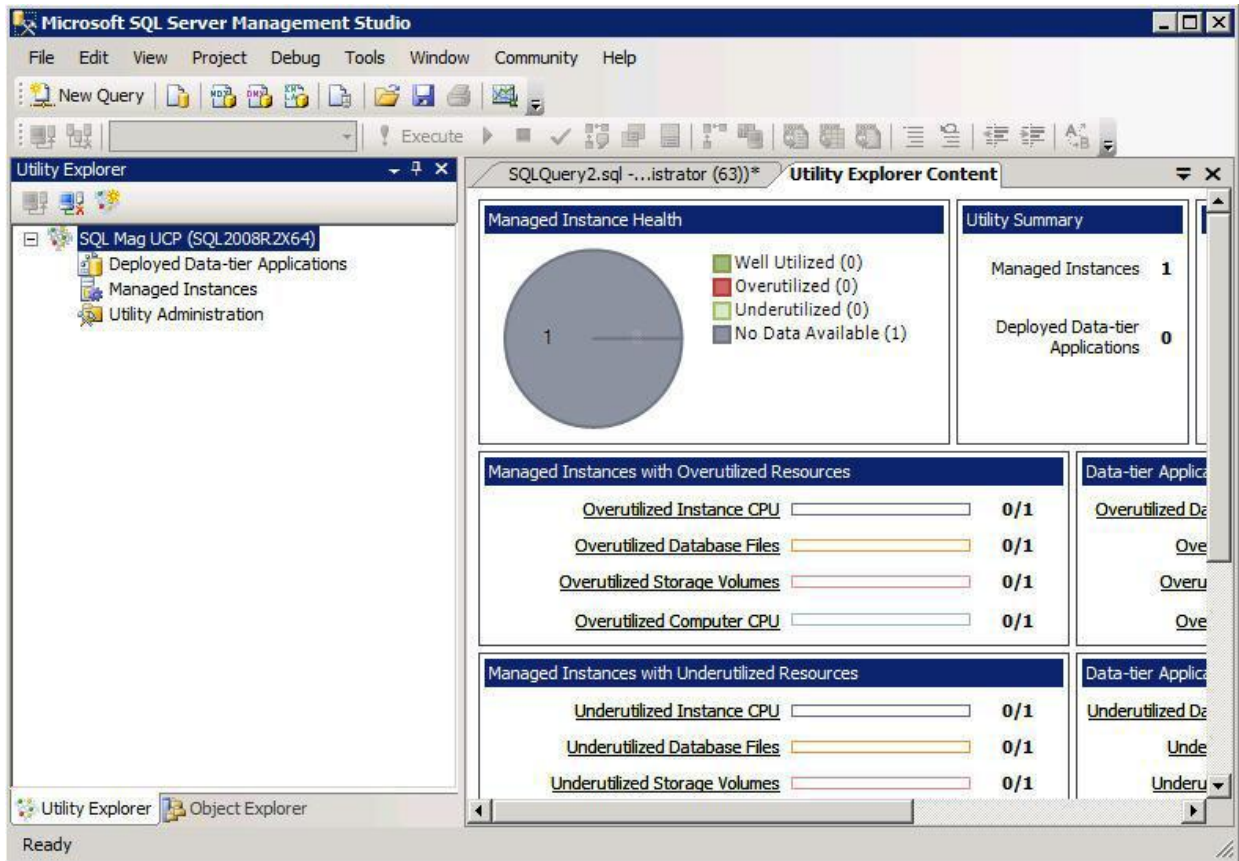


Figure 4.1: Multiple SQL Server

- Master Data Services:

Master Data Services might be the most underrated feature in SQL Server 2008 R2. It provides a platform that lets you create a master definition for all the disparate data sources in your organization. Almost all large businesses have a variety of databases that are used by different applications and business units. These databases have different schema and different data meanings for what's often the same data. This creates a problem because there isn't one version of the truth throughout the enterprise, and businesses almost always want to bring disparate data together for centralized reporting, data analysis, and data mining.

- Stream Insight:

Stream Insight is a near real-time event monitoring and processing framework. It's designed to process thousands of events per second, selecting and writing out pertinent data to a SQL Server database. This type of high-volume event processing is designed to process manufacturing data, medical data, stock exchange data, or other process-control types of data streams where your organization wants to capture parts of the real-time data for data mining or reporting.

Stream Insight is a programming framework and doesn't have a graphical interface. It's available only in SQL Server 2008 R2 Data center Edition.

- Other Important Enhancements:

Although SQL Server 2008 R2 had a short two-year development cycle, it includes too many new features to list in a single article. The following are some other notable enhancements included in SQL Server 2008 R2:

- The installation of slipstream media containing current hotfixes and updates
- The ability to create hot standby servers with database mirroring
- The ability to connect to and manage SQL Azure instances
- The addition of SSRS support for SharePoint zones
- The ability to create Report Parts that can be shared between multiple reports
- The addition of backup compression to the Standard Edition

#### ***4.2.3.2 Reason to choose MSSQL***

- High performance and scalability:

In many situations, Microsoft SQL Server offers better performance than an Access database. SQL Server also provides support for very large databases, up to one terabyte, which is much larger than the current limit for an Access database of two gigabytes. Finally, SQL Server works very efficiently on Microsoft Windows Servers by processing queries in parallel (using multiple native threads within a single process to handle user requests) and minimizing additional memory requirements when more users are added.

- Increased availability:

Microsoft SQL Server databases, can be backup, either incremental or complete, while the database is in use. Consequently, you do not have to force users to exit the database.

to back up data. This means your database can be running up to 24 hours a day, seven days a week.

- Improved security:

Microsoft SQL Server can integrate with the Windows Server operating system security to provide a single log on to the network and the database. This makes it much easier for we to administer complex security schemes. An SQL Server database on a server is also better protected because unauthorized users can't get to the database file directly but must access the server first. Inbuilt Access security has been removed in later versions. Relying on application security features in Access is never as secure as in SQL Server.

- Immediate recoverability:

In case of system failure (such as an operating system crash or power outage), Microsoft SQL Server has an automatic recovery mechanism that recovers a database to the last state of consistency in a matter of minutes, with no database administrator intervention. Critical applications can be up and running again right away.

- Reliable distributed data and transactions:

Transaction processing is a vital requirement for a system that is designed to support critical applications, such as banking and online order entry. Microsoft SQL Server supports atomic transactions with transaction logging, which guarantees that all changes performed within a transaction are either committed or rolled back.

Consistency and recoverability of a database transaction are guaranteed even in the case of system failure and in the middle of complex updates by more than one user. SQL Server treats all database changes inside a transaction as a single unit of work. By definition, either



an entire transaction is completed safely and all resulting changes are reflected in the database, or the transaction is rolled back—and all changes to the database are undone.

Using a two-phase commit protocol, SQL Server can even support synchronized transactions that span more than one server—ensuring that all servers on the network are maintained in a consistent state.

- **Server-based processing:**

Microsoft designed Microsoft SQL Server from the beginning as a client/server database. Data and indexes reside on a single server computer that is often accessed over the network by many client computers. SQL Server reduces network traffic by processing database queries on the server before sending results to the client. Thus client/server application can do processing where it's done best - on the server.

Applications can also use stored procedures and triggers to centralize and share application logic, business rules and policies, complex queries, and data validation and referential integrity code on the server, rather than on the client.

- **The Future :**

SQL Server is an integral part of Microsoft's core component and its future strategy. Increasingly, the new versions of Access, are making it easier to use Access Front End with SQL Server database, and to port access applications to SQL Server.

#### ***4.2.4 Visual Studio***

Microsoft Visual Studio is an integrated development environment (IDE) from Microsoft. It is used to develop computer programs for Microsoft Windows, as well as web sites, web applications and web services. Visual Studio uses Microsoft software development platforms such as Windows API, Windows Forms, Windows Presentation Foundation, Windows Store and Microsoft Silverlight. It can produce both native code and managed code.

Visual Studio includes a code editor supporting IntelliSense (the code completion component) as well as code refactoring. The integrated debugger works both as a source-level debugger and a machine-level debugger. Other built-in tools include a forms designer for building GUI applications, web designer, class designer, and database schema designer. It accepts plug-ins that enhance the functionality at almost every level—including adding support for source-control systems (like Subversion) and adding new toolsets like editors and visual designers for domain-specific languages or toolsets for other aspects of the software development lifecycle (like the Team Foundation Server client: Team Explorer).

Visual Studio supports different programming languages and allows the code editor and debugger to support (to varying degrees) nearly any programming language, provided a language-specific service exists. Built-in languages include C, C++ and C++/CLI (via Visual C++), VB.NET (via Visual Basic .NET), C# (via Visual C#), and F# (as of Visual Studio 2010). Support for other languages such as M, Python, and Ruby among others is available via language services installed separately. It also supports XML/XSLT, HTML/XHTML, JavaScript and CSS. Java (and J#) were supported in the past.

#### **4.2.4.1 Features of visual studio (2010)**

- **Multi-targeting Application Development:**

Using Visual Studio 2010 we can not only develop applications for the .Net 4.0 but also can use it for the development of earlier versions of the framework. While creating a new project in the IDE we will see the option to select between different types of .Net Framework (i.e. 2.0, 3.0, 3.5 & 4.0).

- **Faster Intelligence Support:**

Visual Studio now came up with faster intelligence support. It is now 2-5 times faster than the earlier versions. The IDE will now filter our intelligence as we type. Suppose, we want to create an instance of “Weak Reference” & due to the search algorithm of the VS2010 IDE, we don’t have to write the full word of the Class. Just type “WR” and it will automatically filter out that & show you “Weak Reference” in the intelligence.

- **Editor Zoom Functionality:**

We will find this feature useful while we are showing some presentation or doing a webcast. Earlier VS2010 we have to open the options panel & then we have to change the font size of the editor, which was little bit troublesome. Now that issue is gone. we don’t have to follow where to go to change the text size. While inside the editor window, just press the control key (CTRL) and use our mouse wheel to increase/decrease the zoom level.

- **Faster Assembly loading in “Add Reference”:**

In Visual Studio 2010 loading of assemblies in the “Add Reference” dialog is pretty fast. In earlier versions, it freezes the dialog for some time to load all the assemblies. In 2010 IDE, by default it focuses on the “Project” tab & in the background loads the other tabs. In case it is opening the dialog focusing on the “.Net” tab we will notice that instead of loading all the assemblies at a time, it loads those in a Background Thread. Thus improving the loading time a bit faster.

- **Reference Highlight:**

Another feature of Visual Studio 2010 IDE is the reference highlight. By this feature, it will highlight we all the call to that method or member variable, which we can find easy enough to search all the position of the reference wherever it has been called.

- **IntelliTrace:**

Visual Studio has now the feature called “IntelliTrace” by which we can trace each step of your debug points. This is very useful when it comes to a larger UI where we can find the calling thread information in the IntelliTrace Window.

- **Easy Navigation:**

It is very easy now when we want to navigate to our specific code. As Visual Studio 2010 is built on top of WPF hence it has now proper filtering as and when we type. Press CTRL+, to open up the “Navigate To” dialog and this will show a list of matching criteria once we start typing in the “Search terms” field.

### ***4.2.5 Crystal Report***

Crystal Reports is a business intelligence application, currently marketed to small businesses by SAP SE. It is used to design and generate reports from a wide range of data sources.

#### ***4.2.5.1 Advantages of Crystal Report***

Secure as End user cannot modify the data which is appear in the report if we use crystal report to show the report but in HTML, user can modify the report data.

Report layout is not transparent, so that end user will not know about how we design the report. But in HTML, anybody can study the report layout and can copy the technology.

Can export into different format like PDF, HTML, XML, etc., and many more.

### ***4.3 HTML***

HTML or Hypertext Markup Language is the standard markup language used to create web pages. The purpose of a web browser is to read HTML documents and compose them into visible or audible web pages. The browser does not display the HTML tags, but uses the tags to interpret the content of the page. HTML describes the structure of a website semantically along with cues for presentation, making it a markup language rather than a programming language. We use html tags to build our site. Most of the html tags come in pairs but there are single also.

### ***4.4 CSS***

Cascading Style Sheets (CSS) is a style sheet language used for describing the look and formatting of a document written in a markup language. CSS is the key presentational technology that is used in website design.

Prior to CSS, nearly all of the presentational attributes of HTML documents were contained within the HTML markup; all font colors, background styles, element alignments, borders and sizes had to be explicitly described, within the HTML.

As a result of, development of large web sites, where fonts and color information were repeatedly added to every single page, became a long and expensive process.

CSS solve these problems, by allowing web designers to move much of that formatting information to a separate style sheet resulting in considerably simpler HTML markup.

#### ***4.4.1 Advantages of Using CSS***

- CSS Save lots of time — CSS gives lots of flexibility to set the properties of an element. You can write CSS once; and then the same code can be applied to the groups of HTML elements, and can also be reused in multiple HTML pages.
- Easy maintenance — CSS provide an easy means to update document formatting and maintain consistency across multiple documents. By making one change to the website's CSS, elements in all the web pages will be updated automatically.

- Pages load faster — CSS enable multiple pages to share formatting, and reduce complexity and repetition in the structural content. It significantly reduces the file transfer size, which results in a faster page loading.
- Superior styles to HTML — CSS has much wider presentation capabilities than HTML, so you can give far better look to your HTML pages in comparison to the HTML presentational elements and attributes.
- Multiple Device Compatibility — CSS can also allow the HTML document to be optimized for more than one type of device or media. Using CSS the same HTML document can be presented in different viewing styles for different rendering devices such as computer screen, cell phones, printer, etc.

## ***4.5 Java Script***

JavaScript is a prototype based scripting language with dynamic typing and has first-class functions. Its syntax was influenced by C. JavaScript (JS) is a dynamic computer programming language. It is most commonly used as part of web browsers, whose implementations allow client-side scripts to interact with the user, control the browser, communicate asynchronously, and alter the document content that is displayed. It is also being used in server-side programming, game development and the creation of desktop and mobile applications.

### ***4.5.1 AJAX***

AJAX is an art of exchanging data with a server and updating parts of the web page without reloading the entire page.

AJAX stands for “Asynchronous JavaScript and XML”. XML is one kind of markup language, like HTML, which, people sometimes apply for sending data through the internet.

A sample AJAX call possibly works like this:

- Client request page from server
- Server respond to request and send to page
- Client builds AJAX call to the server and requests more data
- Server send that data.
- Clients update the page by using that data without refreshing.

### ***4.5.2 JQuery***

JQuery is a library built with JavaScript to automate and simplify the common tasks. There are many libraries like this, but jquery actually took off because of its ability and power to make things work in older browsers. JQuery is used in the browser along with “normal” JavaScript. It is generally used for animation and AJAX which are complicated to do with vanilla JavaScript, but are just few lines in jquery.

# 5 Design and Implementation

## 5.1 System Analysis and Design

The systems analysis and design (SAD) is a process of developing information systems (IS) that efficiently use in hardware, software, data, process and people to maintain the company's businesses objectives. System analysis and design can be able to consider the meta-development activity, which provides to set the stage and bound the problem.

Systems development can generally depend on two major components: Systems analysis and Systems design.

System analysis is the way of gathering and interpreting facts, identifying problems, and using the information to recommend improvements to the system. System analysis has the following information:

- The information needs of the organization and end user.
- The activities, resources and products of any present information system.
- The information system capabilities required to meet our information needs.

System design, then, is the method of planning a new business system or one to replace or complement an existing system. But before this planning can be done, we must thoroughly understand the old system and determine how computers can best be used to make its operation more effective.

## 5.2 System Development Life Cycle

The systems development life cycle (SDLC) is an abstract model which is used in project organizations that defines the stages involved with an information system development project, from a basic feasibility study through maintenance of the finalized application. The SDLC aims to produce high quality software that meets or exceeds customer expectations, reaches completion within times and cost estimates. ISO/IEC 12207 is an international standard for software life-cycle processes. It aims to be the standard that defines all the tasks required for developing and maintaining software.

Once upon a time, software development consisted of a programmer writing code to solve a problem or automate a procedure. Nowadays, systems are so big and complex that teams of architects, analysts, programmers, testers and users must work together to create the millions of lines of custom-written code that drive our enterprises. To manage this, a number of system development life cycle (SDLC) models have been created

Many SDLC methodologies are developed to observe the processes involved, as well as the waterfall model (which was the original SDLC method); rapid application development (RAD); the fountain model; the spiral model; joint application development (JAD); form and fix; and synchronize-and-stabilize. Repeatedly, several models are shared into some sort of hybrid methodology.

## Systems Development Life Cycle (SDLC) Life-Cycle Phases

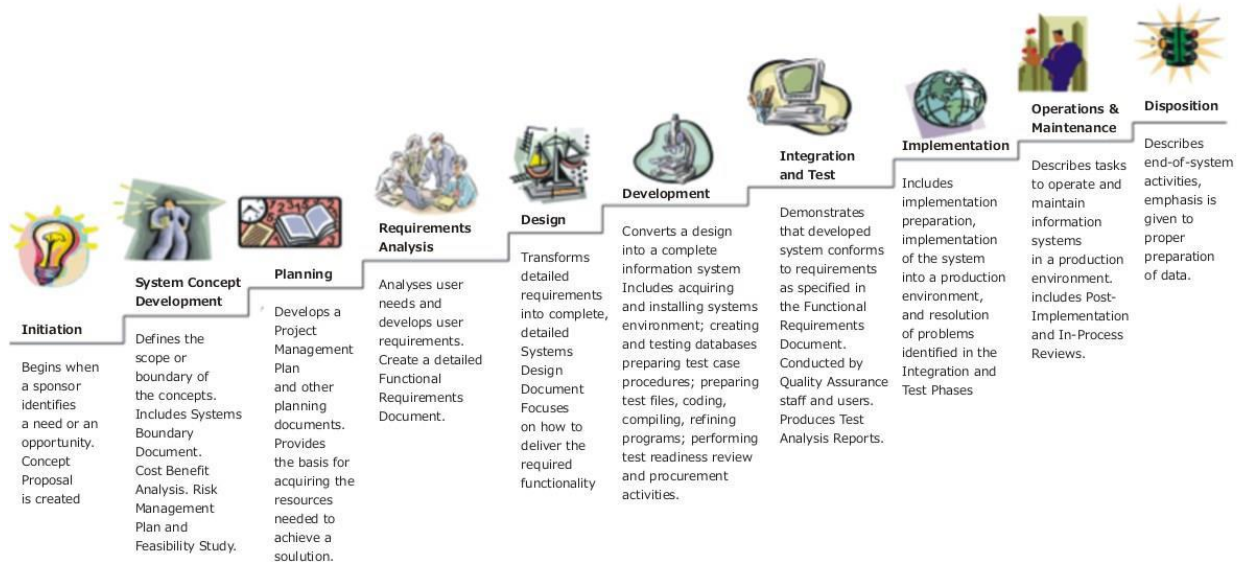


Figure 5.1: System Development Life Cycle

### 5.3 Data Flow Diagram (DFD)

DFD is a way of representing system requirements in a graphical form. The DFD explain system requirements and recognize major transformations that will become programs in system design. It's the starting point in system design that decompose the requirements specifications down to the lowest level detail.

There are four symbols used to representing a system in DFD:

- A Square defines a source/destination of system data.
- An arrow identifies the data flow.
- A circle or bubble signifies a process that transforms incoming data flow(s) into outgoing data flow(s).
- An open rectangle is a data store; data at rest or temporary repository of data.

The symbol of data flow diagram is shown in figure 5.2

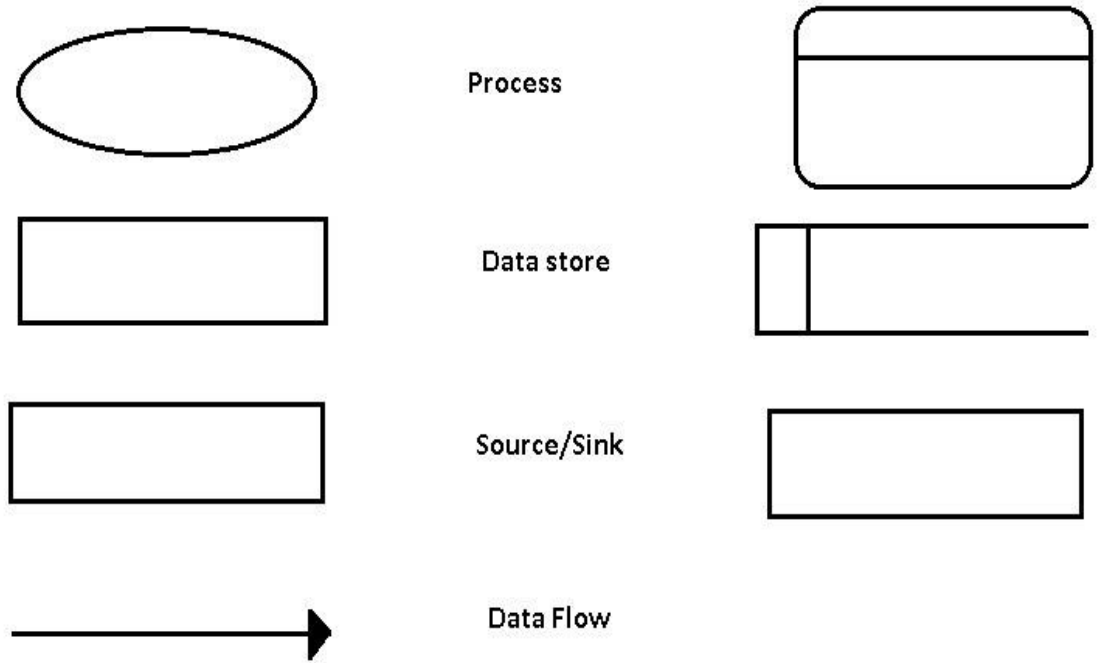


Figure 5.2: DFD Symbol

### 5.3.1 DFD for User Id Request Processing System

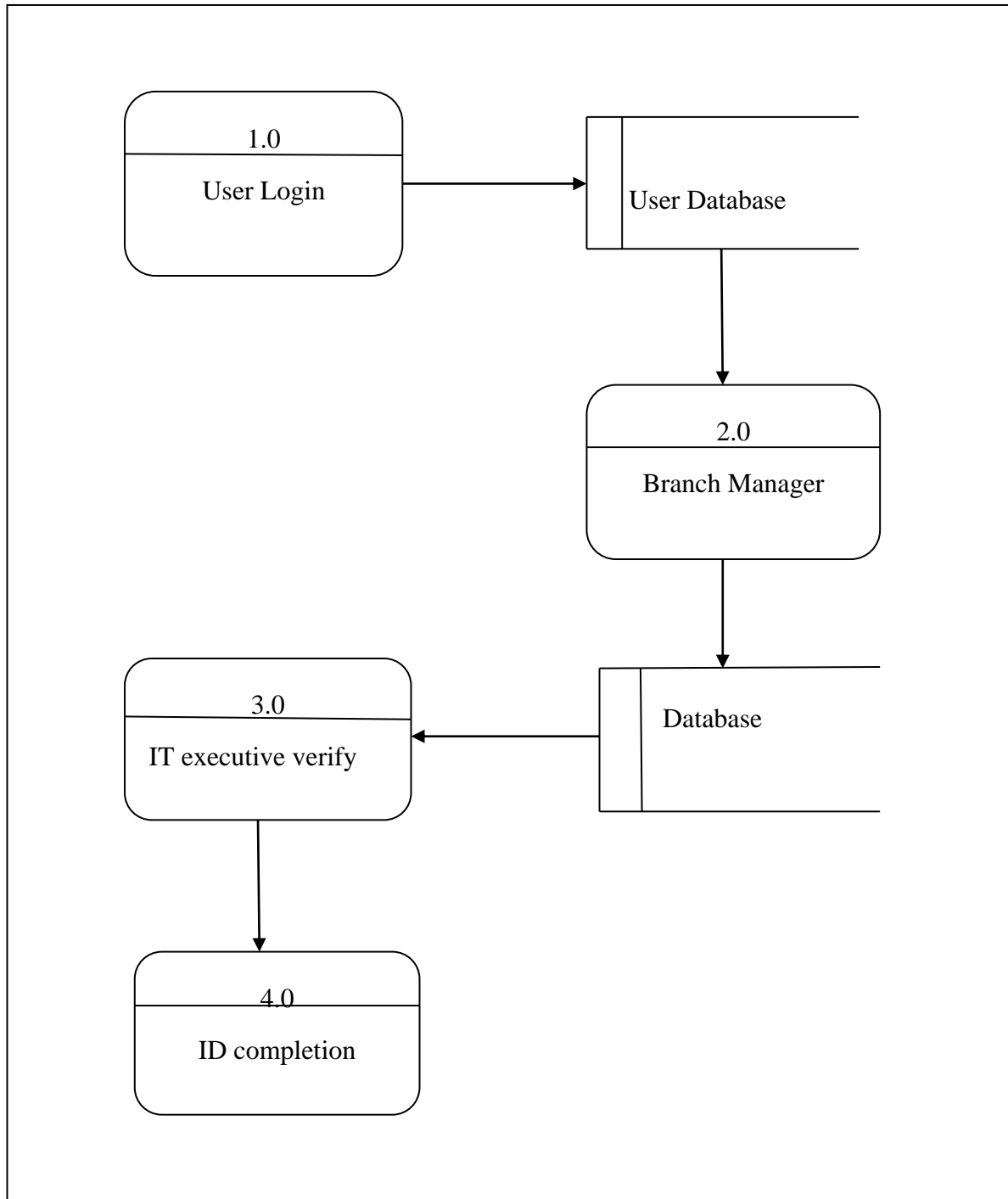


Figure 5.3: DFD for User Id Request Processing System



## ***5.4 Entity relationship diagram (E-R diagram)***

E-R diagram can express the overall logical structure of a database. Entities are equivalent to database tables in a relational database, with each row of the table representing an instance of that entity. A diagram consists of the following major components:

- Rectangles, which represent entity sets
- Ellipses, which represent attributes
- Lines, which link attributes to entity sets and to relationship sets
- Diamonds, which represent relation sets
- Dashed ellipses, which denote derived attributes

### ***5.4.1 Relationships between Entities***

A relationship is how the data is shared between entities. There are three types of relationships between entities

#### **1. One-to-One:**

One instance of an entity is associated with one other instance of another entity. For example, in a database of employees, each employee name is associated with only one social security number.

#### **2. One-to-Many:**

One instance of an entity is associated with zero, one or many instances of another entity, but for one instance of entity there is only one instance of entity. For example, for a company with all employees working in one building, the building name is associated with many different employees, but those employees all share the same singular association with entity.

#### **3. Many-to-Many:**

One instance of an entity is associated with one, zero or many instances of another entity, and one instance of entity is associated with one, zero or many instances of entity. For example, for a company in which all of its employees work on multiple projects, each instance of an employee is associated with many instances of a project, and at the same time, each instance of a project has multiple employees associated with it.

### 5.4.2 E-R Diagram for User Id Request Processing System

This figure 5.4 represents the relationship between entity and attribute of User Id Request Processing System.

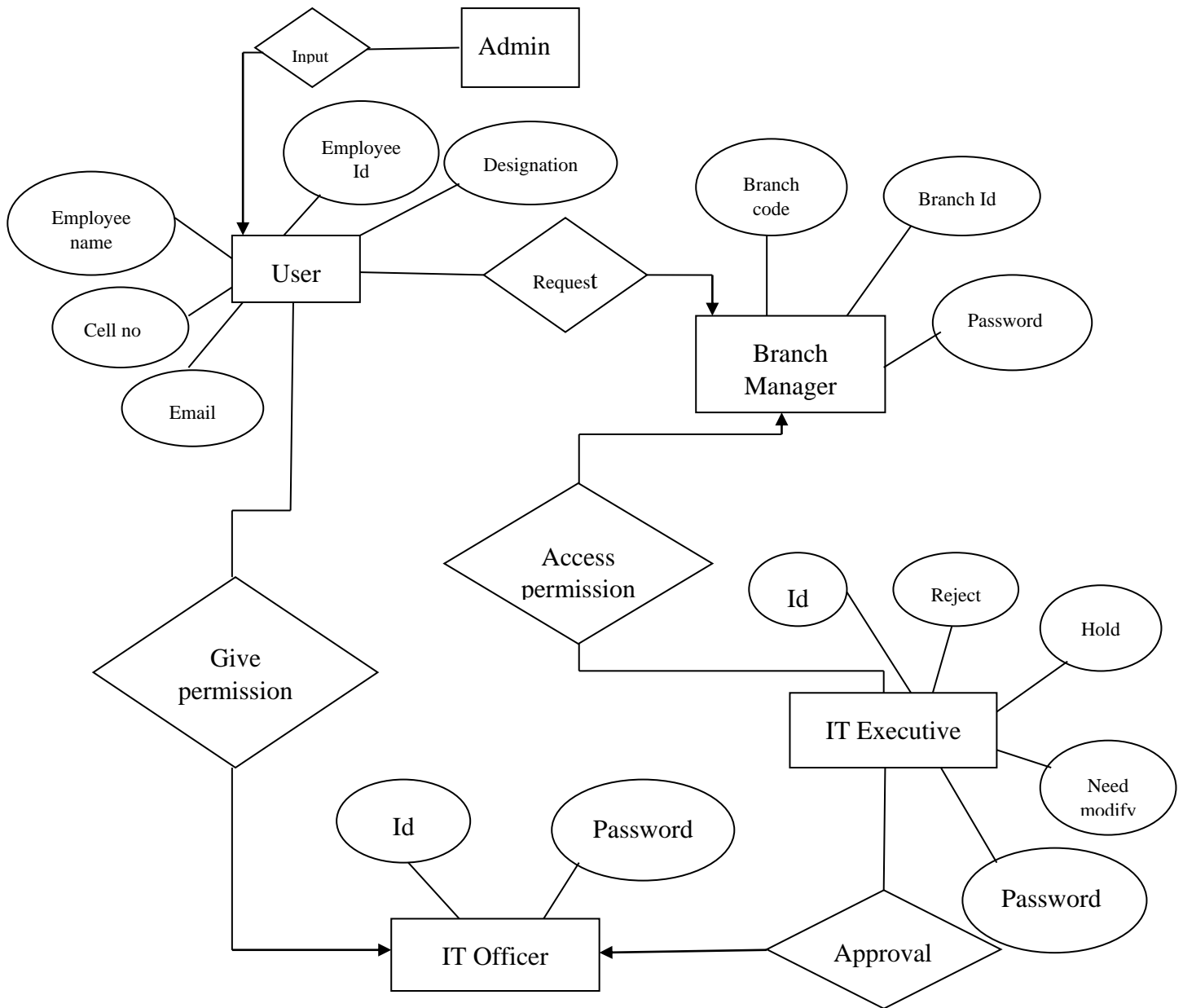


Figure 5.4: E-R diagram for User Id Request Processing system.

### 5.5 Activity Diagram

Activity diagram is basically a flow chart to represent the flow from one *activity* to another activity. The activity can be described as an operation of the system. So the control flow is drawn from one operation to another. This flow can be sequential, branched or concurrent.

5.5.1 Activity Diagram for Admin login

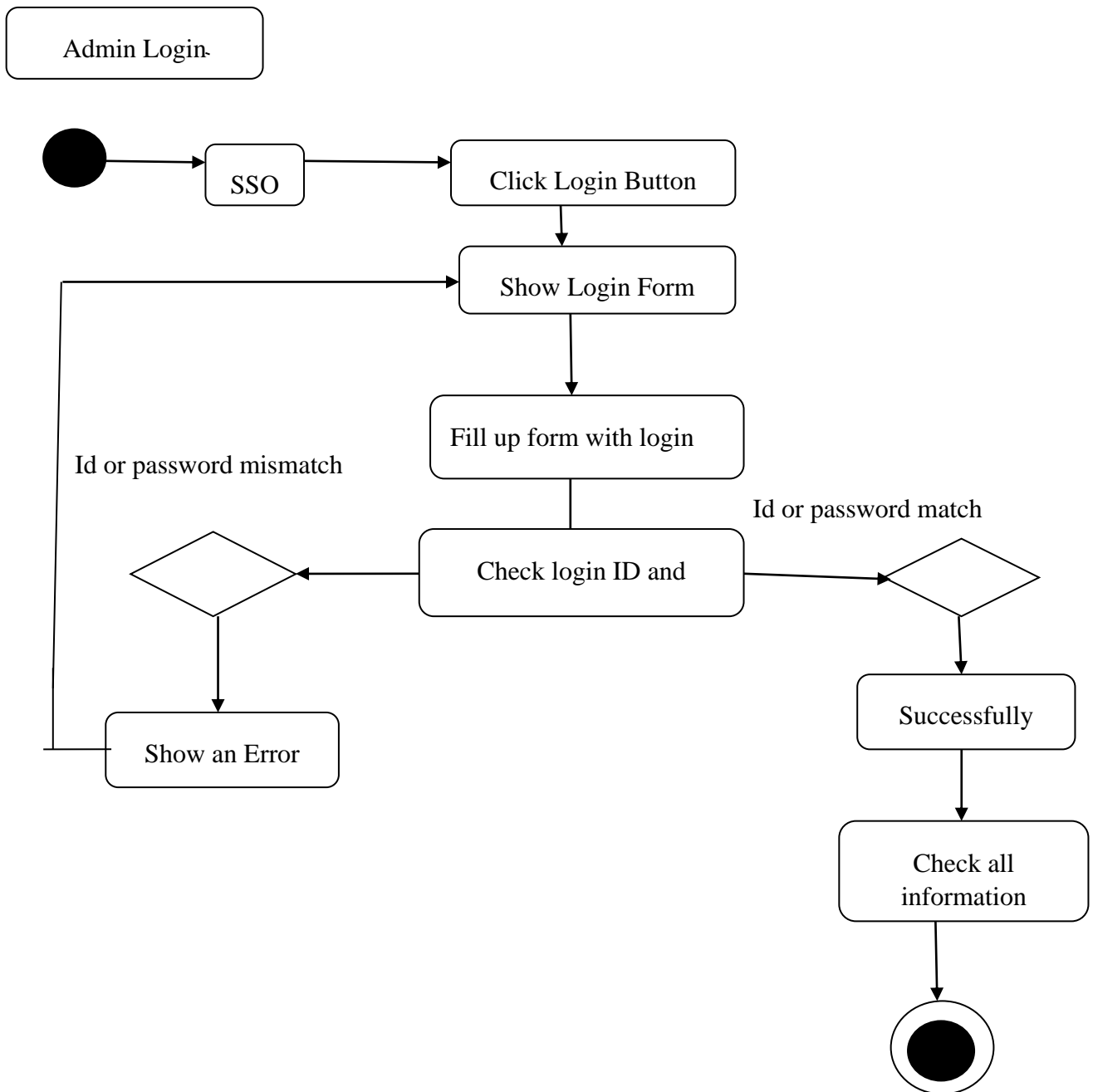


Figure 5.5: Activity Diagram for Admin login

### 5.5.2 Activity Diagram for User/Employee login

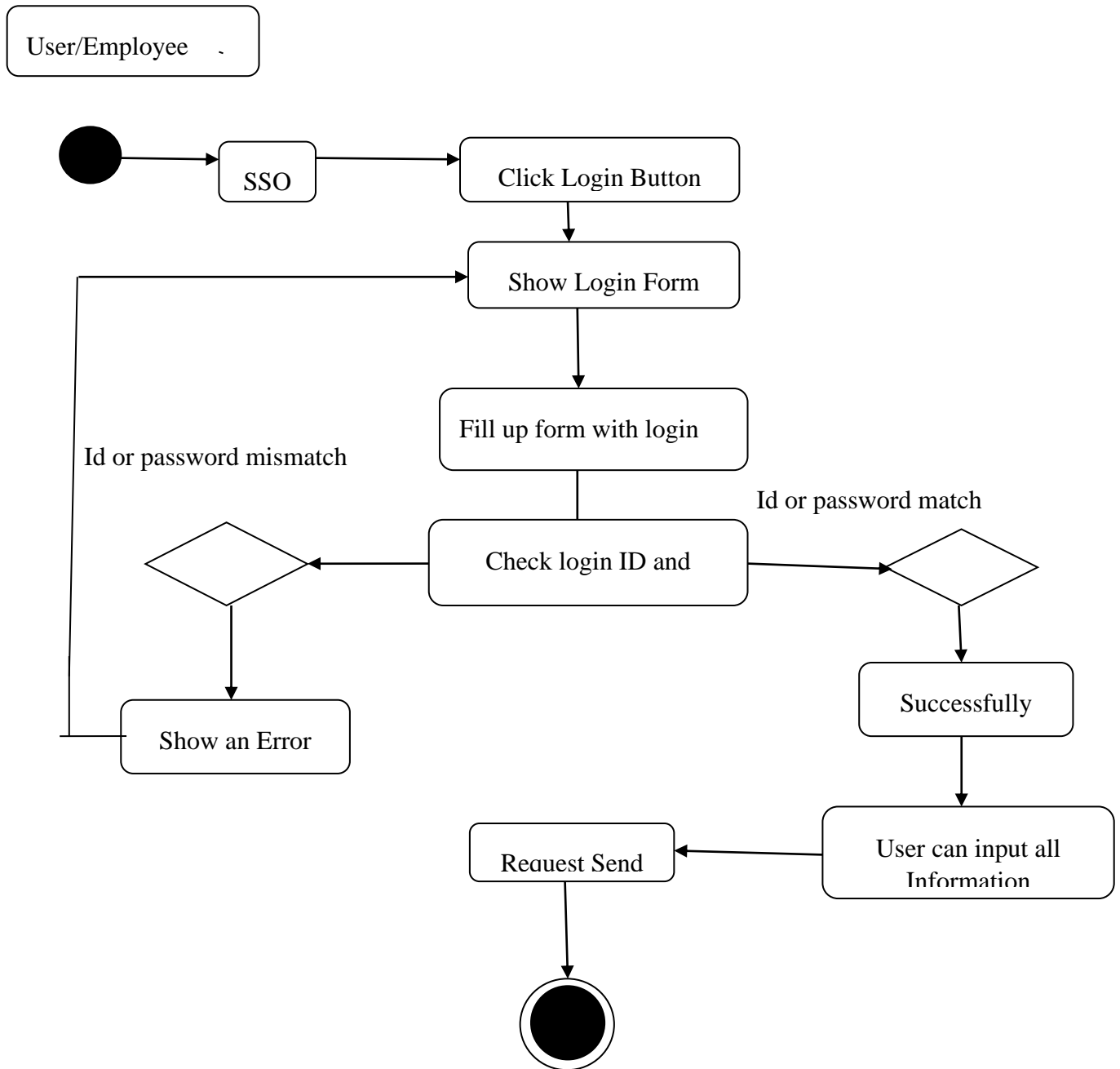


Figure 5.6: Activity Diagram for User/Employee login

### 5.5.3 Activity Diagram for Branch Manager

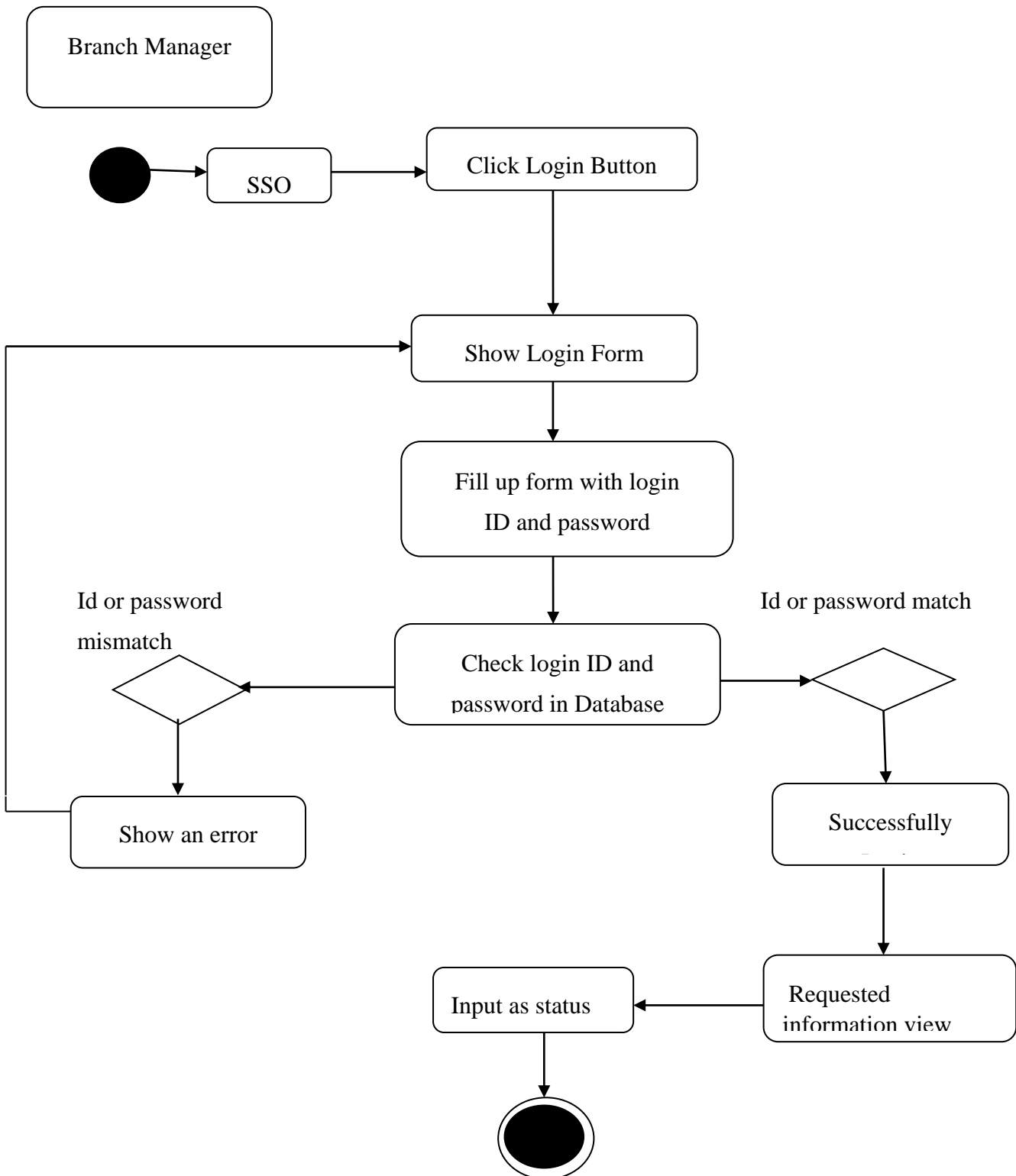


Figure 5.7: Activity Diagram for Branch Manager

5.5.4 Activity Diagram for IT Authorizer

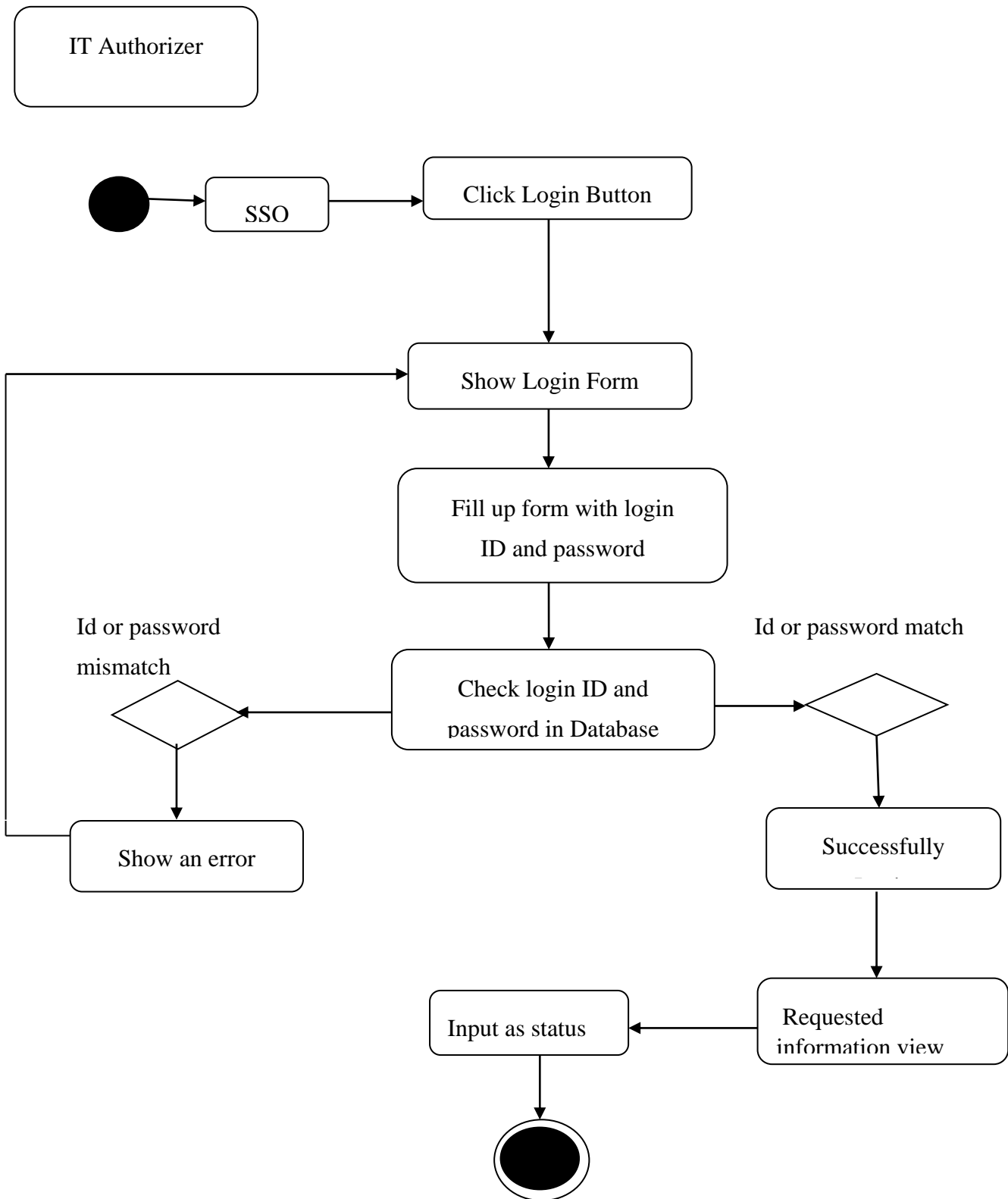


Figure 5.8: Activity Diagram for IT Authorizer

5.5.5 Activity Diagram for Id Creator

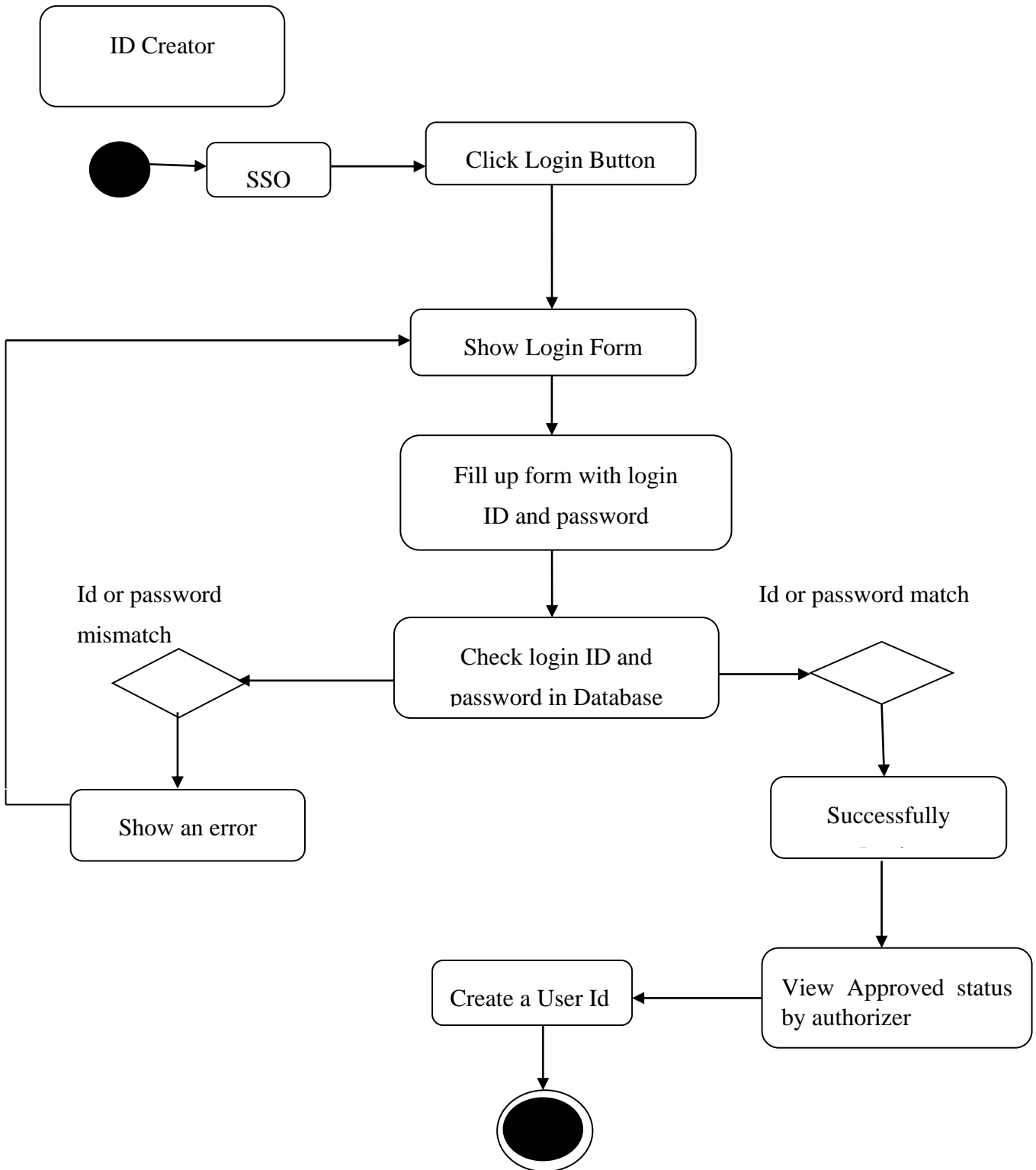


Figure 5.9: Activity Diagram for Id Creator

## 5.6 Database table design

Here the database table for different data is create and stored. We get five table from data dictionary analysis with some extension table are given below. Extension is needed for security and other purpose.

### 5.6.1 Designing the User table (for Id create)

This table is design for a Id creation where all information and all inputer are present here.

ID	int
EmployeeName	nvarchar
EmployeeID	nvarchar
Designation	nvarchar
ProbationPeriod	nvarchar
PreviousT24ID	nvarchar
PreviousBranchName	nvarchar
AssignedDesk	nvarchar
CellNo	nvarchar
ReplacingOfficialName	nvarchar
ReplacingOfficialsID	nvarchar
TotalNoofexistingBranchUsers	nvarchar
Emailaddress	nvarchar
Input	bit
Authorize	bit
History	bit
Teller	bit
PostingRestrictionAuthority	bit
ReportsMenuonly	bit
RetailOperationsMenu	bit
CreditOperationsMenu	bit
TradeFinanceMenu	bit
HeadOfficeMenu	bit
SpecialRequirement	nvarchar
Status	nvarchar
Branchcode	nvarchar
Reverse	Bit
BranchName	nvarchar
InputerUser_Id	nvarchar



AuthorizerUser_Id	nvarchar
TemonusID	nvarchar
Request_date	nvarchar
T24_Id_Create_Date	nvarchar

Table 5.1: User table (for Id create)

*5.6.2 Designing the Branch Information table*

BrId	int
BrCode	(PK),char
BranchName	varchar

Table 5.2: Branch Information table

*5.6.3 Designing the User Information table*

In this table define as user can login SSO for request a ID creation.

USERID	(PK),char
PASSWORD	Char
BrCode	Char

Table 5.3: Data Table for User(For SSO login)

## 6 User Interface of developed Project

The user interface, in the industrial-design field of human machine interaction, is the space where interaction between humans and machines occurs. The goal of this interaction is effective operation and control of the machine on the user's end, and feedback from the machine, which aids the operator in making operational decisions. Examples of this broad concept of user interfaces include the interactive aspects of computer operating systems, hand tools, heavy machinery operator controls, and process controls. The design considerations applicable when creating user interfaces are related to or involve such disciplines as ergonomics and psychology.

Now, we see the user interfaces of my project

### 6.1 Admin Login

In this page, Admin can login by filling up the Id and password.



*User ID Request Processing System*

---

A screenshot of an admin login form. The form is titled 'Log In' at the top center. It contains two input fields: 'User Id : 002' and 'Password : ●●●●'. Below the password field is a 'Log In' button. The entire form is enclosed in a green rectangular border.

Figure 6.1: Admin login page

## 6.2 User/Employee Login

In this page, User/Employee can login by filling up the Id and password.



*User ID Request Processing System*

**Log In**

User Id :

Password :

Figure 6.2: User/Employee login page

## 6.3 Home Page



Figure 6.3: Home page

## 6.4 About Us

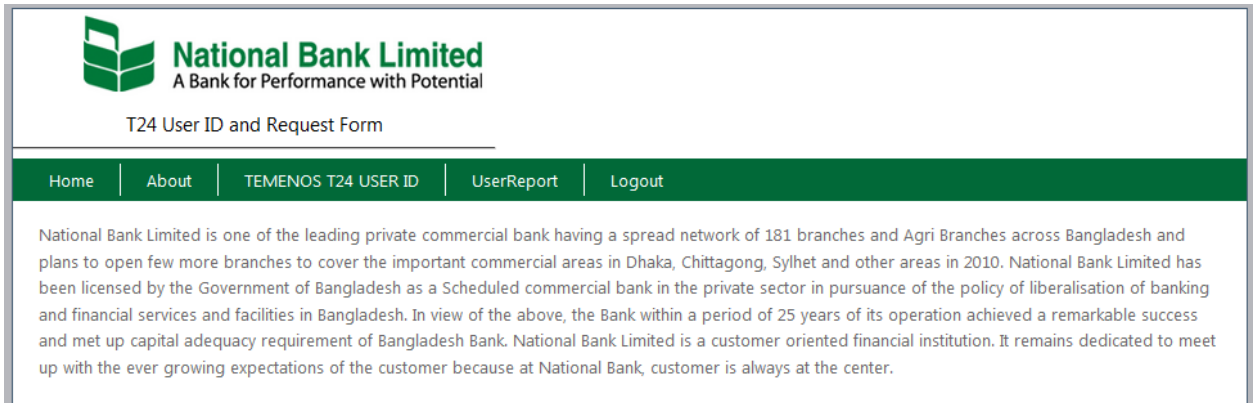


Figure 6.4: About Us

## 6.5: User/Employee's Initial Page

**National Bank Limited**  
A Bank for Performance with Potential

T24 User ID and Request Form

Home | About | TEMENOS T24 USER ID | UserReport | Logout

User Information

Employee Name:	<input type="text"/>	Employee/PF ID:	<input type="text"/>
Designation:	--Select--	Probation Period:	Yes
Previous T24 ID (If any):	<input type="text"/>	Previous Branch Name:	--Select--
Assigned Desk:	--Select--	Cell No:	<input type="text"/>
Replacing Official Name:	<input type="text"/>	Replacing Official's T24 ID:	<input type="text"/>
Total No. of existing T24 Branch Users:	<input type="text"/>	Email address:	<input type="text"/>


Special Requirements :

Save New

Figure 6.5: User/Employee's Initial Page

## 6.6 Page of send request by User/Employee

In this page user or employee give all information and send request.



**National Bank Limited**  
A Bank for Performance with Potential

T24 User ID and Request Form

Home
About
TEMENOS T24 USER ID
UserReport
Logout

User Information

<p>Employee Name: <input type="text" value="Rai Chowdhury"/></p> <p>Designation: <input type="text" value="SEO"/></p> <p>Previous T24 ID (If any): <input type="text" value="C345"/></p> <p>Assigned Desk: <input type="text" value="Accounts"/></p> <p>Replacing Official Name: <input type="text" value="Ashim Roy"/></p> <p>Total No. of existing T24 Branch Users: <input type="text" value="2"/></p>	<p>Employee/PF ID: <input type="text" value="R123"/></p> <p>Probation Period: <input type="text" value="Yes"/></p> <p>Previous Branch Name: <input type="text" value="Agrabad"/></p> <p>Cell No: <input type="text" value="01712426770"/></p> <p>Replacing Official's T24 ID: <input type="text" value="A234"/></p> <p>Email address: <input type="text" value="rai.nbl@gmail.com"/></p>
---	--

Special Requirements :


Employee Name	Employee/PF ID	Designation	Previous T24 ID (If any)	Cell No	Status	
Roni	hgft646	FEO	gr5w	745244	Approved	<a href="#">View</a>
Rai Chowdhury	R123	SEO	C345	01712426770	Pending	<a href="#">View</a>
Diya	t4t5y5	JO	t4w34	63876745	Approved	<a href="#">View</a>
Moni	te524ed	FEO	r45	535767	Forward	<a href="#">View</a>
Tester	test	EO	765	01756888324	Reject	<a href="#">View</a>

1 2 3

Figure 6.6: Send request by User/Employee

## 6.7 Branch Manager Page

Here Branch manager click in grid view's view word where view's row is pending. Then he/she give some access, areas of authority and status submission.



**National Bank Limited**  
A Bank for Performance with Potential

T24 User ID and Request Form

Home
About
TEMENOS T24 USER ID
UserReport
Logout

**User Information**

<b>Employee Name:</b> <input type="text" value="Rai Chowdhury"/>	<b>Employee/PF ID:</b> <input type="text" value="R123"/>
<b>Designation:</b> <input type="text" value="SEO"/>	<b>Probation Period:</b> <input type="text" value="Yes"/>
<b>Previous T24 ID (If any):</b> <input type="text" value="C345"/>	<b>Previous Branch Name:</b> <input type="text" value="Agrabad"/>
<b>Assigned Desk:</b> <input type="text" value="Accounts"/>	<b>Cell No:</b> <input type="text" value="01712426770"/>
<b>Replacing Official Name:</b> <input type="text" value="Ashim Roy"/>	<b>Replacing Official's T24 ID:</b> <input type="text" value="A234"/>
<b>Total No. of existing T24 Branch Users:</b> <input type="text" value="2"/>	<b>Email address:</b> <input type="text" value="rai.nbl@gmail.com"/>

**Privileges/Access Rights:**

- Input
- Authorize
- Reverse
- History
- Teller
- Posting Restriction Authority

**Areas of Authority:**

- Reports Menu Only
- Retail Operations Menu
- Credit Operations Menu
- Trade Finance Menu
- Head Office Menu

**Special Requirements :**


Status:

Employee Name	Employee/PF ID	Designation	Previous T24 ID (If any)	Cell No	Status	
Roni	hgft646	FEO	gr5w	745244	Approved	<a href="#">View</a>
Rai Chowdhury	R123	SEO	C345	01712426770	Forward	<a href="#">View</a>
Diya	t4t5y5	JO	t4w34	63876745	Approved	<a href="#">View</a>
Moni	te524ed	FEO	r45	535767	Forward	<a href="#">View</a>
Tester	test	EO	765	01756888324	Reject	<a href="#">View</a>

1 2 3

Figure 6.7: Branch Manager Page

## 6.8 IT Executive Confirmation page



**National Bank Limited**  
A Bank for Performance with Potential

T24 User ID and Request Form

---

Home
About
TEMENOS T24 USER ID
UserReport
Logout

User Information

Employee Name: Rai Chowdhury	Employee/PF ID: R123
Designation: SEO	Probation Period: Yes
Previous T24 ID (If any): C345	Previous Branch Name: Agrabad
Assigned Desk: Accounts	Cell No: 01712426770
Replacing Official Name: Ashim Roy	Replacing Official's T24 ID: A234
Total No. of existing T24 Branch Users: 2	Email address: rai.nbl@gmail.com

Privileges/Access Rights:

- Input
- Authorize
- Reverse
- History
- Teller
- Posting Restriction Authority

Areas of Authority:

- Reports Menu Only
- Retail Operations Menu
- Credit Operations Menu
- Trade Finance Menu
- Head Office Menu

Special Requirements :

Search

Employee/PF ID:	<input type="text"/>	Branch Name: --Select--	Status: --ALL--	<input type="button" value="Search"/>
-----------------	----------------------	-------------------------	-----------------	---------------------------------------


For Authorizer

Status: Approved	<input type="button" value="Submission"/>
------------------	---

Employee Name	Employee/PF ID	Branch Name	Status	
Roni	hgft646	Feni	Approved	<a href="#">View</a>
Rai Chowdhury	R123	Imamgonj	Approved	<a href="#">View</a>
Diya	t4t5y5	Feni	Approved	<a href="#">View</a>

Figure 6.8: IT Executive Confirmation page

## 6.9 IT Officer Completion Page



**National Bank Limited**  
A Bank for Performance with Potential

T24 User ID and Request Form

Home
About
TEMENOS T24 USER ID
UserReport
Logout

**User Information**

<p><b>Employee Name:</b> <input type="text" value="Rai Chowdhury"/></p> <p><b>Designation:</b> <input type="text" value="SEO"/></p> <p><b>Previous T24 ID (If any):</b> <input type="text" value="C345"/></p> <p><b>Assigned Desk:</b> <input type="text" value="Accounts"/></p> <p><b>Replacing Official Name:</b> <input type="text" value="Ashim Roy"/></p> <p><b>Total No. of existing T24 Branch Users:</b> <input type="text" value="2"/></p>	<p><b>Employee/PF ID:</b> <input type="text" value="R123"/></p> <p><b>Probation Period:</b> <input type="text" value="Yes"/></p> <p><b>Previous Branch Name:</b> <input type="text" value="Agrabad"/></p> <p><b>Cell No:</b> <input type="text" value="01712426770"/></p> <p><b>Replacing Official's T24 ID:</b> <input type="text" value="A234"/></p> <p><b>Email address:</b> <input type="text" value="rai.nbl@gmail.com"/></p>
---	--

**Privileges/Access Rights:**

- Input
- Authorize
- Reverse
- History
- Teller
- Posting Restriction Authority

**Areas of Authority:**

- Reports Menu Only
- Retail Operations Menu
- Credit Operations Menu
- Trade Finance Menu
- Head Office Menu

**Special Requirements :**

**Search**

**Employee/PF ID:**  **Branch Name:**  **Status:**

**For Authorizer**

**Status:**

**T24 Id Deliver**

**PF ID:**

**T24 ID:**

Employee Name	Employee/PF ID	Branch Name	Status	
Roni	hgft646	Feni	Approved	<a href="#">View</a>
Rai Chowdhury	R123	Imamgonj	Approved	<a href="#">View</a>
Diya	t4t5y5	Feni	Approved	<a href="#">View</a>
Moni	te524ed		Forward	<a href="#">View</a>
Tester	test	Motijheel	Reject	<a href="#">View</a>

1 2 3

Figure 6.9: IT Officer Completion Page



## 6.10 Date Wise Report

The screenshot shows the National Bank Limited logo and tagline 'A Bank for Performance with Potential' at the top left. Below it is the title 'T24 User ID and Request Form'. A green navigation bar contains links for 'Home', 'About', 'TEMENOS T24 USER ID', 'UserReport', and 'Logout'. The main content area features a 'Date Wise Report' form with the following fields: 'Date' (text input with value '22/7/2017'), 'Branch' (dropdown menu with value '--ALL--'), and 'Status' (dropdown menu with value '--ALL--'). A 'Report Show' button is located below the dropdowns.

Figure 6.10: Date Wise Report

## 6.11 Report as a PDF file

**National Bank Limited**  
Date Wise Report

7/22/2017

<u>ID</u>	<u>EmployeeName</u>	<u>TemonusID</u>	<u>EmployeeID</u>	<u>Designation</u>	<u>ProbationPeriod</u>	<u>PreviousT24ID</u>	<u>CellNo</u>	<u>TotalNooexistingBranchUsers</u>	<u>InputerUser Id</u>	<u>AuthorizerUser Id</u>	<u>Status</u>	<u>BranchName</u>	<u>T24 Id Create Date</u>
16	Rai Chowdhury	Rai500	R123	SEO	Yes	C345	01712426770	2	003	003	Approved	Imamgonj	7/22/2017

Figure 6.11: Report as a PDF file

## 7 Software Maintenance

Software maintenance in software engineering is the modification of a software product after delivery to correct faults, to improve performance or other attributes. A public awareness of maintenance is that includes setting defects. However, a study specified that more than 80% of maintenance is used for non-corrective movements. This insight is continued by use acquiescing problem reports that in certainty are functionality enrichment to the system.

The maintenance process model described in IEEE, the standard for software maintenance, starts the software maintenance effort during the post-delivery stage and discusses items such as planning for maintenance and measures outside the process model. That process model with the IEEE maintenance phases in figure.

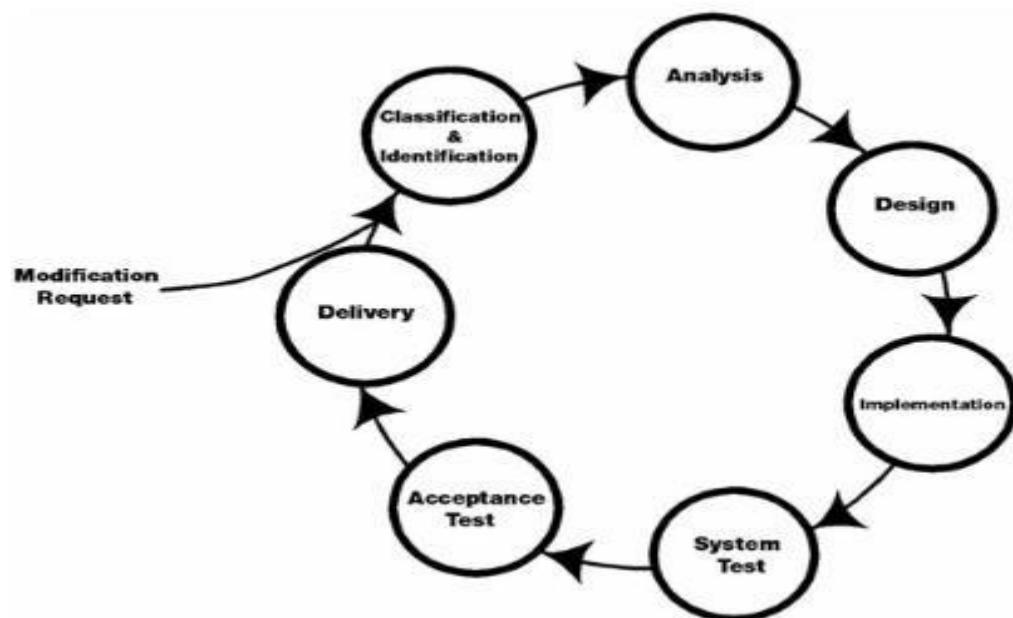


Figure7.1: Maintenance process model

### 7.1 Maintenance Activities

In the late 1970s, a renowned and extensively cited review study by Litentz and swanson showing the actual great portion of life-cycle cost that were being used on maintenance. They considered maintenance activities into four classes

- Adaptive Maintenance
- Corrective Maintenance

- Perfective Maintenance
- Preventive Maintenance.

Adaptive Maintenance is practical when alteration in the outside situation precipitate changes to software. It contracts with adjusting the software to new surroundings.

Corrective Maintenance doings to precise mistakes that are exposed after the software is in practice. It contracts with fitting bugs in the code.

Perfective maintenance includes enrichments that are wished by the use. It contracts with fitting bugs in the codes.

Preventive Maintenance advances upcoming maintainability and dependability and delivers a foundation for future enrichment. it contracts with informing certification and constructing the software more maintainable.

## ***7.2 Difficulties of Maintenance***

There are four difficulties that can sluggish down the maintenance process

- Formless code
- Maintenance programmers having inadequate knowledge
- Documentation being inattentive
- Out of date or inadequate.

The achievement of the maintenance stage trusts on these problems being earlier in the life sequence. In mu application I try to follow the maintenance phases to complete those activities. The code is structured and we have adequate knowledge programming.

## 8 Challenges and difficulties during Internship

### 8.1 Challenges

To create on user friendly site for all employees using HTML, CSS, ASP.NET, SQL Server which request should be forwarded to the Branch Manager and IT Executive.

### 8.2 Difficulties

I face some difficulties which following as

- While design the requesting page some information like employee Id, serial seems confusing where to put it.
- To collect branch information table like branch code, name etc.
- To install SQL server 2012 I faced problem because SQL server was already installed and finally install SQL server 2008 R2 where I worked here.
- To make individual data table in data base for each input was difficult so I made single data table where employee name, Id, Designation, call no, email etc. are created.
- To pass the data from the login page it was hard to search from our database as it is designed in single table.
- At the initial of this project I faced some security issue for this project as it has huge no. of employees.
- Checking status of the pending request could be more easy to view.
- As it's a project for a bank, so I had to maintained its original theme and gesture to make it more individual, So that it looks its own software/system. So I had follow bank's original color and logo.

## **9 Conclusion and Recommendation**

Computer related topics can get trivial when I study them from books only. But when I am exposed to practical work as well, then it helps to string then my knowledge. I must say that there was enough to learn for me during my internship period. It was a first time experience in a job for me. During the last Four months that I worked for National Bank Ltd. Four months working experience that I gained is extremely valuable to me and I wish to implement my new found knowledge in future.

### ***9.1 Findings***

- National bank do not mobile banking technology
- Lack of IT Technologist
- Lack of Regular training
- Poor internet service for the user of National Bank Limited

### ***9.2 Recommendation***

- Management should ensure service within short time.
- Management of National bank should use mobile technology.
- National Bank should ensure in proper intranet system without any breaking.
- Management of National Bank should provide Training to their Component staff.

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