



**SUDAN UNIVERSITY OF SCIENCE AND TECHNOLOGY**  
**COLLEGE OF COMPUTER SCIENCE AND INFORMATION**  
**TECHNOLOGY**

**DEPARTMENT OF SOFTWARE ENGINEERING**

**ONLINE ACCOUNTING**  
**INFORMATION SYSTEM (ONE)**

**NOVEMBER 2017**

**THESIS SUBMITTED AS A PARTIAL REQUIREMENT OF B.Sc.**  
**(HONOR) DEGREE IN SOFTWARE ENGINEERING**



بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

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SYSTEM (ONE)**

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(HONOR) DEGREE IN SOFTWARE ENGINEERING SUPERVISOR**

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## الآية

قال تبارك و تعالى:

" قَالَ رَبِّ اشْرَحْ لِي صَدْرِي وَيَسِّرْ لِي أَمْرِي وَاحْلُلْ عُقْدَةً مِنْ لِسَانِي يَفْقَهُوا قَوْلِي "

طه: (25-28)

# الحمد لله

إلهي لا يطيب الليل إلا بشكرك ولا يطيب النهار إلا بطاعتك .. ولا تطيب اللحظات إلا بذكرك .. ولا تطيب  
الأخرة إلا بعفوك .. ولا تطيب الجنة إلا برويتك

## الشكر والعرفان

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إلى من بلغ الرسالة وأدى الأمانة .. ونصح الأمة .. إلى نبي الرحمة ونور العالمين

"سيدنا محمد صلى الله عليه وسلم"

إلى من كلله الله بالهبة والوقار .. إلى من علمني العطاء بدون انتظار .. إلى من أحمل أسمه بكل افتخار  
وستبقى كلماتك نجوم أهتدي بها اليوم وفي الغد وإلى الأبد

والدي العزيز ..

إلى ملاكي في الحياة .. إلى معنى الحب وإلى معنى الحنان و التقاني .. إلى بسمه الحياة وسر الوجود إلى من  
كان دعائها سر نجاحي وحنانها بلسم جراحي إلى أعلى الحباب

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إلى من أرى التفائل بعينهم .. إلى من رافقوني منذ نعومة اظفاري .. معهم سرت الدرب خطوة بخطوة .. إلى  
الشمعات المتقدة التي تنير ظلمة حياتي

أخوتي ..

إلى من كانوا ملاذي وملجأئي .. إلى من تذوقت معهم أجمل اللحظات .. إلى من سأفتقدهم واتمنى أن يفتقدوني  
.. إلى من جعلهم الله أخوتي بالله .. ومن أحببتهم بالله

زملائي ..

# Abstract

With the appearance of computers and the entry of technology in various fields of commercial, industrial, medical, etc., and increased the need of companies and institutions of accounting systems significantly.

The different requirements of these companies based on its nature of its work, increased the need to a system that meets the requirements of different users and achieve the objectives of companies by dividing roles between users to make it easier to understand the company's objectives. This research applies the French method, and includes the accounting section only where there is one accounting entries screen, then these accounting entries are stored and then are posted to the various accounting books (Journal, Ledger and the balance sheet), which are extracted as reports. It generates financial statements (profit & loss and balance sheet) to know the financial position of the company, and includes a screen to manage users and give them different privileges to use the system.

The results of this research developing simple *AIS* allow to admin to give the roles and privileges to users to do the accounting transactions of the system.

The recommendation of this research is applying the Italy and English method in this system.



## المستخلص

مع ظهور اجهزة الحاسوب ودخول التكنولوجيا في شتى المجالات التجارية والصناعية والطبية.... إلخ ، ونسبه لاحتياج الشركات والمؤسسات للانظمة المحاسبية بشكل كبير ، وإختلاف متطلبات هذه الشركات بناءً على طبيعه عملها ، زادت الحاجة الى نظام يلبي متطلبات المستخدمين المختلفين ويحقق أهداف الشركات وذلك بتقسيم الادوار بين المستخدمين لتسهيل فهم أهداف الشركة بكل وضوح.

هذا البحث يقوم بتطبيق الطريقة الفرنسيه ، ويشتمل على قسم الحسابات فقط حيث يحوي على شاشه إدخال قيود محاسبية واحدة فقط من ثم يتم تخزين هذه القيود فيها ومن ثم يتم ترحيل هذه الحسابات الى الدفاتر المحاسبية المختلفه (دفتر اليومية ، دفتر الأستاذ وميزان المراجعة) والتي تستخرج في شكل تقارير . ومن ثم استخراج قوائم الدخل ( الارباح والخسائر و الميزانيه العموميه ) لمعرفة الموقف المالي للشركة ، كما يشتمل على شاشه لادارة المستخدمين ومنحهم الصلاحيات المختلفه لاستخدام النظام .

توصلت الدراسة إلى عدد من النتائج وهي :عمل نظام محاسبي بسيط يسمح لمدير الشركة في النظام بمنح الادوار والصلاحيات للمستخدمين لإجراء العمليات المحاسبية الخاصة بالشركة المعنية بناء على تلك الصلاحيات.

التوصيات التي يوصي بها الباحثون : تطبيق هذا النظام بالطريقة الايطاليه ، والانجليزيه .

# Glossary

#	Term	Description
1.	<b>AIS</b>	Accounting information System
2.	<b>UML</b>	Unified Modeling Language
3.	<b>CSS3</b>	Cascading Style Sheet level 3
4.	<b>CRM</b>	Customer Relationship Management
5.	<b>SCM</b>	Supply Chain Management
6.	<b>ERP</b>	Enterprise Resource Planning
7.	<b>CRUD</b>	Creating, Reading, Updating, Deleting data
8.	<b>PHP</b>	Hypertext processor
9.	<b>HTML5</b>	Hyper Text Markup Language version 5

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**CHAPTER ONE**  
**INTRODUCTION**

# 1.1 Introduction

Now computers have become an important element in human life, which plays a very important role in all aspects and necessities of human life.

AISs are a system of collecting, storing and processing financial and accounting data that are used by decision makers. AISs are generally a computer-based method for tracking accounting activity in conjunction with information technology resources. The resulting financial reports can be used internally by management or externally by other interested parties including investors, creditors and tax authorities. Accounting information systems are designed to support all accounting functions and activities including auditing, financial accounting & reporting, managerial/management accounting and tax. The most widely adopted accounting information systems are auditing and financial reporting modules.

Through this research, we will design an accounting system, which fit to work in any institution accounting depending on the nature of their work.

# 1.2 Problem Statement

Many problems faced small companies. The following issues have been identified:

- Data center :

All companies aspire to possess its own Data Center, but it could be provided cost of a lot of money, especially for small businesses. It is necessary to provide a reliable infrastructure for IT operations, in order to minimize any chance of disruptions. Information security is also a concern, and for this reason.

- Changing requirements: making AIS suitable with many companies with different roles and privileges not available in some accounting systems.

These problems will be solved by developing an accounting information that provide cheap data center and divide roles and privileges among users.

## **1.3 Research Motivation**

The importance of this research is to solve the problems that faced small companies. By developing accounting information system that can be suitable with my companies and ability divide roles and privileges among users.

In addition, we can solve data center problem by providing a cheap, reliable, secure, and integrity service data center.

## **1.4 Research Objective**

Given the problem presented in section 1.2, the objective of this research is to bring a solution to them by:

- Provide cheap data center, which is reliable, secure and integrity service.
- Develop accounting information system that gives every user certain role and privileges.

## **1.5 Research Limitation**

Primarily, the limitation of this research is to develop accounting information system for small and medium companies in Sudan.

## **1.6 Expected Contribution**

Given the objective in section 1.4, the expected contribution by the end of this research is to achieve these goals through developing the accounting system fit to work in many companies.

# **1.7 Research Methodology**

## **1.7.1 Requirement Gathering Methodology**

Requirements are collected by dealing with many accounting information systems that there are many operations and procedure common among them and this operation take as requirements for the newly developed system.

## **1.7.2 Analysis Methodology:**

After the requirement gathering process, the requirements of accounting information system that had been collected by observation of developed accounting information system, will be analyzed to identify the basic component of the accounting information system through which the accounting information system will be created.

## **1.7.3 Design Methodology**

System design consists of all the procedures and basic processes that are found in any existing accounting information system, in addition to the new requirements of the new accounting information system that suits the different requirements of each accounting companies.

## **1.7.4 Implementation Methodology**

There are many ways to approach the implementation of our system. The first step in the implementation process should begin with a thorough review of business requirements and processes, to identify what is appropriate or what aspects that may need improvement and refinement. These business requirements will be mapped into the project plan, which will drive the remainder of the implementation.

### 1.7.5 Validation Methodology

The system will validate to ensure that it meets the research objectives by giving it to the customers or by introducing the equations to show how it works.

## 1.8 Research Timeline

Table 1-1 Research Timeline

Name	Duration	Start date	Finish date	Actual start date	Actual end date
Requirement Gathering	4 weeks	21/3/2017	18/4/2017	21/3/2017	18/4/2017
Requirement Analysis and design	3 months	20/4/2016	18/5/2017	27/5/2017	25/8/2017
Implementation	4 weeks	21/6/2017	18/7/2017	26/8/2017	–
Validation	3 weeks	9/7/2017	30/7/2017	–	–
Testing	3 weeks	1/8/2017	22/8/2017	–	–

# 1.9 Research Organization

In addition to this chapter, this research contains another five chapters:

- *Chapter 2: Literature Review.* A brief introduction to the main domains of this research is presented, to allow a better understanding of the domain and context in which the work takes place, as well as the terminology and concepts presented in the subsequent chapters. It presents some studies that try to solve the lack of flexibility with different solutions.
- *Chapter 3: The Research Methodology.* Contains the tools and techniques that used in this research.
- *Chapter 4: Analysis and Design.* Contains the analysis and design.
- *Chapter 5: Implementation and Validation.* Contains the steps and stages of the implementation of the system.
- *Chapter 6: Conclusions, Recommendations, and Future Work.* Contains results, and recommendations.

**CHAPTER TWO**  
**LITRETURE REVIEW**



## 2.1 Information in general

### 2.1.1 Definition of data and information

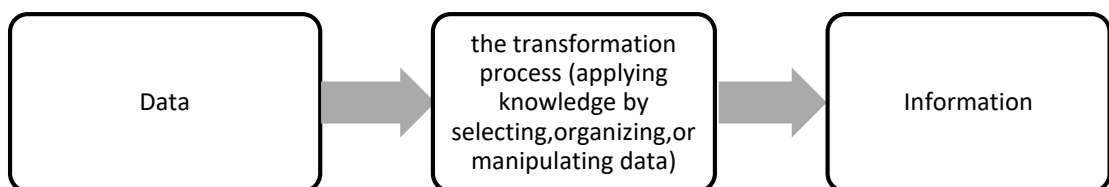
Data are facts that are collected, recorded, stored and processed by information system.

Consist of raw facts, such as hours worked I a week, inventory part, numbers of sales orders. [1]

Information are collection of facts organized in such a way that they have additional value beyond the value of the facts themselves. [1]

### 2.1.2 The relationship between the data and information

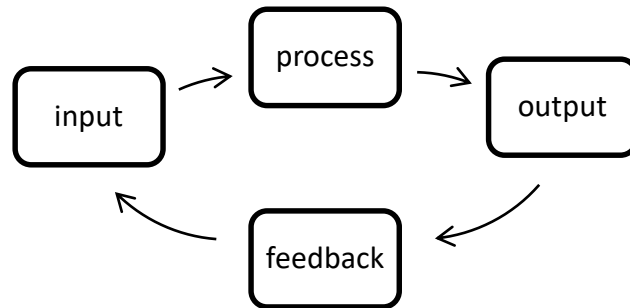
The information is a data that processed by the system.



**Figure 2-1: Relationship between components**

### 2.1.3 Definitions of System and Information System

System: is a set of elements or components that interact to accomplish goals. [1]



**Figure 2-2: Information system**

- Information System: “Is a set of interrelated components that collect, manipulate, and disseminate data and information and provide a feedback mechanism to meet an objective.” [1]

#### **2.1.4 Information System Objectives**

Three fundamental objectives are, however, common to all systems:

- To support the stewardship function of management, stewardship refers to management’s responsibility to properly manage the resources of the firm. The information system provides information about resource utilization to external users via traditional financial statements and other mandated reports. Internally, management receives stewardship information from various responsibility reports.
- To support management decision-making. The information system, supplies managers with the information they need to carry out their decision-making responsibilities.
- To support the firm’s day-to-day operations. The information system provides information to operations personnel to assist them in the efficient and effective discharge of their daily task. [2]

## 2.2 Accounting information system

### 2.2.1 Definition of Accounting

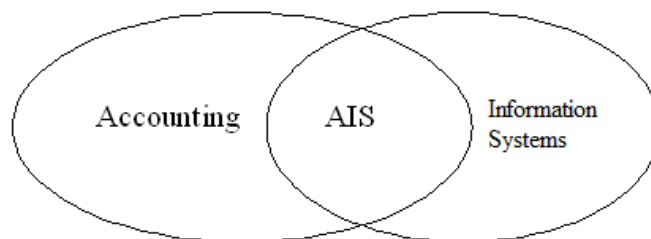
The art of interpreting measuring and communicating the results of economic activities. [3]

### 2.2.2 Accounting Information System “AIS”

A system that collects, records, stores, and processes data to produce information for decision-makers.

Other definitions of AIS:

- AIS subsystems process financial transactions and nonfinancial transactions
- That directly affects the processing of the financial transaction.
- A system is a set of two or more interrelated components that interact to achieve a goal.
- Systems are usually composed of smallest subsystems each performing specific functions supportive of the larger system.



**Figure 2-3: Intersection between Accounting and IS**

### 2.2.3 Components of AIS

- People, who operate the system and perform various functions.
- Procedures and instructions, both manual and automated, involved in collecting, processing, storing data about the organization's activities.
- Data, about the organization and its business processes
- Software used to process the organization's data.
- Information technology infrastructure, including the computer peripheral devices, and network communications devices used to collect, store, process, and transmit data and information.
- Internal control and security measures that safeguard the data in the AIS.

### 2.2.4 The relationship between components



**Figure 2-4: Relationship between AIS and other systems**

The previous components enable AIS to fulfill three important business functions, such as:

- Collect and store data about organizational activities, resources, and personnel, organization have a number of business processes, like making a role or purchasing raw materials, which are repeated frequently.
- Transform data into information so management can plan, execute, control, and evaluate activities, resources, and personnel.
- Provide adequate controls to safeguard the organization assets and data.

### **2.2.5 System boundaries**

To help employees act ethically by setting boundaries on employee behavior. They are encouraged to creatively solve problems and meet customer needs while meeting minimum performance standards, shunning off-limit activities, and avoiding actions that might damage their reputation. [4]

### **2.2.6 The “Input, output, and process” of every phase**

1. Journal entries:
  - Input: financial data.
  - Process: transforming data into financial transaction.
  - Output: financial transactions.
2. General Ledger:
  - Input: financial transactions.
  - Process: prepare accounts for each transaction.
  - Output: balance down carried to the trial balance.
3. Trial balance:
  - Input: balance carried down.
  - Process: adding all the credit balances and compare it with the total of debit balances.
  - Output: detect recorded balances if the two sides are not equal.
4. Trading accounts:
  - Input: cost of goods sold and net sales.
  - Process: compare the cost of goods sold and net sales.
  - Output: gross profit or gross loss.
5. Profit & loss account:
  - Input: expenses and revenues.

- Process: adding all the expenses and revenues, after that deduct the great side from the other side.
  - Output: net profit / net loss.
6. Balance sheet:
- Input: assets, liabilities, and capital.
  - Process: adding all the assets components then adding capital and liabilities components and make sure the two sides are equal.
  - Output: financial report.

### **2.2.7 Transaction processing: [4]**

One of the main AIS functions is to process company transactions efficient and effective way. In manual (non-computer-based) systems, data are entered into journals and ledgers maintained on paper. In computer-based systems, data are entered into computers and stored in files and databases. The operations performed on data to generate meaningful and relevant information are referred to collectively as the *data processing cycle*. This process consists of four steps: data input, data storage, data processing, and information output.

### **2.2.8 Data Input**

The process of collecting transactions data, It's usually triggered by a business activity.

### **2.2.9 Data storage**

Such as:

- General ledgers.
- Journals.
- Coding techniques: systematic assignment of numbers or letters to items to classify and organize them.

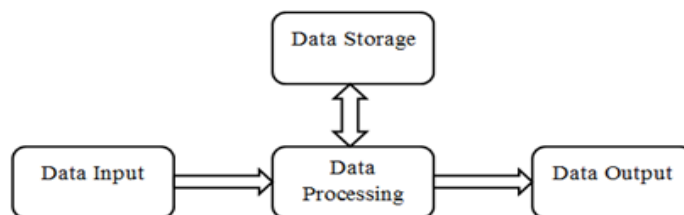
- Chart of accounts.
- Computer-based storage concepts.

### 2.2.10 Information output

Information is usually presented in one of three forms: a document, a report, or a query response.

- *Documents* are records of the transaction or other company data. Some, such as checks and invoices, are transmitted to external parties. Others, such as receiving report and purchase requisitions are used internally.
- *Reports* are used by employees to control operational activities and by managers to make decisions and to formulate business strategies.

The external user needs reports to evaluate company profitability, judge creditworthiness, or comply with regulatory requirements, some reports, such as financial statement and sales are produced on regular basis. Others are produced on exception basis to call attention to unusual conditions.



**Figure 2-5: Data processing cycle**

## 2.2.11 Data processing

Once business activity data have been entered into the system, they must be processed to keep the databases current

The four different types of data processing activities, referred to as CRUD, are as follows:

1. Creating new data records, such as adding a newly hired employee to the payroll database.
2. Reading, retrieving, or viewing existing data.
3. Updating previously stored data depicts the steps required to update accounts receivable record with a sales transaction.
4. Deleting data, such as purging the vendor master file of all vendors the company no longer does business with.

Business processes could be described in terms of four basic transaction cycles:

1. The *revenue cycle* encompasses all transactions involving sales to customers and the collection of cash receipts for those sales.
2. The *expenditure cycle* encompasses all transactions involving the purchase and payment of merchandise sold by S&S, as well as other services it consumes, such as rent and utilities.
3. The *human resources/payroll cycle* encompasses all the transactions involving the hiring, training, and payment of employees.
4. The *financing cycle* encompasses all transactions involving the investment of capital in the company, borrowing money, payment of interest, and loan repayments.

These four cycles interface with the *general ledger and reporting system*, which consists of all activities related to the preparation of financial statements and other managerial reports.

Steps of processing stages (data cycle) it consists of 4 steps: [5]



1. Data collection: compiling data in logical form through (documents, invoices and purchase orders) data can be also obtained and entered into the computer system directly.
2. Data tab:
  - Preparation batch (document collection process of similar nature “sales invoices”).
  - Validation.
  - Ordering data.
3. Data maintenance:
  - Calculations, compression, summary, storage.
  - Compare and represent the logical process.
  - Summarize data in sums of money.
  - Storage save calculation result to data.
4. Production reports: reports that the management needs on project performance.

### **2.2.12 System users**

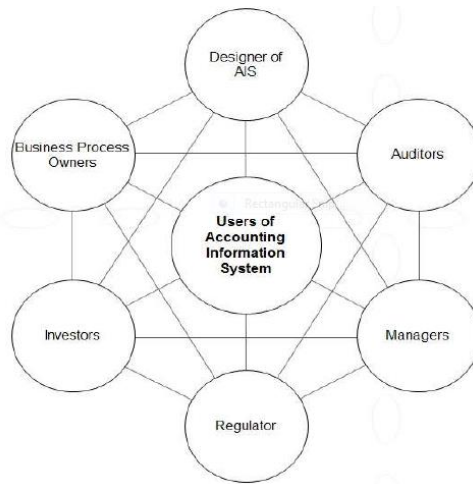
The users are grouped into two categories:

1. Internal user ( primary ):
  - Employees: decisions on personal matters, e.g. promotion, appointments, security, and training.
  - Management: decisions concerning the running of the business and strategic planning.
  - Owners: to determine whether a business is earning profit or loss, such as reports.
2. External users(secondary):
  - Investors and potential investors – information on the risks and returns on investments.

- Unions and employee groups – information on the stability, profitability, and distribution of wealth within the business.
- Lenders and financial institutions – information on the creditworthiness of the company and its ability to repay loans and pay interest.
- Suppliers and creditors: to know the financial position of a firm to decide whether invest or not.
- Customers – information on the continued existence of the business and thus the probability of a continued supply of products, parts and after-sales service.
- The public – information on the role and contribution of businesses to society.
  
- Competitors – information on the relative strengths and weaknesses of their competition and for comparative and benchmarking purposes. Whereas the above categories of users share in the wealth of the company, competitors require the information mainly for strategic purposes.<sup>[2]</sup>

We concluded that the major users are: [6]

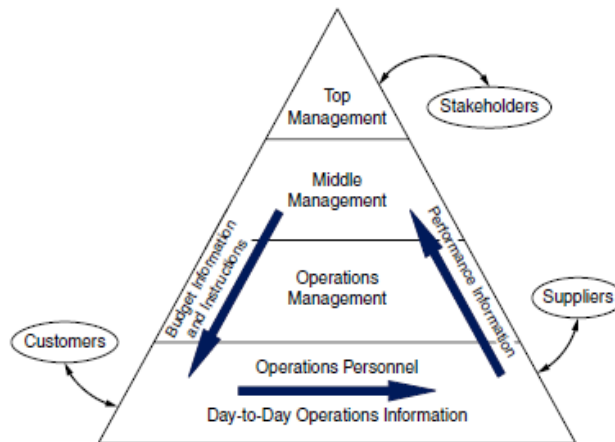
The main classes of people that use AIS:



**Figure 2-6: Classes of people that use AIS**

- *Designers of AIS* are the main users of accounting Information system. Some people call these classes of people ‘the systems analysts.
- *Auditors*: the *AIS* enables the auditor to gather the information that are necessary to; plan, develop and implement audits as it is supposed to be done.
- *Managers*: as business environment become more complex by the day, managers tend to rely more on the information supplied to him or her on a real-time basis to make informed decisions that have the capability of making or marring a business. *AIS* is a one-stop shop for financial information that business managers need.
- *Regulators*: government of the modern society are increasingly becoming aware of the importance of having a comprehensive database of the required activities of companies that operate within its jurisdiction and have placed greater reliance on *AIS* to supply the bulk of this information as they are primarily concerned with financial information.
- *Investors*: investors rely on *AIS* to produce financial statement that is true and fair.

### 2.2.13 The relationship between users



**Figure 2-7: Relationship between users and internal and external flow of information**

Information flows out from the organization to external users, such as customers, suppliers, and stakeholders who have an interest in the firm, information flows in two directions within the organization: horizontally and vertically, the horizontal flow supports operations-level tasks with highly detailed information about the many business transactions affecting the firm, The vertical flow distributes information downward from senior managers to junior managers and operations personnel in the form of instructions, quotas, and budgets. In addition, summarized information pertaining to operations and other activities flows upward to managers at all levels.

### 2.2.14 Levels of detailed and summarize data that meets system requirements

- Primary data, for internal users because they concerning on managerial accounting
- Secondary data, for external users they use financial statements in order to assess users to make financial reports.

### **2.2.15 The concept of Security, privacy, and confidentiality in AIS**

- *Security* includes authentication process which is all AISs systems should have login IDs and passwords that authenticate the user, confirming that he is allowed to use the system, this authentication usually involves giving rights to users, an AISs can be set up giving certain users access only to the accounts specific module, while others can have access to reports only, limiting the risk of misuse of data. Also, a standard security procedure with AIS is to back up data and save the backup in a safe place, A good security measure is to perform overnight backups as well as to restore backups once in a while to make sure the data is safe and usable.
- *Privacy* is the ability an organization or individual has to determine what data in a computer system can be shared with third parties.
- *Confidentiality* is protected confidential information from unauthorized disclosure.

Information security procedures restrict system access to authorized users only, thereby protecting the confidentiality of sensitive organizational data and the privacy of personal information collected from customers.

### **2.2.16 The relationship between the system and the other Systems**

1. ERP: ERP could be described as a database software package that supports all of a business's processes and operations including manufacturing, marketing, financial, human resources, and so on. In

other words, the goal of ERP is to have one integrated system for the entire company. <sup>[9]</sup>

2. SCM: The goal of accounting in supply chains management is optimizing these processes. This strategy focuses on supporting management.

The supply chain network consists of firms whose activities transcend legal boundaries, accounting and controls may, therefore, help to manage the complexities of supply chain processes. <sup>[10]</sup>

3. CRM: The final factor of CRM highlights the importance of CRM through accounting for the profitability of customer relationships. Through studying the particular spending habits of customers, a firm may be able to dedicate different resources and amounts of attention to different types of consumers. <sup>[11]</sup>

### **2.2.17 The role the system in creating a competitive advantage of the company**

Well-designed AIS can create competitive advantages by:

1. Improving the quality and reducing the costs of products or services.
2. Improving efficiency.
3. Sharing the knowledge: can improve operations and provide competitive advantages.
4. Improving the efficiency and effectiveness of its supply chain: allows to customers to directly access inventory and sales order entry systems can reduce sales and marketing costs, thereby increasing customer retention rates.
5. Improving the internal control structure: which can help protect systems from fraud, errors system failures, and disasters.
6. Improving decision-making.

## 2.2.18 Differences between manual and computer-based accounting

The differences between these systems lie in the methods and devices used in performing these functions. [3]

**Table 2-1 Differences between manual and computerized AIS**

	Means of performing these functions		
Basic function of accounting information system	The manual system in our illustrations	A computer-based system in a modern business	Comments on the computer-based systems
Recording effects of transactions	General journal (all transaction)	Special journals(routine transactions )  General journal(unusual transactions)  Some transactions recorded using on-line input devices.	Special journals may be online and located at transaction sites budgeted data may be entered for comparative purposes.
Classifying and sorting effects of transactions	Simple chart of ledger accounts  Some use of subsidiary ledgers	Detailed chart of ledger accounts and a database  Extensive use of subsidiary ledger	Database allows classification in many different ways  Revenue and expenses often classified along lines of managerial responsibility

Summarizing and communicating accounting information	Periodic printed reports	Printed reports, and computer displays. Some information up-to-date and accessible	On-line data may be completely current
------------------------------------------------------	--------------------------	------------------------------------------------------------------------------------	----------------------------------------

## 2.3 Previous Studies

### 2.3.1 Sage One

Sage One is cloud-based accounting software for small businesses.

Like the other accounting software, you can set up your account online

Some of Sage One functions are:

- Create one or more companies in which to work.
- Create items that you sell.
- Create suppliers so that you can purchase items. You can process purchase orders. Suppliers invoices, and return to suppliers.
- Create customers so that you can sell items. You can process quotes, invoices, and credit notes.
- Compile financial statements.
- Produce powerful and sophisticated reports.

And the Modules include but not limited:

- General ledger.
- Account receivable.
- Account payable.

The advantages of Sage One are:

- The data is safer in the cloud than on the desktop/laptop or internal servers.
- Accessible anywhere, at any time, on any device.



- Sage One has a Mobile app – fabulous for getting stuff done on the run.
- Support multi-currency.
- Easy to add a new module. [7].

Sage one offers two types of reports:

- Profit & Loss.
- Trial Balance.

The limitations of sage one are: [8]

- Invoice Customization, the only invoice customization Sage One offers is the ability to add a company logo. There are basically only two templates to choose from and no further customization options available.
- Too Much Support, Sage One has great phone and chats support, but after that, it's a bit difficult to find what you're looking for. Between choosing the right Sage software, the right country, and navigating a confusing main website, customer support becomes quite an adventure.
- Not Always Intuitive, Sage One claims to be incredibly simple accounting software. Smaller features are hidden in drop-down menus or settings.
- Project Feature Lacking, The project features in Sage One seem to be no more than glorified tracking tools. Without a projects tab, the ability to add tasks, or project-based reports, Sage One has a lot of improving to do before it can compete with software like QuickBooks or even ZohoBooks.

### **2.3.2 QuickBooks**

QuickBooks is accounting software program used to manage payroll, inventory, sales and other needs of a small business. [9]

The modules of Quick books are:

- Payables.
- General ledger.
- Receivables.

The advantages of Quick books are:

- Minimal accounting knowledge is required to use QuickBooks.
- QuickBooks is easy to use; uses familiar applications.
- Financial data is accurate using QuickBooks; QuickBooks conducts calculation and eliminates the need to double-check data.
- Saves users a lot of time and money on repeating tasks.
- Allow users to retrieve and manage a large amount of financial data.
- Executes accounting processes automatically.
- QuickBooks offers a variety of products (pro, premier, enterprise...) that suit every type of organization.
- QuickBooks help is available when needed by the user, pro advisor information, tutorials offered ...
- Organizes all financial data and information and saves users time for looking for documents.
- Eliminates a large amount of documentation and papers by storing all financial data on the computer. [10]

But the disadvantages of Quick books are:

- QuickBooks is expensive and costly.
- The user's work must be adapted to what the software needs.
- Since this software has been around for a long time, with a number of release and features, it makes QuickBooks more complicated to use. [10]

And the limitations are:

- Limited reporting and transparency of your business health.

- Double entry and keying errors.
- Limitations on the file size and data.
- Generic and impersonal support.
- Standalone application lacks integration.

Types of reports in QuickBooks:

- Profit and loss reports.
- Balance sheet report.
- General ledger report.

### **2.3.3 Tally ERP9**

Tally is popularly known as accounting *software for small and medium businesses*. It does all the functions of accounting that a particularly mid-sized business has.

Tally is a complete Enterprise Resource Planning system with an excellent grip in accounting features.

Although it has many more core features that a business requires but its hold in accounting is truly commendable. Therefore Tally is known more for accounting rather than any other of its features.

The modules of tally include but not limited: [11]

- General ledger.
- Accounts payable and accounts receivable.

The advantages of it are: [12]

- User-friendly.
- Data reliability and security.
- Accounting and inventory management.

- Payroll management.
- Remote access of data.
- Fast documents access.
- Customization for a specific industry.
- Multi-user access.
- Import and export data.
- Internal backups.

The disadvantages of tally are: [12]

- Tally sometimes requires double entries for certain functioning.
- Users find the GUI based features not very attractive.
- It may take more time for some uncomplicated functions.
- Customers support is not very enhanced.

Tally provides the following report: [13]

Include but not limited:

- Trial balance.
- Profit & Loss.
- Balance sheet.

### **2.3.4 ZOHO books online AIS [14]**

ZOHO books is online accounting information which provides many features for small business.

ZOHO books provide many functions include but not limited:

- Record transactions for expense and deposit.
- Automated banking.
- Collaborative client portal.

- Prepare financial statements.
- Add tasks and assign project members.
- Connect bank and credit card accounts.
- Match automated feeds with transactions.
- Create multiple purchase orders.

The modules of ZOHO books are:

- Estimates: Send new proposals and get them approved from your customer.
- Retainer Invoices: Collect advance payments or retainers from your customers.
- Timesheet: Track time for projects and bill them to your customers.
- Price List: Customize price lists for your customers, for the items you sell.
- Sales Orders: Confirm your customer's order and ship goods soon.
- Purchase Orders: Create and send orders to purchase goods.
- Inventory: Manage your stock levels effectively.

The advantages of this system are:

- Recording and tracking bills from vendors.
- Recording & monitoring bank/credit card transactions.
- Reconciling bank and credit card accounts.
- Full fledged multiple currency support.
- Managing contacts – customers and vendors.
- Multi-user support and data access to your accountant.
- Customizable templates and snail mailing of invoice and quotes.
- Attach files to Invoices and Bills.
- Dashboard for quick insights.
- Attach unbilled projects and expenses while creating invoices

ZOHO books provide many reports include but not limited:

- Profit & loss.
- Balance sheets.

But the limitations of ZOHO books are:

- The cost is pretty outstanding if you go with a ZOHO books one subscription. They want per seat but every person on your team needs a seat, even if they don't use the application afforded in their seat.
- Need split distribution capability for transactions Many accounts that are not needed cannot be deleted or inactivated

### **2.3.5 Wave [15]**

It is free and easy to use and provides you with financial information that you need without requiring much (or any) accounting knowledge.

Advantages of Wave:

- Include but not limited:
- No training required, fast setup and easy actions.
- Fully customizable expense/income categories (chart of account).
- Accountant approval: real double-entry software.
- Automatically generated accounting reports.
- Automatic data backup.

Disadvantages of Wave:

- Include but not limited: (([www.montrealfinancial.ca](http://www.montrealfinancial.ca))
- Formatting of report is quite basic, they have prettied up in excel before sending them externally.
- Reporting is quite simple and does not allow for great deal for customizable.

- There is no budgeting or forecasting capability.

Reports:

Include but not limited:

- Profit /loss
- Sales tax
- Balance sheets
- Account transactions
- General ledger
- Income statement

Functions: ([www.cpapracticeadvisor.com](http://www.cpapracticeadvisor.com))

- Offers complete double-entry accounting function
- Offers easy online payments capability.
- Users can schedule a recurring invoice with the option to choose frequency and start and end dates.
- Allows users to process customer statement.
- Sales tax information can be added in the setting option
- Offers a solid accounting application that is well-designed and well – designed and well suited to freelancers and small business owners.

Modules of wave include but not limited:

- Account payable.
- Account Receivable.
- Payroll

## 2.4 Chapter Summary

This chapter focused on the theoretical issues of the *AIS* and the related studies in term of others *AISs*. Next chapters will show the research methodology and tools and techniques used to develop the research's system.



**CHAPTER THREE**  
**RESEARCH METHODOLOGY**

## 3.1 Introduction

In this chapter Providing configurable *AIS* for many institutions which can fit with any change in requirement is the aim of this research's system, and sure this research's system has advantages and disadvantages that may discover later but this system tries to solve the lack of flexibility that faced other *AISs*.

## 3.2 Improvement aspect

Several studies have been mentioned in chapter 2 talked about most of the famous *AISs* and their modules, advantages and their disadvantages...etc. Our system will contain some modules and reports of them that flexible to fit any inst. The system also will cover institutions requirement, and most of disadvantages and limitation in several studies in chapter 2 by fix and avoid most of them. We aim to provide to the customers *AIS* that fit with their changing requirement and the nature of their institution. In addition to the inexpensive system for small and medium companies that help them to make their basic accounting transaction in an effective way.

- Data center:

the data center has to offer a secure environment that minimizes the chances of a security breach. A data center must, therefore, keep high standards for assuring the integrity and functionality of its hosted computer environment.

- Changing Requirement:

By giving every user different roles and privileges for using the system according to the accounts entered to the system.

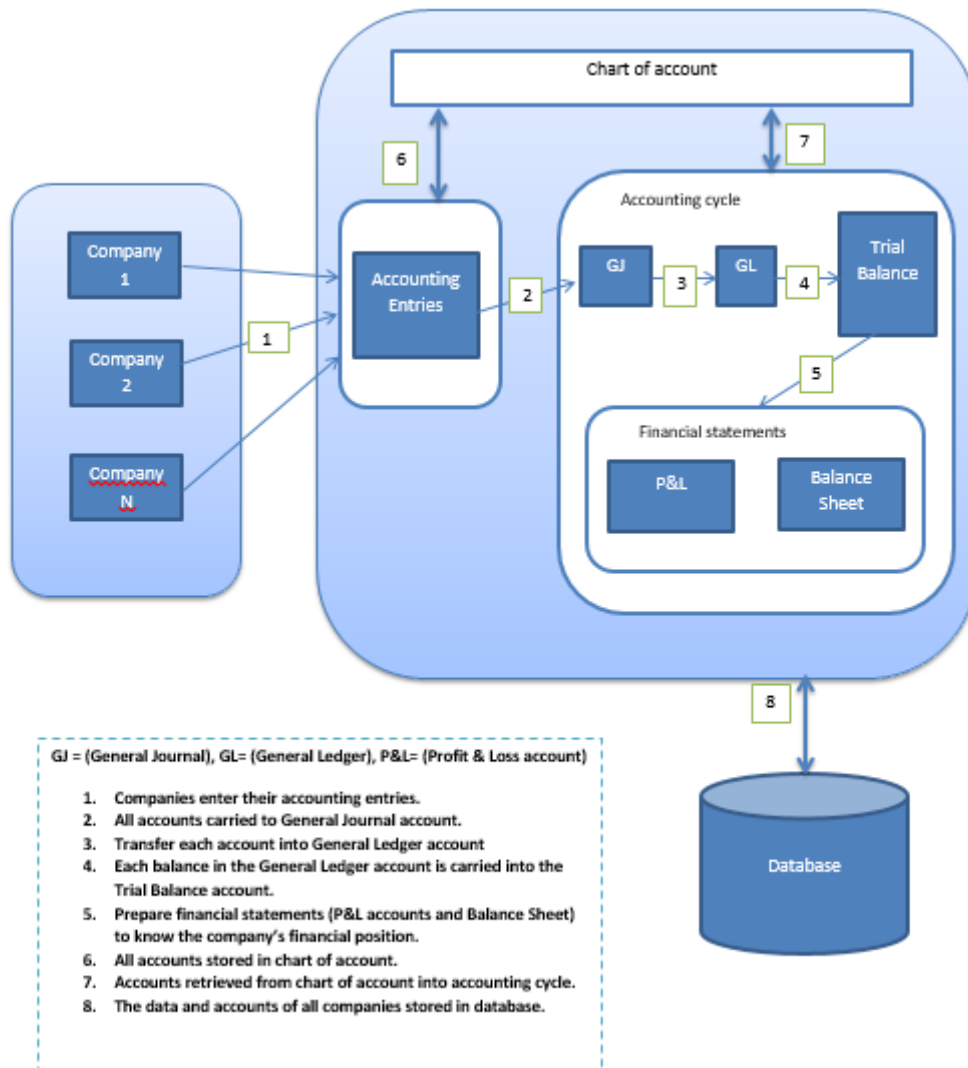
### 3.3 Proposed solution

One of our AIS main function is to record company accounts in the accounting entries screen according to the organization's business type (service, industrial, non-profit, profit ...etc.).

The proposed System contains a screen to enter the accounts. After all accounts that have been recorded into accounting entries screen, these accounts will be transferred to different accounting books in the accounting cycle, which contain: *General Journal, General ledger and Trial Balance*, in addition to financial statements (*Profit and Loss account and Balance Sheet*), which has been developed to help accountants to do their own financial transactions in a simple and useful way and work together to give simple AIS.

The accounting books cycle contains the following transactions:

- *General Journal*: in this module, the financial data comes from accounting entries module, and automatically recorded in this module. This module can be extracted as non-adjustable report.
- *General ledger*: receive all accounts comes from a general journal that is transferred to this module by crediting the debited accounts in general journal module and vice versa.
- *Trial Balance*: all general ledger accounts carried out to this module according to transferred balance if it's credited or debited balance.
- *Financial statements*: which includes:
  - *Profit & Loss account*: to reach to the net profit and net loss, and then transferred the net profit & loss to the balance sheet.
  - *Balance sheet*: a list that contains the assets of the institution and its liabilities and owner's equity, to know the financial position.



**Figure 3-1: Proposed system architecture**

## 3.4 Development Technologies

In this section we will list the techniques that we use in the construction of the proposed system, we will build a web application.

### **3.4.1 PHP**

In this research, PHP is used because it is widely used, open source scripting language, scripts are executed on the server and it is free to download and to use.

PHP is deep enough to run the largest social network. It also run on various platforms and it is compatible with almost all servers used today (Apache, IIS, etc.).

PHP also can interact with many database languages include MySQL.

### **3.4.2 MySQL**

In this research, MySQL used to store all data used in accounting by the company. It provides an implementation of a SQL database very well suited for small to medium web pages. The database is a free and open source with a commercial license available. Since it is free, it is usually available on shared hosting packages and can be easily set up in a Linux, UNIX or Windows environment.

### **3.4.3 Enterprise Architect**

In this research, we use the Enterprise Architect tool to create UML diagrams.

### **3.4.4 UML**

In this research, we use to analyze the research's system use case diagram and activity diagram. In design we use sequence diagram and class diagram.

Use case diagram used to describe functions and actors of the system. Activity diagram used to show the work-flow of the system. Sequence diagram shows the interaction logic between the objects in the system in the time order that the interactions take place. Finally, the class diagram shows behavior and attributes of the system.

### **3.4.5 WAMP Server**

In this research, we use WAMP Server because it allows creating web applications with Apache2, PHP, and MySQL database; it makes it easy to manage the database.

It used for testing webpages without publishing them live on the internet. In short it is used for off-line preview of webpages.

### **3.4.6 CSS3**

In this research, CSS3 used to web enhance the appearance of the system.

### **3.4.7 HTML5**

In this research we use the HTML5 because isn't proprietary and because it can be used to write web applications that still work when you're not connected to the internet.

## **3.5 Chapter Summary**

In this chapter we talk about the brief introduction about the research's system, And also we talked about the improvement aspects covered by our system depend on the solution of other *AIS* disadvantages, and the proposed system modules and features, and also provides a background of the research methodology that was followed in the research, and basic information about the tools and techniques that used in the stage of project implementation.

Next Chapter contains the System analysis and design.

**CHAPTER FOUR**  
**ANALYSIS & DESIGN**

## 4.1 Introduction

The analysis phase defines the requirements of the system, independent of how these requirements will be accomplished. The deliverable result at the end of this phase is a requirement.

The design phase objective is to transform the business requirements identified during the previous phase into the detailed system architecture.

## 4.2 Functional Requirements

- Many companies can register in the system with maintaining its data.
- Organization of role structure :  
Admin manages user's privilege by giving every user his own (username & password) and give him the permission to use a specific part of the system.
- Admin or users manage chart of accounts and every account in the accounting entries entered by the user will be added to the chart of accounts.

## 4.3 Non-Functional Requirements

- Reliability: The system must be accurate and complete, and protected from loss, compromise, and theft, the system provides printed report and financial statement, and the system must display some information up-to-date (Availability).
- Performance: The system must have a high speed in data retrieval.
- High security, privacy, and confidentiality:  
Restricts access to only authorized users in the system and protect confidentiality and privacy of sensitive information.



Both of this requirement is necessary so that system can perform the accounting operation in an easy and correct way, and to give the management accuracy of various internal reports and financial statements produced by the system.

## **4.4 System Analysis**

In this section, we will explain the system analysis using the UML techniques discussed in chapter 3 (Research Methodology).

And the following diagrams will be used in this phase:

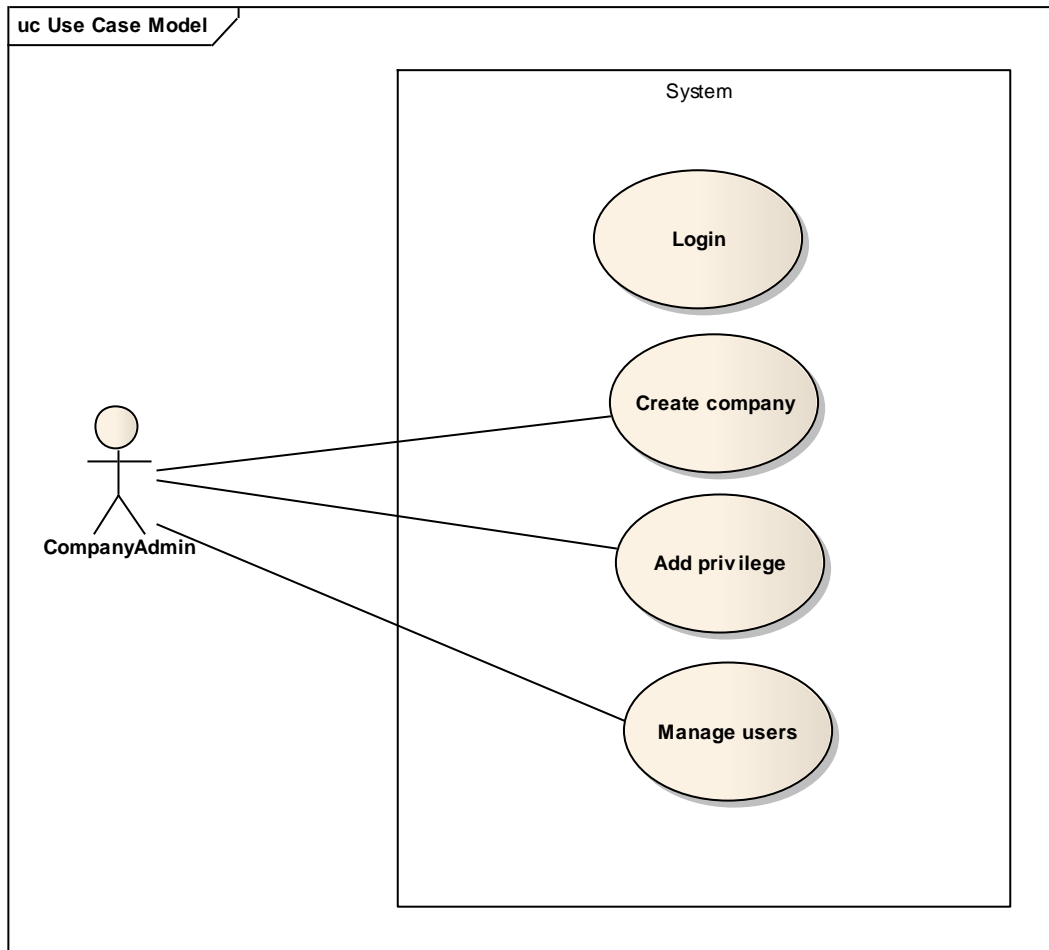
- Use Case Diagram.
- Activity Diagram.

### **4.4.1 Use Case Diagrams**

Use case diagram describes functions and actors.

Company admin transactions:

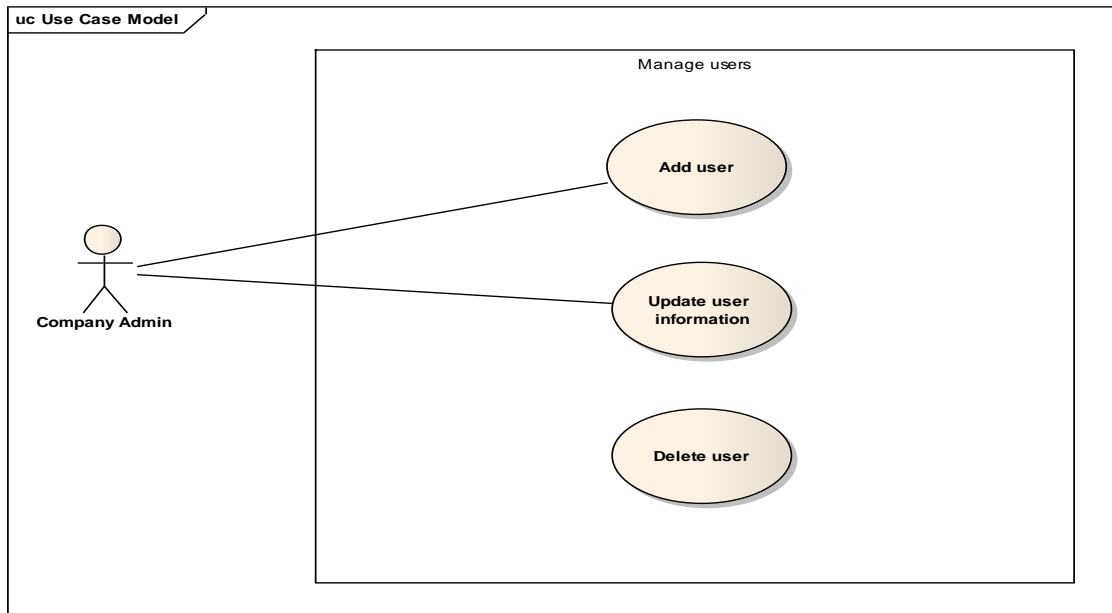
- Manage user's privilege include create users and give him the permissions and distribute the role between them.
- Manage company profile.
- Manage chart of account.



**Figure 4-1: Company admin use case diagram**

Admin can manage users:

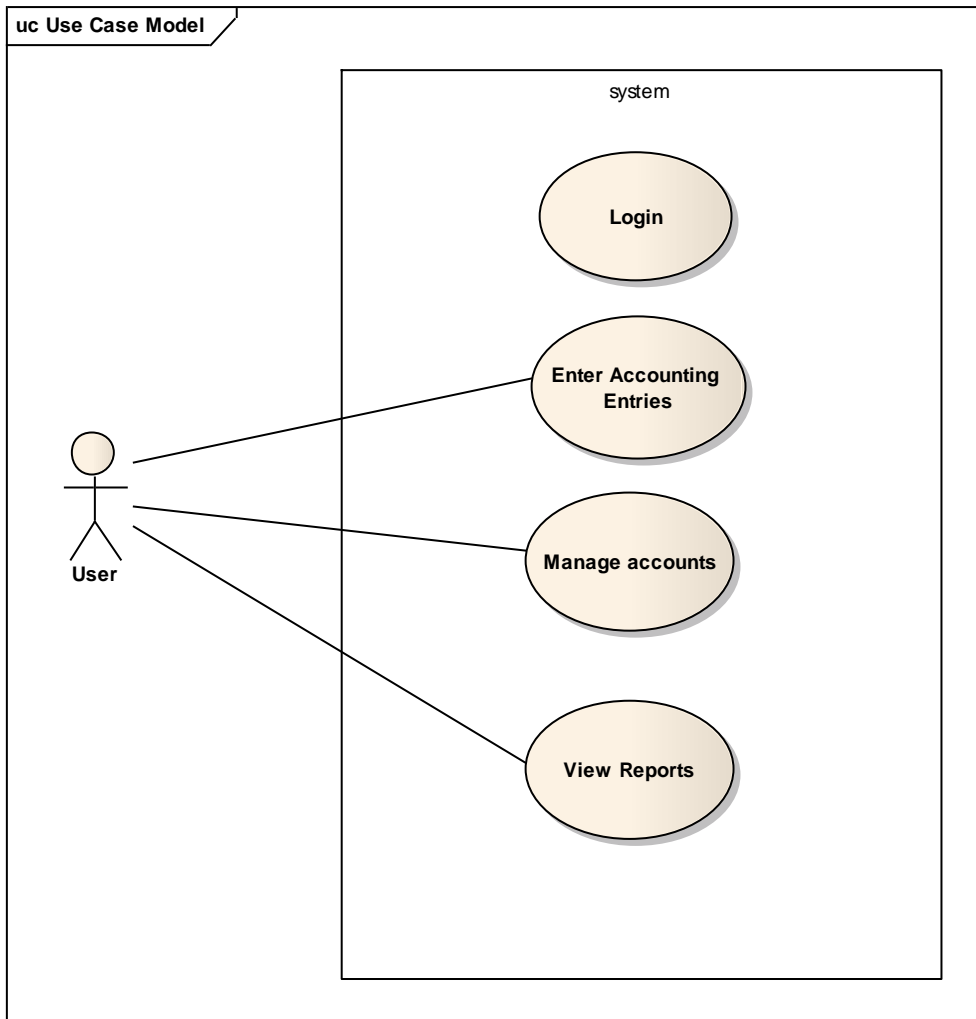
- Add user.
- Update user information.
- Delete user.



**Figure 4-2: Company admin manages user**

User transactions:

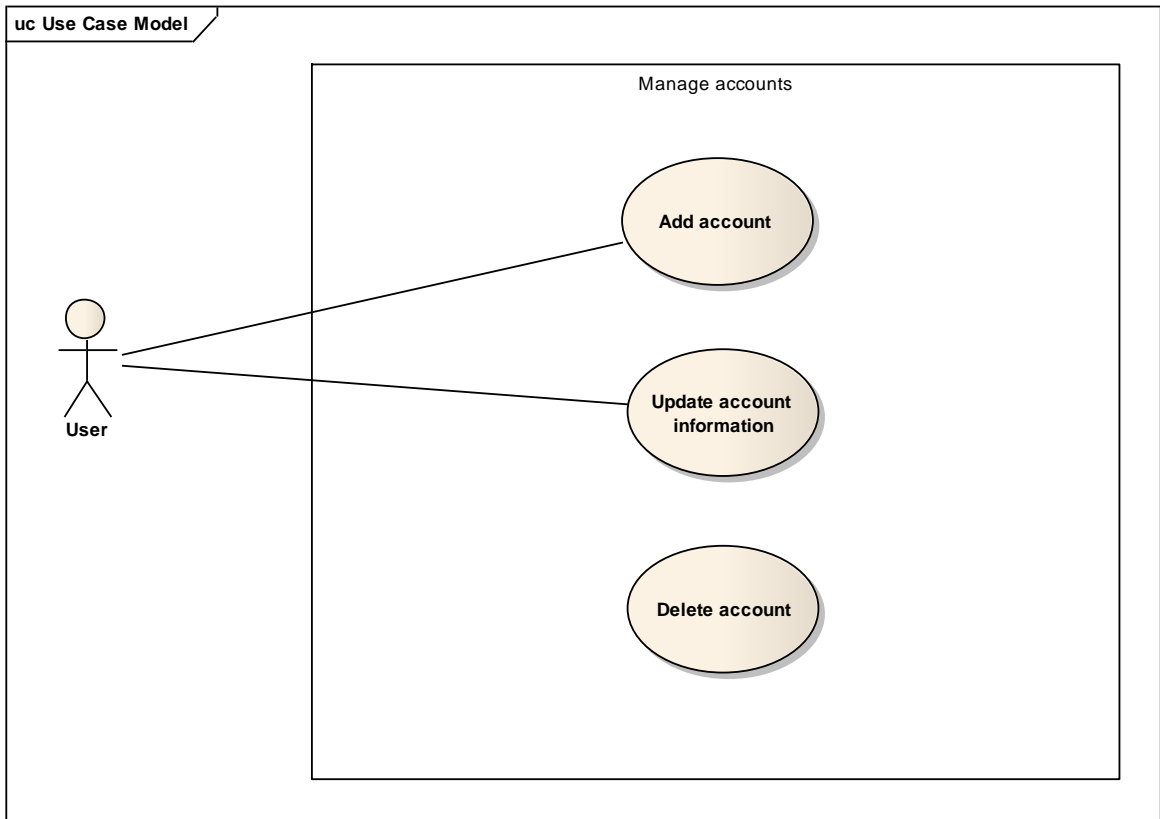
- Enter accounting entries.
- View reports.
- Manage chart of accounts.



**Figure 4-3: user use case diagram**

Users can manage Accounts:

- Add Account.
- Update Account information.
- Delete Account



**Figure 4-4: user manage account**

## 4.4.2 Activity Diagram

An activity diagram shows the work-flow of the system:

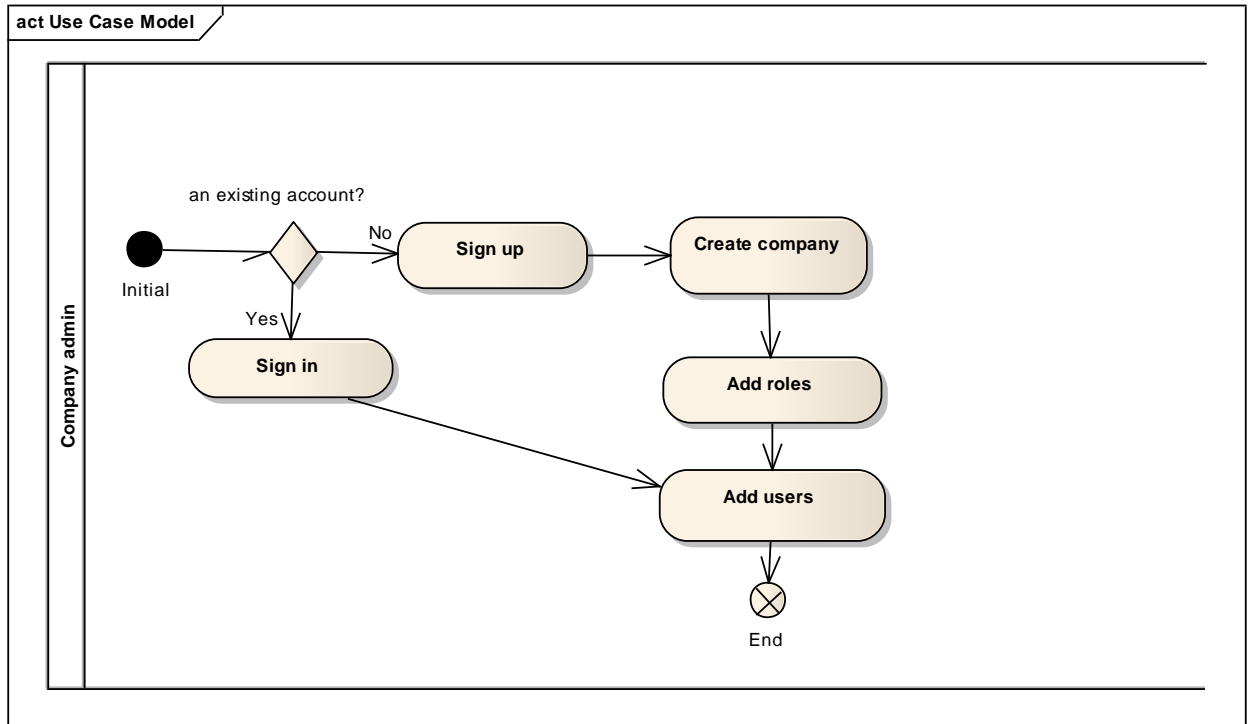


Figure 4-5: company admin activity diagram

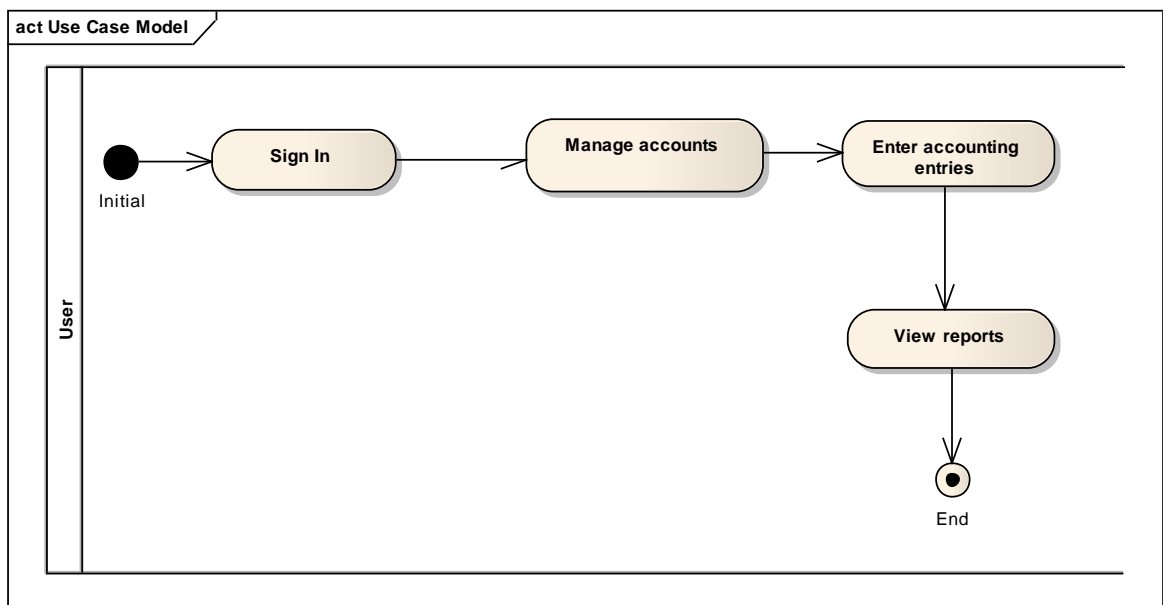


Figure 4-6: user activity diagram

## 4.5 System Design

In this section, we will explain the system design using the UML techniques.

And the following diagrams will be used in this phase:

- Sequence diagram.
- Class diagram.

### 4.5.1 Sequence diagram

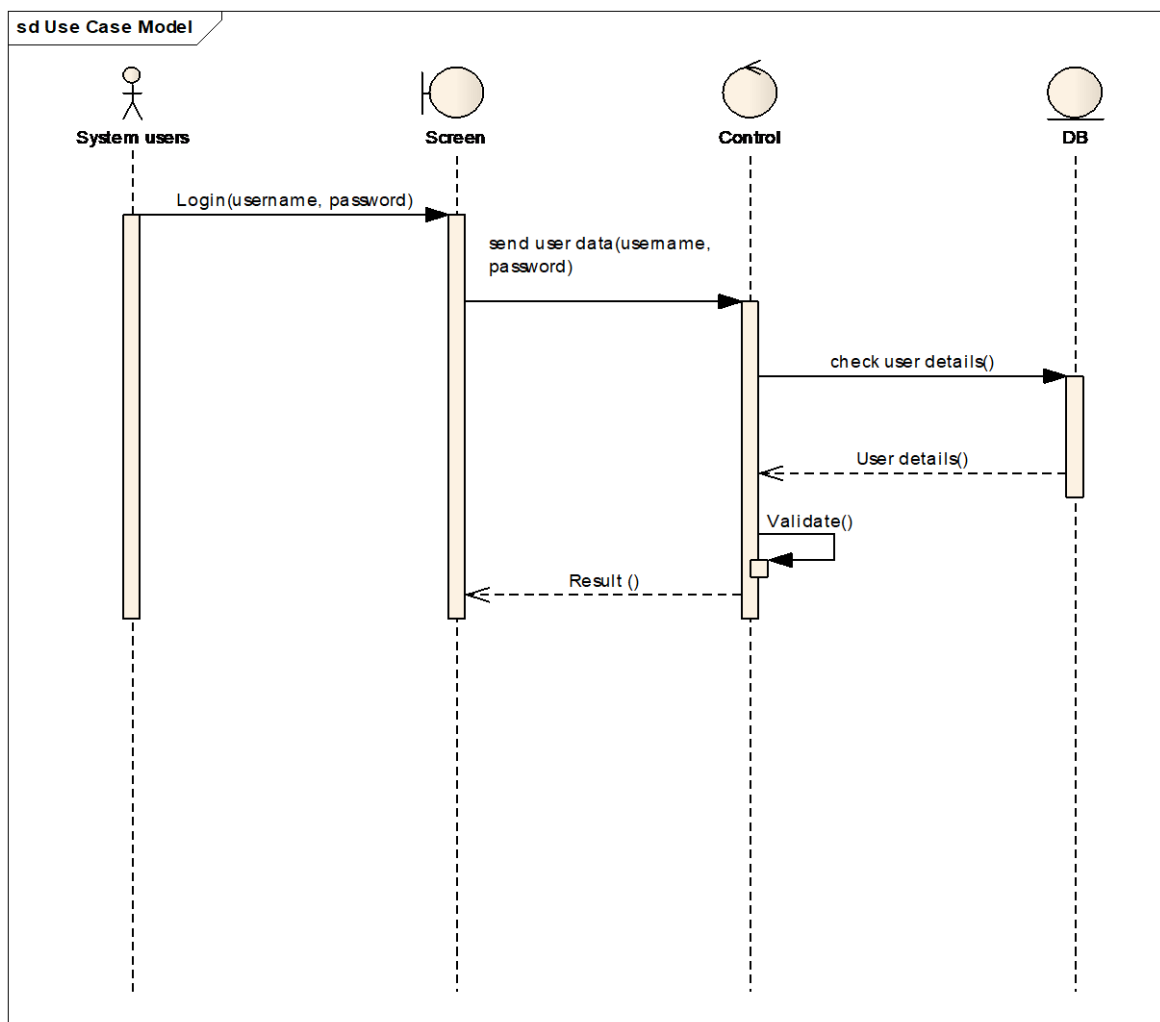
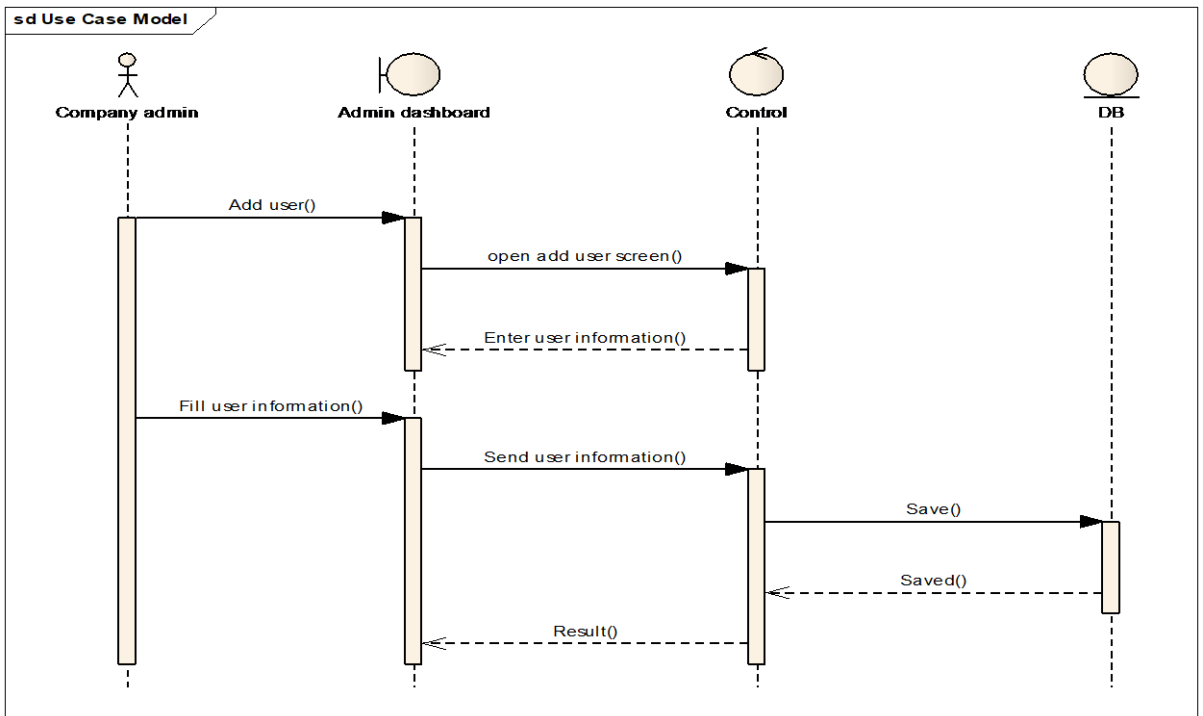
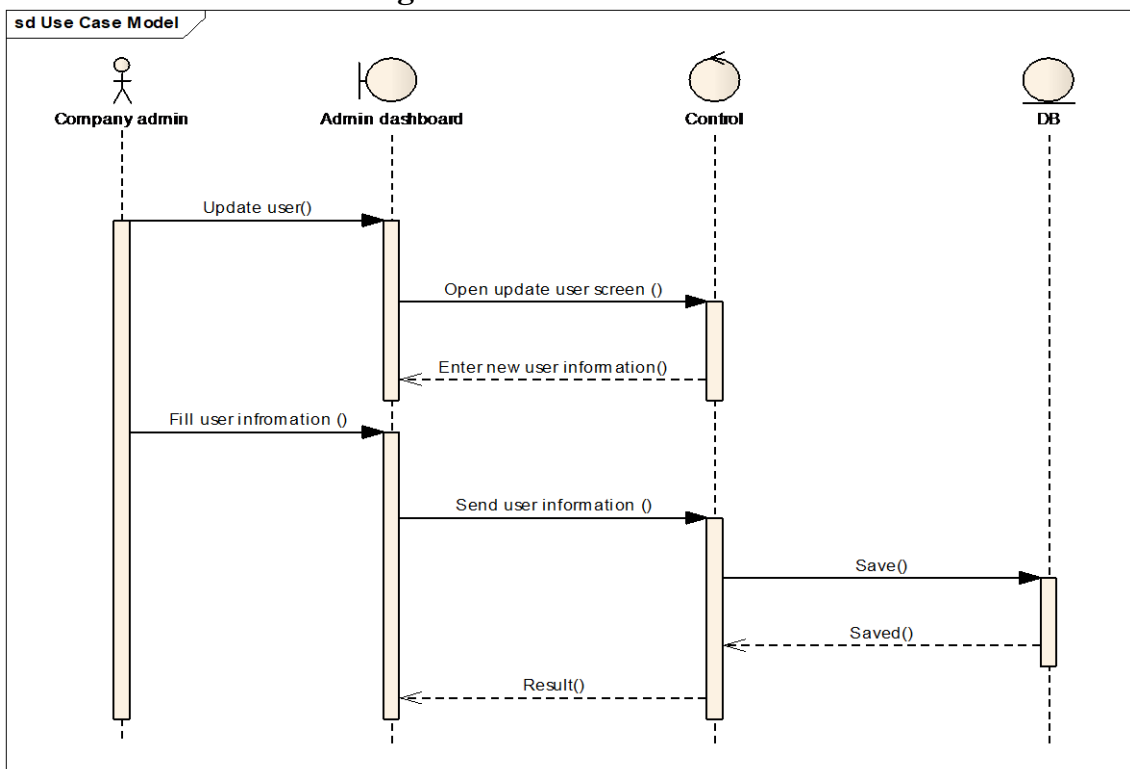


Figure 4-7: user login sequence diagram



**Figure 4-8: admin add user**



**Figure 4-9: admin update user**



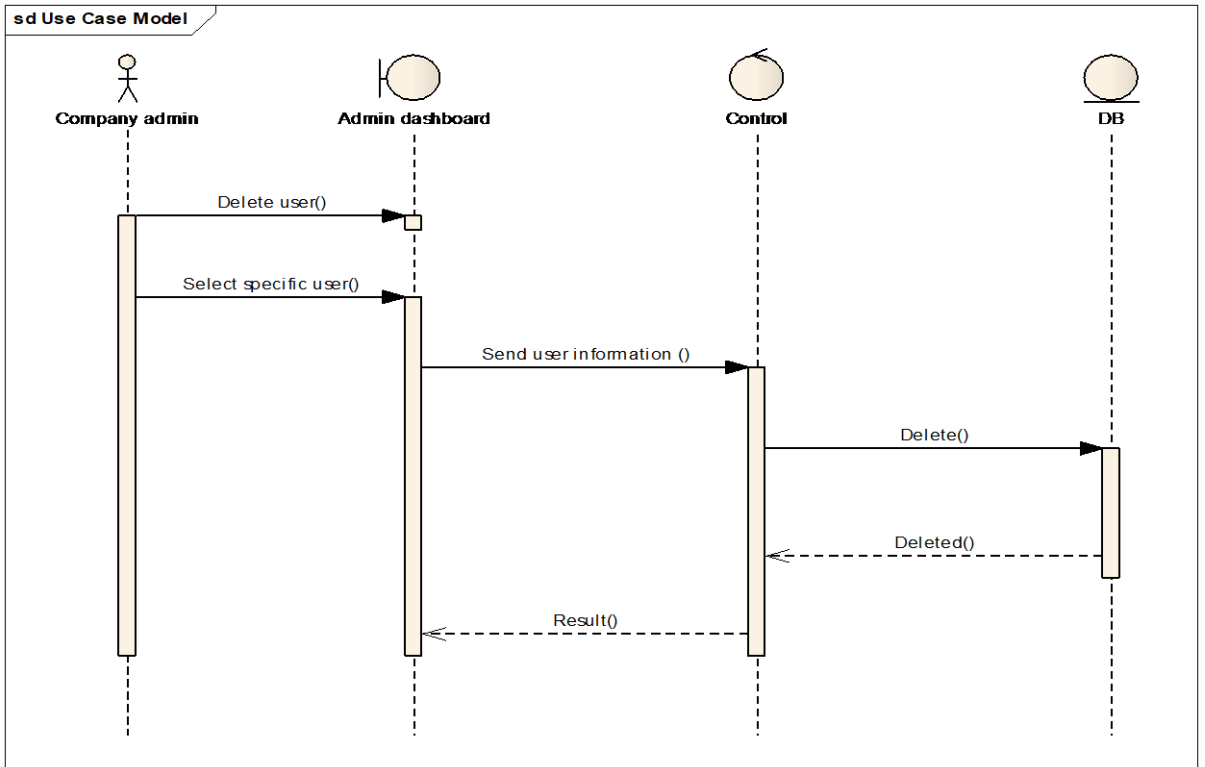


Figure 4-10: admin delete user

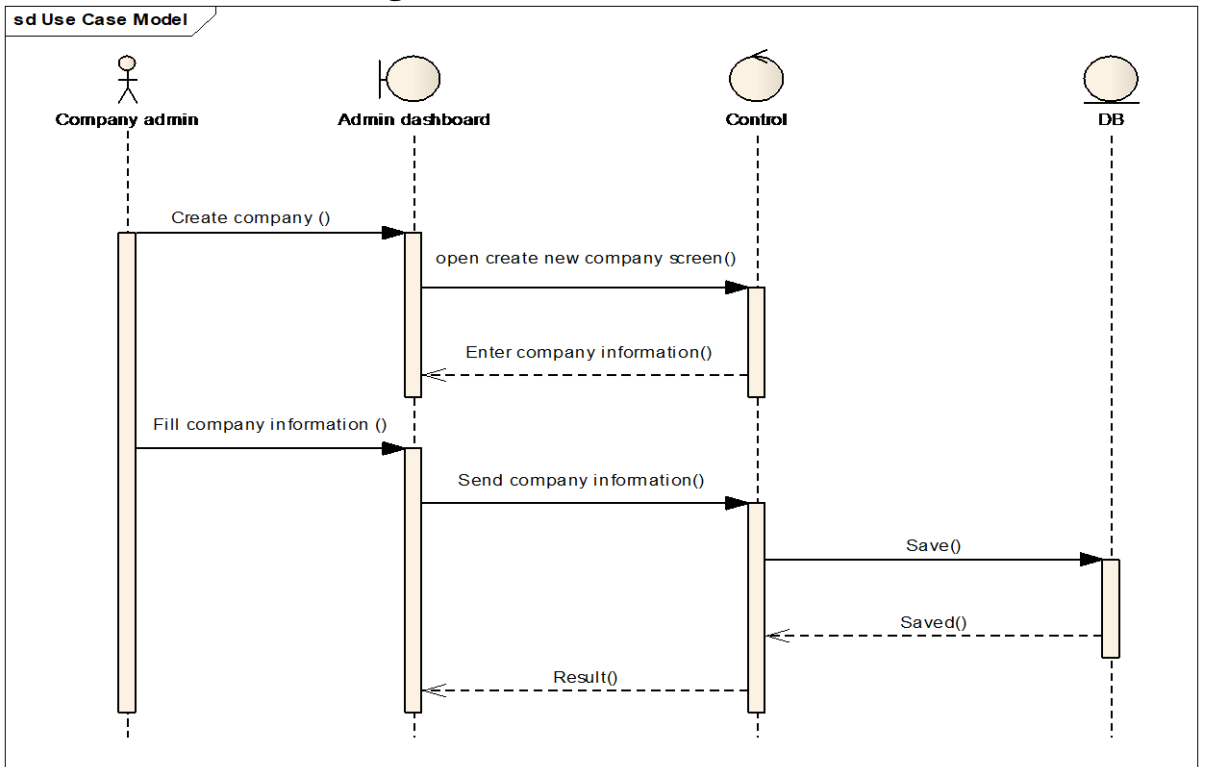
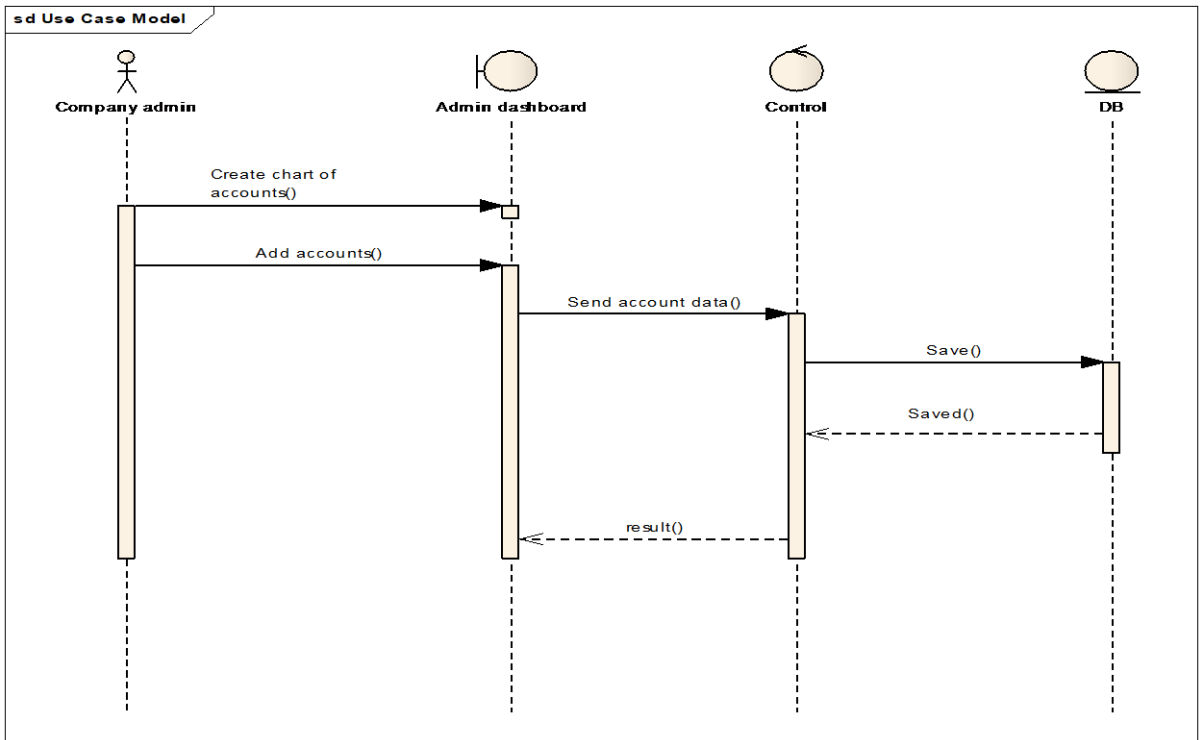
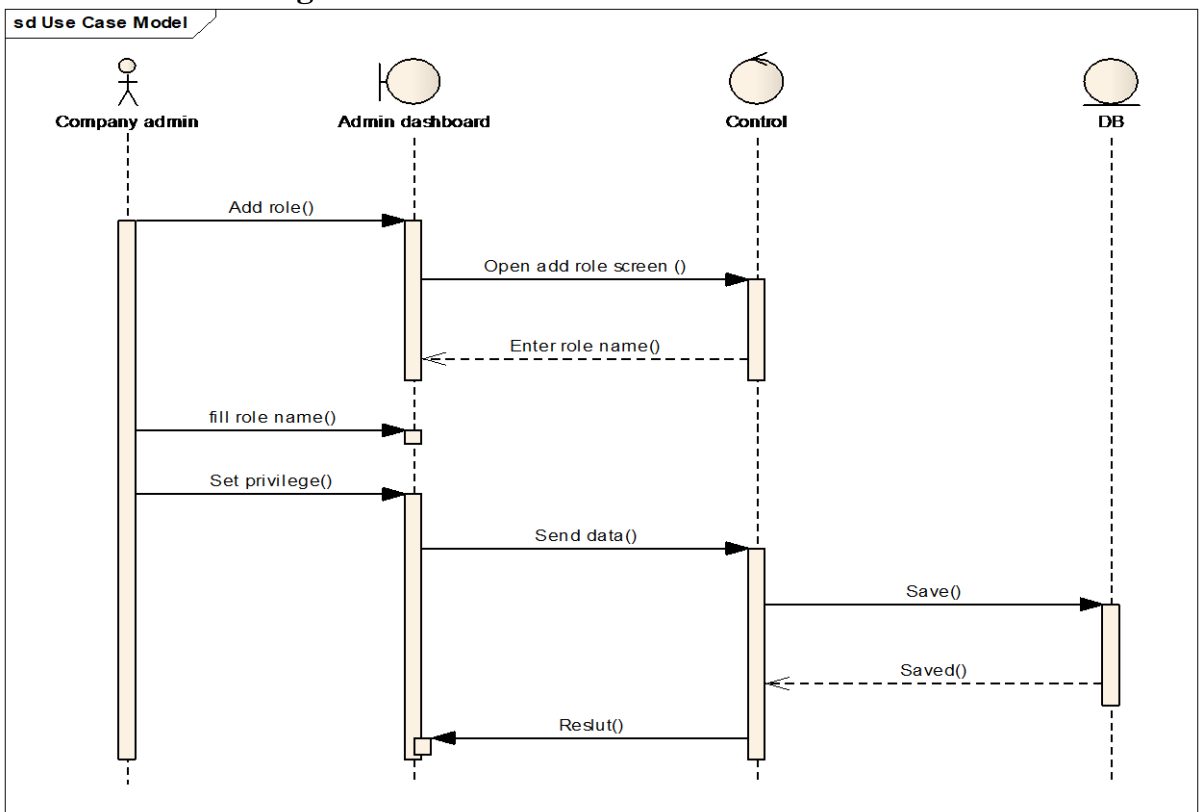


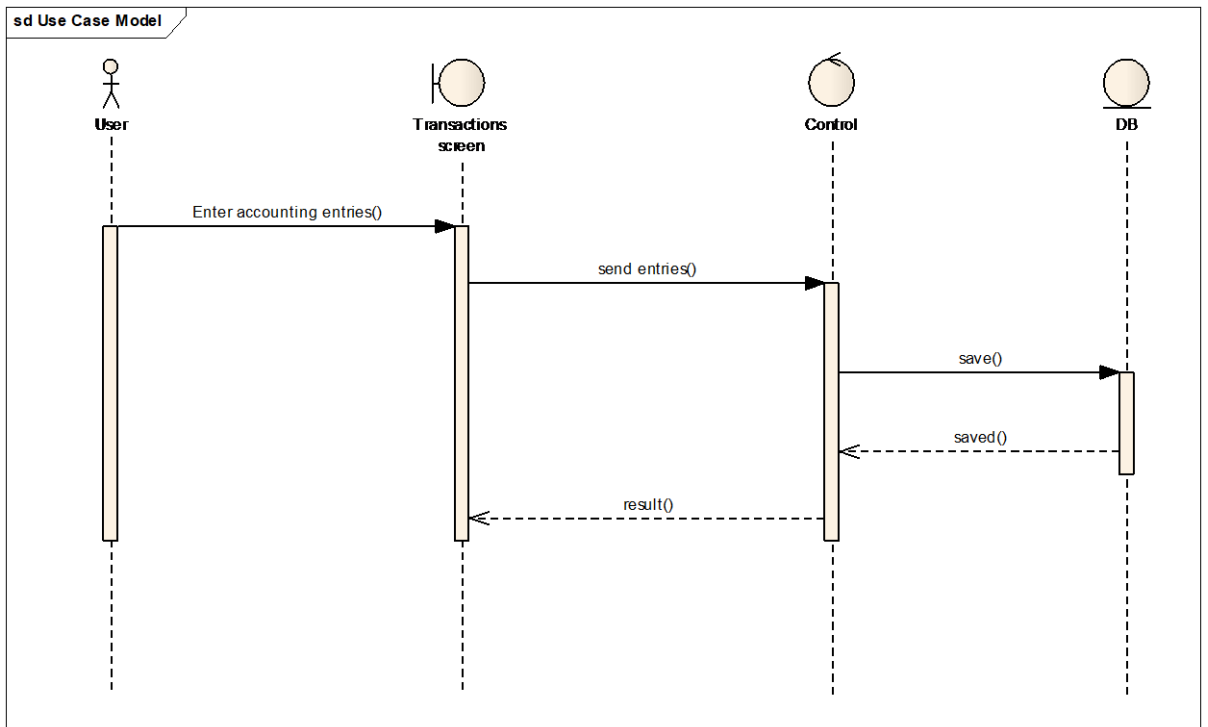
Figure 4-11: admin create company



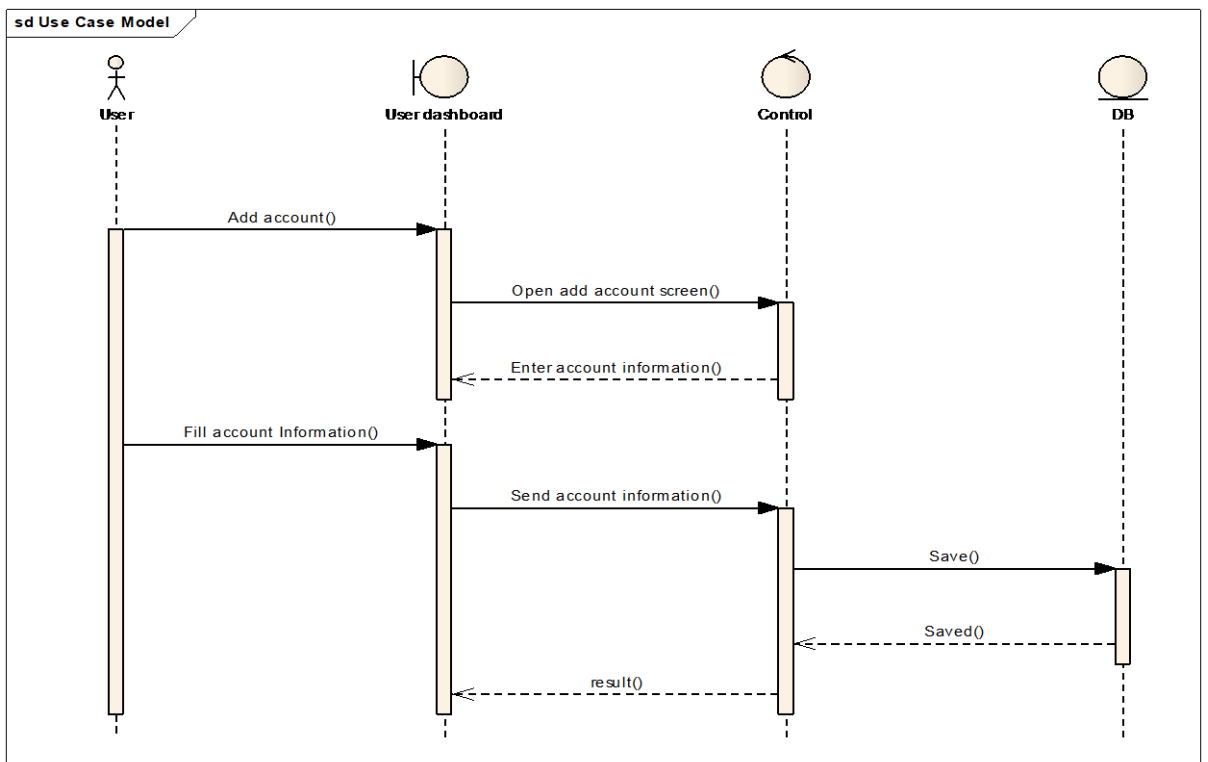
**Figure 4-12: admin create chart of account**



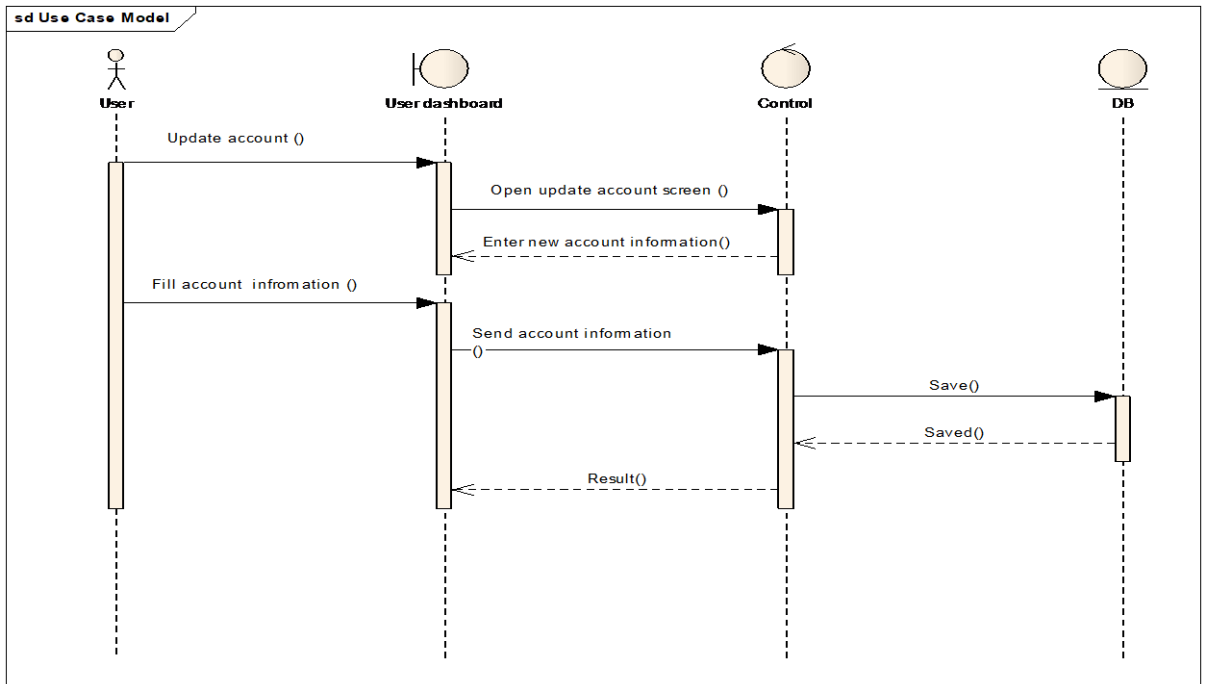
**Figure 4-13: admin add role and privilege**



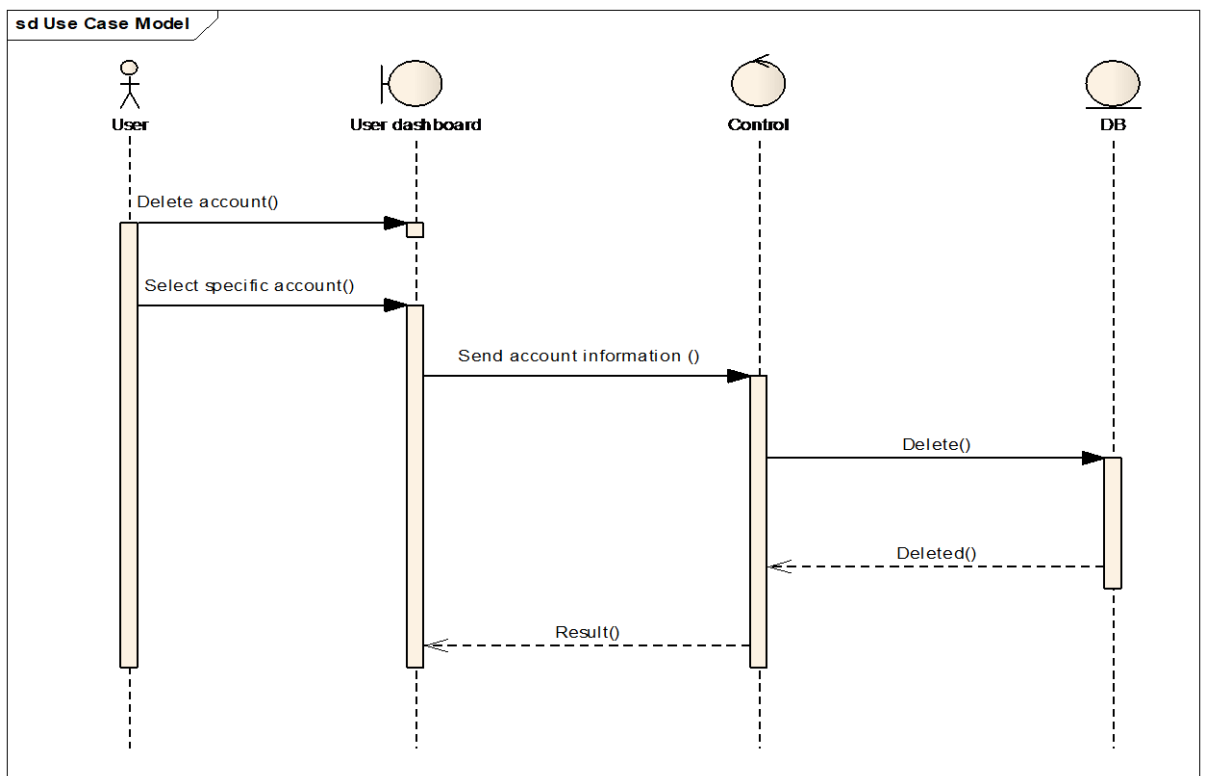
**Figure 4-14: user enter accounting entries**



**Figure 4-15: user add new account**



**Figure 4-16: user update account**



**Figure 4-17: user deletes an account**

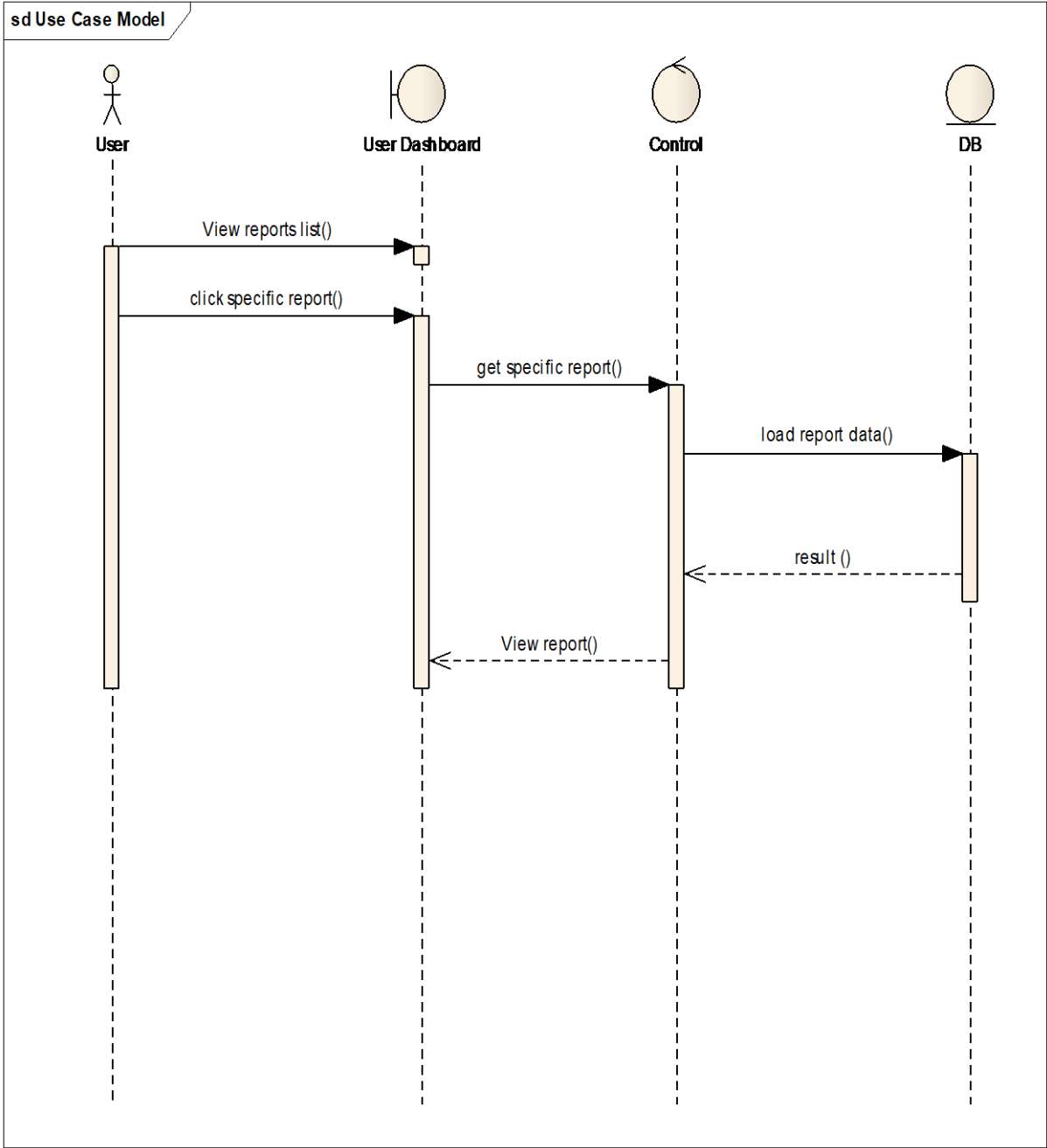
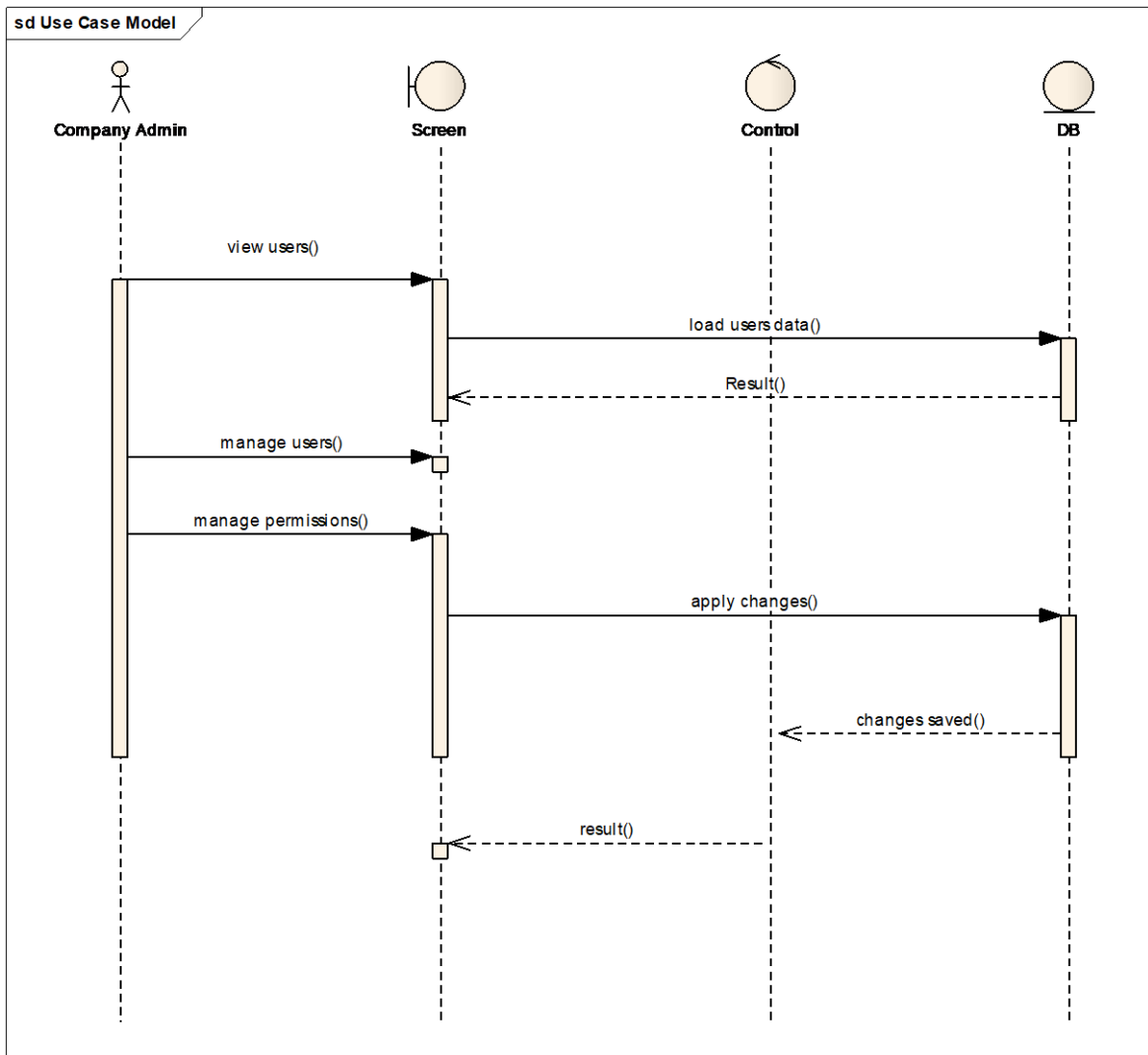


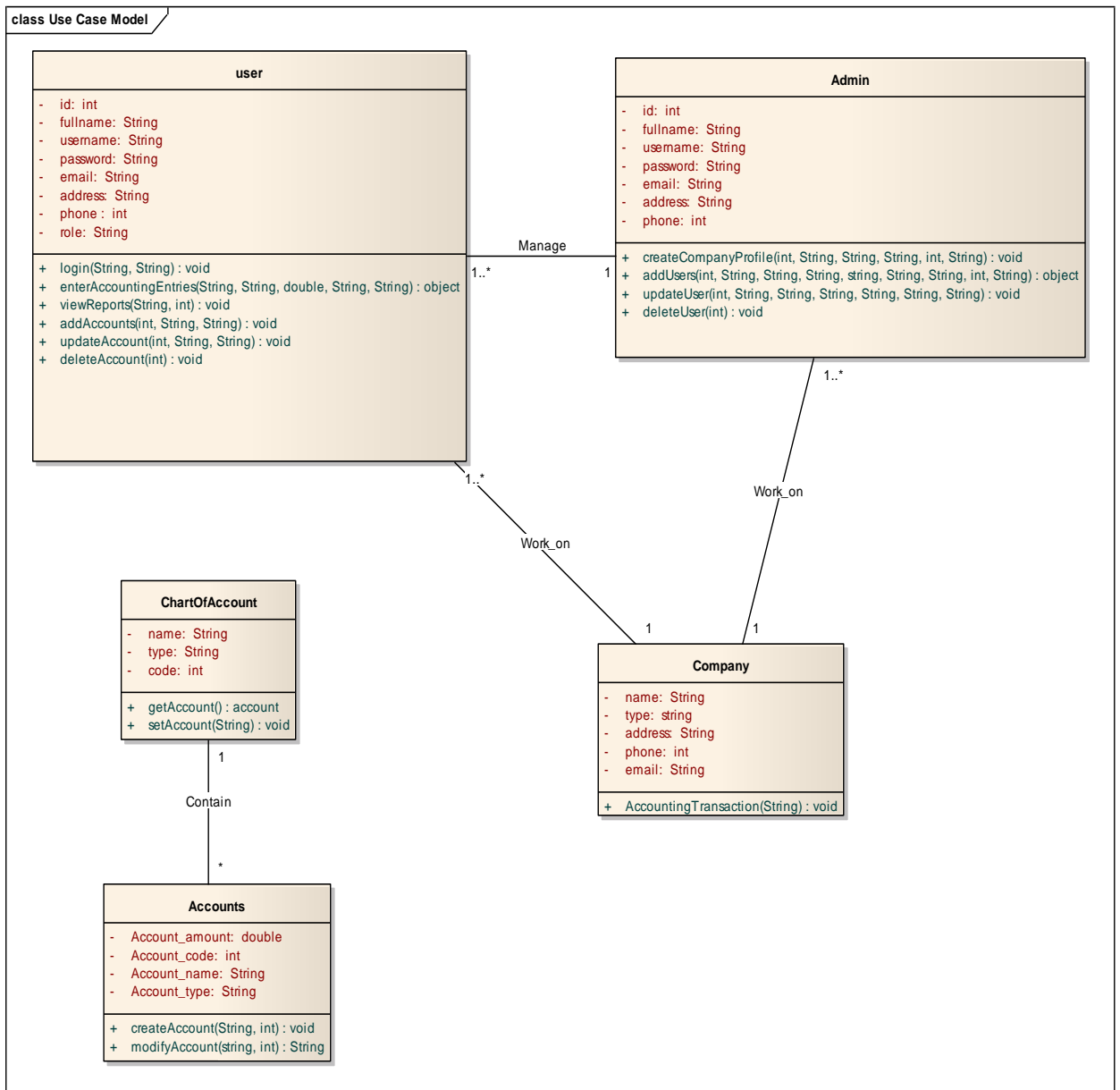
Figure 4-18: user view report



**Figure 4-19: company admin manage user**

### 4.5.2 Class diagram

The class diagram shows behavior and attributes of the system.



**Figure 4-20: proposed system class diagram**

### 4.5.3 Entity relationship diagram (ERD)

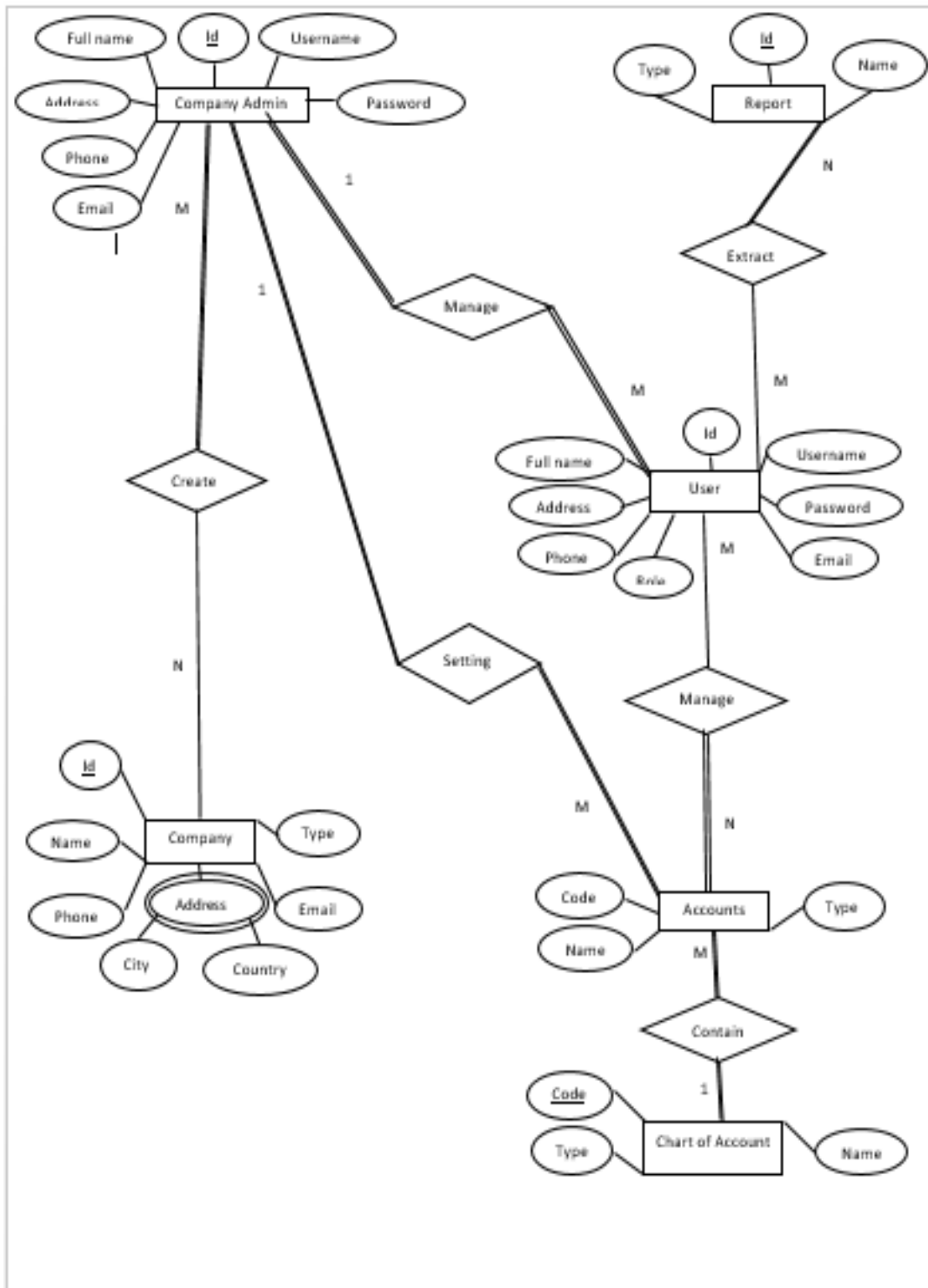


Figure 4-21: proposed system entity relationship diagram



## 4.5.4 Database Structure

**Table 4-1 Company admin information**

<b>Column Name</b>	<b>Datatype</b>	<b>L</b>	<b>N</b>	<b>PK</b>	<b>FK</b>	<b>U</b>
CompanyAdmin_id	Int	11	No	*		
CompanyAdmin_username	Char	50	No			*
CompanyAdmin_password	Char	50	No			*
CompanyAdmin_fullname	Char	50	No			
CompanyAdmin_address	Char	100				
CompanyAdmin-email	Char	40				*
CompanyAdmin_phone	Int	30	No			*

**Table 4-2 User information**

<b>Column Name</b>	<b>Datatype</b>	<b>L</b>	<b>N</b>	<b>PK</b>	<b>FK</b>	<b>U</b>
User_id	Int	11	No	*		
User_username	Char	50	No			*
User_password	Char	50	No			*
User_Admin_id	Int	11	No		*	*
User_fullname	Char	50	No			
User_address	Char	100				
User_email	Char	40				*
User_phone	Int	30	No			*
User_role	Char	60	No			

**Table 4-3 Report table**

<b>Column Name</b>	<b>Datatype</b>	<b>L</b>	<b>N</b>	<b>PK</b>	<b>FK</b>	<b>U</b>
Report_id	Int	11	No	*		
Report_type	Char	20	No			
Report_name	Char	50	No			

**Table 4-4 Account information's**

<b>Column Name</b>	<b>Datatype</b>	<b>L</b>	<b>N</b>	<b>PK</b>	<b>FK</b>	<b>U</b>
Account_code	Int	12	No	*		
Account_name	Char	50	No			*
Account_type	Char	20	No			
Account_CompanyAdmin_id	Int	11	No		*	
Account_ChartOfAccount_code	Int	12	No		*	

**Table 4-5 Extract table**

<b>Column Name</b>	<b>Datatype</b>	<b>L</b>	<b>N</b>	<b>PK</b>	<b>FK</b>	<b>U</b>
Extract_User_id	Int	11	No		*	
Extract_Report_id	Int	11	No		*	

**Table 4-6 Mange Account**

<b>Column Name</b>	<b>Datatype</b>	<b>L</b>	<b>N</b>	<b>PK</b>	<b>FK</b>	<b>U</b>
Manage_Account_code	Int	12	No		*	
Manage_User_id	Int	11	No		*	

**Table 4-7 Company information**

<b>Column Name</b>	<b>Datatype</b>	<b>L</b>	<b>N</b>	<b>PK</b>	<b>FK</b>	<b>U</b>
Company_id	Int	11	No	*		
Company_name	Char	50	No			
Company_phone	Int	30	No			*
Company_email	Char	40	No			*
Company_country	Char	50				
Company_city	Char	50				
Company_CompanyAdmin_id	Int	11	No		*	
Company_type	Char	20	No			

**Table 4-8 Chart of accounts**

<b>Column Name</b>	<b>Datatype</b>	<b>L</b>	<b>N</b>	<b>PK</b>	<b>FK</b>	<b>U</b>
ChartOfAcc_code	Int	12	No	*		
ChartOfAcc_name	Char	50	No			
ChartOfAcc_type	Char	20	No			

**Table 4-9 create Company**

<b>Column Name</b>	<b>Datatype</b>	<b>L</b>	<b>N</b>	<b>PK</b>	<b>FK</b>	<b>U</b>
Create_CompanyAdmin_id	Int	11	No		*	
Create_Company_id	Int	12	No		*	

## **4.6 Chapter Summary**

In this chapter researchers describe the analysis of the proposed system using use case and sequence diagrams for the system components and also the design of the system using class and activity diagrams. Next chapter contains the implantation of the proposed system in term of system screens and how the system works. Next chapter contains the implementation and validation of the system.

**CHAPTER FIVE**  
**IMPLEMENTATION &**  
**VALIDATION**

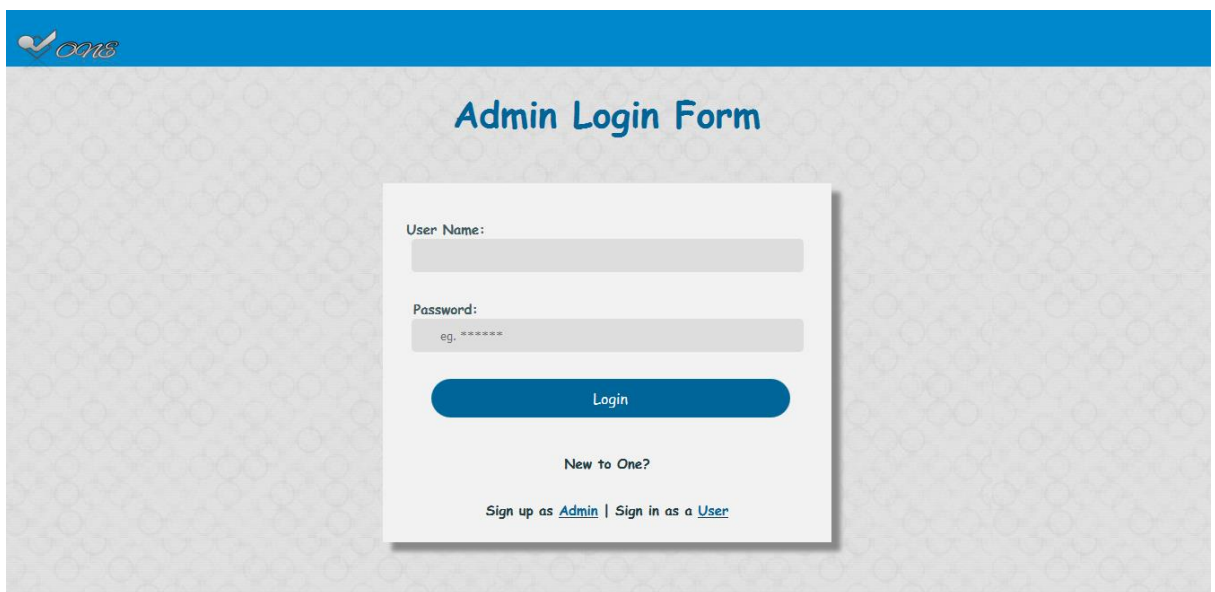
# 5.1 Introduction

This chapter shows the implementation steps and some of system screens, which illustrate the functionality of the system.

# 5.2 System Implementation

First to use the system and make your company's accounting, please follow the steps below.

1. From the admin login screen, you must sign up as an admin, click Sign up as Admin as in figure (5-1).

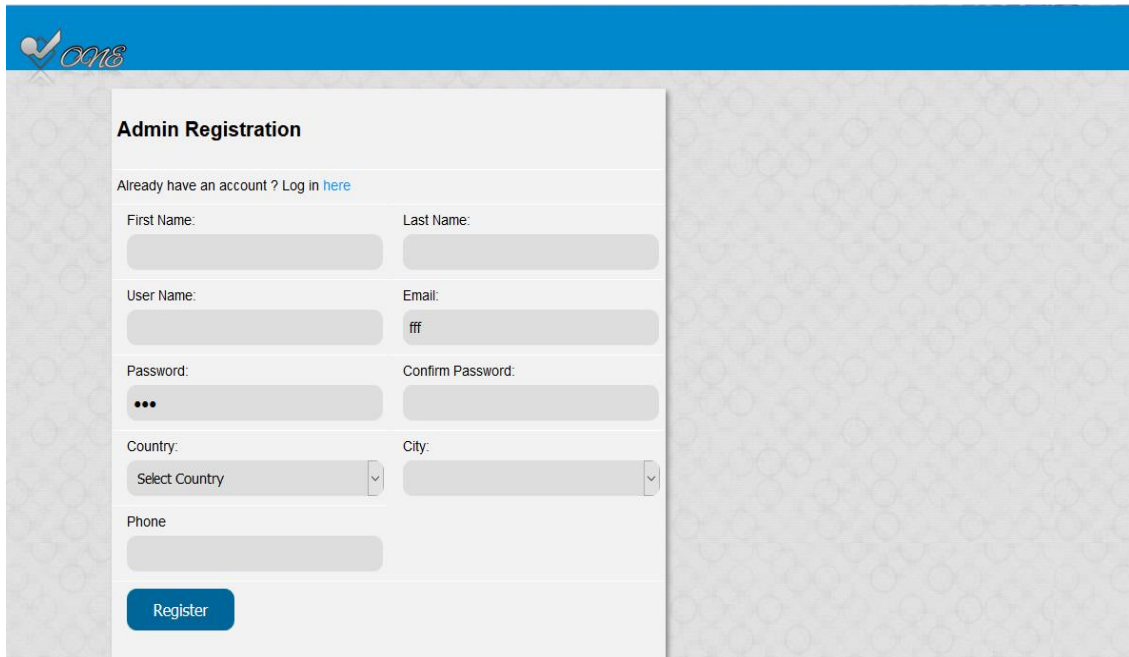


**Figure 5-1: Admin login screen**

2. In the admin registration form, you can select different option to set up as admin.

Your information: your first name, last name, username, email address, password, your country and phone.

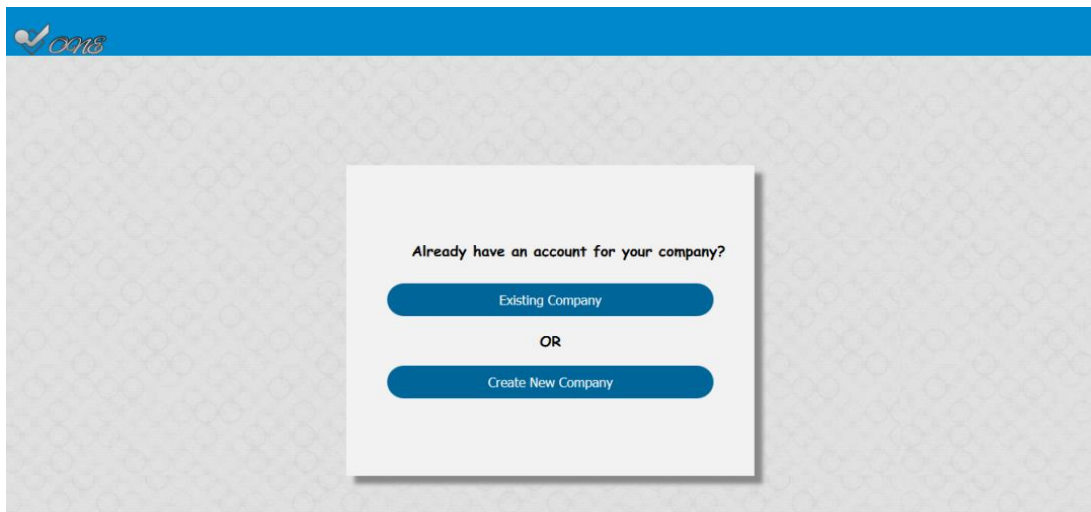
After that admin click the Register button to save his registration information as in figure (5-2).



The image shows a web form titled "Admin Registration" on a blue header with a logo. The form includes a link "Already have an account? Log in here". It contains several input fields: "First Name:" and "Last Name:" (text boxes), "User Name:" (text box), "Email:" (text box with "fff" entered), "Password:" (text box with three dots), "Confirm Password:" (text box), "Country:" (dropdown menu with "Select Country" selected), "City:" (dropdown menu), and "Phone:" (text box). A blue "Register" button is at the bottom.

**Figure 5-2: Admin registration screen**

3. After he register in the system and login to system by username and password from the admin login screen ,Admin must determine if he have already an account for his company by click Existing Company, or he want to create a new company account by click Create New Company as in figure (5-3).



The image shows a modal dialog box with a blue header and a logo. The text inside reads "Already have an account for your company?". Below this text are two blue buttons: "Existing Company" and "Create New Company", separated by the word "OR".

**Figure 5-3: select existing or new company screen**

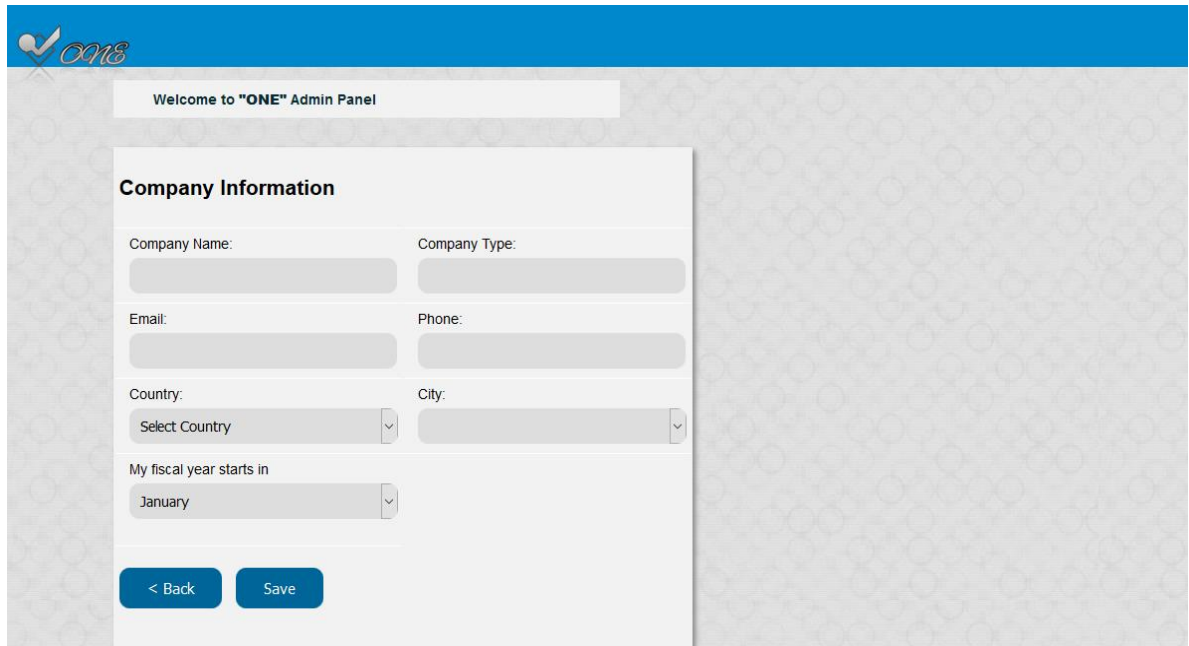
To create a new Company please, follow the steps below.



1. If no company account yet, Admin can select different options to set up his company information as in figure (5-4).

Company information: your company information stored in this section, name, company type, email, country and company's fiscal year start.

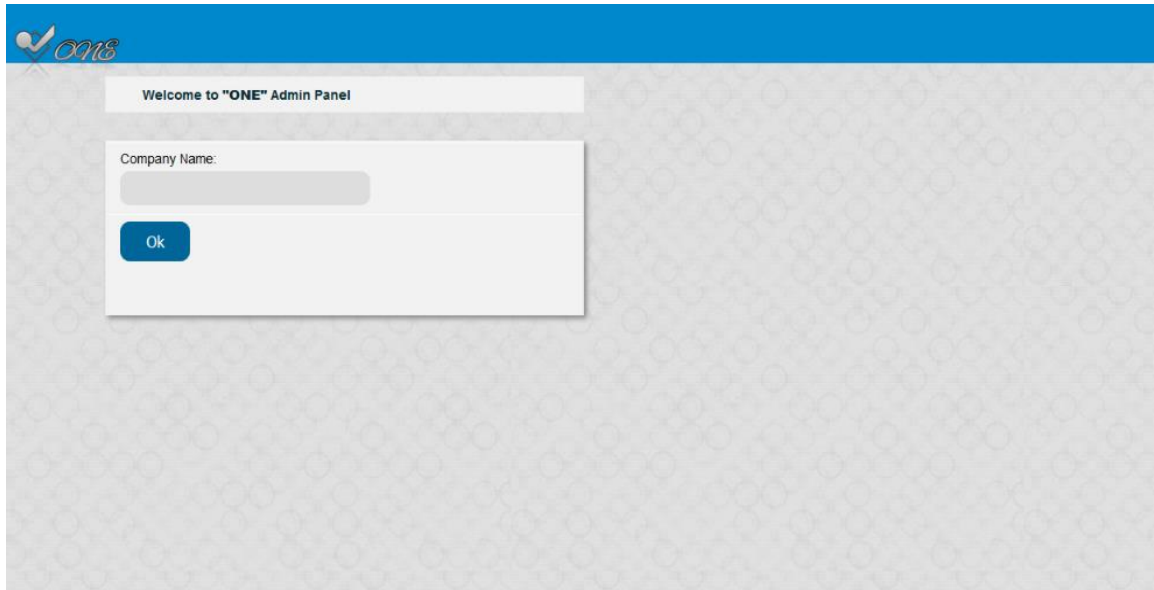
Click Save after you have entered your company information.



The screenshot displays the 'ONE' Admin Panel interface. At the top, there is a blue header with the 'ONE' logo. Below the header, a white box contains the text 'Welcome to "ONE" Admin Panel'. The main content area features a 'Company Information' form with the following fields: 'Company Name' and 'Company Type' (text inputs), 'Email' and 'Phone' (text inputs), 'Country' (a dropdown menu with 'Select Country' as the current selection) and 'City' (a text input), and 'My fiscal year starts in' (a dropdown menu with 'January' as the current selection). At the bottom of the form, there are two blue buttons: '< Back' and 'Save'.

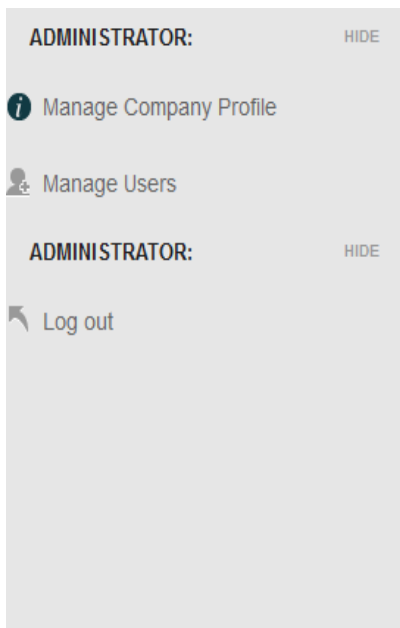
**Figure 5-4: create new company screen**

If you have an existing company, you must enter the company name as in figure (5-5)



**Figure 5-5: enter the name of existing company screen**

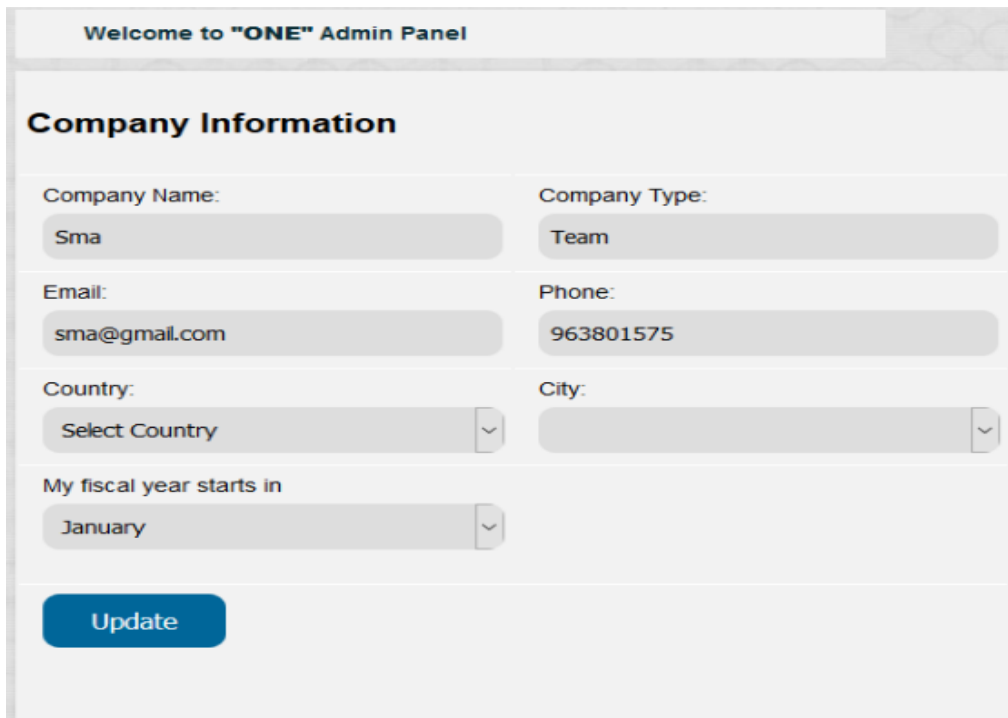
4. In the left hand of screen, you will find the admin navigation as in figure (5-6)



**Figure 5-6: Admin navigation**

To manage Company Profile as in figure (5-7):

1. From admin navigation figure (5-6), First admin can changes company information that have entered, click Manage Company Profile.
2. After make necessary change, click Update.



The screenshot shows the 'ONE' Admin Panel with a 'Company Information' form. The form contains the following fields:

- Company Name: Sma
- Company Type: Team
- Email: sma@gmail.com
- Phone: 963801575
- Country: Select Country (dropdown menu)
- City: (dropdown menu)
- My fiscal year starts in: January (dropdown menu)

An 'Update' button is located at the bottom of the form.

**Figure 5-7: update company information**

To manage users an in figure (5-8):

1. In this section admin can manage users, from the admin navigation, click Manage Users.

Users Information: user's first name, last name, username, email, password, role, phone and country.

After admin enters the information, click Save.



Welcome to "ONE" Admin Panel As: **one**

### User Information

First Name:	Last Name:
<input type="text"/>	<input type="text"/>
User Name:	Email:
<input type="text"/>	<input type="text"/>
Password:	Confirm Password:
<input type="password"/>	<input type="password"/>
Role:	Phone:
<input type="text"/>	<input type="text"/>
Country:	City:
<input type="text" value="Select Country"/>	<input type="text"/>

**Figure 5-8: add new user**

In the screen below, Admin can edit or delete user by click Action:

User Data Record						
Check	User ID	User Name	Password	Role	Email	Action
<input type="checkbox"/>	11	Omer Ali	12345678		omerali@gmail.com	 

**Figure 5-9: edit or delete user**

When you click Action to edit user, admin will update the basic user information, click Update as in figure (5-10).

Welcome to "ONE" Admin Panel As: **one**

### User Information

First Name:	Last Name:
<input type="text" value="Aisha"/>	<input type="text" value="hamid"/>
User Name:	Email:
<input type="text" value="Aisha"/>	<input type="text" value="AishaHamid@gmail.com"/>
Role:	
<input type="text"/>	

**Figure 5-10: edit user information**

After the admin add users, then the users can enter to the system and make their work based on the role that is given to them.

From the Admin login screen, users must click sign in as User, and enter the username and password and click Login.

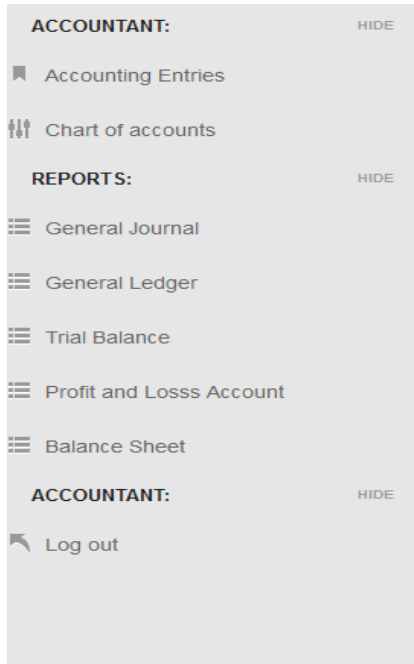
## User Login Form

**User Name:**

**Password:**

**Figure 5-11: user login screen**

After the user login to system, he can see his dashboard navigation in the left side of screen.

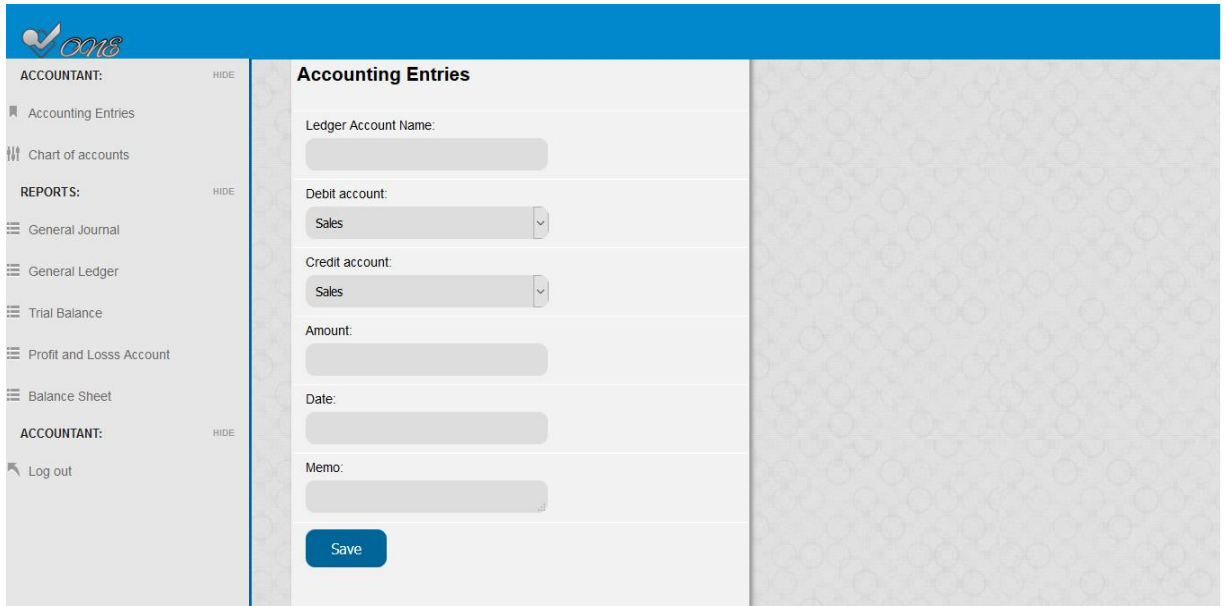


**Figure 5-12: user navigation**

From the Accountant navigation, user click Accounting Entries, and then he must select different option.

Accounting Entries: he must select the debit account, credit account, and amount, date of transaction and memo to describe the accounting transaction.

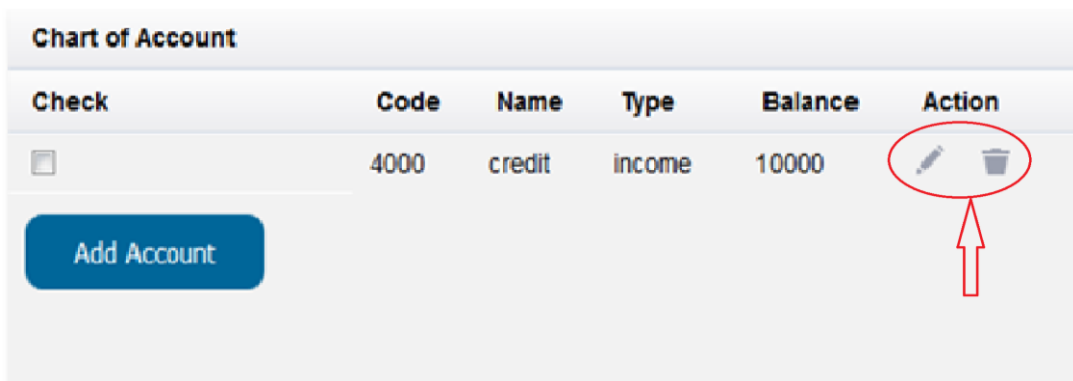
After that click Save.



**Figure 5-13: accounting entries screen**

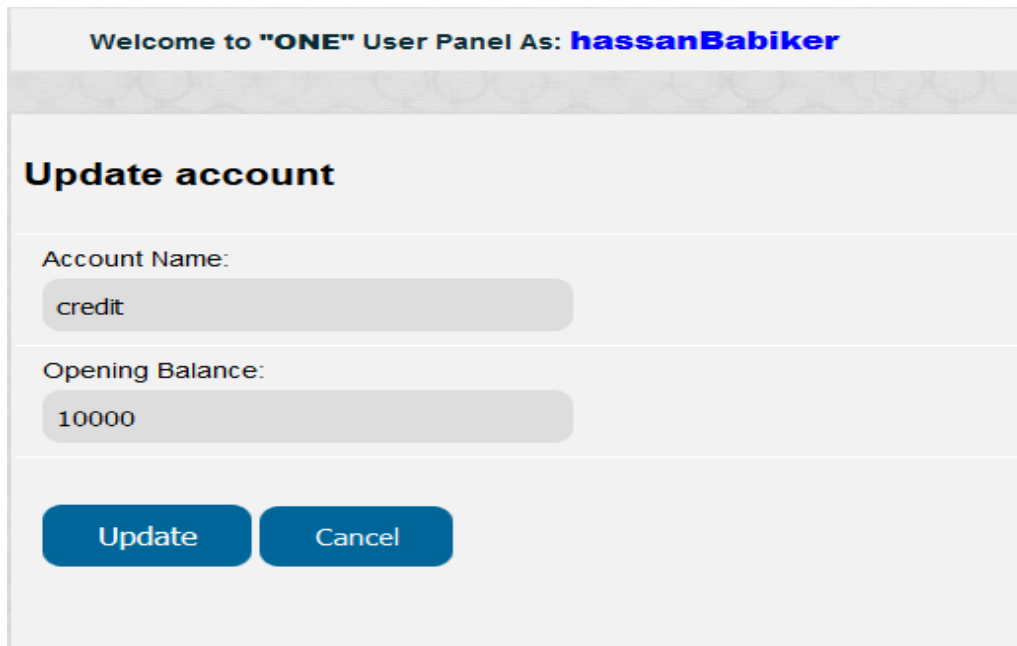
User also can manage chart of accounts, from Accountant navigation click Chart of Accounts.

When click the Action icons, he can edit or delete the account.



**Figure 5-14: edit or delete accounts**

When user click edit icon, he can making change in account then click Update.



Welcome to "ONE" User Panel As: **hassanBabiker**

### Update account

Account Name:  
credit

Opening Balance:  
10000

**Update** **Cancel**

**Figure 5-15: edit an account**

And if he click Add Account from chart of account screen, he must select different options.

Add Account: Account Code, Account Name, and select Account Type from dropdown list, and opening balance when he finish click Save.



Welcome to "ONE" Admin Panel As: **one**

### Add account

Account Code:

Account Name:

Account Type:

Opening Balance:

**Figure 5-16: add new account**

Finally, there are many reports:

1. Journal Entries: View a list of your general journal entries.
2. General Ledger Report: View all accounts and its balances.
3. Trial Balance: View your debited and credited account balances.
4. Profit and Loss Report: View your income against your expenses and see the net result.
5. Balance Sheet Report: View your asset and liability account balances.

From the Accountant navigation in figure (5-12), choose from Report section one of reports that it contain and click General Journal.

Debit Account	Credit Account	Memo	Debit	Credit	Date
Bank			700		
	Sales	from bank to sales		700	2017-10-01
Purchases			500		
	Company1	from Purchases to Company1		500	2017-10-02
Motor Vehicles			800		
	Company1	from Motor Vehicles to Company1		800	2017-10-06
Purchases			800		
	Bank	from Purchases to Bank		800	2017-10-10
Company1			500		
	Bank	from Company1 to Bank		500	2017-10-28
Company1			17500		
	Discount Earned	from Company1 to Discount Earned		17500	2017-10-31

**Figure 5-17: General journal report**

1. The General Ledger Report can be created for all accounts the accountant have been entered, Click General Ledger.

<b>General Ledger Report</b>			
<b>one</b>			
2017-11-06			
<b>Sales</b>		<b>Opening Balance: 0</b>	
<b>Debit Account</b>	<b>Credit Account</b>	<b>Debit</b>	<b>Credit</b>
	Bank	700	
<b>Closing Balance</b>		700	<b>-700</b>
<b>Purchases</b>		<b>Opening Balance: 0</b>	
<b>Debit Account</b>	<b>Credit Account</b>	<b>Debit</b>	<b>Credit</b>
Company1		500	
<b>Closing Balance</b>		500	<b>500</b>

**Figure 5-18: General ledger report**

2. Trial Balance Report, Click Trail Balance.

**Trial Balance Report**  
**one**  
2017-11-06

<b>Trial Balance Report</b>		
<b>Account</b>	<b>Debit</b>	<b>Credit</b>
Sales		700
Purchases	500	
Advertising	200	
Motor Vehicles	5800	
Bank	6200	
Company1	5500	
Discount Earned		17500
Long Term Loans		4000
Total	18200	22200

**Figure 5-19: Trial balance report**

3. Profit and Loss Report, Click Profit and Loss Account.

Profit and Loss Report	
<b>Sales</b>	
Sales	700
<b>Total for Sales:</b>	700
<b>Cost of Sales</b>	
Purchases	500
<b>Total for Cost of Sales:</b>	500
<b>Net Gross</b>	200
<b>Incomes</b>	
Discount Earned	17500
<b>Total for Incomes:</b>	17300
<b>Expenses</b>	
Advertising	200
<b>Total for Expenses:</b>	200
<b>Profit/Loss Total:</b>	-17500

Figure 5-20: profit and loss report

4. Balance Sheet Report, Click Balance Sheet.

Balance Sheet Report	
<b>Assets</b>	
<b>Fixed Assets</b>	
Motor Vehicles	5800
<b>Total Fixed Assets:</b>	5800
<b>Current Assets</b>	
Bank	6200
<b>Total Current Assets:</b>	6200
<b>Total Assets:</b>	12000
<b>Equity and Liabilities</b>	
<b>Owners Equity</b>	
Owners Capital	9000
<b>Total Owners Equity:</b>	9000
<b>Fixed Liabilities</b>	
Long Term Loans	4000
<b>Total Fixed Liabilities:</b>	4000
<b>Current Liabilities</b>	
Company1	5500
<b>Total Current Liabilities:</b>	5500
<b>Total Equity and Liabilities:</b>	10500

Figure 5-21: balance sheet report

## **5.3 Chapter Summary**

In this chapter we showed system screens and how the system work.

In the next chapter we will present the result of our system and the recommendations that we wish from the next developers to continue on it.

**CHAPTER SIX**

**RESULTS &**

**ROCUMMENDATIONS**

## **6.1 Introduction**

This chapter shows the results achieved by using the online AIS, the recommendations to extend research functionality, and also the conclusion.

## **6.2 Results**

After using the AIS the researchers reached the following results:

- System use French method.
- Add different roles and privileges according to the accounts entered.
- Many Companies can register in the system with its own users.
- Record Accounting transaction in three accounting books cycle (journal, ledger, trail balance) and two financial statement (Profit & loss, balance sheet).

## **6.3 Recommendation**

Due to the time pressure, researchers were not able to complete the work on the AIS, those who will continue the research must take in consideration the following recommendations:

- Implement the system in British, English and Italian methods.
- Make full customize in chart of accounts.
- Make adjusting entries.
- Add commercial discount and taxes
- The possibility of writing system in Arabic language.

## 6.4 Conclusion

We cannot say that our system is comparable to other accounting systems like Sage One and QuickBooks, but it achieves the objectives of the research.

By using our system, the companies can make their own accounting transactions in easy manner without need for technical experience.

We designed the system and analyzed it using UML (unified modeling language), and implemented it using PHP, JavaScript, MySQL, CSS3, HTML5.

We hope that those who will use our accounting information system get the best benefits from it, absolutely, systems like sage one and QuickBooks are better than our system, maybe other will find some defects in our system.



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# **Appendixes**

# **Business process Modeling Notation**

# Business Process Modeling Notation

## (BPMN):

Graphics help facilitate the understanding of the business process of our AIS.

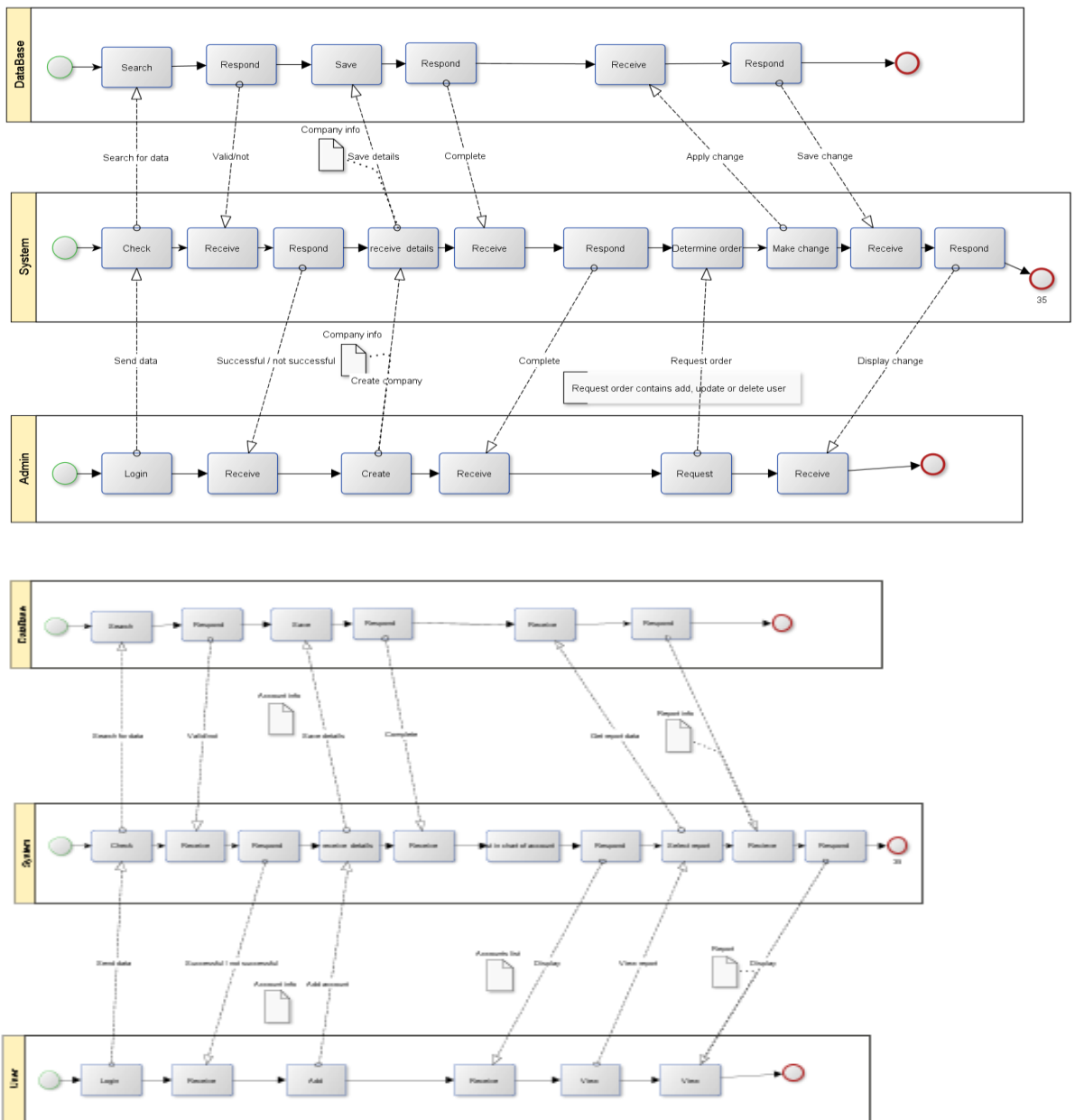


Diagram show business process model for research's System.