DBN-Online Manager

Submitted by:

Md. Abul Hakam
ID: 152-35-1218
Batch: 17th
Department of Software Engineering
Faculty of Science & Information Technology

Supervised by:

Tapushe Rabaya Toma
Lecturer
Department of Software Engineering
Faculty of Science & Information Technology

A project submitted in partial fulfillment of the requirement for the degree of Bachelor of Science in Software Engineer

Department of Software Engineering
Daffodil International University

Declaration

We hereby declare that we have taken this project under the supervision of **Tapushe Rabaya Toma**, Lecturer, Department of Software Engineering, Daffodil International University. We also declare that neither this report nor any part of this has been submitted elsewhere for award of any degree.

Md. Abul Hakam
ID: 152-35-1218
Batch: 17th
Department of Software Engineering
Faculty of Science & Information Technology
Daffodil International University

Certified By:

Tapushe Rabaya Toma,
Lecturer
Department of Software Engineering
Faculty of Science & Information Technology

Acknowledgement

At first, I am blessed as have successfully moved towards the last semester. I am pleased to my almighty. First of beginning of university life, I have learned a lot about software engineering as well as computer science related knowledge from my university knowledgeable teachers and helpful big brothers. Teachers teach us ethics, morality and politeness as well as software knowledge and related knowledge. I must be thankful to my parents and my family for give me the opportunity and always be to myself. My family always supports me. My family prioritize my inspired and opinion as well.

I am grateful to my supervisor **Tapushe Rabaya Toma** for allowing me for doing to development the project. Madam supports to make these project (DBN-Online Manager) successful.

Table of Contents

Chapter 1

Introduction

1. Project Overview

Now a day, computers are a large computing and power at least all business is moved to advantages of making upgrade to technologies. But in this time digitalization and certification becomes a mandatory element for all kind of business infrastructure and farm. For the cause of provides proper security and can easily auto generate system like accounts, inventory, clients management etc. also provides confidential and security individual panel.

Nowadays security and confidentiality on web base software is more than important for a business company for all kind of business especially ltd. online base software system in modern world is more essential for access easily in multiple places. It also maintains and access system accounts and information with multiple places by multiple people who have authorized. It's make more than secure data backup in cloud.

Smart organization wants to maintain official process with easy and authentic way with sort time. DBN-Online manager make sure the process mainly clients information save and accounts system. It's reduced man power dependency and save time. Stack holder can view current position of business any time anywhere with access web software DBN.

Two users can maintain the system. Admin officer can maintain the client's information and can show current position of accounts. Admin can view all clients' information and also can edit and delete any clients. They can add client's information also can show priority client's based on amount and client's position. Admin can view any client details by using search. On the other part of admin officer can only view accounts statement. Total sales, current month sales, bill collection, due bill, total backlog states. Most of the important feature of this system is statistic report. Admin can show the business progress with amount and client with two different diagrams previous one year. So that authority can understand the business position in current and make any decision base on the statistic.

Admin officer can add voucher details information. So that authority can view expenses with details based on client's and based on employees.

Accounts officer maintain only accounts section. They select the clients who paid the bill. Software can auto generate due bill, backlog and accounts states. In next month accounts officer just do generate new month bill and software can generate new clients info in accounts and generate backlog for previous month. Accounts officer can't view any other options.

1.1 Project Purpose

The main purpose of this project named "DBN-Online Manager" is to make a cloud data store and auto generate accounts system which might be helpful for an ISP company to maintain the client's information and accounts. It's for small organization who have limited employee to maintain whole process.

1.1.1 Background

Based on Bangladesh Government order, every ISP Company must have online base software for maintain their system. When I hear the news I try to make demo software to show them. So that, I impress them will got full software development order.

1.1.2 Benefits & Beneficiaries

DBN-Online Manager would be beneficiaries and also benefits for some of point. I am mentioning those below:

- Our system helps ISP Company to make a standard software based organization.
- Fill up the Bangladesh government order and requirement.
- Stored information in cloud so that it might be more safe and secure.
- Web based system make to easy access in anywhere for authorized person.
- Find out any client information easily with details.
- Sorting priority client based on amount or client priority.
- Stored expenses information to find out monthly revenue.
- Sorting client based on monthly bill pay.
- Easily find clients who are unpaid bill.
- Show backlog client's information.
- Show total sales, monthly sales, total collection and total due bill.
- Statistic report helps the authority to understand the current business position.
- Separate authorization make sure the proper security and authenticity.
- It reduces the dependency on man power and paper's.

1.1.3 Goals

Every Project must have a specific goal. My project has also. Main goals of my project are to develop web base isp provider company maintenance system. Where the system can maintain mainly clients and accounts site and also help the authority to make a decision using view graphical view of the business. There are two types of stakeholders in our "DBN-Online Manager". Such as:

- Admin Officer
- Accounts Officer
-

Write a brief description about stakeholders:

Admin Officer: Admin officer can maintain the client's information and can show current position of accounts. Admin can view all clients' information and also can edit and delete any clients. They can add client's information also can show priority client's based on amount and client's position. Admin can view any client details by using search. On the other part of admin officer can only view accounts statement. Total sales, current month sales, bill collection, due bill, total backlog states. Most of the important feature of this system is statistic report. Admin can show the business progress with amount and client with two different diagrams previous one year. So that authority can understand the business position in current and make any decision base on the statistic. Admin officer can add voucher details information. So that authority can view expenses with details based on client's and based on employees.

Accounts Officer: Accounts officer maintain only accounts section. They select the clients who paid the bill. Software can auto generate due bill, backlog and accounts states. In next month accounts officer just do generate new month bill and software can generate new clients info in accounts and generate backlog for previous month. Accounts officer can't view any other options.

1.2 Proposed System Model

A system development before it is very much important to have a system model for this system clearly. Our system also has a system model. Which model clarifies DBN-Online Manager (Proposed system) in brief.

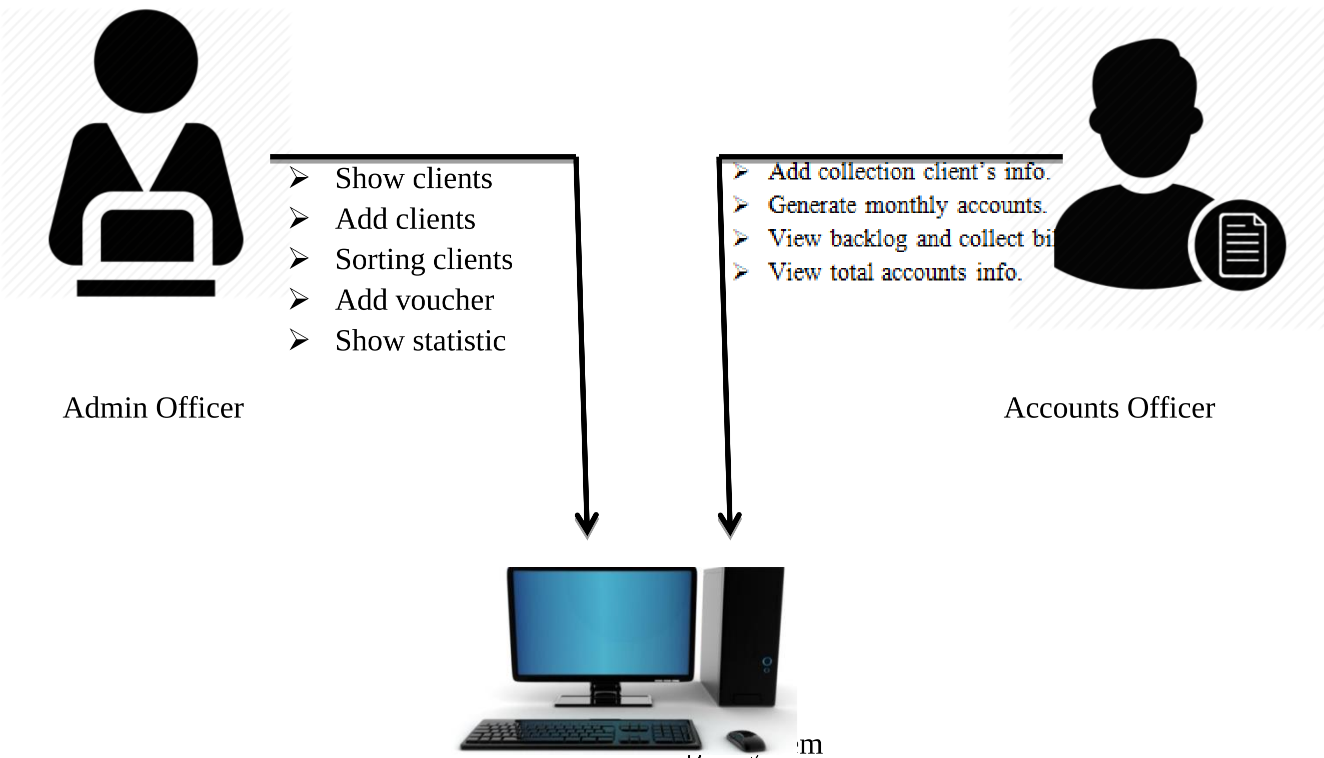


Figure 1.1: Proposed System Model

The project name "DBN-Online Manager" is mainly developed focus on web platform and database on cloud based stored. This application is for ISP Provider Company and they can maintain their accounts and clients in this system.

1.2 Project Schedule

Every process has a scheduling plane to complete the project on time properly. It also helps the developer and all related employee for maintain time schedule.

1.3.1 Gantt Chart

Production control tools are the main feature of gantt chart. Gantt chart maintains to complete our assigned job in time of period. In developing software, gantt chart is most important for a software company as like as software team. I will show a Gantt chart for our project.

Activities		W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14	W15	W16
Planning	Ideas																
	Problem definition																
	Proposal planning																
Requirements	Requirement specification																
	Requirement analysis																
QA-1	Quality assurance																
System design	Sketching																
	Design specification																
	Database design																
Implementation-1	Searching vehicles																
QA-2	Test cases																
Implementation-2	Impose case & demerits.																
Testing	Unit testing																
	Blackbox testing																
Delivery	Software release																
Scheduled time																	
Buffered time																	

Figure 1.2: Gant Chart

1.5.2 Release Plan or Milestone

The release plan or milestones are given below:

Activities	Duration in week	Total Week
Brainstorming	Week 1	1
Problem identification	Week 1, Week 2	2
Requirement specification	Week 2	1
Requirement analysis	Week 2	1
Sketching	Week 4	1
Design specification	Week 4	1
Database design	Week 5	1
Vehicle search	Week 5, Week 6, Week 7, Week 8	4
Quality assurance	Week 3,	1
Test case	Week 3, Week 7, Week 8, Week 9	4
Impose case & demerits	Week 10, Week 11, Week 12, Week 13	4
Unit testing	Week 11, Week 12	2
Black-box testing	Week 13, Week 14, Week 15	3
Software release	Week 16	1

Chapter 2

Software Requirement Specification

2.1 Functional Requirements

Functional requirement referred to a mandatory function which mandatory to the system. It must be able to perform for a web and also all kind of software system. All kind of application system has some functional requirements. Now, we are showing to mention functional requirements associating with this project.

2.1.1 User can Login in Software

Requirements 1	User can Login in Software
Description	After enter url in any internet browser, in software index page user must have log in first before enter the main software. All user mandatory for login. Only authorized user can login the software.
Stakeholders	Admin and Accounts officer

2.1.2 Admin can view Clients list

Requirements 1	**Admin can view Clients list**
Description	Admin can view clients list after properly login. First enter the client's button than enter the clients list sub-button. Admin can view all client's with list. In every client have edit, details and delete button for manage client.
Stakeholders	Admin officer.

2.1.3 Admin can view clients with sorting by amount.

Requirements 1	**Admin can view clients with sorting by amount**
Description	Admin can view clients list after properly login. First enter the client's button than enter the Sort by amount sub-button. Admin can view all clients based on amount with list. In every client have edit, details and delete button for manage client.
Stakeholders	Admin officer.

2.1.4 Admin can view clients with sorting by priority.

Requirements 1	**Admin can view clients with sorting by priority**
Description	Admin can view clients list after properly login. First enter the client's button than enter the Sort by **priority** sub-button. Admin can view all clients based on **priority** with list. In every client have edit, details and delete button for manage client.
Stakeholders	Admin officer.

2.1.5 Admin can view total sales

Requirements 1	**Admin can view total sales**
Description	Admin can view this month sale, this month due, total sale, backlog. Admin only can view this features can't edit or delete any of this.
Stakeholders	Admin officer.

2.1.6 Admin can view Revenue

Requirements 1	**Admin can view Revenue**
Description	Admin can view total revenue for this business. Admin only can view this features can’t edit or delete any of this.
Stakeholders	Admin officer.

2.1.7 Admin can view Revenue by month

Requirements 1	**Admin can view Revenue by month**
Description	Admin can view revenue by month for this business. Admin only can view this revenue by month but can’t edit or delete any of this.
Stakeholders	Admin officer.

2.1.8 Admin can view Sale by month.

Requirements 1	**Admin can view Sale by month.**
Description	Admin can view sale by month for this business. Admin only can view sale by month but can’t edit or delete any of this.
Stakeholders	Admin officer.

2.1.9 Accounts Officer can view total sales status.

Requirements 1	**Accounts Officer can view total sales status**
Description	Accounts officer go to accounts button and press total sales sub-button after properly login. Than can view the accounts status as total sales, monthly sales, due bill, backlog.
Stakeholders	Accounts officer.

2.1.10 Accounts officer can generate paid bill clients list.

Requirements 1	**Accounts officer can generate paid bill clients list**
Description	Accounts officer go to accounts button and press paid bill sub-button after properly login. Than can view all clients list. Than officer can check in ispaid button who paid his monthly bill and the client auto remove from the list. Only unpaid clients is show this table.
Stakeholders	Accounts officer.

2.1.11 Accounts officer can view Paid Bill clients who paid their bill.

Requirements 1	**Accounts Officer can view clients who pay their bill.**
Description	Accounts officer go to accounts button and press paid bill sub-button after properly login. Than can view only the clients who paid their current month bill.
Stakeholders	Accounts officer.

2.1.12 Accounts officer can view Backlog.

Requirements 1	**Accounts Officer can view backlog**
Description	Accounts officer go to accounts button and press backlog sub-button after properly login. Than can view the backlog that didn't paid the monthly bill in previous month.
Stakeholders	Accounts officer.

2.1.13 Accounts officer can view Revenue.

Requirements 1	**Accounts Officer can view Revenue**
Description	Accounts officer go to accounts button and press revenue sub-button after properly login. Than can view the revenue of this month.
Stakeholders	Accounts officer.

2.1.14 Accounts officer can generate bill 1st day of every month.

Requirements 1	**Accounts officer can generate bill 1st day of every month**
Description	Accounts officer go to accounts button and press generate bill sub-button after properly login. Every 1st day of the month accounts officer press the button for generate new accounts of all clients. All due bill go to backlog.
Stakeholders	Accounts officer.

2.1.15 Accounts officer can submit voucher.

Requirements 1	**Accounts officer can submit voucher**
Description	Accounts officer go to accounts button and press submit voucher sub-button after properly login. For properly maintain accounts all expenses note down in database based on clients and employees. Accounts officer do fill-up the form of voucher and submit. The information save in database.
Stakeholders	Accounts officer.

2.2 Data Requirements

Defining data requirements for need to build a model. Our system maximum data would be loaded form internal user. For this cause we need to focus some kind of major points.

Such as:

- Types of entity of the system
- Route data locations
- Capacity and resources of the data requirements
- Data source sequence
- Data availability schedules
- Quantity of data
- Availability of data

2.3 Performance Requirements

To maintain performance of a software system it is very important. To ensure performance, as a developer we need to manage and maintain some steps. Now, I try to discuss about perspective by going to enhance the performance of this system project.

2.3.1 Speed & Latency Requirements.

For software development process it is very important for speed and latency must be ensured while retrieving data from the cloud server.

SLR-1	**Data generate result must be faster.**
Description	**When Admin and Accounts officer access the software, it's generating report based on cloud database very quickly.**
Stakeholders	**All users.**

2.3.2 Precision & Accuracy Requirements

Result of a software system to be to the end user is must be needed to be accurate. Wrong information might be ruined the whole business process.

PAR-1	Accounts result must be accurate.
Description	Though it's an accounting system, so accuracy and precision must be given in accounts and admin report. Also client's information might be accurate.
Stackholders	Accounts officer and admin officer.

2.3.3 Capacity Requirements

We must developed a system which be capable to handle user, provide accurate information,
Handling database, manage http request etc.

CR-1	The system will handle thousands of data.
Description	The system need to handle data thousands of data every month.
Stakeholders	Admin and Accounts officer.

2.4 Dependability Requirements

The term dependability is measured based on four dimensions. Such as:

- Availability
- Reliability
- Safety
- Security

When we want to say our system is dependable and safe then we must say that we can fulfill the four above dimension. We also want to say that there is no way to make any kind of mistakes of our system. Besides that, it is also very important to limit the damage which might be caused by system failure.

2.4.1 Reliability & Availability Requirements

Now, I will mention requirements which are related to reliability and availability.

RAR-1	The system must be available on 24 X 7
Description	• Our system must be available all day long, every day in a week. • The system must be web base and can access anywhere any place. • System must be malware free.
Stakeholders	Officer Admin & Accounts section officer.

2.4.2 Robustness or Fault-Tolerance Requirements

To ensure robustness and fault-tolerance facilities to the end users, it is urgent to ensure 0% crush. Moreover, it must show accurate results.

RFT-1	The system handles all user access without system errors.
Description	Two king of user might hit our application system at a time. All their requests must be handled without any fault.
Stakeholders	System authorized user.

2.4.3 Safety-Critical Requirements

There are clients information and accounts information are safety critical requirements in our software.

SCR-1	All information must be safety with full secure authorization access.
Description	An organization/company internal data is more secure information. Though the system is web base system so, data cloud safety is more essential for our system.
Stakeholder	System user.

2.5 Maintainability & Supportability Requirements

It is very important to provide after service or support to the end users.

2.5.1 Maintainability Requirements

MR-1	System helps to update user profile.
Description	It is very important to update security system by sudden time period.
Stakeholders	System user.

2.5.2 Supportability Requirements.

Supportability requirements may have related to some extends. Like:

- Testability
- Extensibility
- Adaptability
- Maintainability
- Compatibility
- Configurability
- Serviceability
- Install ability

Our application meets all of the above requirements related to supportability.

2.5.3 Adaptability Requirements

There are no adaptability requirements in our system software.

2.6 Security Requirements

Software security is very much important for making software. Requirements of software security is very important. As an accounts and clients information maintenance system all kind of data is sensitive and authentic. Enforces of security of an application system of the software security. We write some security related requirements is given below:

- Signing multiple users in one platform.
- Get accesses according to logged in user.
- Set points to the drivers without having any issue.
- Signing out as a admin & accounts officer.
- Handling encrypted passwords.

2.6.1 Access Requirements

Our software application system accessing, there remains some authentication and authorization techniques. Every module of this application system will provide the techniques. Now, I will provide an explanation below.

AR-1	Application provides security mechanism.
Description	Every module is designed in such a way that it only give access to the authorized and authenticated users.
Stakeholders	Admin & Accounts Officer.

2.7 Usability and Human-Interaction Requirements

When anyone or any company can developing any system, they can try to make the system user friendly and easy to usable for the end users.

2.7.1 Ease of Use Requirements

Our application is easy to use and also easily understandable.

EUR-1	Application must be usable for the end users.
Description	This system is enough usable to the admin and accounts officer by which they can operate this system easily.
Stakeholders	Admin & Accounts officer.

2.7.2 Personalization and Internationalization Requirements

We are assigned personalization and internationalization requirements to our application system. Only authorized person like admin officer and accounts officer can access this system using proper maintain access level.

2.7.5 User Documentation Requirements

Every documentation has two types. One is internal documentation which document is generally written by the application engineers. This document prepared to make development life cycle easier for the system engineers or system analysts.

UDR-1	The system engineer documentation.
Description	To develop our application named ISP clients & accounts management system, Bandwidth manager, Internet Officer manager firstly we have make a system analysis team as well as documentation team.
Stakeholders	System analysts or software developers.

2.7.6 Training Requirements

After service application is involved by training requirements. The training requirements are very necessary to properly train up end users to the system so that they would be capable to operate easily. After launching the full package to the market, firstly we provide training to the different end users like ISP office Admin & Accounts Officer.

2.8 Look and Feel Requirements

Look and feel requirements mainly refers how the system will look like and how the user interface or graphical user interface of our system will display to the user.

2.8.1 Appearance Requirements

Admin & Accounts user must know which input fields are required and which are not.
For that reason, we will use labels for all input fields. Input fields might be text type, radio, checkbox, spinner etc.

AR-1	Labels of mandatory fields must be bold.
Description	The mandatory field's label must be bold and all input fields must have placeholder to make it easier for the users.
Stakeholders.	Admin & Accounts officer.

2.9 Operational and Environmental Requirements

Performance, capabilities, measurements, process are referred by Operational and environmental requirement

2.9.1 Expected Physical Requirements

There are no expected physical requirements in our system.

2.9.2 Requirements for Interfacing with Adjacent Systems

There are no requirements for interfacing with adjacent system for our project.

2.9.3 Release Requirements

Though it's a web base application, so must be an internet connection and web browser for accessing the system is needed.

2.10 Legal Requirements

Legal requirements mainly mention the terms and conditions for privacy and policy of any organizations. The terms and condition of our application is that, no third party software without cloud is allowed to engage to use our data for their business purpose.

2.10.1 Compliance Requirements

There are no specific compliance requirements for our system.

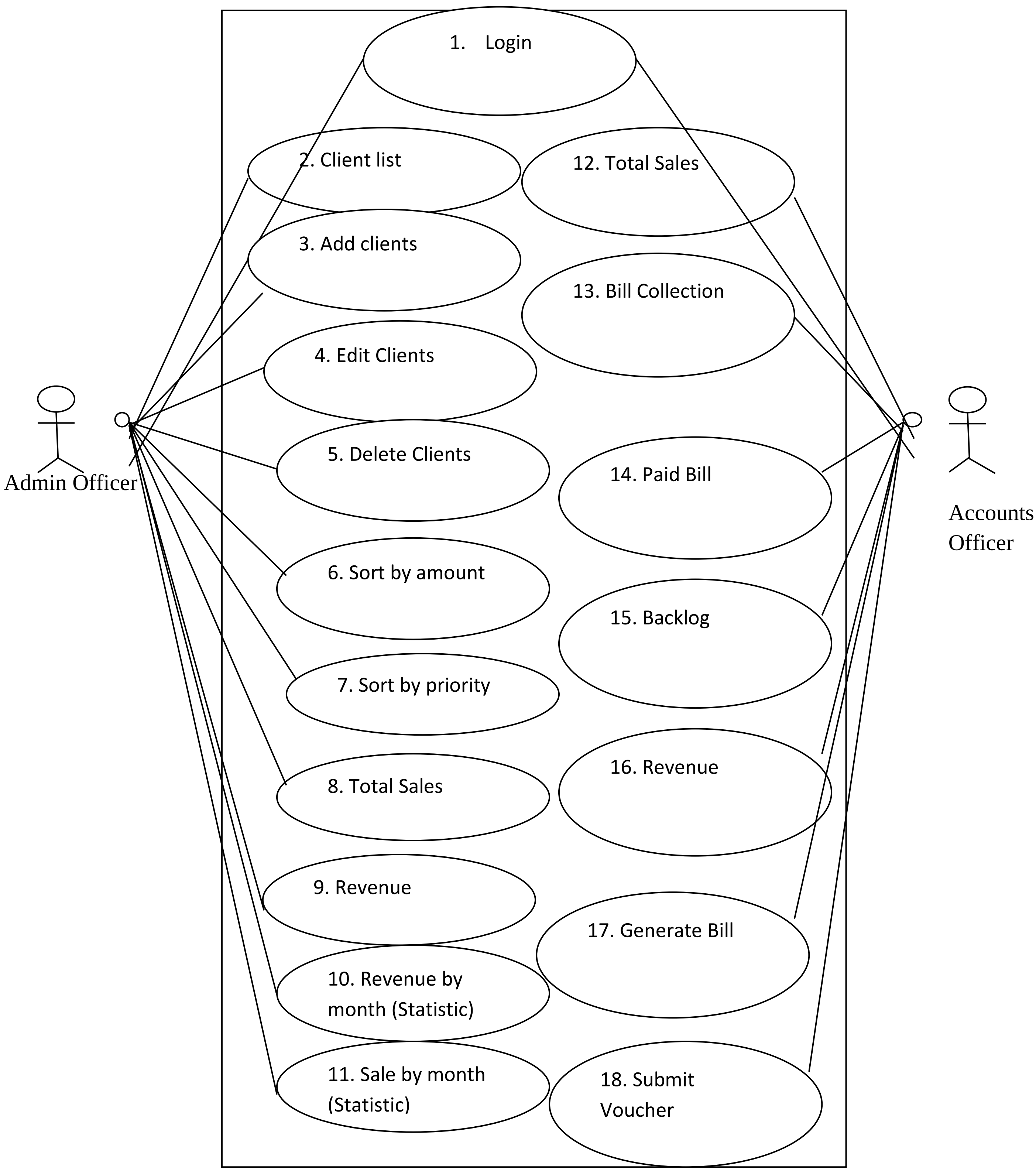
2.10.2 Standards Requirements

There are no specific standards requirements for our system.

Chapter 3
Requirement Analysis

3.1 Use Case Diagram

Use case diagram is mainly mention the user and system access level clearly. There are two actors in our system. Each actor plays different role. And those are already indicated to this use case diagram. This diagram will clarify our system in brief.



3.1.1 User login first

Use Case Title	User Login first
Goal	Access this system only the authorized user.
Preconditions	• User must be authorized. • User must enter valid user mail and password. • Press Login button.
Success End Condition	User can enter authorized system platform.
Failure End Condition	User can't access.
Primary Actor: Secondary Actor:	System user. System developer for update.
Trigger	Authorize panel can access.
Description/Main Success Scenario	Admin or Accounts officer enter the url and after successfully enter then enter login panel then input valid email and password. After successfully enter press login than if it's correct then login authorize panel.
Alternative Flows	Login panel again load.
Quality Requirements	Password must be capital and small with also symbol mixed.

3.1.2 Admin view Clients List

Use Case Title	Admin view clients list
Goal	Admin can view all clients' information in a tabular format.
Preconditions	• Admin login properly. • Go to client's button. • Press clients list sub-button.
Success End Condition	Admin can view all clients' information in a tabular format.
Failure End Condition	System shows an error message.
Primary Actor: Secondary Actor:	Admin officer N/A
Trigger	Show all clients information in a tabular format.
Description/Main Success Scenario	Admin officer go to clients button than press clients list sub-button. Than admin officer can show the clients information in a tabular format.
Alternative Flows	Show an error message.
Quality Requirements	User must be Admin officer.

3.1.3 Admin view Sort by amount client list.

Use Case Title	Admin view sort by amount client list
Goal	View clients list based on amount
Preconditions	User must be login first using admin email and password.
Success End Condition	Admin officer can view the clients list based on amount
Failure End Condition	Page reload and though the previous page.
Primary Actor: Secondary Actor:	Admin Officer. N/A
Trigger	Admin can view clients list Sort by amount high to low.
Description/Main Success Scenario	Admin first login properly. Than go to clients button and press Sort by amount. Admin can view all clients based on big amount to low amount.
Alternative Flows	Load page and go through previous site.
Quality Requirements	User must be authentic as an admin user

3.1.4 Admin Add Clients

Use Case Title	Admin add clients.
Goal	Admin officer add new clients information in client database.
Preconditions	User must be an admin officer and have proper information of clients.
Success End Condition	Admin officer successfully add a clients in client database.
Failure End Condition	Show confirmation message.
Primary Actor: Secondary Actor:	Admin officer. N/A
Trigger	Press save button after input all information fills.
Description/Main Success Scenario	Admin go to client feature and go to clients list sub-button. When show clients list then press create new button and show a fields for add clients. Then fill up all form and press save button. Finally show confirmation button.
Alternative Flows	Show error message in red text color.
Quality Requirements	User have full of information of clients.

3.1.5 Admin edit client

Use Case Title	Admin edit clients
Goal	Admin edit any client information.
Preconditions	User must be an admin officer and login first.
Success End Condition	User can edit any client information.
Failure End Condition	Show an error message.
Primary Actor: Secondary Actor:	Admin officer. N/A
Trigger	Press update button.
Description/Main Success Scenario	Admin go to client feature and go to clients list sub-button. When show clients list then press edit button and show a fields for edit client with full information. Update information and press update button. Finally show confirmation message.
Alternative Flows	Show error message.
Quality Requirements	User must be an admin officer.

3.1.6 Admin delete client

Use Case Title	Admin delete client
Goal	Admin can delete any client with details.
Preconditions	User must be as an admin officer.
Success End Condition	Show successful message.
Failure End Condition	Show error message.
Primary Actor: Secondary Actor:	Admin officer. N/A
Trigger	Press delete confirmation button.
Description/Main Success Scenario	Admin go to client button and go to clients list sub-button. When show clients list then press delete button and show delete confirmation message. And finally show success message.
Alternative Flows	Show an error dialog box.
Quality Requirements	User must be an admin officer.

3.1.7 Admin view Sort by priority clients list.

Use Case Title	Admin view Sort by priority clients list.
Goal	Admin can view clients list based on priority.
Preconditions	Proper login and only press sort by priority button.
Success End Condition	Show clients list in a table based on priority clients.
Failure End Condition	Show error message.
Primary Actor: Secondary Actor:	Admin user. N/A
Trigger	Press sort by priority sub-button.
Description/Main Success Scenario	Admin go to client button and go to sort by priority sub-button. And admin officer can view clients table who is listed based on clients priority.
Alternative Flows	Show an error message.
Quality Requirements	N/A

3.1.8 Admin view Total sales

Use Case Title	Admin view total sales.
Goal	Admin can view summery of accounts.
Preconditions	User properly login with properly user email and password.
Success End Condition	User can view summery of accounts status.
Failure End Condition	Reload page and show error message.
Primary Actor: Secondary Actor:	Admin officer. Accounts officer.
Trigger	Press view total sales.
Description/Main Success Scenario	Admin go to accounts button and press total sales sub-button. Than show the total sales, current month sales. Backlog, revenue.
Alternative Flows	Show error message.
Quality Requirements	N/A

3.1.9 Admin view Revenue

Use Case Title	Admin view revenue.
Goal	Admin can view business revenue.
Preconditions	Properly login using with properly user email and password.
Success End Condition	User can view business current revenue.
Failure End Condition	Reload page and show error message.
Primary Actor: Secondary Actor:	Admin officer. Accounts officer.
Trigger	Press revenue sub-button.
Description/Main Success Scenario	Admin go to accounts button and press revenue sub-button. Than show the business current revenue.
Alternative Flows	Show error message.
Quality Requirements	N/A

3.1.10 Admin view Revenue by month

Use Case Title	Admin view revenue by month in a statistic.
Goal	Admin can view revenue by month with a graph.
Preconditions	User login first properly.
Success End Condition	Show business current month revenue with graph.
Failure End Condition	Graph does not show.
Primary Actor: Secondary Actor:	Admin officer. N/A
Trigger	Press revenue by month button.
Description/Main Success Scenario	Admin go to Statistic button and press revenue by month sub-button. Than show the business revenue with statistic graphs.
Alternative Flows	Show error message.
Quality Requirements	User must be an admin officer.

3.1.11 Admin view sale by month

Use Case Title	Admin view sale by month.
Goal	Admin view sale by month with graph.
Preconditions	User must be an admin
Success End Condition	User view sale by month with graph.
Failure End Condition	Graph does not show.
Primary Actor: Secondary Actor:	Admin officer. N/A
Trigger	Press sale by month button.
Description/Main Success Scenario	Admin go to Statistic button and press sale by month sub-button. Than show the business sales with statistic graphs.
Alternative Flows	Show error message.
Quality Requirements	User must be an admin officer.

3.1.12 Accounts view total sales

Use Case Title	Accounts view total sales.
Goal	Accounts officer can view total sales.
Preconditions	User must be login first.
Success End Condition	Show total accounts status.
Failure End Condition	Data does not load.
Primary Actor: Secondary Actor:	Accounts officer. Admin officer.
Trigger	Press total sales button.
Description/Main Success Scenario	Accounts officer login first with proper email and password. Than go to accounts button and press total sales sub-button. Finally accounts officer can view total sales, current month sales, paid bill, due bill, and backlog.
Alternative Flows	Show error message
Quality Requirements	N/A

3.1.13 Accounts manage collection bill

Use Case Title	Accounts manager collection bill.
Goal	Accounts manager can collection clients current month bill.
Preconditions	User must be an accounts officer.
Success End Condition	Generate paid bill clients.
Failure End Condition	Ispaid button does not work.
Primary Actor: Secondary Actor:	Accounts officer. N/A
Trigger	Checked ispaid and press save button.
Description/Main Success Scenario	Accounts officer login first with proper email and password. Than go to accounts button and press bill collection sub-button. Show all clients in current month. Select a client and press details and checked ispaid button. Saved the information and done.
Alternative Flows	Does not save.
Quality Requirements	User must be an accounts officer.

3.1.14 Accounts view paid bill

Use Case Title	Accounts officer can view paid bill clients
Goal	Accounts officer view the clients who already paid their bill.
Preconditions	User must be an accounts officer.
Success End Condition	Show the clients who paid their bill.
Failure End Condition	Does not show the list of table.
Primary Actor: Secondary Actor:	Accounts officer. N/A
Trigger	Press paid bill button.
Description/Main Success Scenario	Accounts officer login first with proper email and password. Than go to accounts button and press paid bill sub-button. Finally accounts officer can view the clients who already paid their bill.
Alternative Flows	Show error message.
Quality Requirements	User must be an accounts officer and login user.

3.1.15 Accounts view Backlog

Use Case Title	Accounts officer can view Backlog.
Goal	Accounts officer can view the total backlog clients.
Preconditions	User must be an accounts officer.
Success End Condition	Show the backlog clients.
Failure End Condition	Does not load backlog database of table.
Primary Actor: Secondary Actor:	Accounts officer. N/A
Trigger	Press backlog sub-button.
Description/Main Success Scenario	Accounts officer login first with proper email and password. Than go to accounts button and press backlog sub-button. Finally accounts officer can view the clients who does not paid their bill in previous month.
Alternative Flows	Show an error message.
Quality Requirements	User must be an accounts officer.

3.1.16 Accounts view Revenue

Use Case Title	Accounts officer can view revenue.
Goal	Accounts officer can view the current month revenue.
Preconditions	User login first.
Success End Condition	Show the revenue.
Failure End Condition	Doesn't show database table.
Primary Actor: Secondary Actor:	Accounts officer. N/A
Trigger	Press revenue button.
Description/Main Success Scenario	Accounts officer login first with proper email and password. Than go to accounts button and press revenue sub-button. Finally accounts officer can view the current month revenue.
Alternative Flows	Show an error message.
Quality Requirements	N/A

3.1.17 Accounts Manage Generate bill

Use Case Title	Accounts officer can generate bill.
Goal	Monthly generate bill for maintain current month accounts.
Preconditions	User must be an accounts officer and doesn't exist current month date.
Success End Condition	Generate current month accounts for collect bill.
Failure End Condition	Doesn't generate.
Primary Actor: Secondary Actor:	Accounts officer. N/A
Trigger	Press generate bill sub-button.
Description/Main Success Scenario	Accounts officer login first with proper email and password. Than go to accounts button and press generate bill sub-button. Finally accounts officer can generate current month accounts for collect bill.
Alternative Flows	Show error message.
Quality Requirements	User must be an accounts officer.

3.1.18 Accounts manage Submit voucher

Use Case Title	Accounts officer manage voucher.
Goal	Accounts officer can manage voucher for manage proper accounts.
Preconditions	User must be an accounts officer.
Success End Condition	Add voucher.
Failure End Condition	Does not add voucher.
Primary Actor: Secondary Actor:	Accounts officer. N/A
Trigger	Press save voucher button.
Description/Main Success Scenario	Accounts officer login first with proper email and password. Than go to accounts button and press submit voucher sub-button. Show a fill for fill up for add a voucher. Fill up the table and submit voucher. Then add the information as a voucher.
Alternative Flows	Show error message.
Quality Requirements	N/A

3.2 Activity Diagram

We have prepared some activity diagram according to our use case. These activity diagrams are properly referring the flow of the individual conditions of our project.

3.2.1 User login

Admin or Accounts officer enter the url and after successfully enter then enter login panel then input valid email and password. After successfully enter press login than if it's correct then login authorize panel.

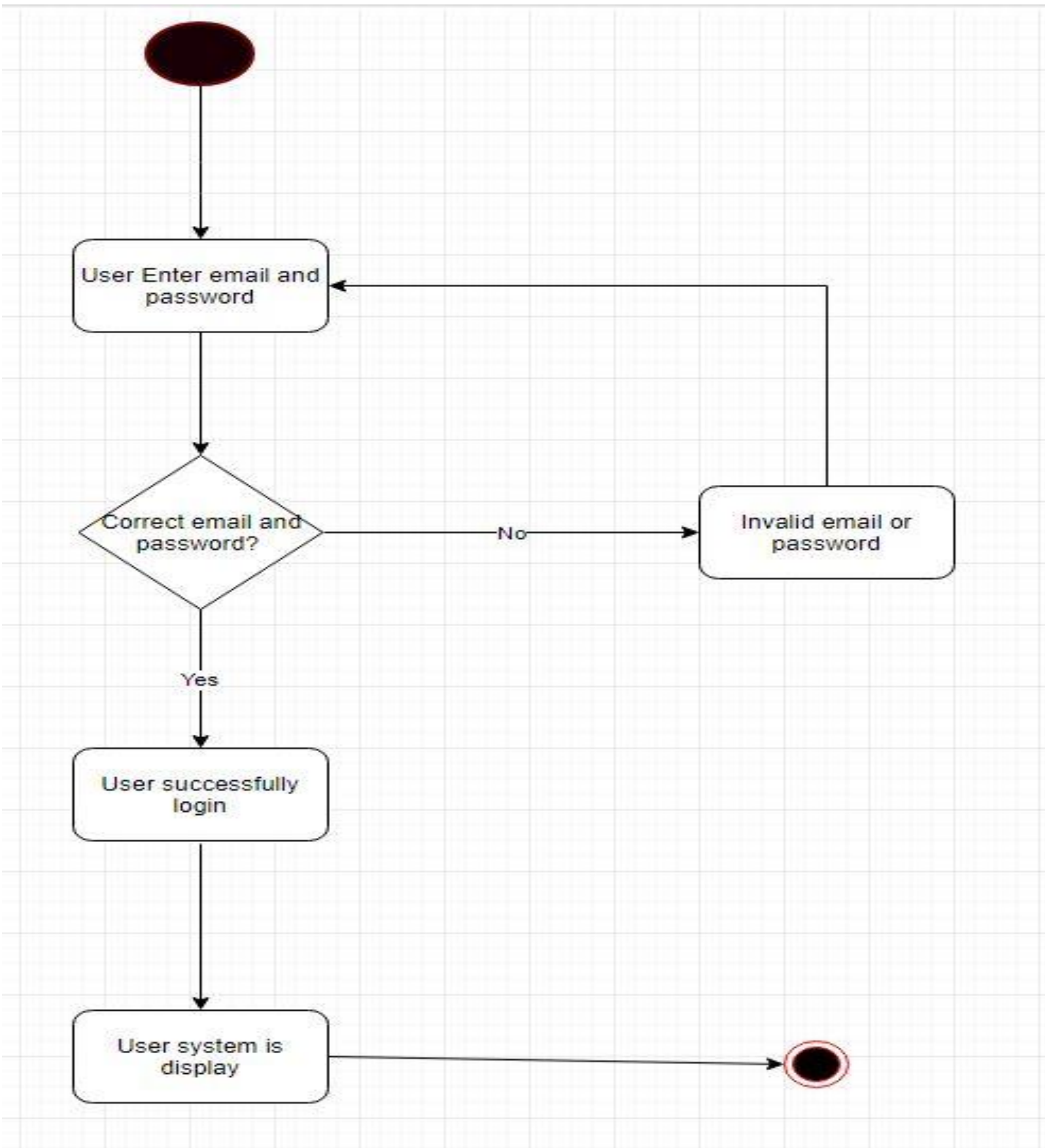


Figure 3.2: User Login for "DBN-Online Manager"

3.2.2 Admin can view all clients list

Admin officer go to clients button than press clients list sub-button. Than admin officer can show the clients information in a tabular format.

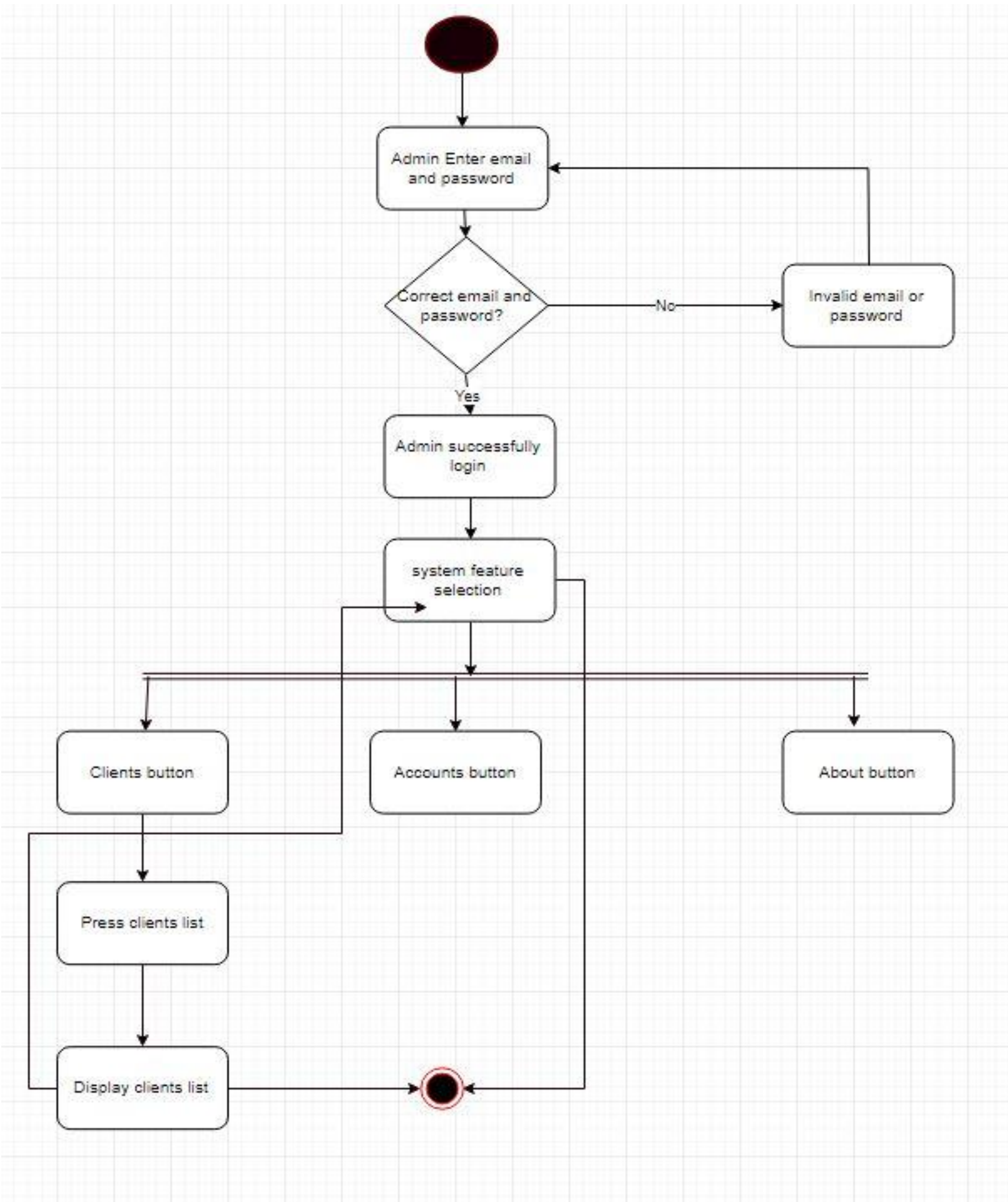


Figure 3.3: Admin can view client list for "DBN-Online Manager"

3.2.3 Admin can view clients sort by amount

Admin first login properly. Than go to clients button and press Sort by amount. Admin can view all clients based on big amount to low amount.

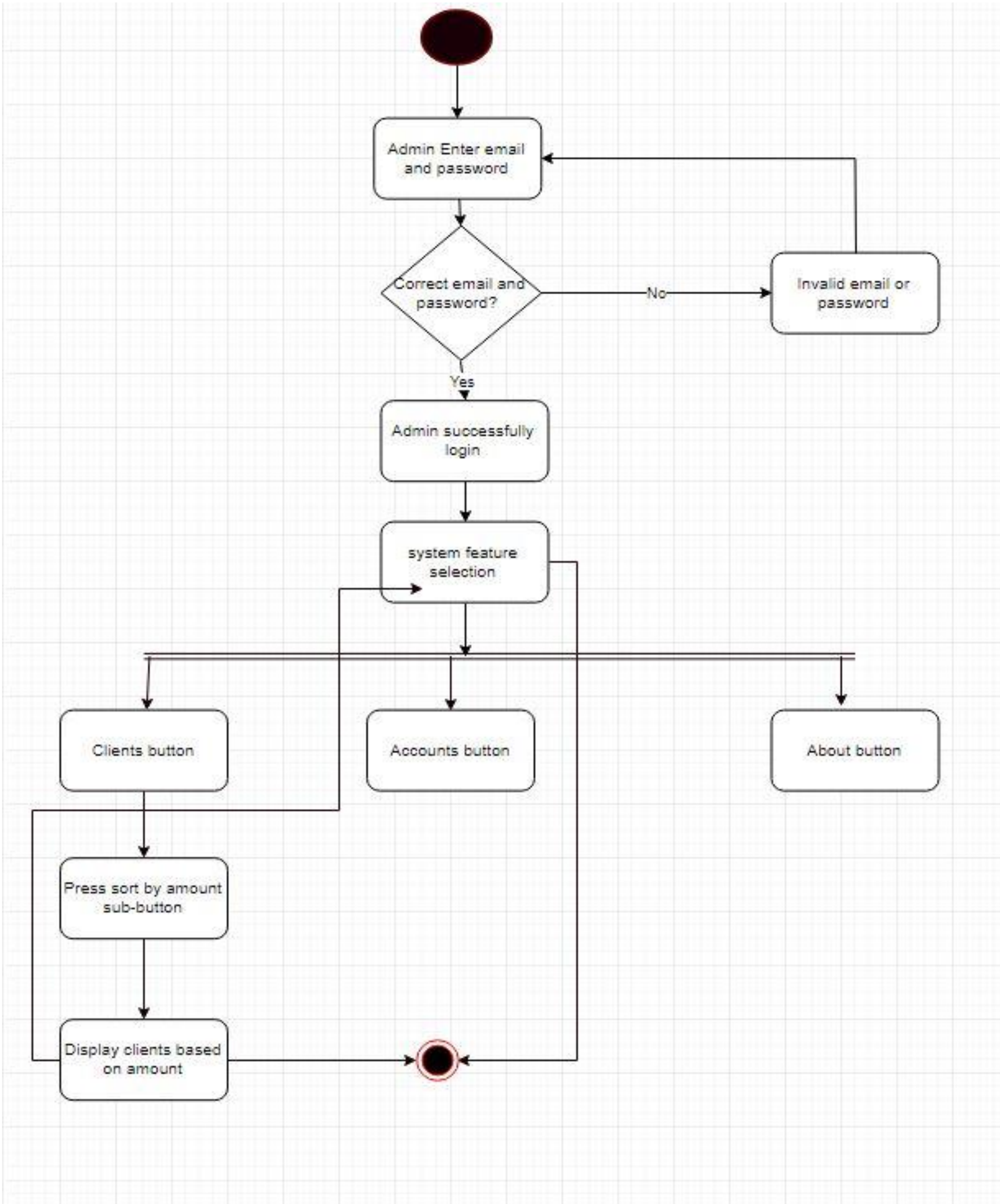


Figure 3.4: Admin can view Sort by amount clients list for "DBN-Online Manager"

3.2.4 Admin can view clients sort by priority

Admin go to client button and go to sort by priority sub-button. And admin officer can view clients table who is listed based on clients priority.

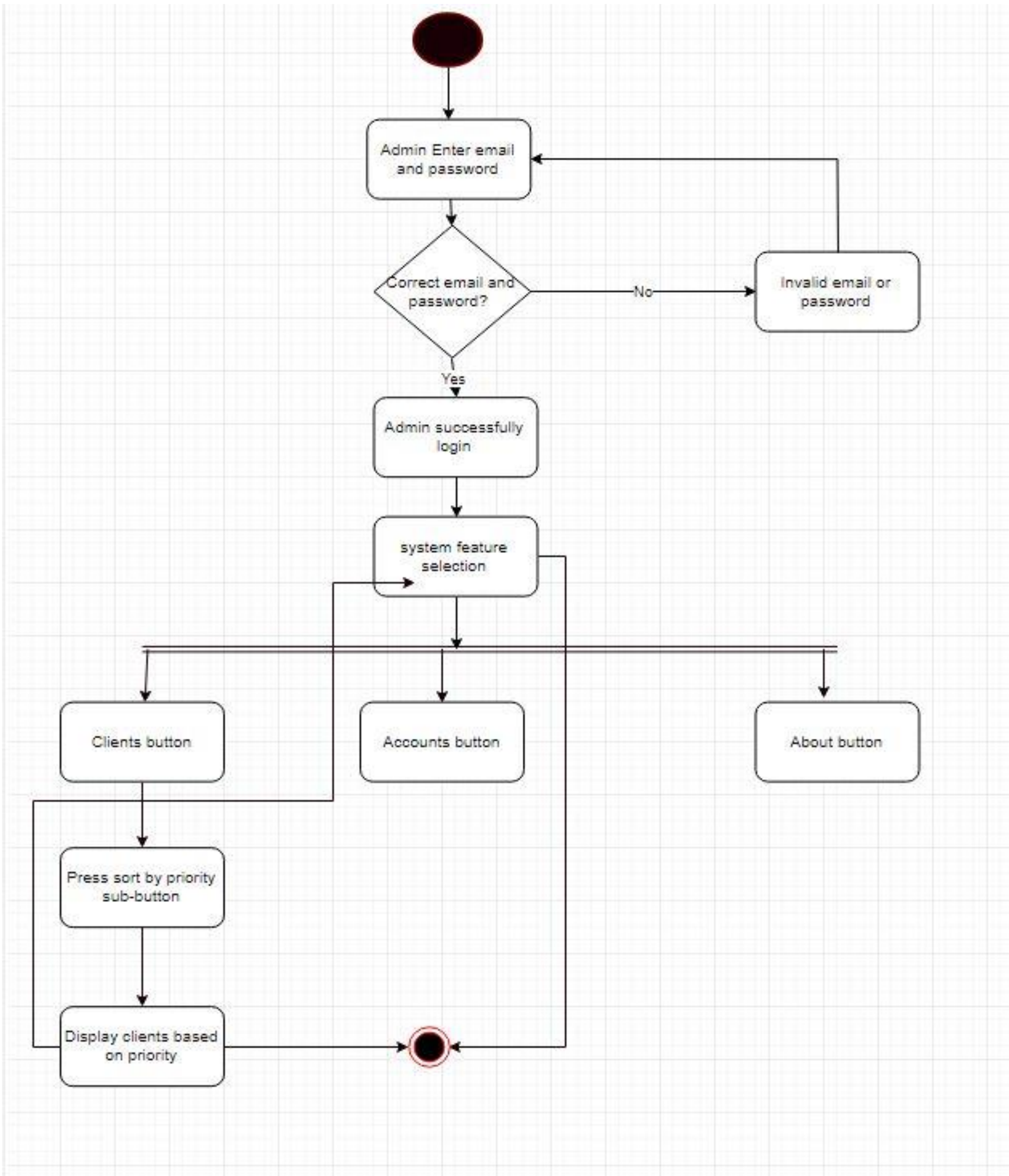


Figure 3.5: Admin can view Sort by priority clients list for “DBN-Online Manager”

3.2.5 Admin can view total sale statement of accounts

Accounts officer login first with proper email and password. Than go to accounts button and press total sales sub-button. Finally accounts officer can view total sales, current month sales, paid bill, due bill, and backlog.

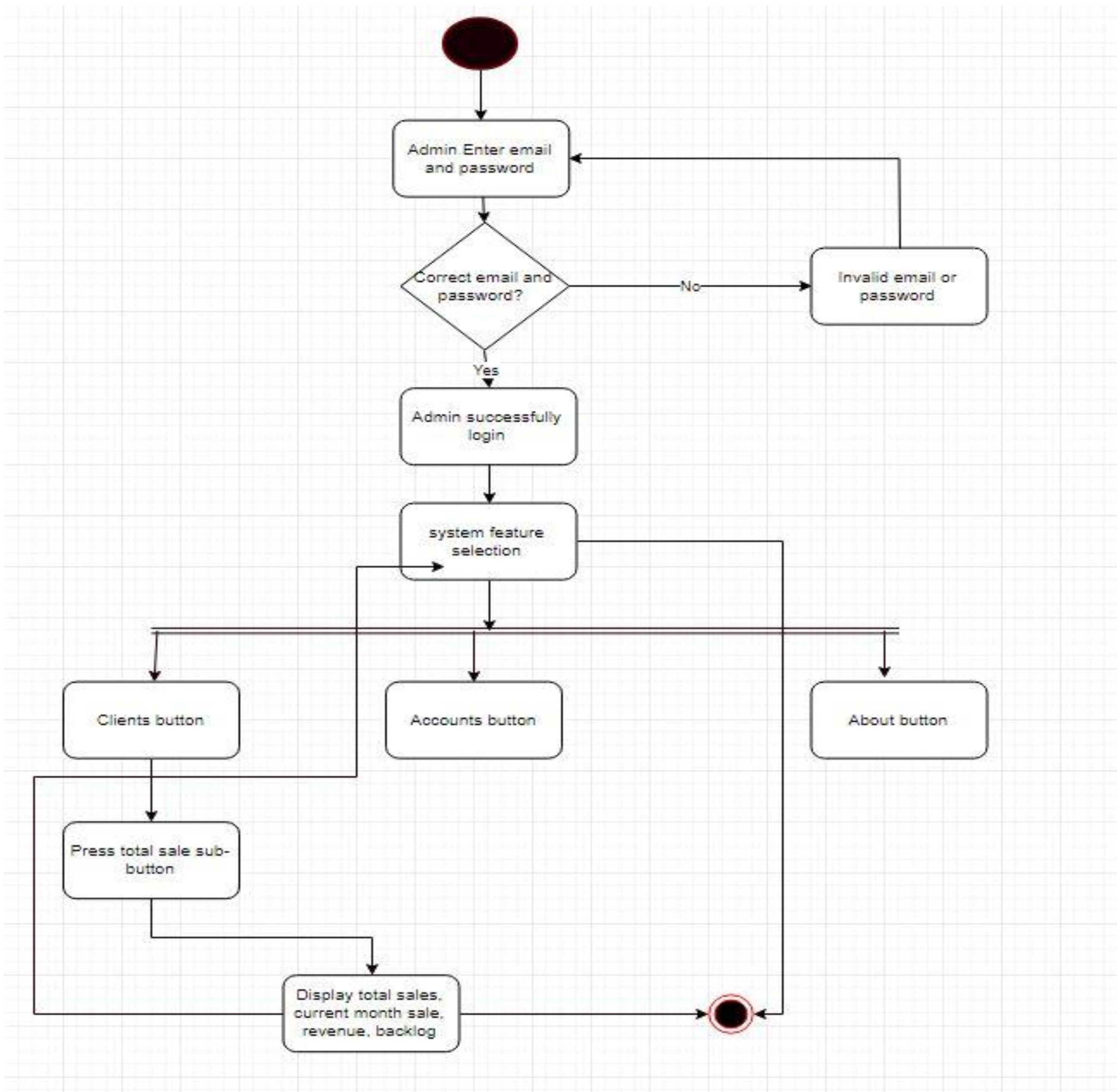


Figure 3.6: Admin can view total sale for “DBN-Online Manager”

3.2.6 Admin can view Revenue of this business

Admin go to accounts button and press revenue sub-button. Than show the business current revenue.

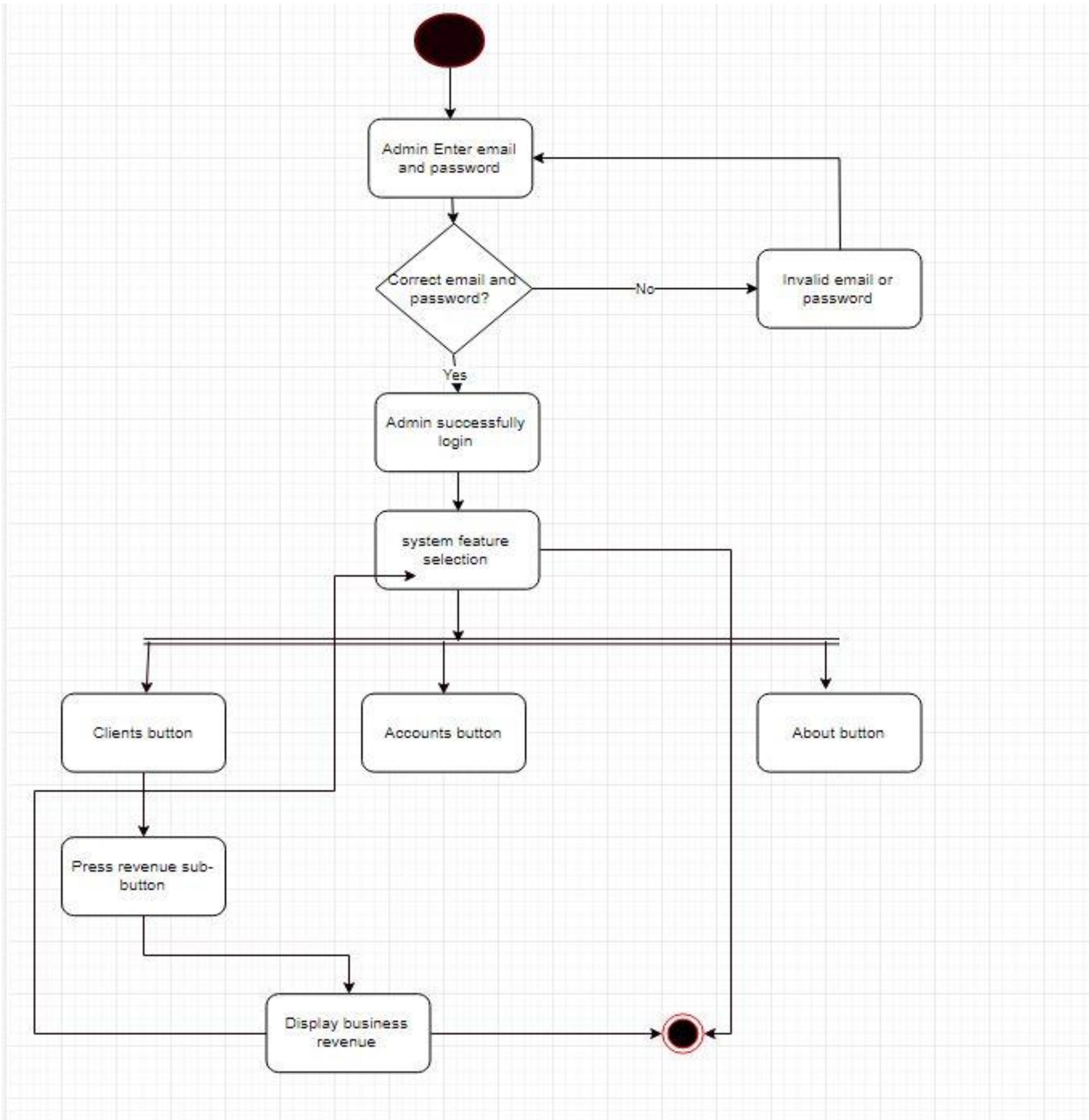


Figure 3.7: Admin can view Revenue for “DBN-Online Manager”

3.2.7 Admin can view Graphical report based on revenue by month

Admin go to Statistic button and press revenue by month sub-button. Than show the business revenue with statistic graphs.

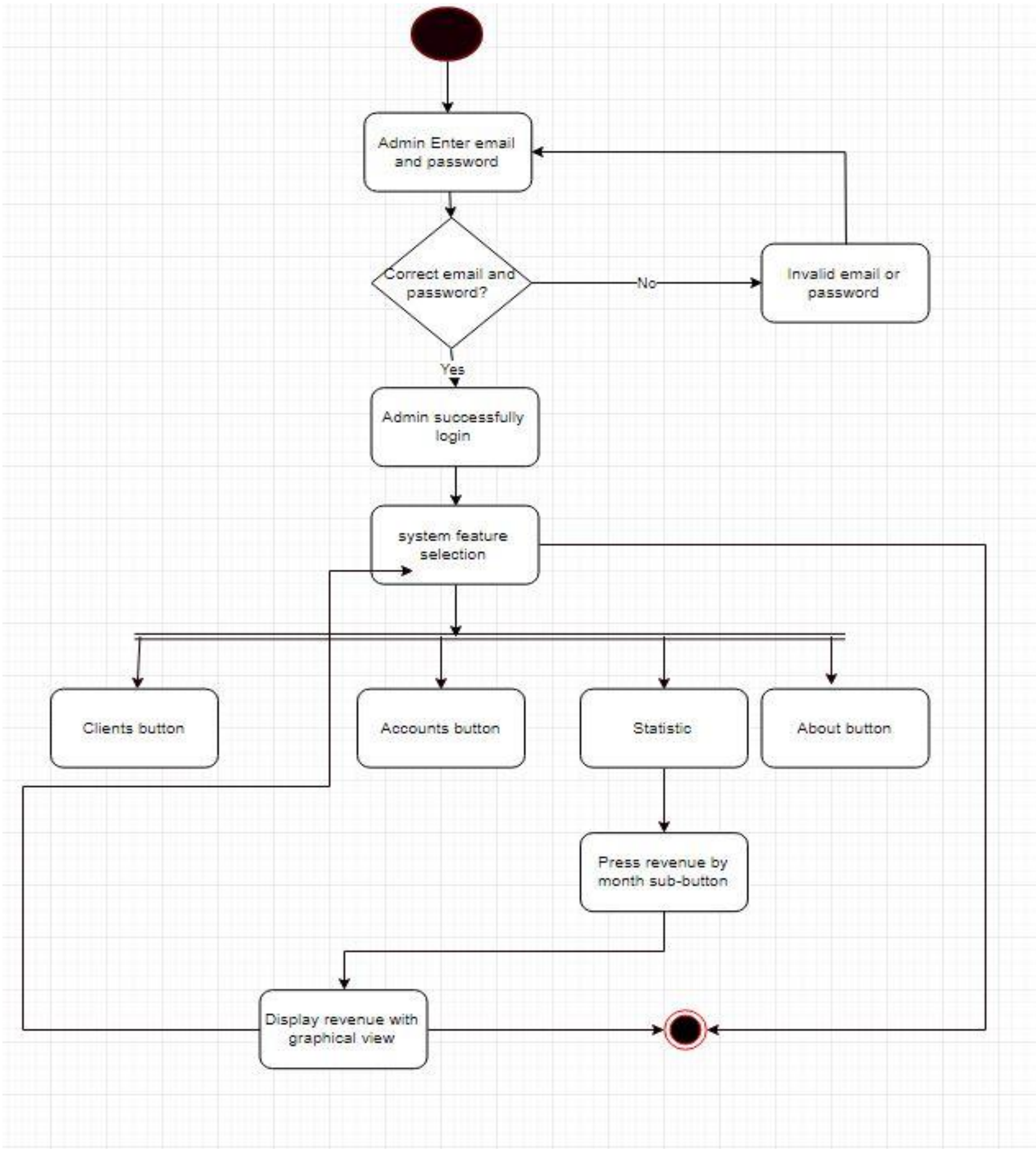


Figure 3.8: Admin can view Admin can view Graphical report based on revenue by month "DBN-Online Manager"

3.2.8 Admin cam view graphical view based on sale by month

Admin go to Statistic button and press sale by month sub-button. Than show the business sales with statistic graphs.

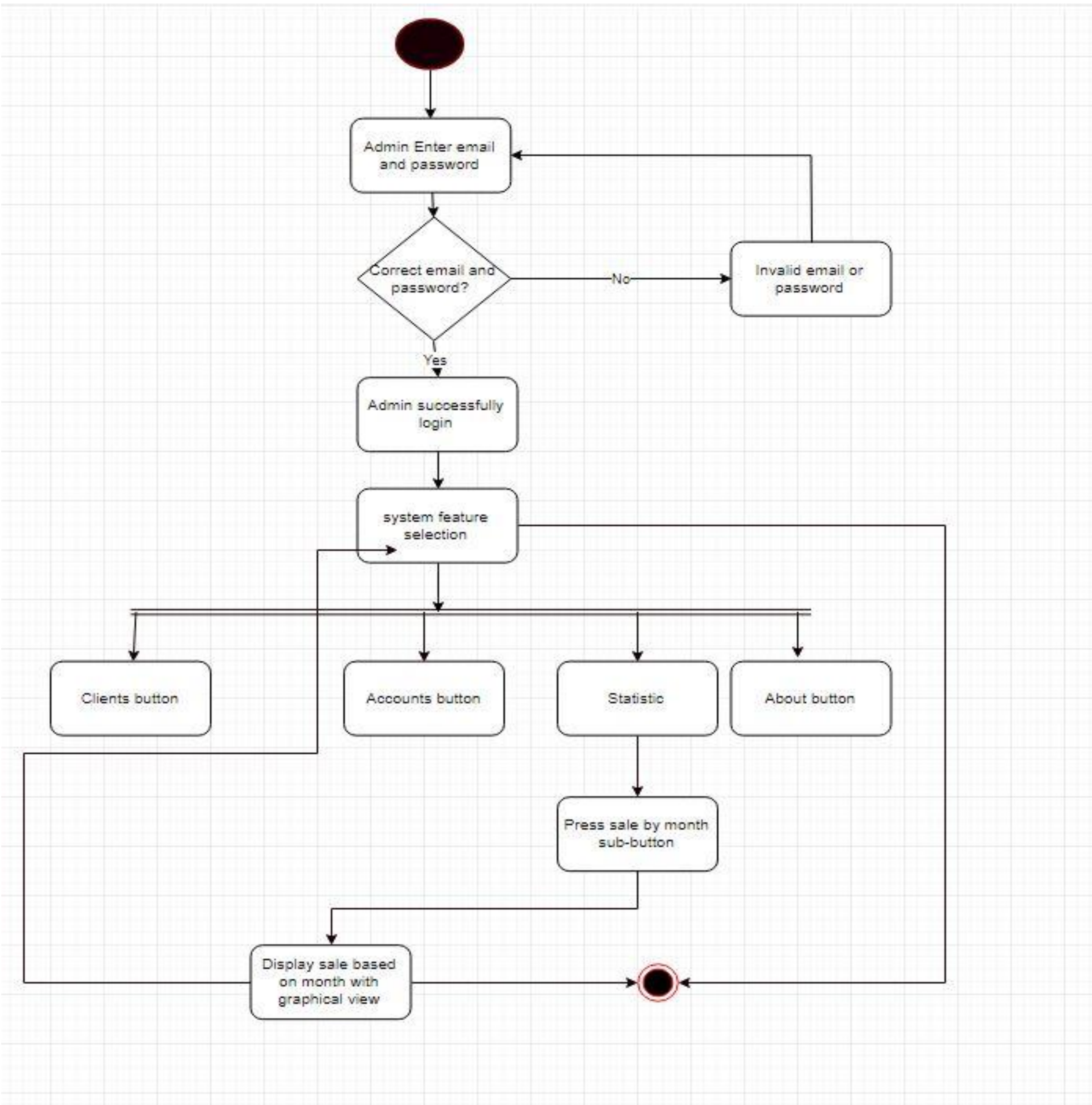


Figure 3.9: Admin can view Admin cam view graphical view based on sale by month for “DBN-Online Manager”

3.2.9 Accounts officer can view total sales statements

Accounts officer login first with proper email and password. Than go to accounts button and press total sales sub-button. Finally accounts officer can view total sales, current month sales, paid bill, due bill, and backlog.

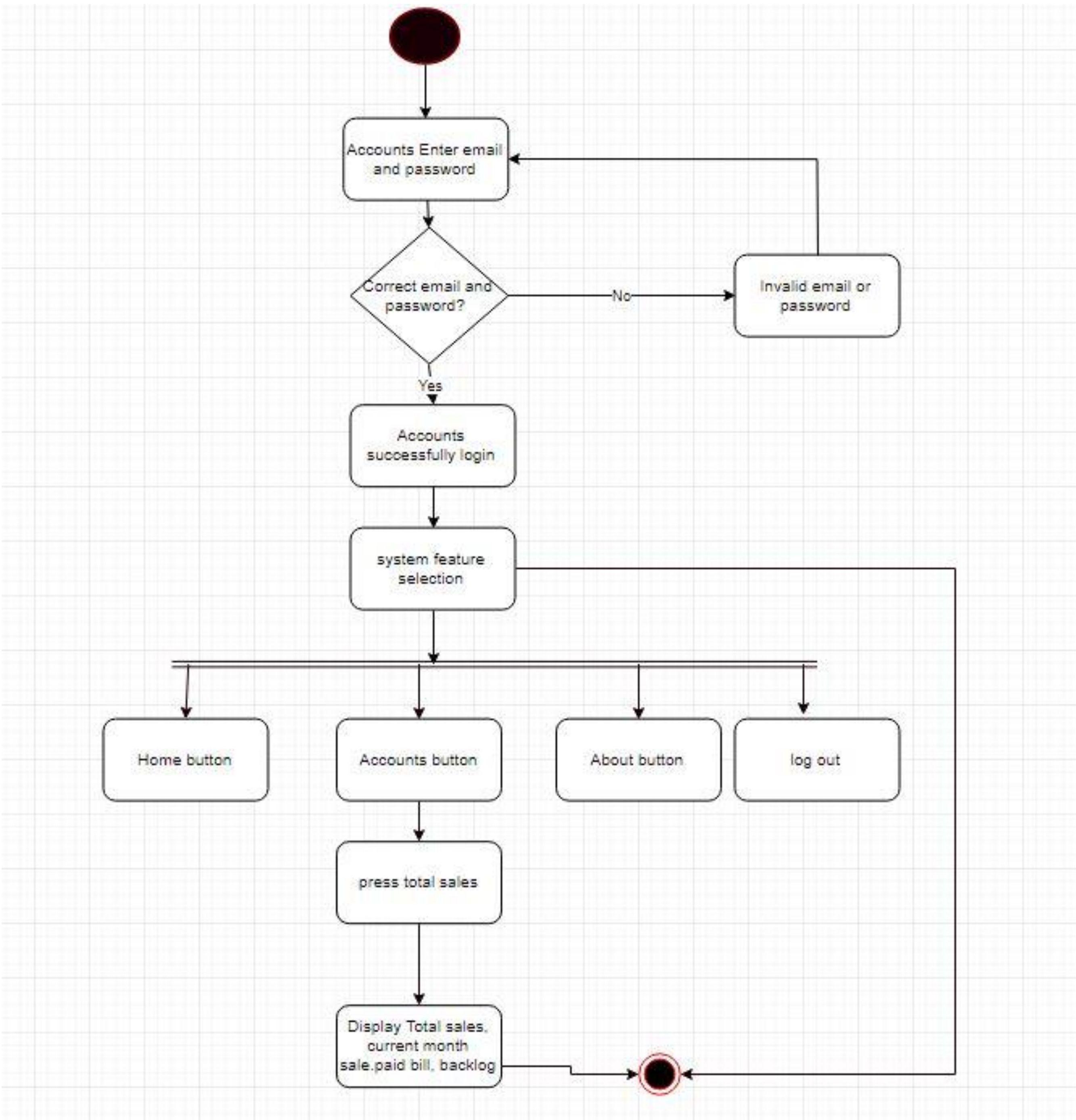


Figure 3.10: Admin can view Accounts officer can view total sales statements for “DBN-Online Manager”

3.2.10 Admin can manage bill collection of clients

Accounts officer login first with proper email and password. Than go to accounts button and press bill collection sub-button. Show all clients in current month. Select a client and press details and checked ispaid button. Saved the information and done.

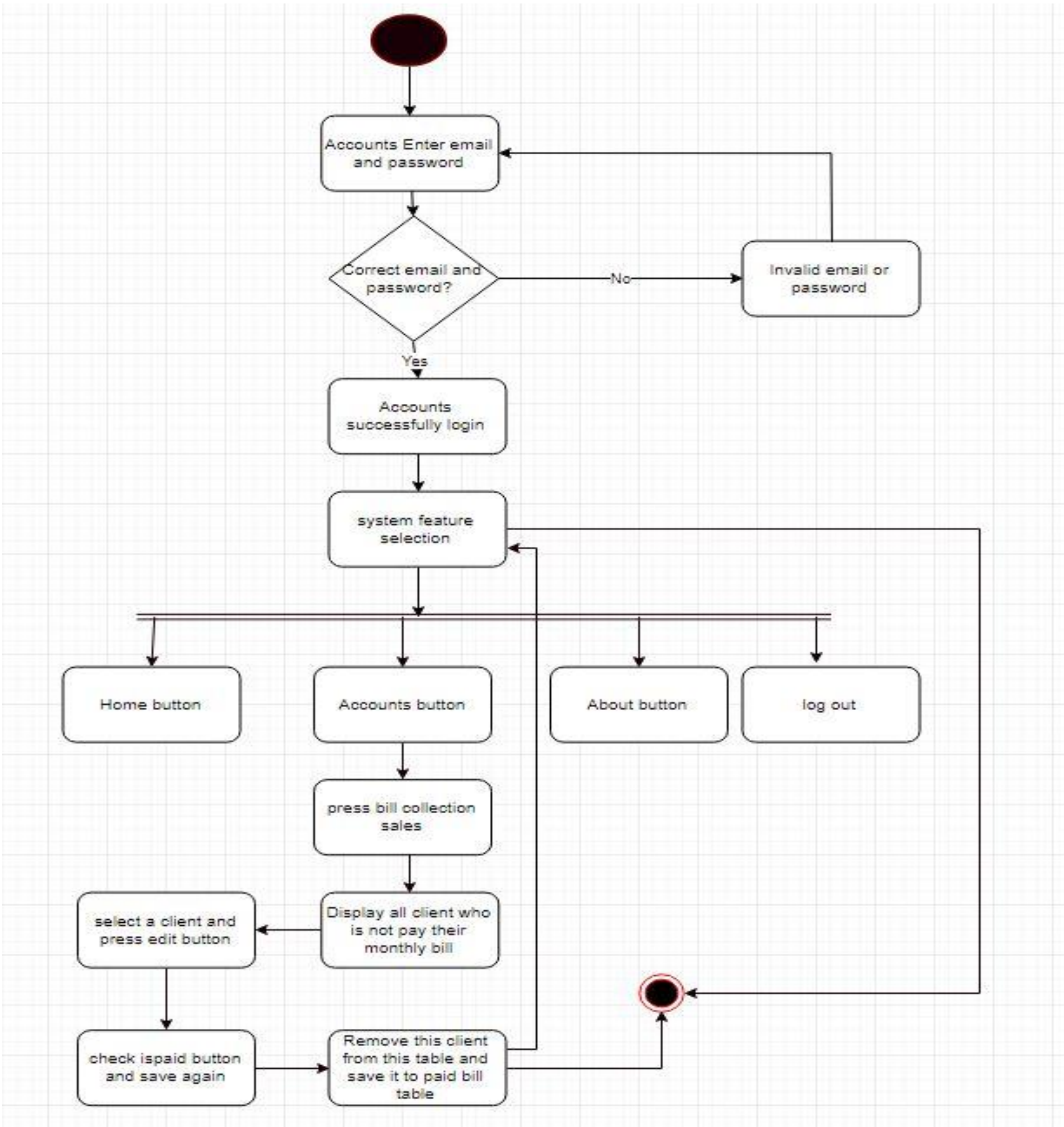


Figure 3.12: Admin can manage bill collection of clients for “DBN-Online Manager”

3.2.11 Admin can view paid bill clients information

Accounts officer login first with proper email and password. Than go to accounts button and press paid bill sub-button. Finally accounts officer can view the clients who already paid their bill.

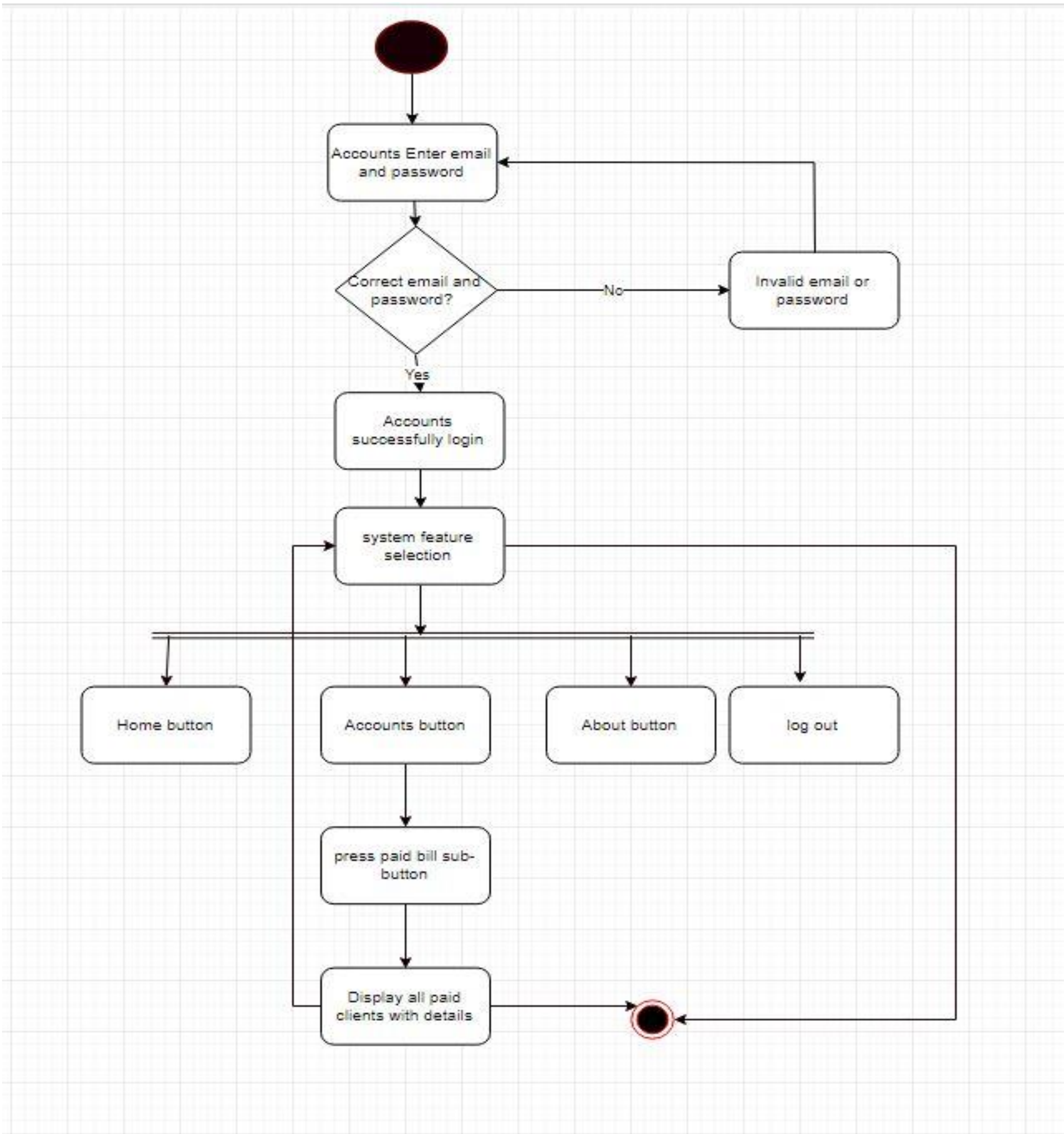


Figure 3.13: Admin can view paid bill clients information for "DBN-Online Manager"

3.2.12 Accounts officer can view Backlog client's information.

Accounts officer login first with proper email and password. Than go to accounts button and press backlog sub-button. Finally accounts officer can view the clients who does not paid their bill in previous month.

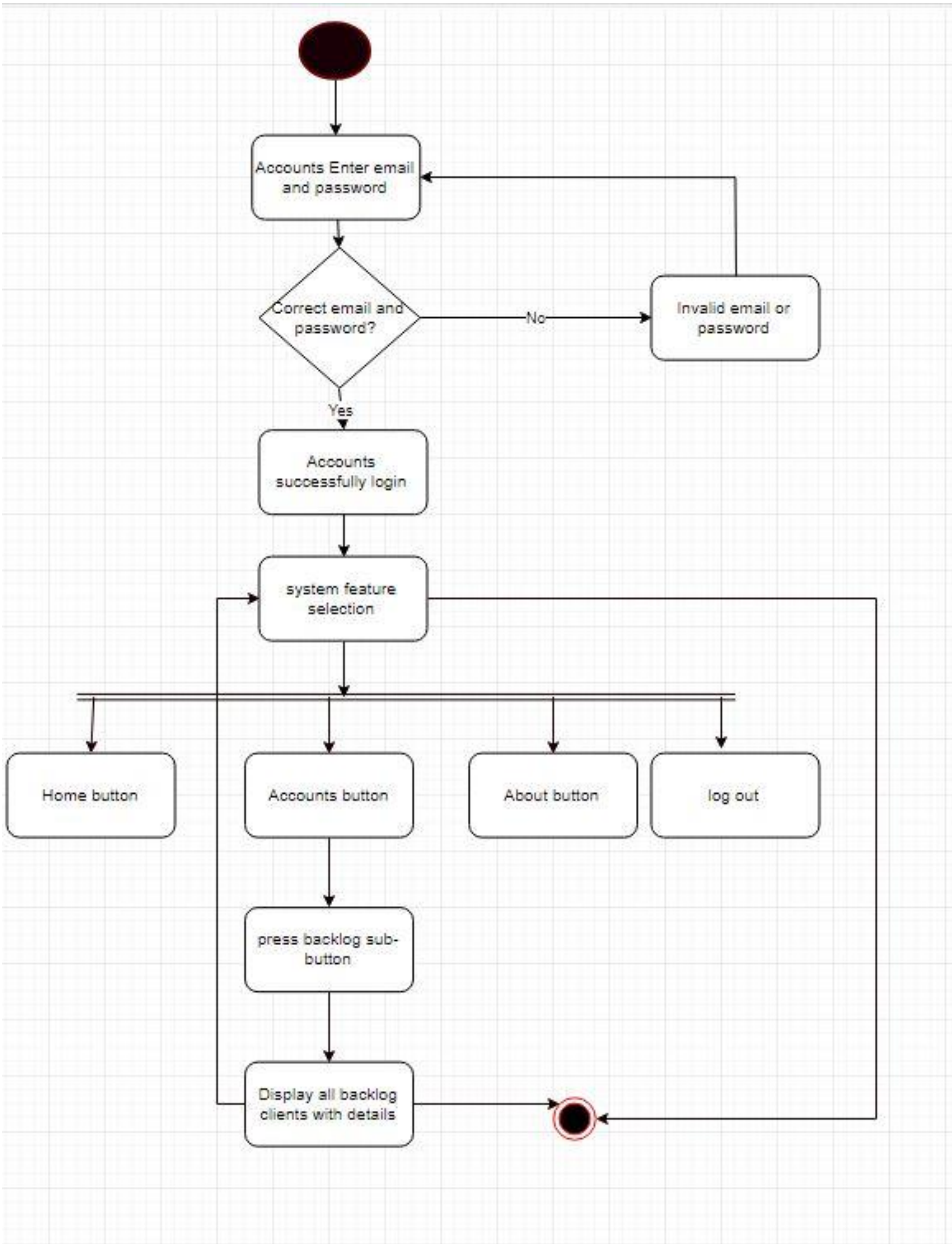


Figure 3.14: Accounts officer can view Backlog client's information for "DBN-Online Manager"

3.2.13 Accounts officer can view Revenue

Accounts officer login first with proper email and password. Than go to accounts button and press revenue sub-button. Finally accounts officer can view the current month revenue.

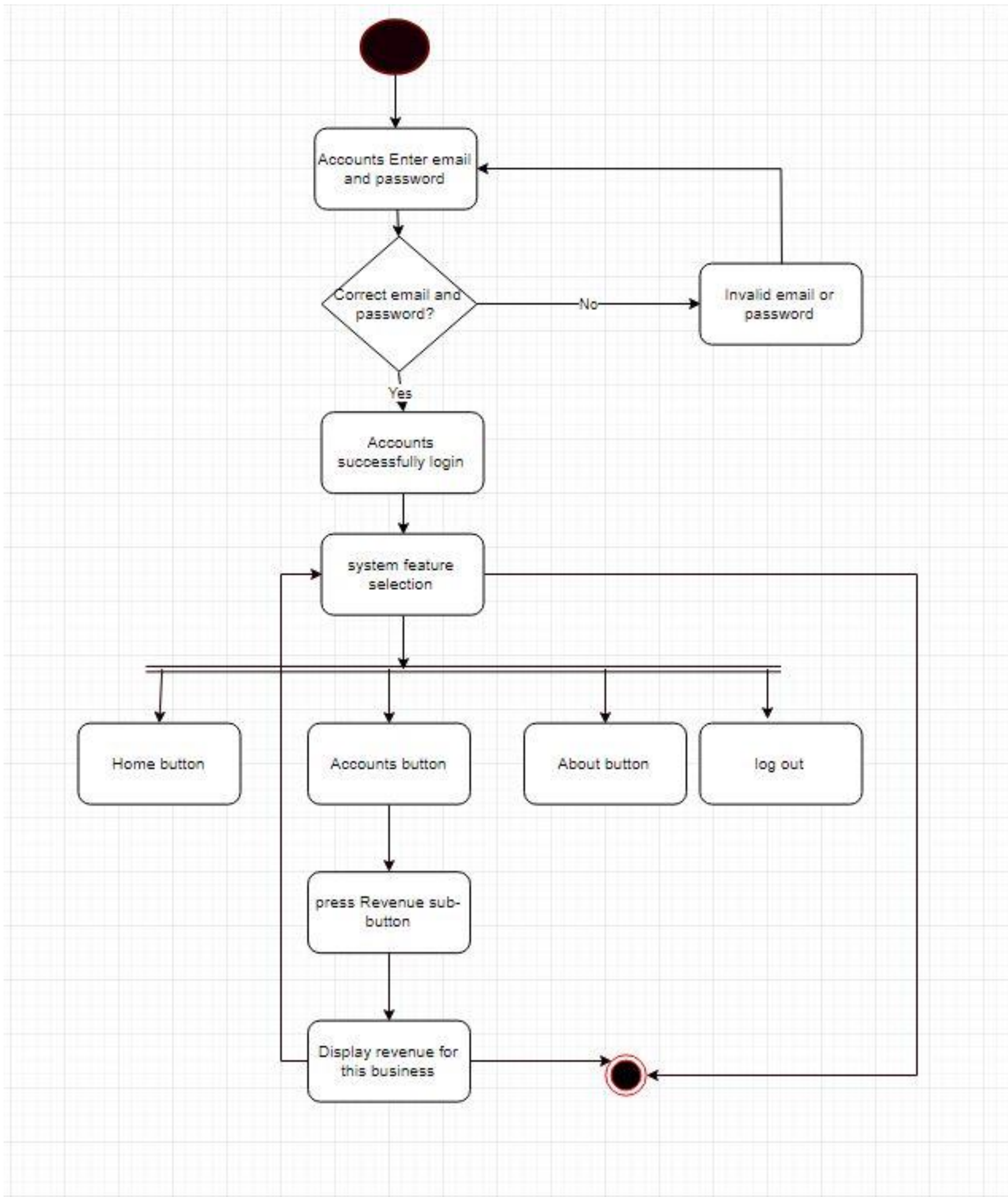


Figure 3.15: Accounts officer can view Revenue for “DBN-Online Manager”

3.2.14 Accounts officer can generate bill for every month in first time.

Accounts officer login first with proper email and password. Than go to accounts button and press generate bill sub-button. Finally accounts officer can generate current month accounts for collect bill.

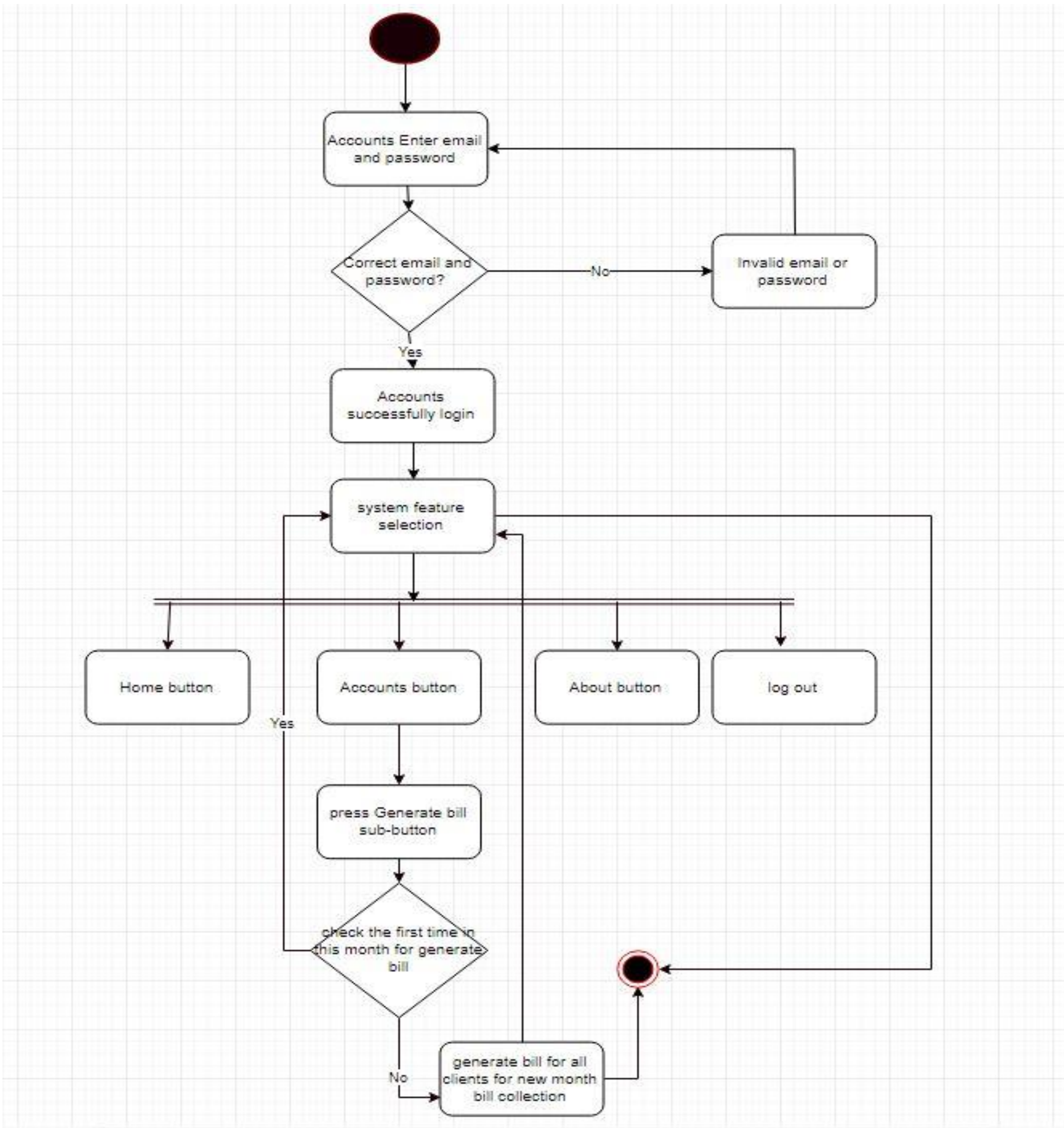
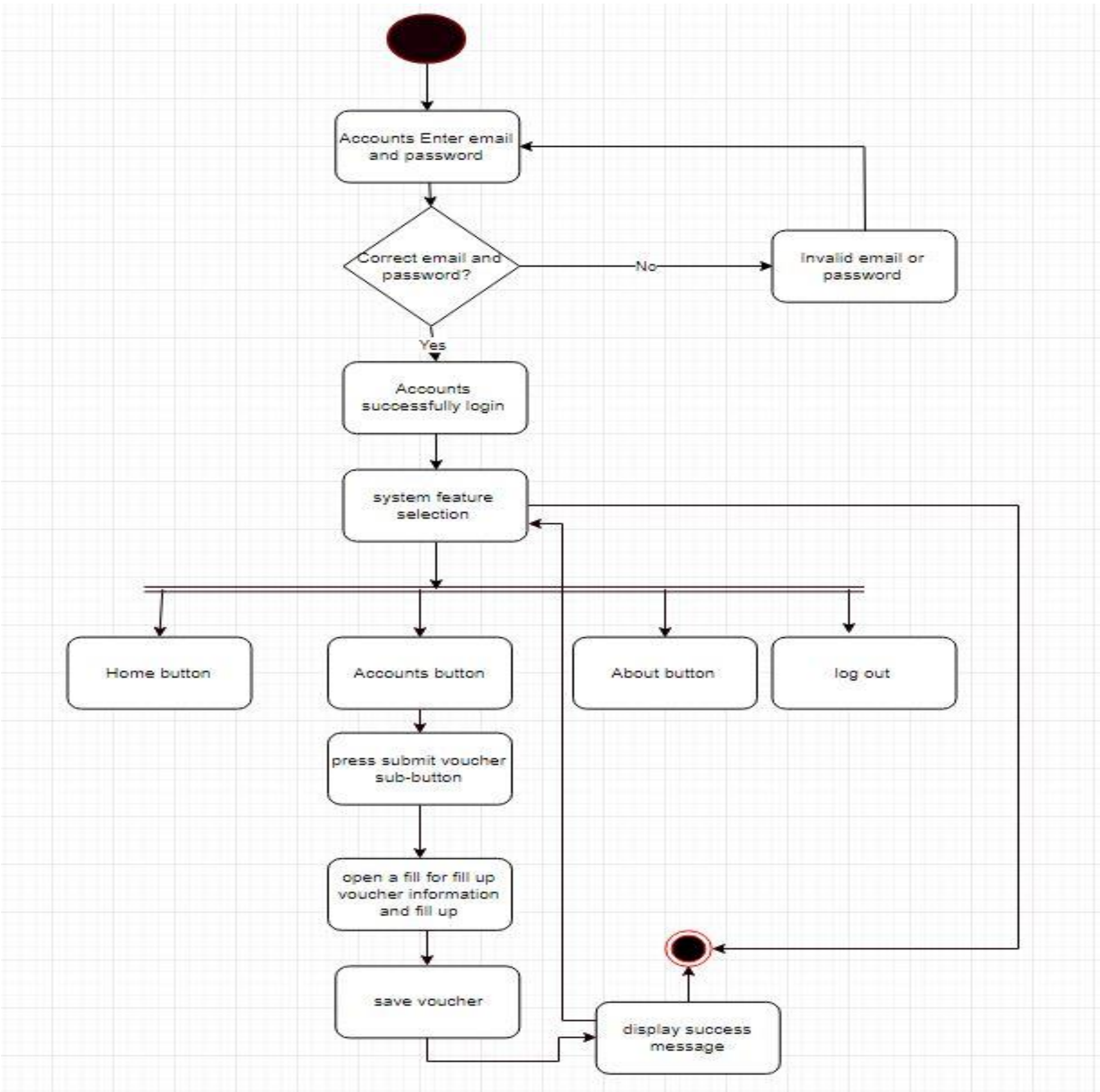


Figure 3.16: Accounts officer can generate bill for every month in first time.
for “DBN-Online Manager”

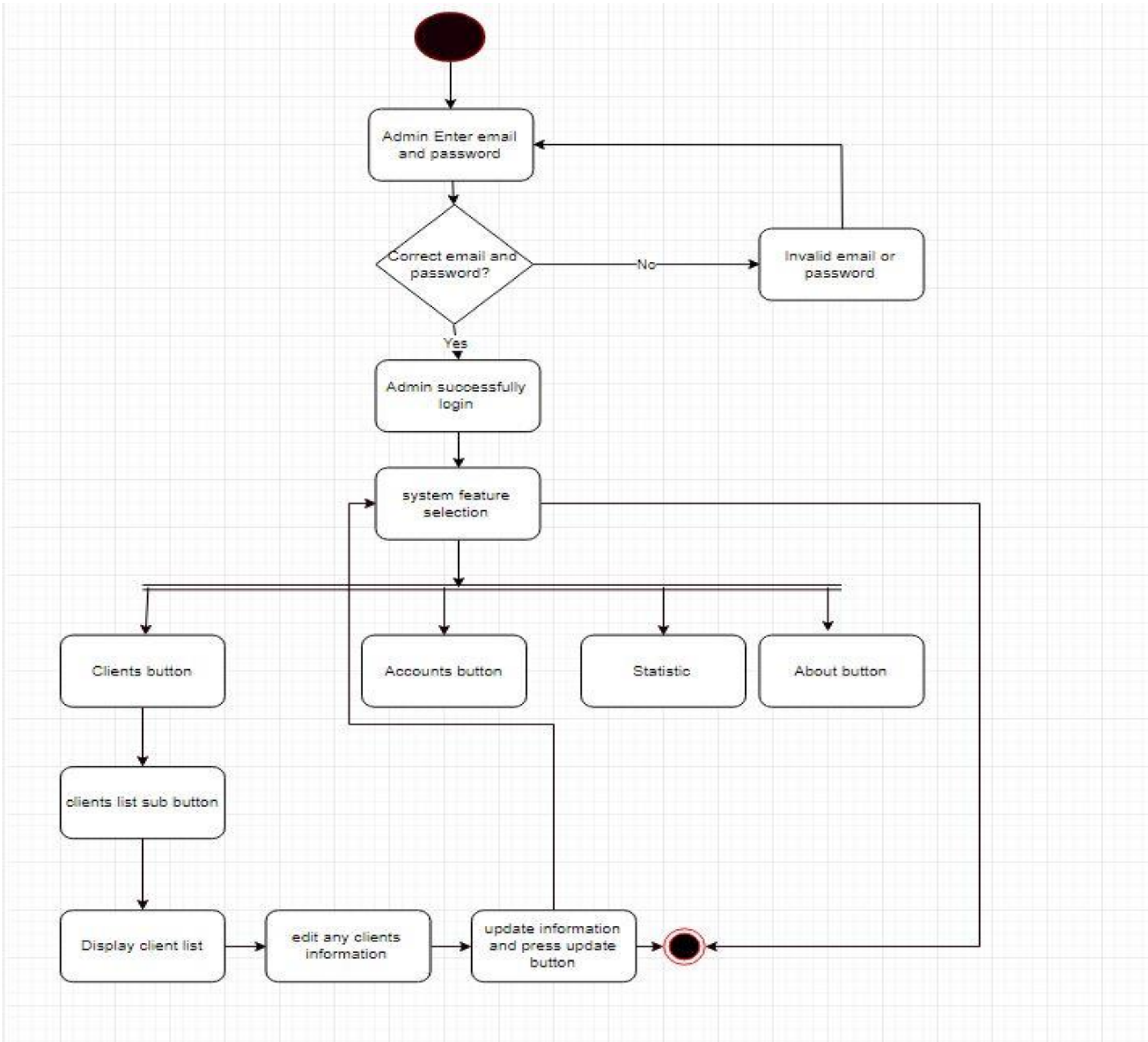
3.2.15 Accounts officer can manage voucher

Accounts officer login first with proper email and password. Than go to accounts button and press submit voucher sub-button. Show a fill for fill up for add a voucher. Fill up the table and submit voucher. Then add the information as a voucher.



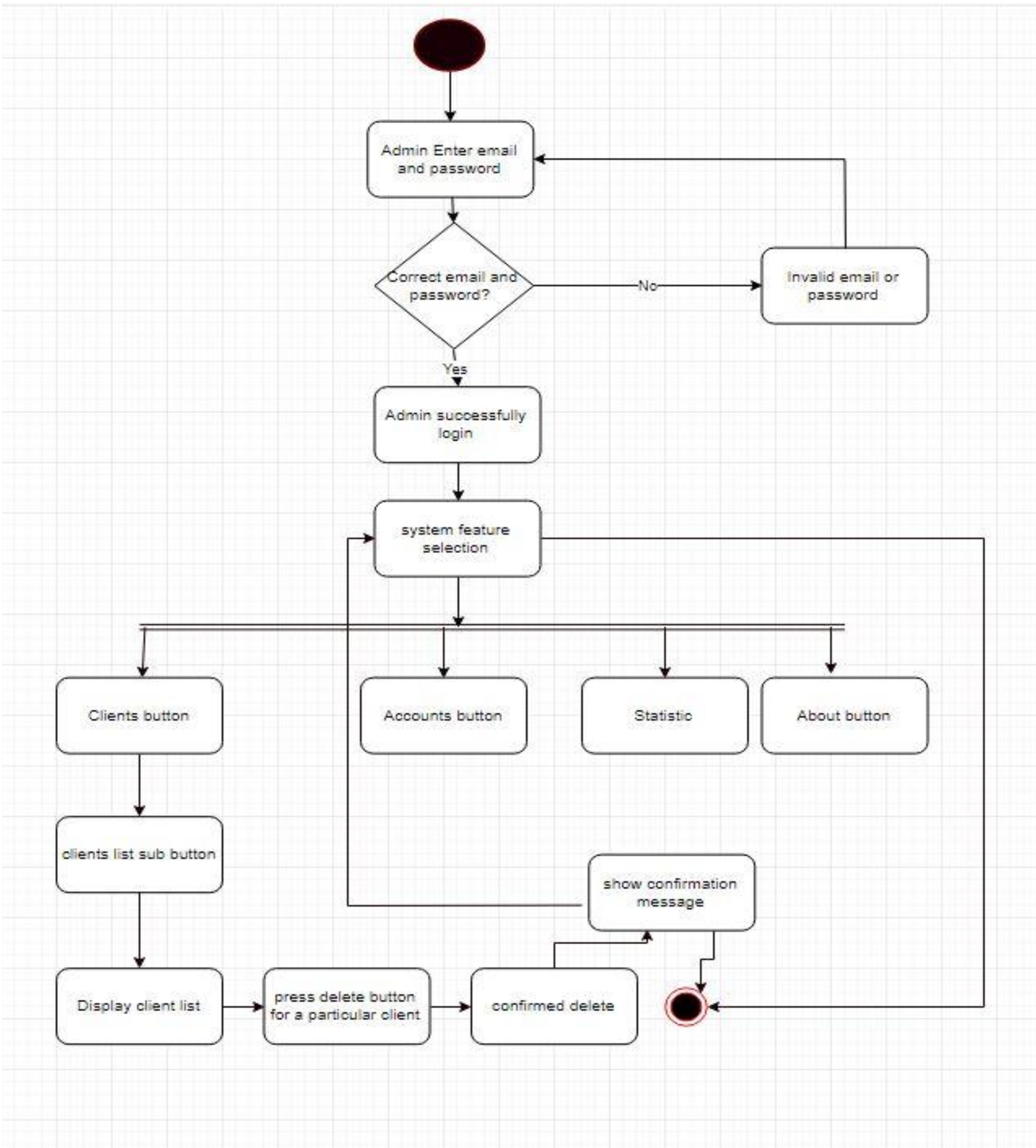
3.2.16 Admin can edit any client information

Admin go to client feature and go to clients list sub-button. When show clients list then press edit button and show a fields for edit client with full information. Update information and press update button. Finally show confirmation message.



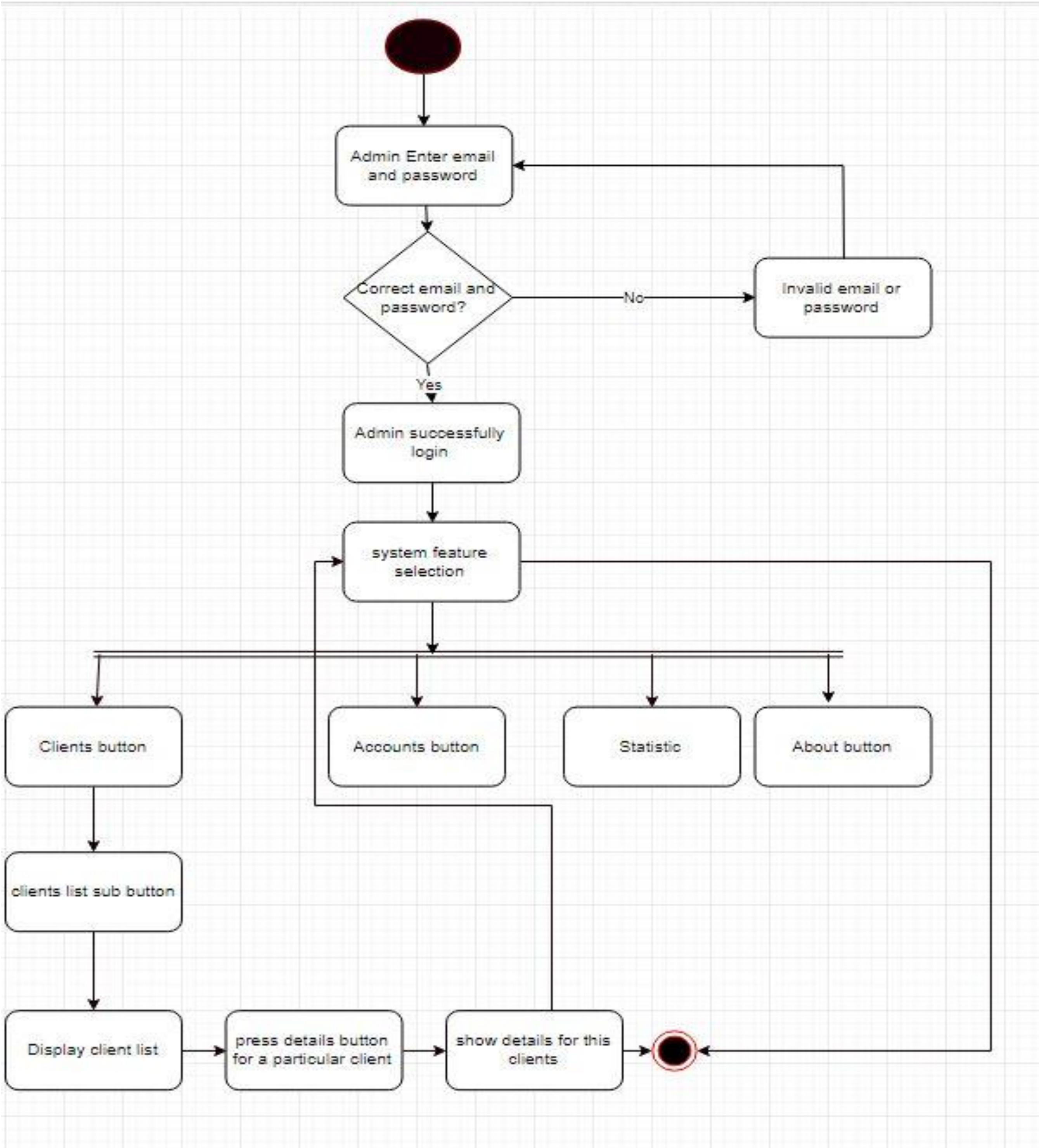
3.2.17 Admin can delete any client information with this client

Admin go to client button and go to clients list sub-button. When show clients list then press delete button and show delete confirmation message. And finally show success message.



3.2.18 Admin can view details of any client

Admin first login properly. Than go to press clients list sub-button under the client's button. Admin can view all clients information in a table. Every client information have details button. If admin press details button than admin can view the details for this client.



3.3 Sequence Diagrams

Mainly sequence diagrams understand us how the data will be followed in any application.
Now we are going to show some sequence diagrams.

3.3.1 User login

Admin or Accounts officer enter the url and after successfully enter then enter login panel then input valid email and password. After successfully enter press login than if it's correct then login authorize panel.

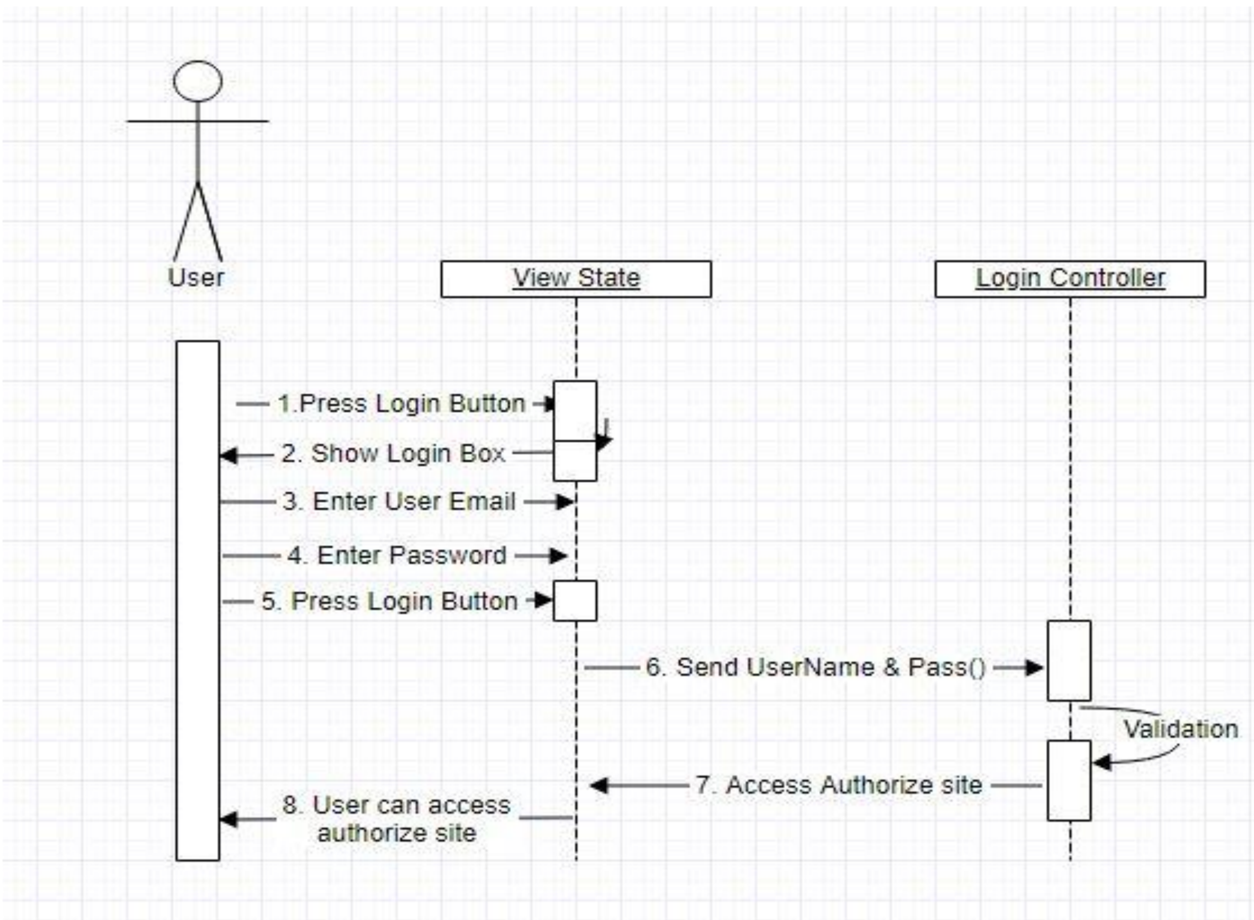


Figure 3.22: Sequence Diagram for User login of "DBN-Online Manager"

3.3.2 Admin can view all clients list

Admin officer go to clients button than press clients list sub-button. Than admin officer can show the clients information in a tabular format.

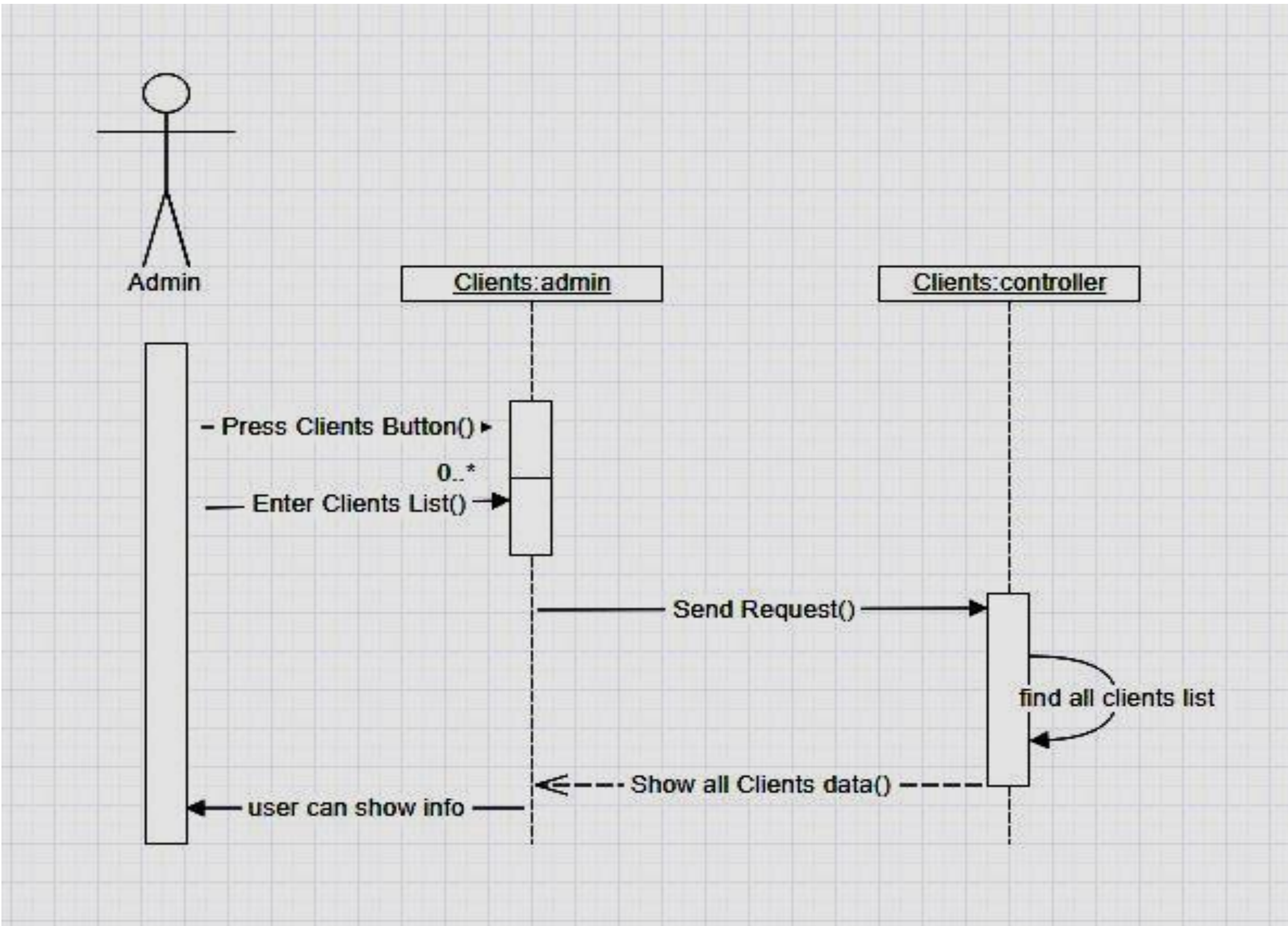


Figure 3.23: Sequence Diagram for Admin can view all clients list of "DBN-Online Manager"

3.2.3 Create New

Admin go to client feature and go to clients list sub-button. When show clients list then press create new button and show a fields for add clients. Then fill up all form and press save button. Finally show confirmation button.

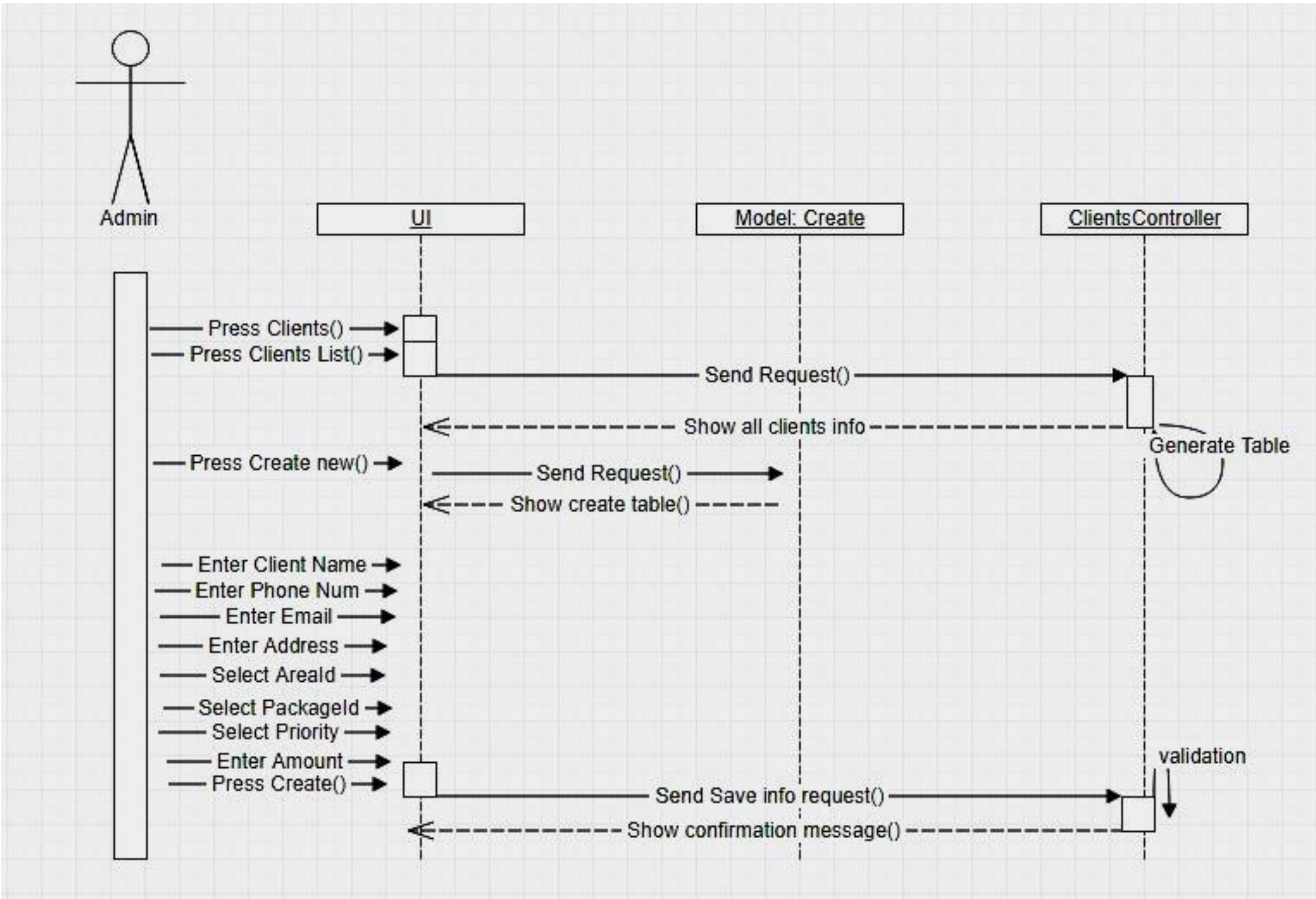


Figure 3.24: Sequence Diagram for Create New for "DBN-Online Manager"

3.3.4 Admin can view clients sort by amount/priority

Admin first login properly. Than go to clients button and press Sort by amount/priority. Admin can view all clients based on big amount/priority to low amount/priority.

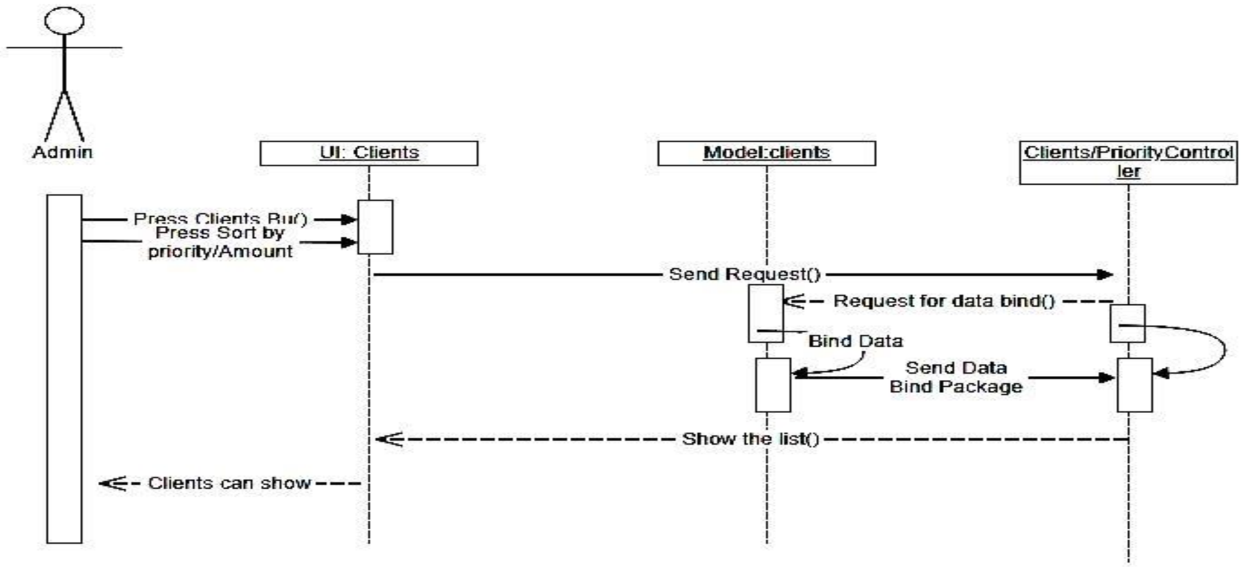
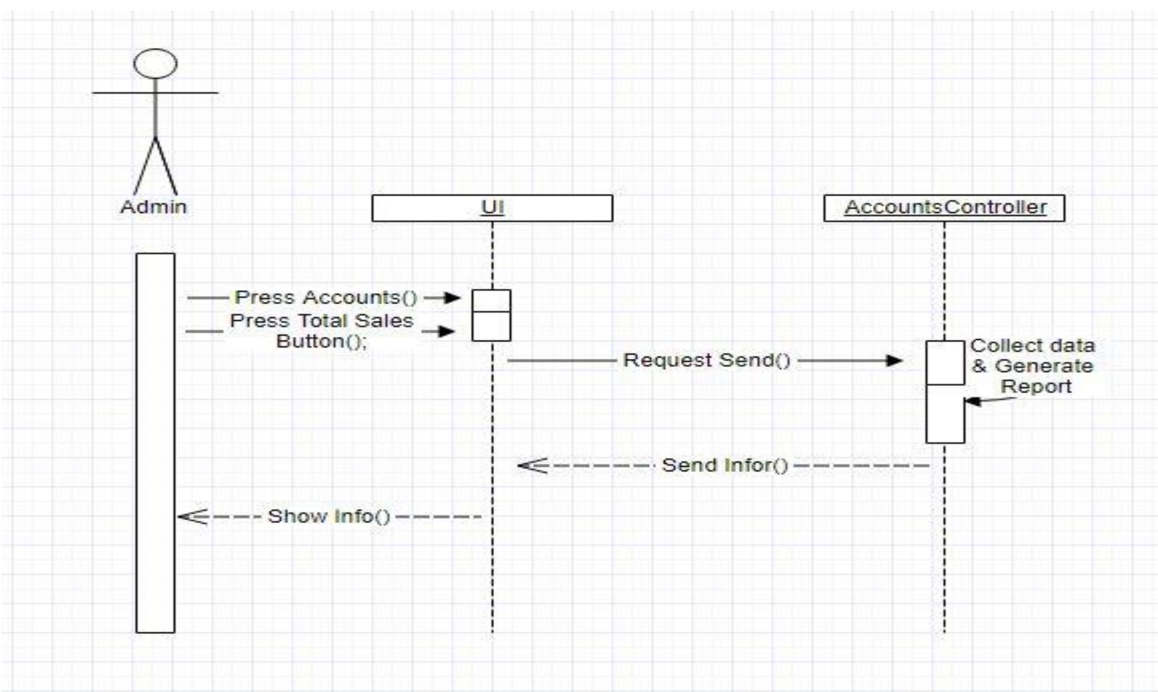


Figure 3.25: Sequence Diagram for Admin can view clients sort by amount/priority for "DBN-Online Manager"

3.3.5 Admin can view total sale statement of accounts

Accounts officer login first with proper email and password. Than go to accounts button and press total sales sub-button. Finally accounts officer can view total sales, current month sales, paid bill, due bill, and backlog.



3.3.6 Admin can view Revenue of this business

Admin go to accounts button and press revenue sub-button. Than show the business current revenue.

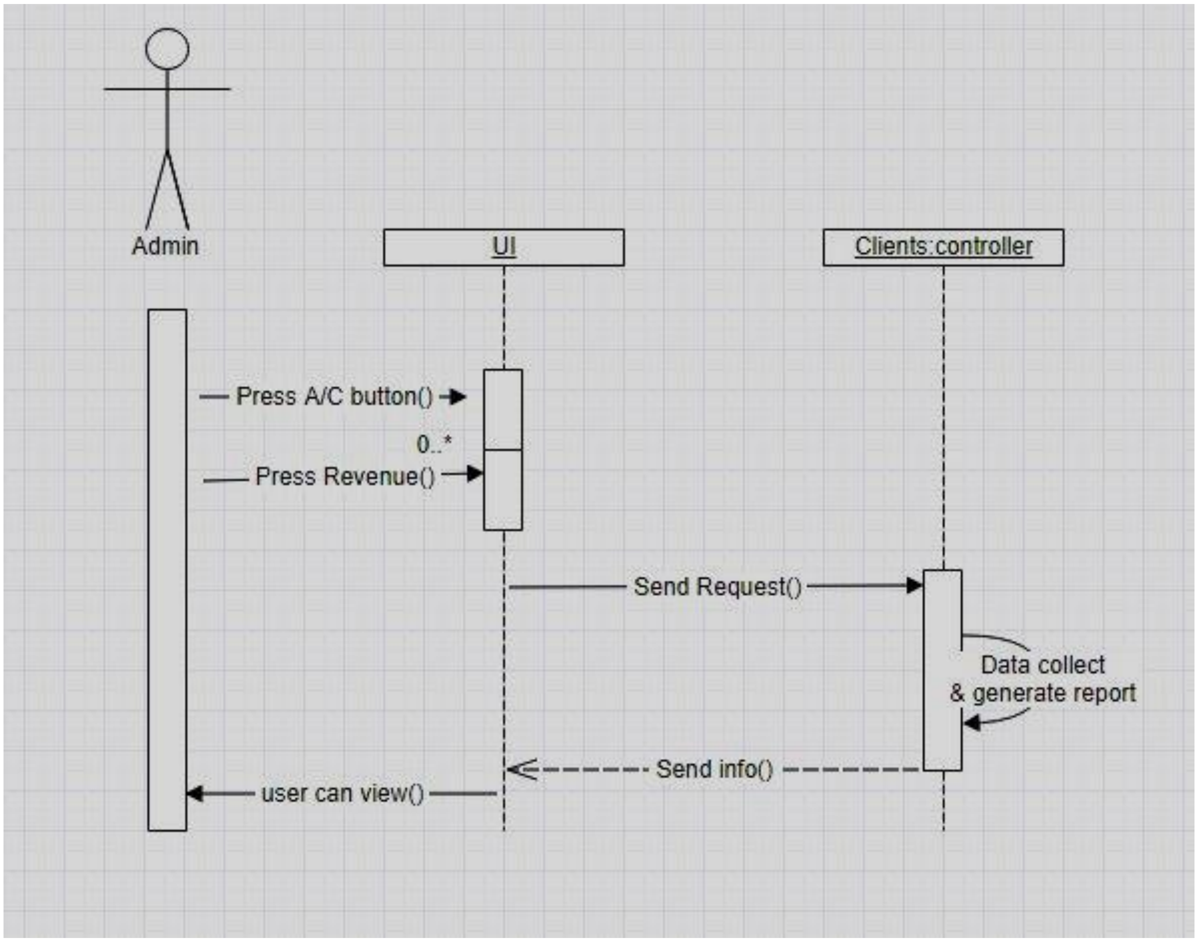


Figure 3.27: Sequence Diagram for Admin can view Revenue of this business for "DBN-Online Manager"

3.3.7 Accounts officer can view total sales statements

Accounts officer login first with proper email and password. Than go to accounts button and press total sales sub-button. Finally accounts officer can view total sales, current month sales, paid bill, due bill, and backlog.

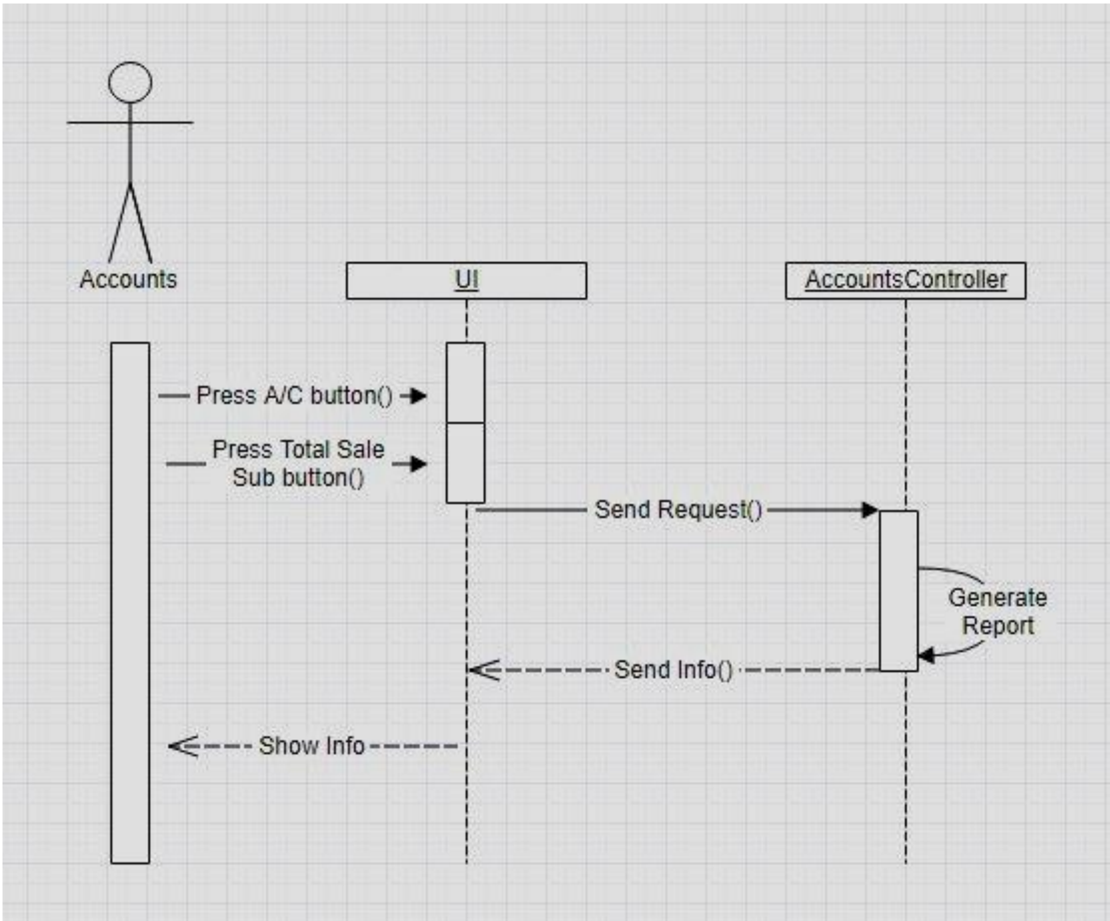


Figure 3.28: Sequence Diagram for Accounts officer can view total sales statements for “DBN-Online Manager”

3.3.8 Admin can manage bill collection of clients

Accounts officer login first with proper email and password. Than go to accounts button and press bill collection sub-button. Show all clients in current month. Select a client and press details and checked ispaid button. Saved the information and done.

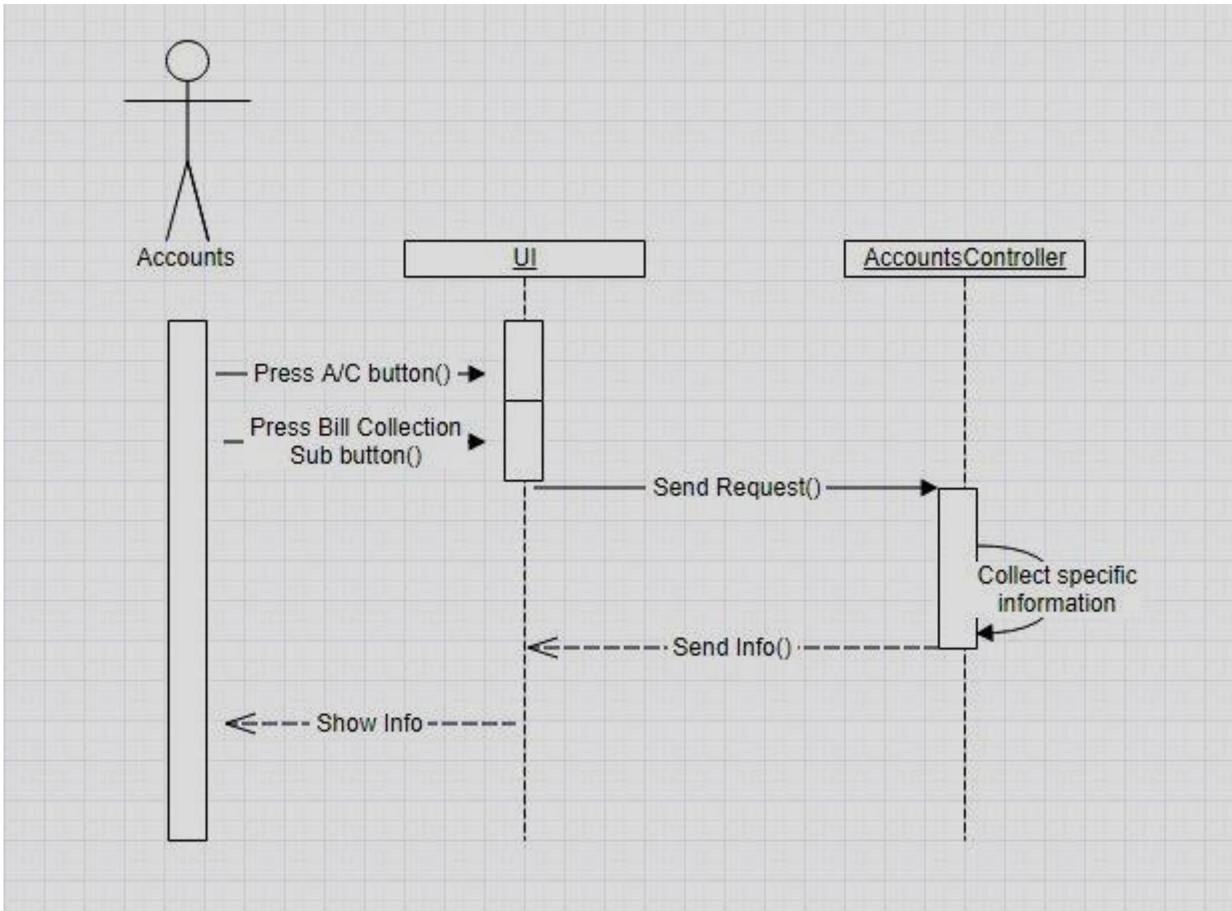
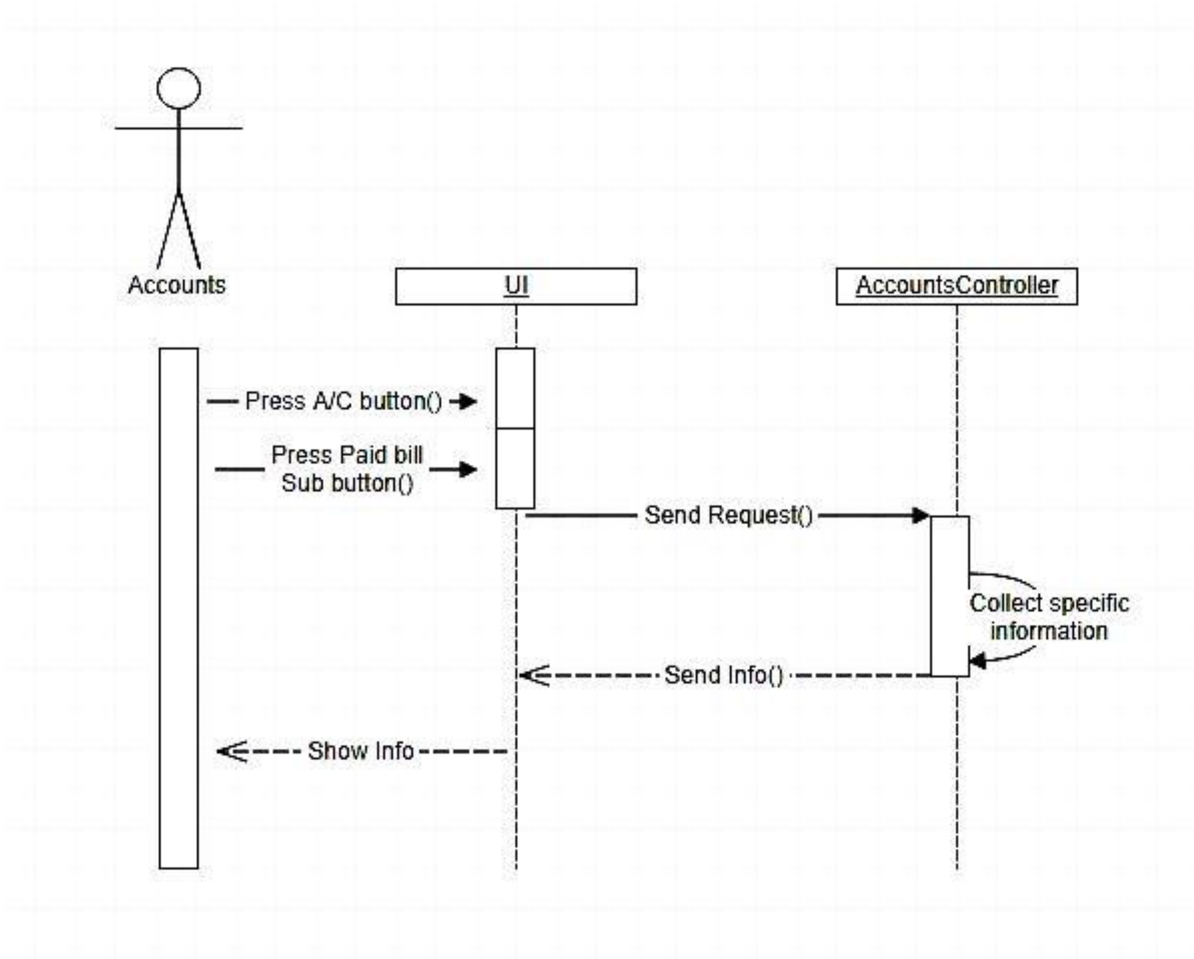


Figure 3.29: Sequence Diagram for Admin can manage bill collection of clients for "DBN-Online Manager"

3.3.9 Admin can view paid bill clients information

Accounts officer login first with proper email and password. Than go to accounts button and press paid bill sub-button. Finally accounts officer can view the clients who already paid their bill.



gure 3.30: Sequence Diagram for Admin can view paid bill clients information for “DBN-Online Manager”

3.3.10 Admin can pay bill for a particular client

Accounts officer login first with proper email and password. Than go to accounts button and press paid bill sub-button. Finally accounts officer can view the clients who already paid their bill.

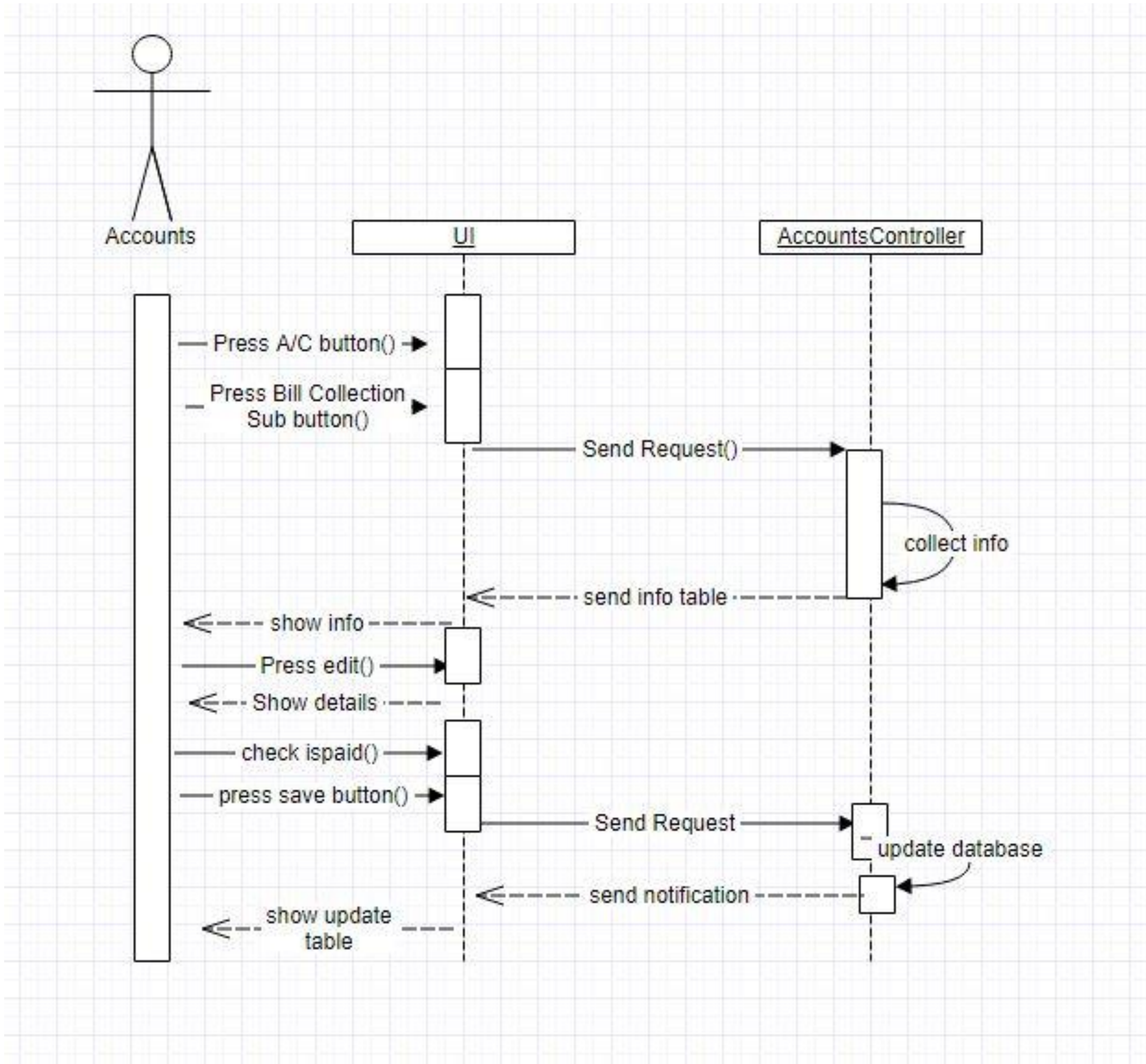


Figure 3.31: Sequence Diagram for Admin can pay bill for a particular client for "DBN-Online Manager"

3.3.11 Accounts officer can view Backlog client's information.

Accounts officer login first with proper email and password. Than go to accounts button and press backlog sub-button. Finally accounts officer can view the clients who does not paid their bill in previous month.

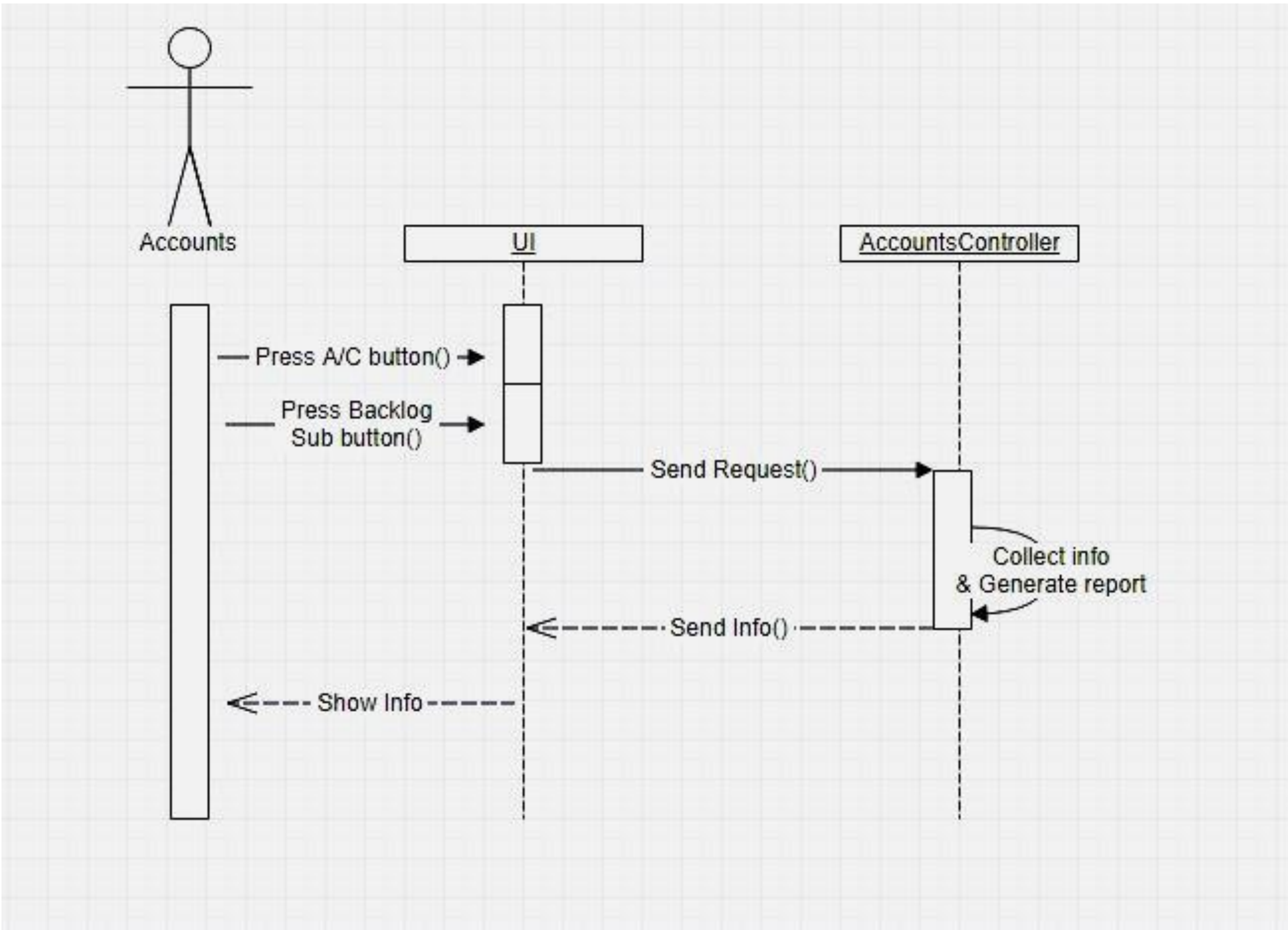


Figure 3.32: Sequence Diagram for Accounts officer can view Backlog client's information for "DBN-Online Manager"

3.3.12 Accounts officer can view Revenue

Accounts officer login first with proper email and password. Than go to accounts button and press revenue sub-button. Finally accounts officer can view the current month revenue.

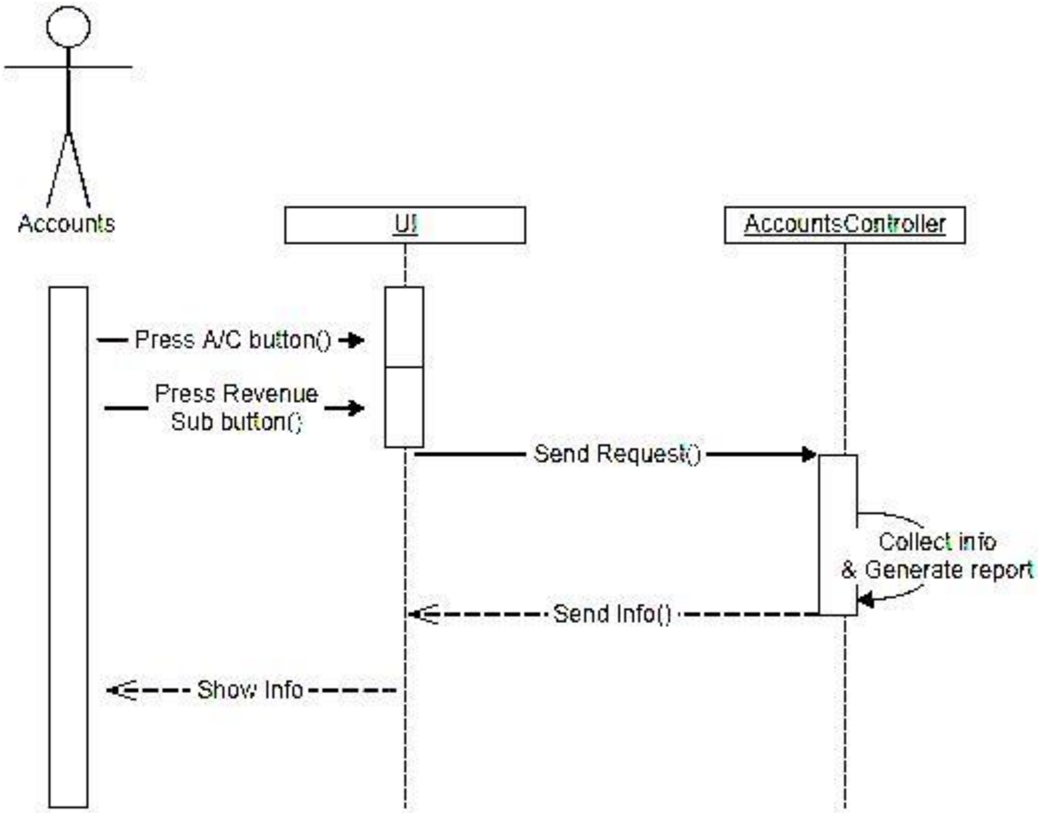


Figure 3.33: Sequence Diagram for Accounts officer can view Revenue for “DBN-Online Manager”

3.3.13 Accounts officer can collect backlog.

Accounts officer login first with proper email and password. Than go to accounts button and press backlog sub-button. Finally accounts officer can view the clients who does not paid their bill in previous month. Than collect backlog and delete this collect who paid their backlog

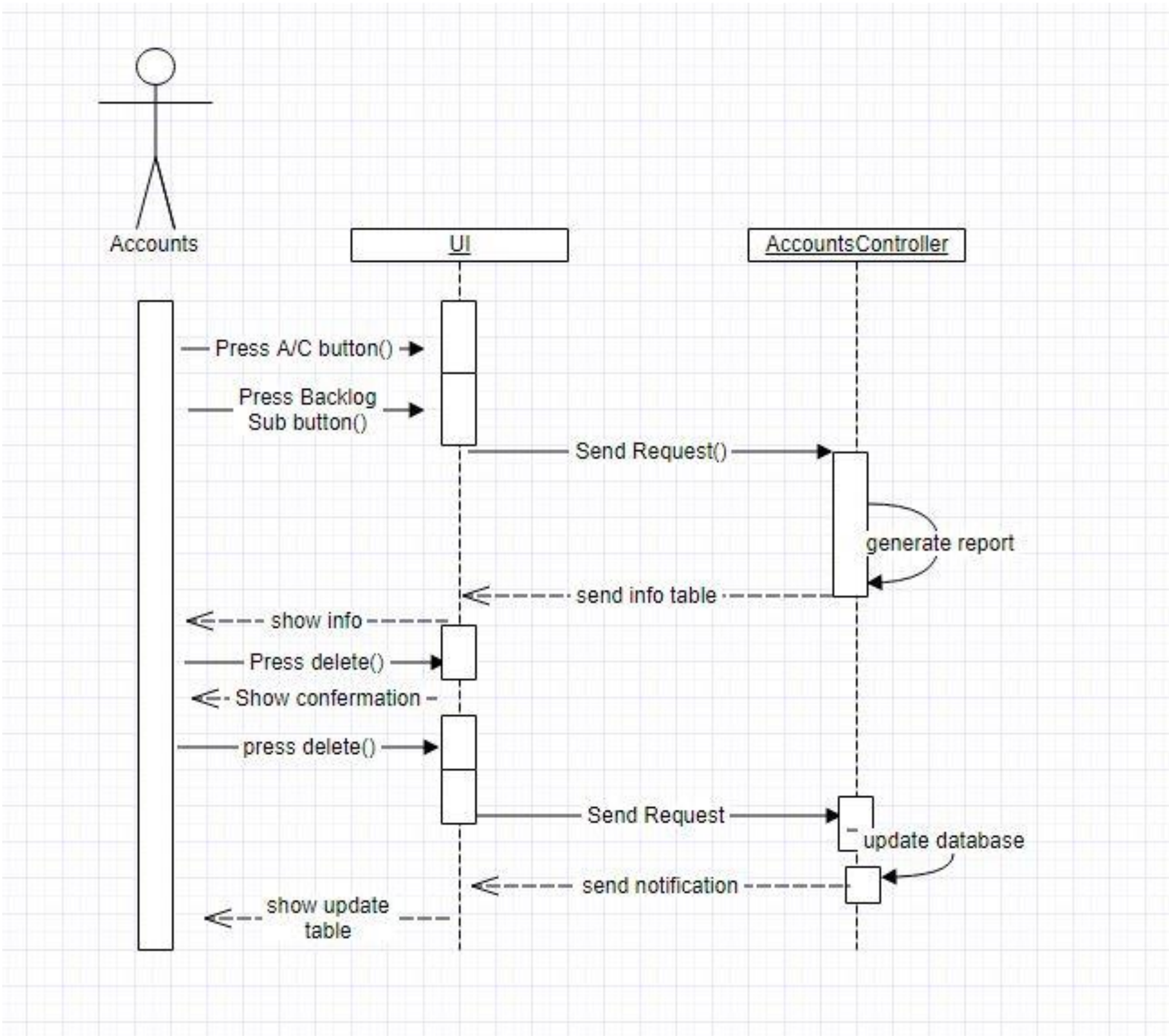


Figure 3.34: Sequence Diagram for Accounts officer can collect backlog for "DBN-Online Manager"

3.3.14 Accounts officer can generate bill for every month in first time.

Accounts officer login first with proper email and password. Than go to accounts button and press generate bill sub-button. Finally accounts officer can generate current month accounts for collect bill.

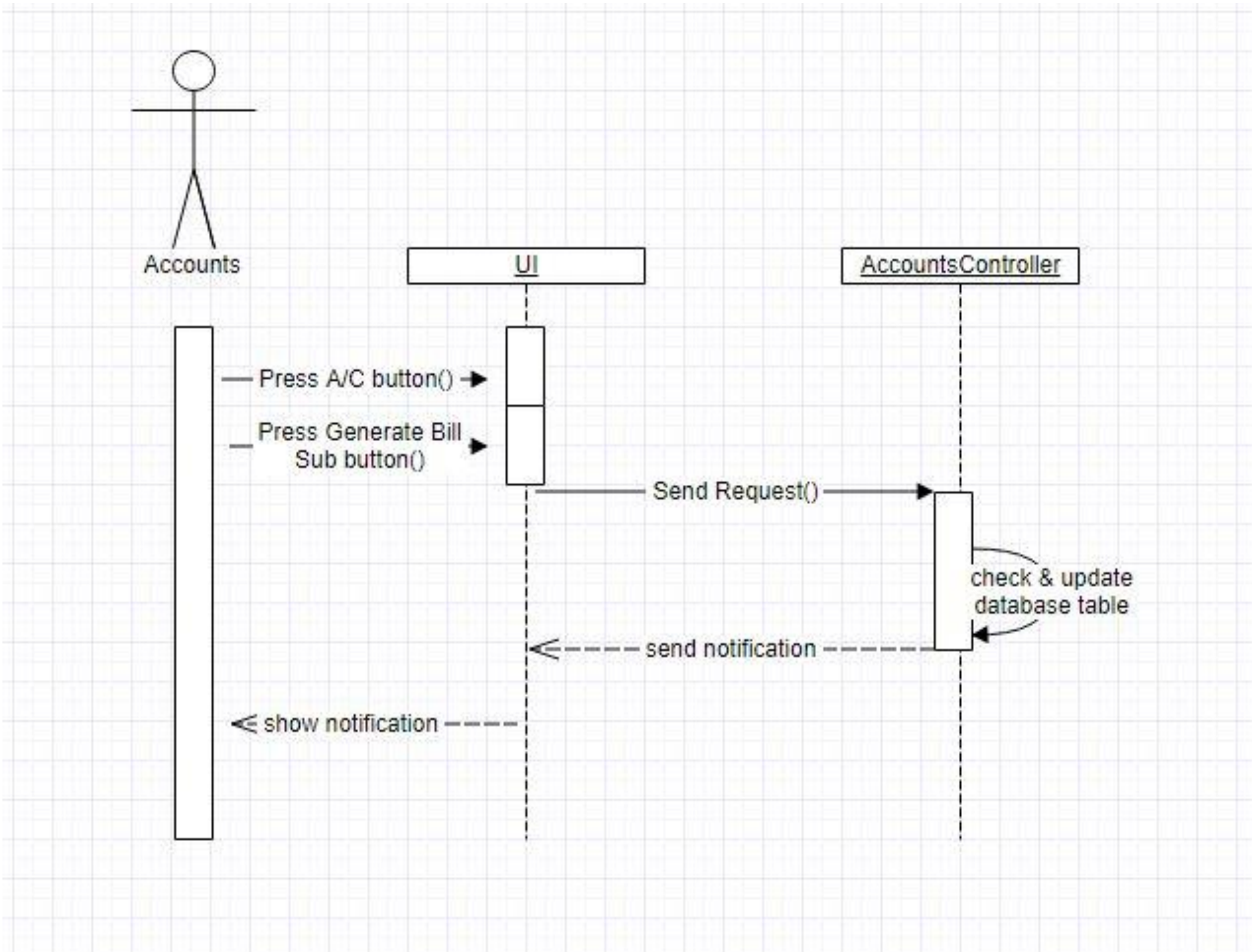


Figure 3.35: Sequence Diagram for Accounts officer can generate bill for every month in first time for "DBN-Online Manager"

3.3.15 Accounts officer can manage voucher

Accounts officer login first with proper email and password. Than go to accounts button and press submit voucher sub-button. Show a fill for fill up for add a voucher. Fill up the table and submit voucher. Then add the information as a voucher.

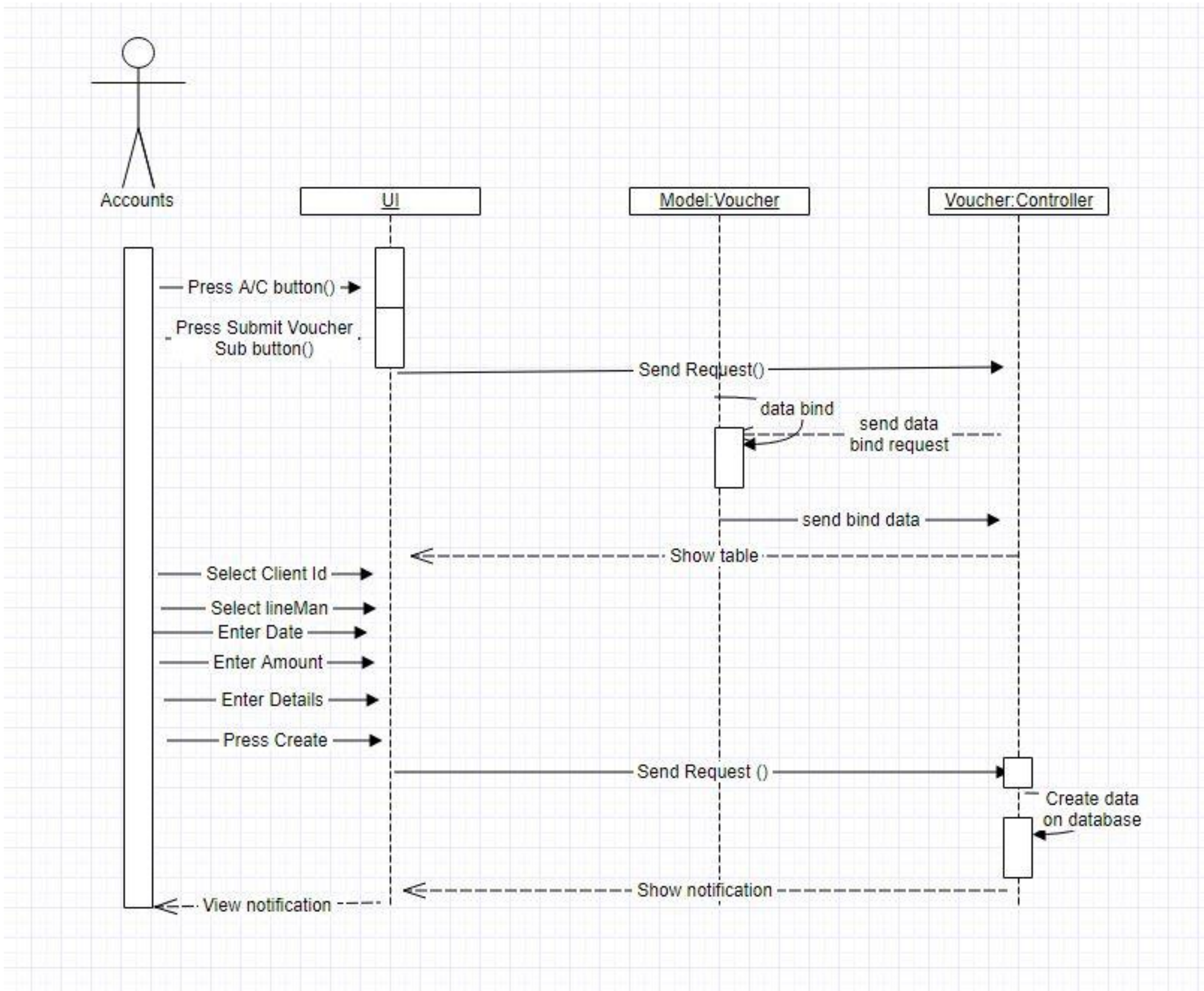


Figure 3.37: Sequence Diagram for Accounts officer can manage voucher for “DBN-Online Manager”

Chapter 4
System Design Specification

4.1 Development tools and technology

For developing software tools are must be needed. There are many different kinds of tools for developing software in different language. The software developer choose the comfortable tools which they can comfort to work. For my project development in asp.net MVC framework I use visual studio 2017 community version.

4.1.1 User Interface Technology

I use jQuery for validation using JavaScript, Bootstrap for frontend development and Entity framework for database design in visual studio 2017 community. I use canvashjs for data graphical view.

4.1.1.2 JQuery UI

JQuery is for JavaScript library which uses for javaScript core programming language for design web frontend development. It also help the client site helper which make sure the over hit form database. The other main task for javascript is validation without fulfillment system term and condition. AJAX functionality which stands for Asynchronous JavaScript and XML. It is also a subset of JavaScript. By using AJAX no page reloading is required. It is also compatible with any browser like Google Chrome, Mozilla Firefox, Opera, Safari, Internet Explorer etc.

4.1.1.3 Programming Language

Developing software most important part is programming language for the software development. Because, the security, performance and some of other features are related of programming language. I use use jQuery for validation using JavaScript, Bootstrap for frontend development and Entity framework for database design in visual studio 2017 community. I use canvashjs for data graphical view.. And the server side programming language name is C# (asp.net-mvc). Which I applied asp.net MVC framework. Both of them are open source general purpose scripting language.

4.1.2 Implemented tools and platform

I said before that I use asp.net MVC entity framework. So, I selected visual studio 2017 community. For database design I use entity framework migration. For testing purpose I use google chorme for test frontend design and data passing.

4.1.2.1 Integrated Development Environment

IDE stands for Integrated Development Environment. Programmers write code on IDE. After that IDE provide the feature to execute the source code. For developing my web application, I have used one IDE. To develop my web version, I have used visual studio 2017 which is powered by Microsoft Company. It is a commercial IDE for cross platform environment. It is able to suggest code to the programmers also.

4.1.2.2 Web Server

We have used IIS server. It is a free and open source software to use. It can be used on one platform. It supports a wide range of features and most of them are already implemented as compiled modules. This module can extend the main features or core functionality.

4.1.2.3 Database Server

For developing our whole project, we have followed Relational Database Management System or RDBMS. And we find that local db provides the feature of RDBMS. So we should not have any issue to use visual studio local database. It is also very easy to use. It can also ensure the security, scalability, high performance and many things.

4.2.1 Class Diagram (Model class):

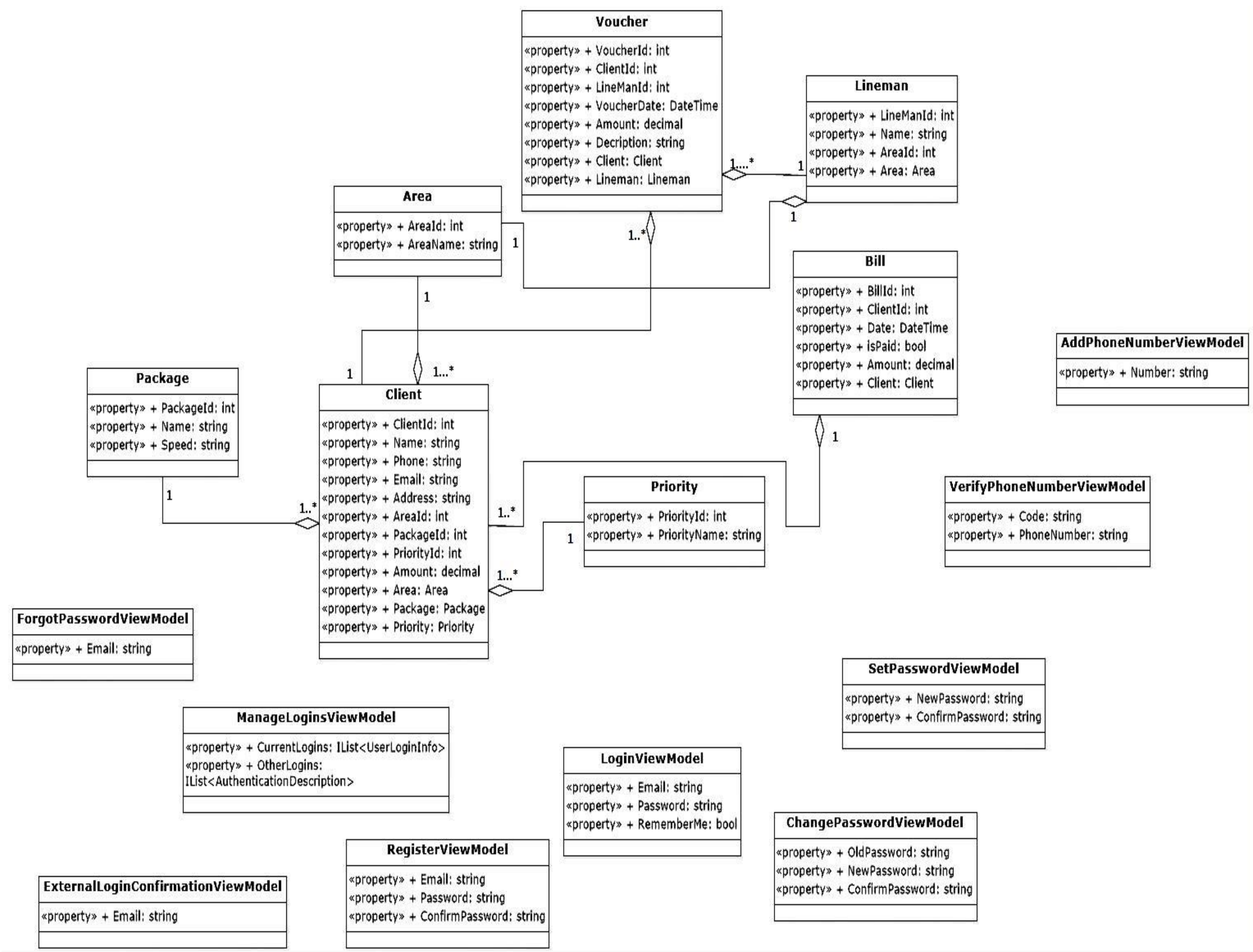


Figure 4.1: Class diagram (Model) of "DBN-Online Manger"

4.2.2 Class diagram (Controller class):

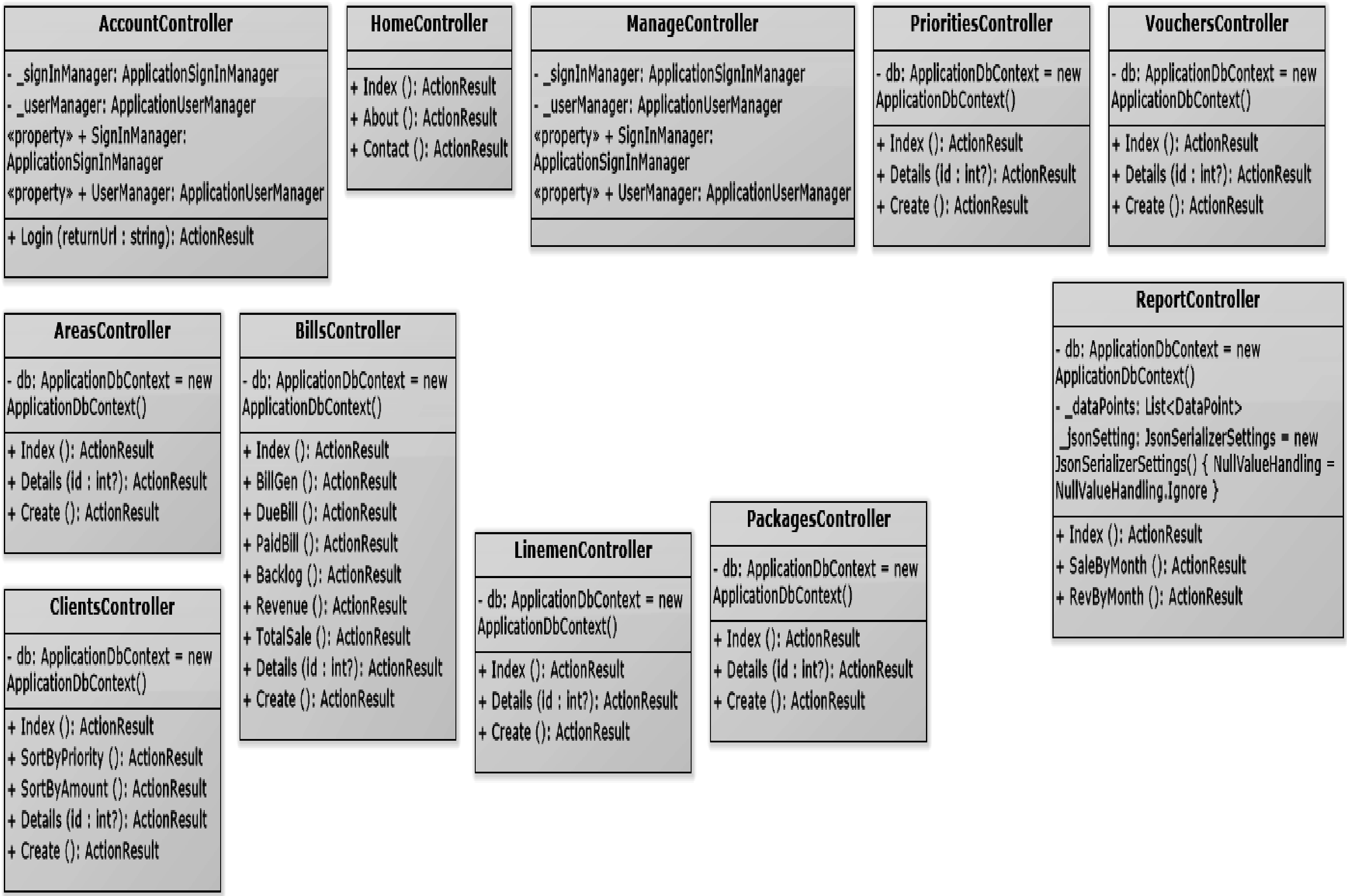


Figure 4.2: Class diagram (Controller) of “DBN-Online Manger”

4.3 Entity Relation Database diagram (ERD):

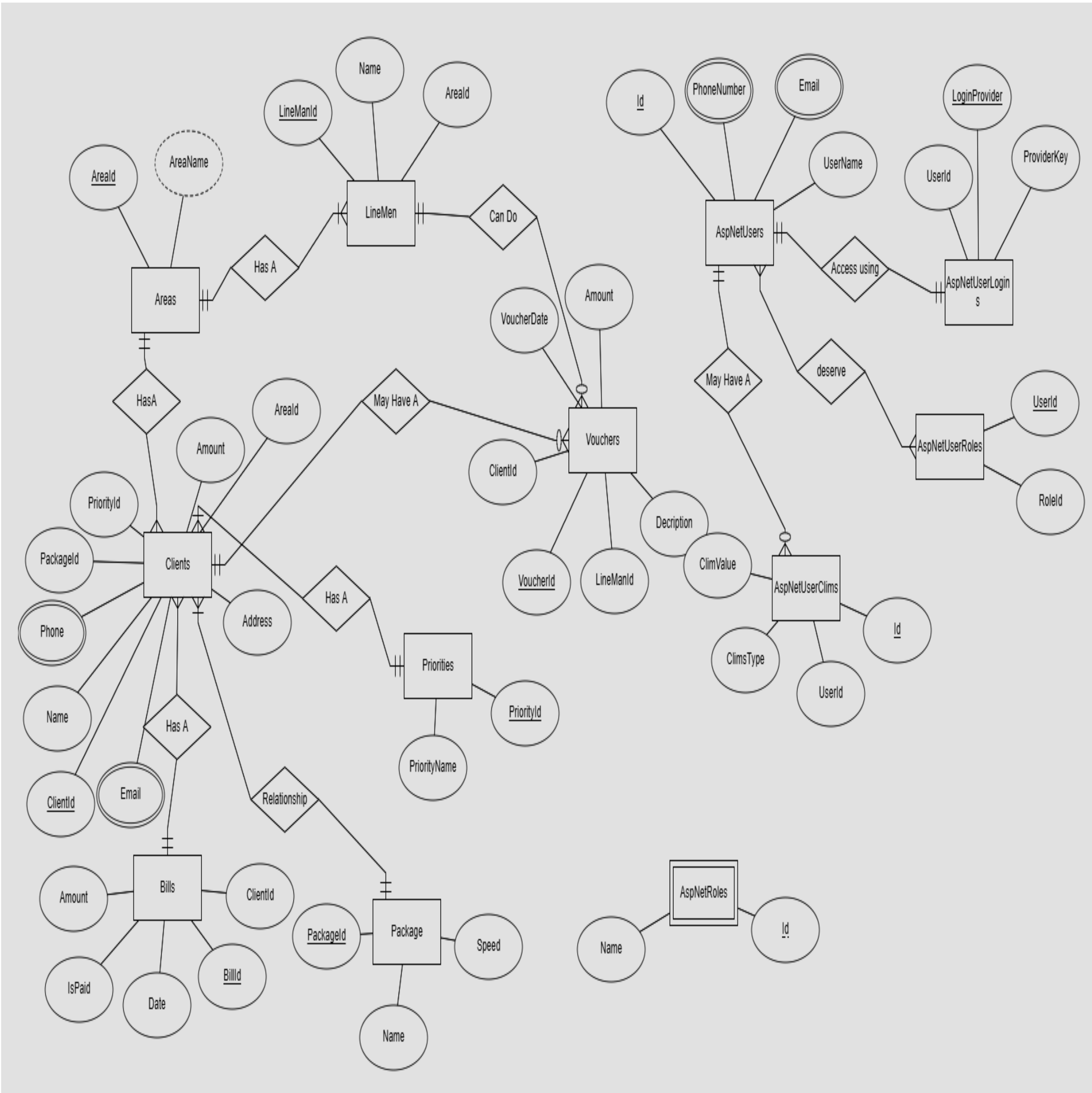


Figure 4.3: Entity Relation diagram of "DBN-Online Manger"

Chapter 5
System Test

5.1 Testing Features

Features of testing is considered to change the functional requirement to the application system for testing the project functional features, more than one testing process are follow for ensure the process work properly.
Almost every feature and functionality have different characteristics. Those are designed to make the application more useful, intuitive, reliable, secured, scalable, effective
and efficient.

5.1.1 Features to be tested

Features	Priority	Description
Login	**1**	**User must be authenticated by login.**
Logout	**1**	**Session must be destroyed after logout.**
Create new client	**1**	**Clients information must be save properly.**
Delete clients	**3**	**Selected clients information delete properly.**
Load database table	**1**	**Load database and generate query properly in time.**
Show clients details	**3**	**Show clients details properly.**
Show graphical view	**3**	**Graphs show correct report.**
Manage paid bill clients	**1**	**Generate ispaid query and delete this client and save in paid bill database table.**
Manage generate bill for new month accounts	**2**	**Generate bill for the first time in month properly never generate twice in same month.**
Manage submit voucher	**1**	**Voucher information save properly.**

Here,
3 = Low priority,
2 = Medium Priority,
1 = High priority.

5.2 Testing Strategy

For testing any system there are follow some of strategy for testing the process. Mainly testing the object, methods, total available resources are testing using this testis. Mainly we use to testing some feature which may have error or hacked. After that it should be reviewed by the test team leads. Different kinds of testing strategies can be performed according to the type of application
system that need to be tested.

5.2.1 Test approach

Complete whole process, the tester must take some approach. We are showing the two testing approach for clarify the testing process.

- **Automation testing:** Automation testing is a name of testing technique by which test engineers prepare some scripts according to test plan and after that they use suitable tools to perform testing of the software. Nowadays, almost every software company follow the approach of automation testing.

- **Manual testing:** Manual testing is also a name of technique of testing by searching out the bugs or vulnerability in an application. In this process, test engineers manually test and execute the test cases without having any automation tools.

5.2.1.1 Black Box Testing

Black box testing is the process of test a software system without view the code. It just tests the application system using input valid and invalid. Invalid testing if the system run link work correctly the system is incorrectly. Black box testing can be both functional or non-functional. It
ignores the internal mechanism of a system. We have decided to perform the equivalent class partitioning and Boundary value analysis techniques to implement.

5.2.1.4 White Box Testing

White box testing is also a name of testing approach which is also known as clear box testing, glass box testing, open box testing, transparent box testing, code based testing or structural testing. It is opposite to the black box testing. In black box testing, the internal architecture or algorithms is not known to the testers whether the whole software architecture is known to the testers while white box testing.
Testers can also predict the output of every test cases for white box testing. White box testing can be classified into some levels. Such as:

- Unit Testing
- Integration Testing
- System Testing

The main advantage of white box testing is that testing is more throughout and the testing can be started from the very beginning stage.

5.3 Testing Schedule

Test Phase	Time
Testing plan create	1 Week
Test specification	2 Week
Unit testing	During Development time
Component test	1 Week
Test Phase	Time
Integration testing	1 Week
Validating use cases	1 Week
Testing user interfaces	1 Week
Load testing	1 Week
Performance testing	1 Week
Release to production	1 Week

5.4 Trace Ability Matrix

Project Manager			Business Analyst Lead		
QA Lead			Target Implementation Date		
BR#	Category / Functionality / Activity	Requirement Description	Use Case Reference	Test Case Reference	Comments
BR-1	Functional	Login	Use case 3.1.1	Test Case 5.6.1	
BR-2	Non-Functional	Check authorization	N/A	Test Case 5.6.2	
BR-3	Functional	Create new client	Use case 3.1.4	Test Case 5.6.3	
BR-4	Functional	Delete clients	Use case 3.1.6	Test Case 5.6.4	
BR-5	Functional	Load database table	N/A	N/A	
BR-6	Functional	Show clients details	Use case 3.1.5	Test Case 5.6.5	
BR-7	Functional	Show graphical view	Use case 3.1.11	Test Case 5.6.6	
BR-8	Functional	Manage paid bill clients	Use case 3.1.14	Test Case 5.6.7	
BR-9	Functional	Manage generate bill for new month accounts	Use case 3.1.17	Test Case 5.6.8	
BR-10	Functional	Manage submit voucher	Use case 3.1.18	Test Case 5.6.9	

5.5 Testing Environment

Testing environment means to prepare the environment with hardware and software so that test engineers can be able to execute test cases as required. Besides hardware and software usage, network configuration might be needed to execute test plans.
For making the environment for testing, some key area need to setup. Those are:

- Test data
- Database server
- Client's operating system
- Front end running environment
- Browser
- System and application
- Network
- Hardware with server operating system
- Documentation is also required. Like: user manuals, installation guides, configuration guides, documents etc.

5.6 Test Cases

A test case refers to some rules and regulations or conditions by which it can be determined whether a system can be able to meet the works or requirements under test cases properly. We know, there is a chance to have some fault or break holes in any application. This is very common scenario. And those issues are solved usually by software testing approaches. But if we don't care of those issues, then the full application development might be ruined. So proper testing must be needed. For testing our application, I have prepared some test cases. Now, I am going to provide them.

5.6.1 Log In

<table>
<tr><td colspan="3">Test Case # 1</td><td colspan="3">Test case name: log in</td></tr>
<tr><td colspan="3">System: DBN-Online Manager</td><td colspan="3">Subsystem: Admin & Accounts officer</td></tr>
<tr><td colspan="3">Designed by: Md. Abul Hakam</td><td colspan="3">Designed date: 15-January-2019</td></tr>
<tr><td colspan="3">Executed by:</td><td colspan="3">Executed date:</td></tr>
<tr><td colspan="6">Short Description: Admin or Accounts officer enter the url and after successfully enter then enter login panel then input valid email and password. After successfully enter press login than if it's correct then login authorize panel.</td></tr>
<tr><td colspan="6">Pre-conditions:
• User must be authorized.
• User must enter valid user mail and password.
• Press Login button.</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Step</td><td>Phone</td><td>Password</td><td>Expected Result</td><td>Pass/Fail</td><td>Comment</td></tr>
<tr><td>1</td><td>01767</td><td>580</td><td>Invalid</td><td></td><td></td></tr>
<tr><td>2</td><td>01521</td><td></td><td>Password can't be black</td><td></td><td></td></tr>
<tr><td>3</td><td></td><td>143</td><td>Mobile can't be black</td><td></td><td></td></tr>
<tr><td>4</td><td>Admin12345!</td><td>Password</td><td>Successfully login to the</td><td></td><td></td></tr>
</table>

			application and redirected to the dashboard		
Post-condition: Users including admin officer , accounts officer will successfully login to the system.					

5.6.2 Authorization check

Test Case # 2		Test case name: Authorization check		
System: DBN-Online Manager		Subsystem: Admin & Accounts officer		
Designed by: Md. Abul Hakam		Designed date: 15-January-2019		
Executed by:		Executed date:		
Short Description: Proper user can access authorized panel. Accounts officer must login in accounts panel and admin officer login in admin panel.				
Pre-conditions: • Enter correct URL. • System runs online correctly.				
Step	Action	Response	Pass/Fail	Comment
1	Input invalid email and password.	Show error message.		
2	Authorized user try correct email and password	Get access authorized system panel		
Post-condition: authorized user get access and can maintain their site panel.				

5.6.3 Create New

Test Case # 3		Test case name: Create New		
System: DBN-Online Manager		Subsystem: Admin & Accounts officer		
Designed by: Md. Abul Hakam		Designed date: 15-January-2019		
Executed by:		Executed date:		
Short Description: Admin go to client feature and go to clients list sub-button. When show clients list then press create new button and show a fields for add clients. Then fill up all form and press save button. Finally show confirmation button.				
Pre-conditions: • User must be an admin officer h • Have proper information of clients.				
Step	Action	Response	Pass/Fail	Comment
1	Can’t fill up but try to save.	Show error message and can’t submit.		
2	Fill up properly and submit	Save properly.		
Post-condition: save properly and show this client in clients database.				

5.6.4 Delete clients

Test Case # 4		Test case name: Delete clients		
System: DBN-Online Manager		Subsystem: Admin & Accounts officer		
Designed by: Md. Abul Hakam		Designed date: 15-January-2019		
Executed by:		Executed date:		
Short Description: Admin go to client button and go to clients list sub-button. When show clients list then press delete button and show delete confirmation message. And finally show success message.				
Pre-conditions: • User must be as an admin officer.				
Step	Action	Response	Pass/Fail	Comment
1	Press delete but not to confirmed	Not delete		
2	Delete and confirmed delete	Finally delete		
Post-condition: check this files and finally delete.				

5.6.5 Show clients details

Test Case # 5		Test case name: Show clients details		
System: DBN-Online Manager		Subsystem: Admin & Accounts officer		
Designed by: Md. Abul Hakam		Designed date: 15-January-2019		
Executed by:		Executed date:		
Short Description: Admin go to client feature and go to clients list sub-button. When show clients list then press details button and show this clients details.				
Pre-conditions: • User must an admin officer. • Connected on online (Internet)				
Step	Action	Response	Pass/Fail	Comment
1	Press details using url of id	Show details		
2	Press details button	Show details		
Post-condition: check the data is correct.				

5.6.6 Show graphical statistics of business

Test Case # 6		Test case name: Show graphical statistics of business		
System: DBN-Online Manager		Subsystem: Admin & Accounts officer		
Designed by: Md. Abul Hakam		Designed date: 15-January-2019		
Executed by:		Executed date:		
Short Description: Admin go to Statistic button and press revenue by month sub-button. Than show the business revenue with statistic graphs.				
Pre-conditions: • User login first properly.				
Step	Action	Response	Pass/Fail	Comment
1	Insert data and check the graphs	Show graphs		
2	Change data and check the graphs	Show graphs		
Post-condition: system check is the data correct or not.				

5.6.7 Manage paid bill clients

Test Case # 7			Test case name: Manage paid bill clients		
System: DBN-Online Manager			Subsystem: Admin & Accounts officer		
Designed by: Md. Abul Hakam			Designed date: 15-January-2019		
Executed by:			Executed date:		
Short Description: Accounts officer login first with proper email and password. Than go to accounts button and press bill collection sub-button. Show all clients in current month. Select a client and press details and checked ispaid button. Saved the information and done.					
Pre-conditions: • User must be an accounts officer.					
Step	Action		Response	Pass/Fail	Comment
1	Press edit but not checked ispaid feature		Clients doesn't remove to paid table		
2	Checked ispaid button		Operation should success.		
Post-condition: check the clients are going to paid clients table.					

5.6.8 Generate bill for create new month accounts

Test Case # 8			Test case name: Generate bill for create new month accounts		
System: DBN-Online Manager			Subsystem: Admin & Accounts officer		
Designed by: Md. Abul Hakam			Designed date: 15-January-2019		
Executed by:			Executed date:		
Short Description: Accounts officer login first with proper email and password. Than go to accounts button and press generate bill sub-button. Finally accounts officer can generate current month accounts for collect bill.					
Pre-conditions: • User must be an accounts officer • Doesn't exist current month date.					
Step	Action		Response	Pass/Fail	Comment
1	Generate bill in twice time		2^{nd} time show error message		
2	Press generate bill first time in a month		Operation is success.		
Post-condition: check new accounts should ready.					

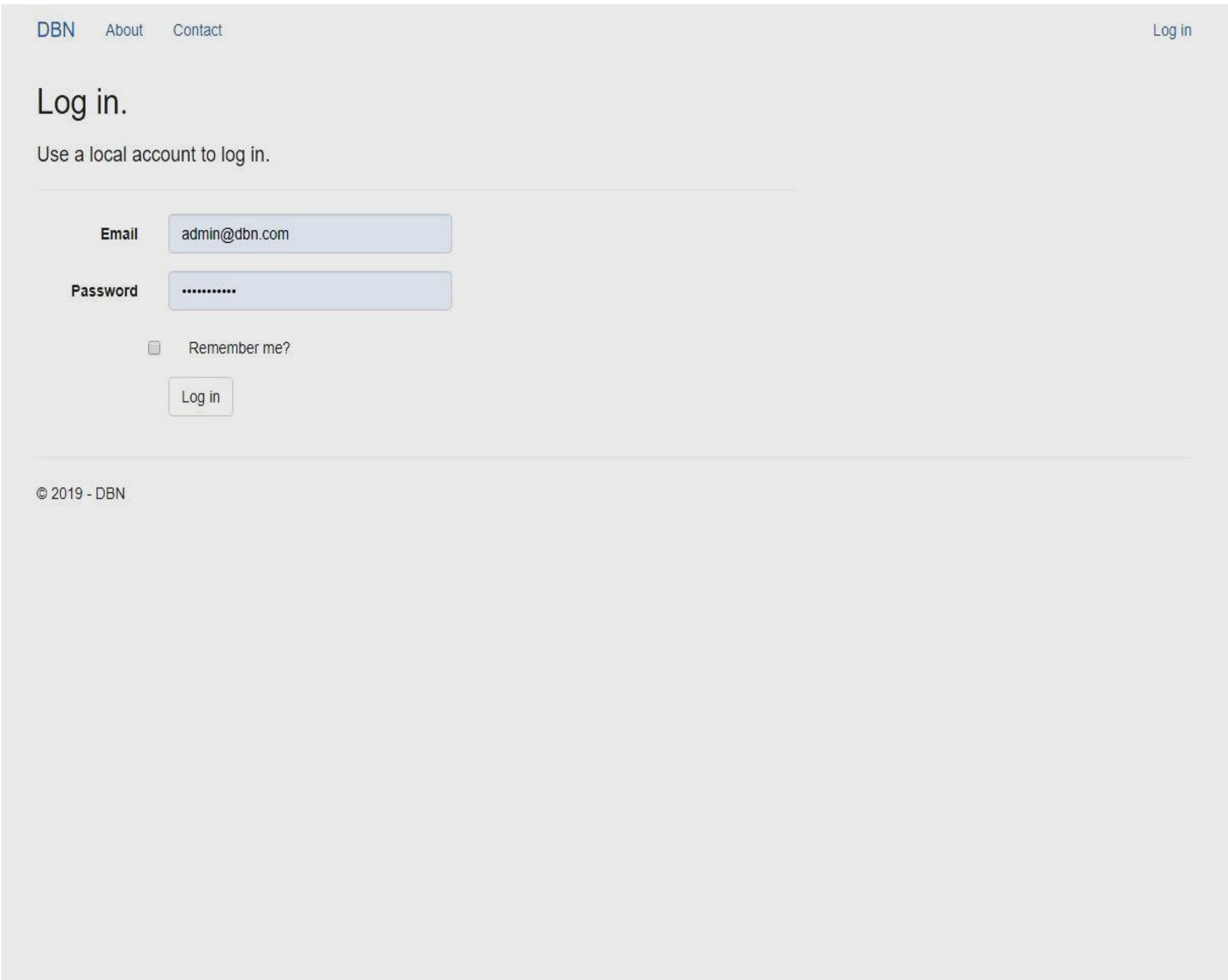
5.6.9 Add voucher

<table>
<tr><td colspan="3">Test Case # 9</td><td colspan="3">Test case name: Add voucher</td></tr>
<tr><td colspan="3">System: DBN-Online Manager</td><td colspan="3">Subsystem: Admin & Accounts officer</td></tr>
<tr><td colspan="3">Designed by: Md. Abul Hakam</td><td colspan="3">Designed date: 15-January-2019</td></tr>
<tr><td colspan="3">Executed by:</td><td colspan="3">Executed date:</td></tr>
<tr><td colspan="6">Short Description: Accounts officer login first with proper email and password. Than go to accounts button and press submit voucher sub-button. Show a fill for fill up for add a voucher. Fill up the table and submit voucher. Then add the information as a voucher.</td></tr>
<tr><td colspan="6">Pre-conditions:
• User must be an accounts officer.</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Step</td><td colspan="2">Action</td><td>Response</td><td>Pass/Fail</td><td>Comment</td></tr>
<tr><td>1</td><td colspan="2">Does not fill up all text box but try to save information</td><td>Doesn’t save show error message.</td><td></td><td></td></tr>
<tr><td>2</td><td colspan="2">Fill up all filed and save</td><td>Save voucher</td><td></td><td></td></tr>
<tr><td colspan="6">Post-condition: check the voucher information is save or not.</td></tr>
</table>

Chapater 6
User Manual

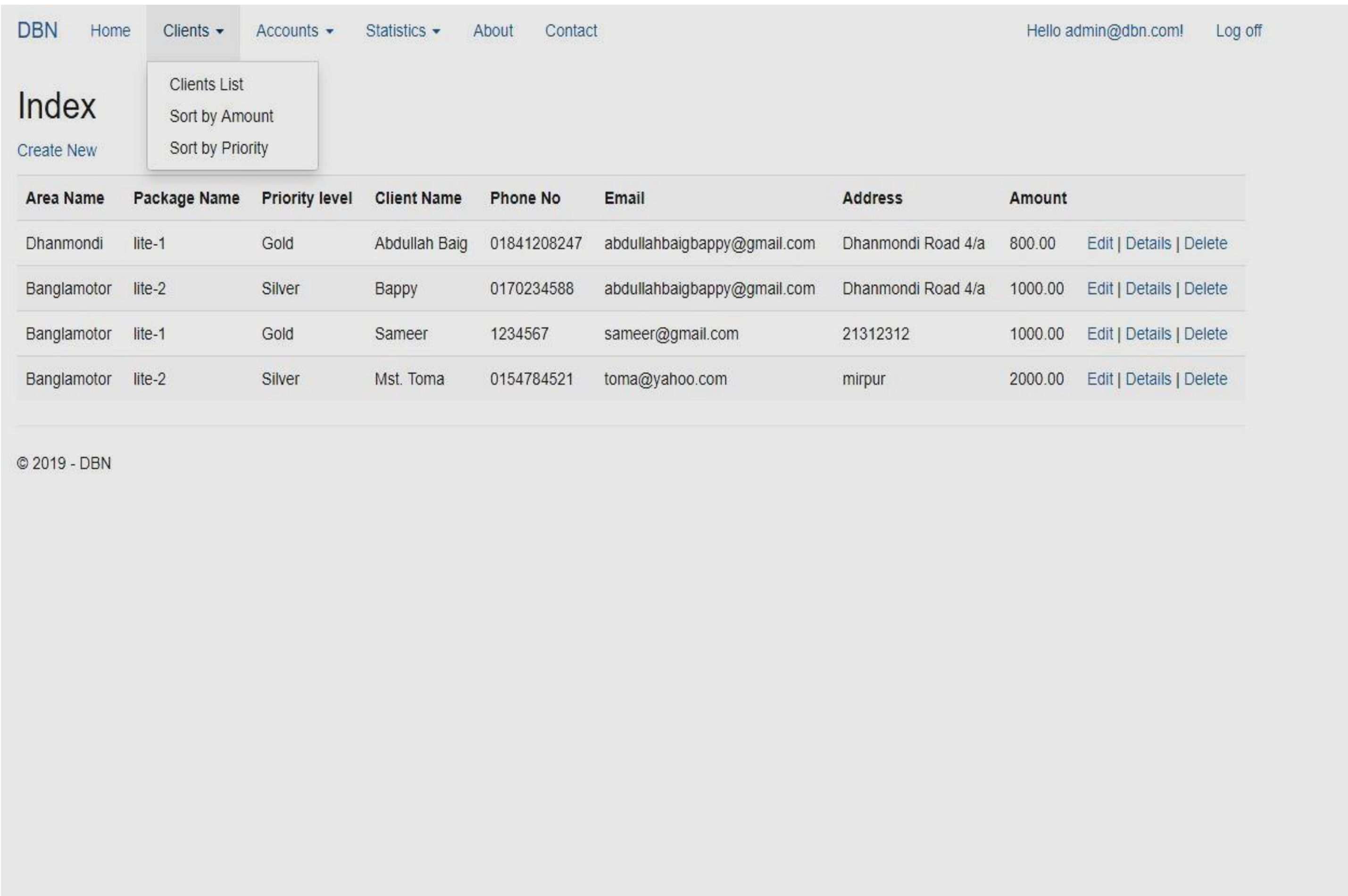
6.1 Login Page

Admin or Accounts officer enter the url and after successfully enter then enter login panel then input valid email and password. After successfully enter press login than if it's correct then login authorize panel.



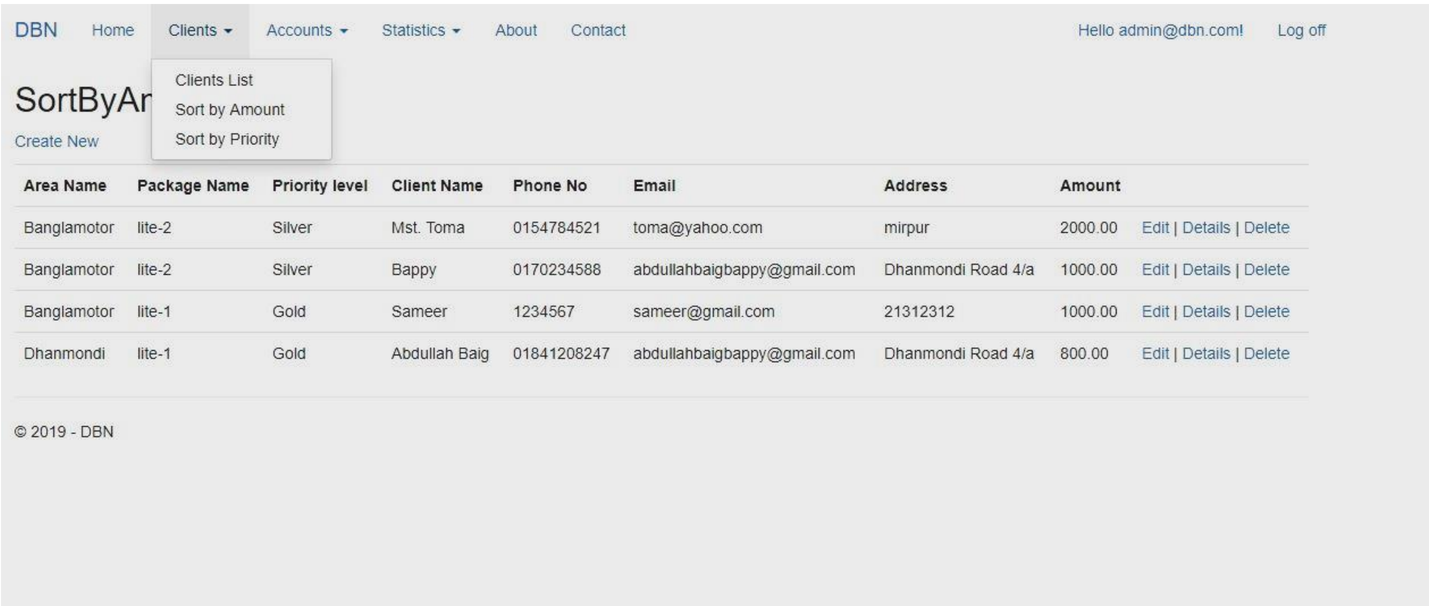
6.2 Admin can view all clients list

Admin officer go to clients button than press clients list sub-button. Than admin officer can show the clients information in a tabular format.



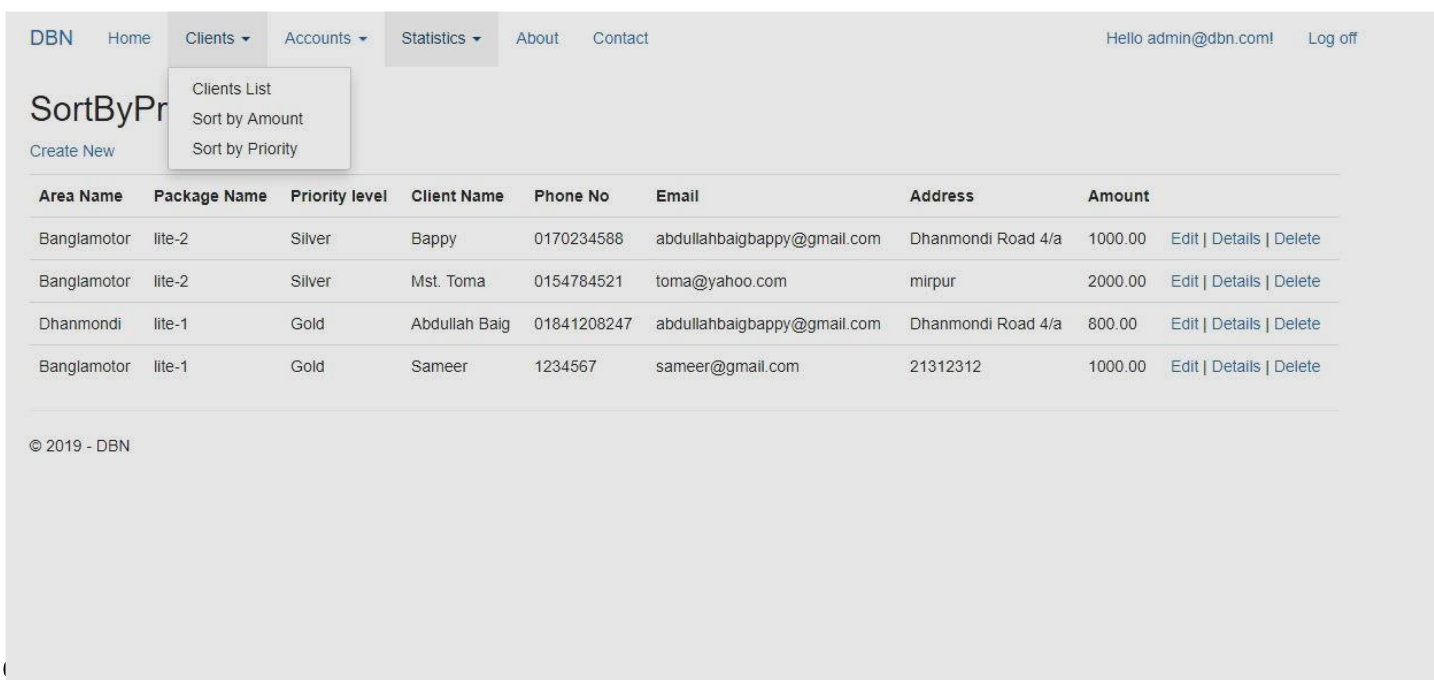
6.3 Admin can view clients sort by amount

Admin first login properly. Than go to clients button and press Sort by amount. Admin can view all clients based on big amount to low amount.



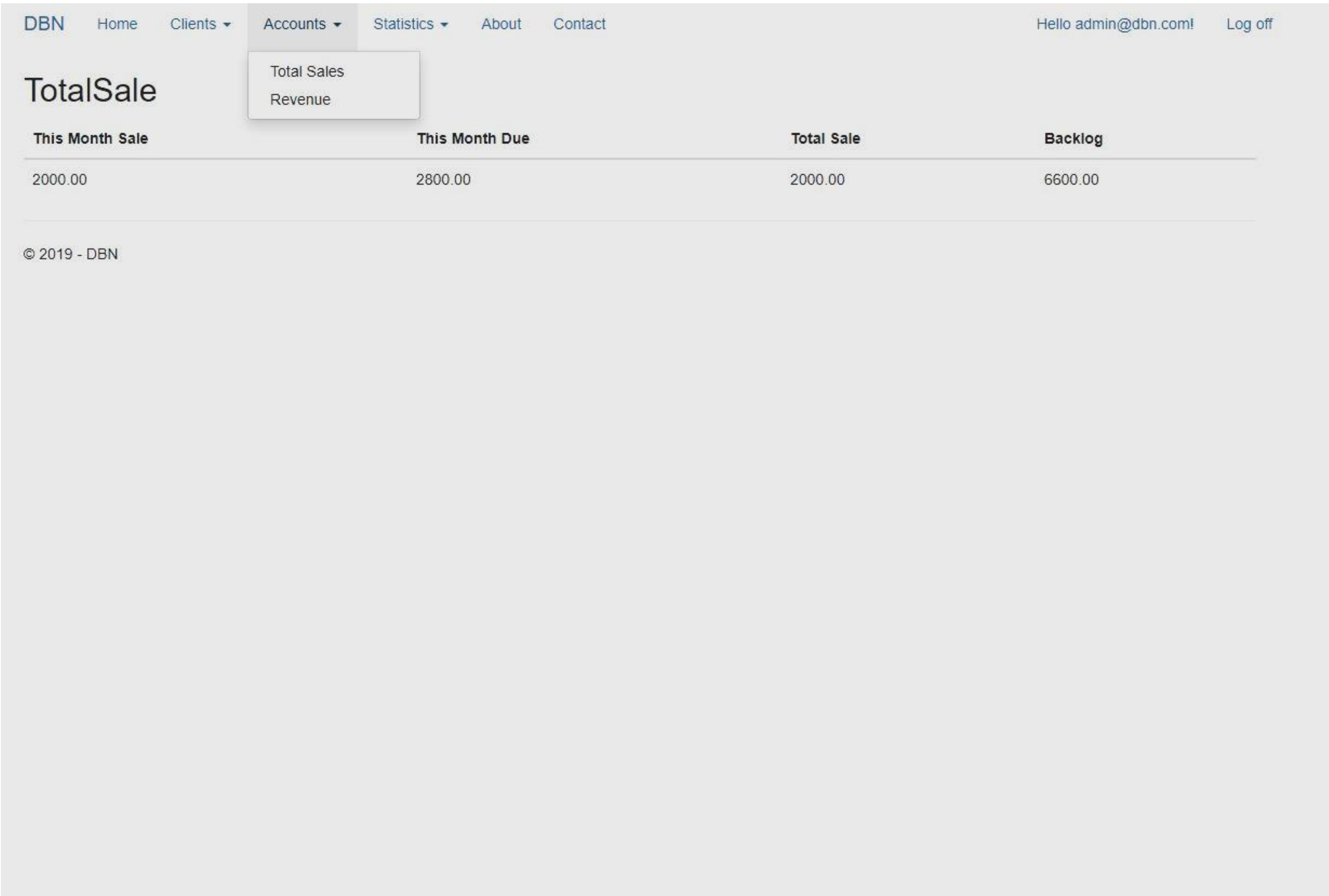
6.4 Admin can view clients sort by priority

Admin go to client button and go to sort by priority sub-button. And admin officer can view clients table who is listed based on clients priority.



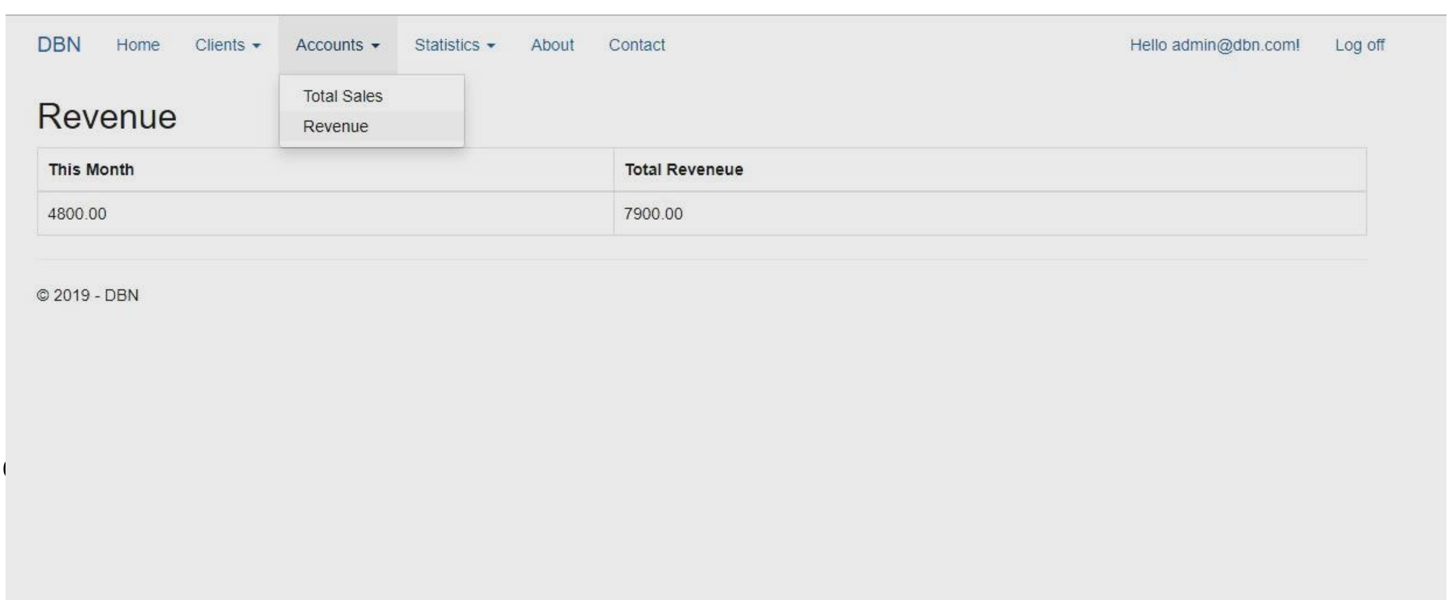
6.5 Admin can view total sale statement of accounts

Accounts officer login first with proper email and password. Than go to accounts button and press total sales sub-button. Finally accounts officer can view total sales, current month sales, paid bill, due bill, and backlog.



6.6 Admin can view Revenue of this business

Admin go to accounts button and press revenue sub-button. Than show the business current revenue.



6.7 Admin can view Graphical report based on revenue by month

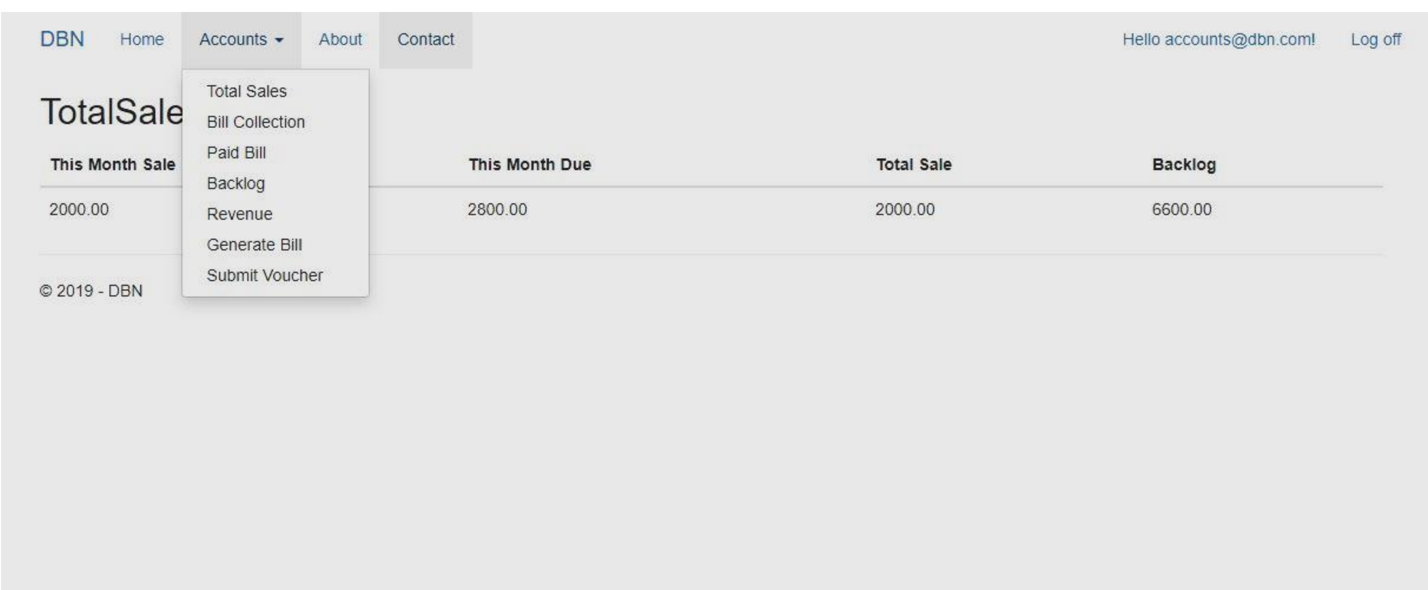
Admin go to Statistic button and press revenue by month sub-button. Than show the business revenue with statistic graphs.

6.8 Admin cam view graphical view based on sale by month

Admin go to Statistic button and press sale by month sub-button. Than show the business sales with statistic graphs.

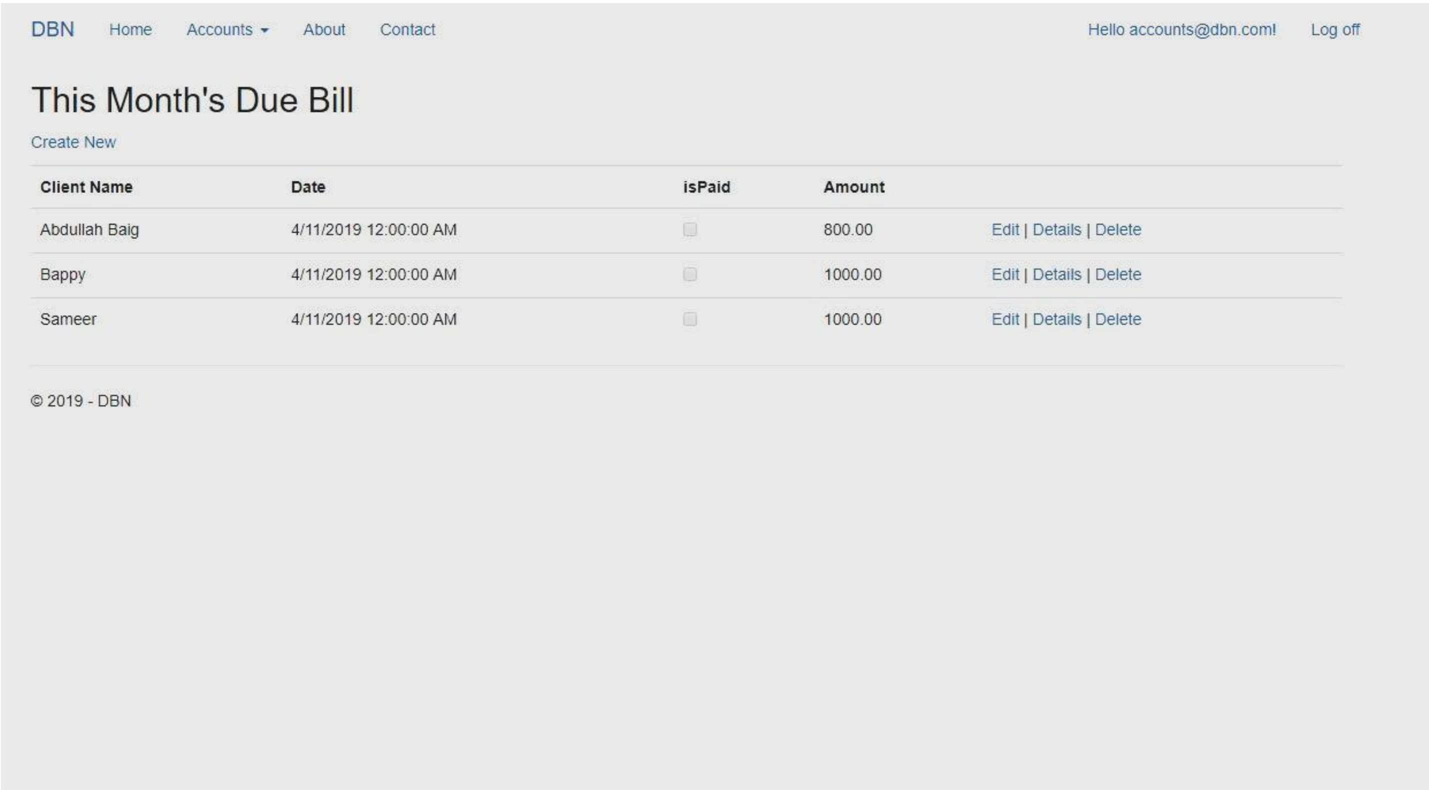
6.9 Accounts officer can view total sales statements

Accounts officer login first with proper email and password. Than go to accounts button and press total sales sub-button. Finally accounts officer can view total sales, current month sales, paid bill, due bill, and backlog.



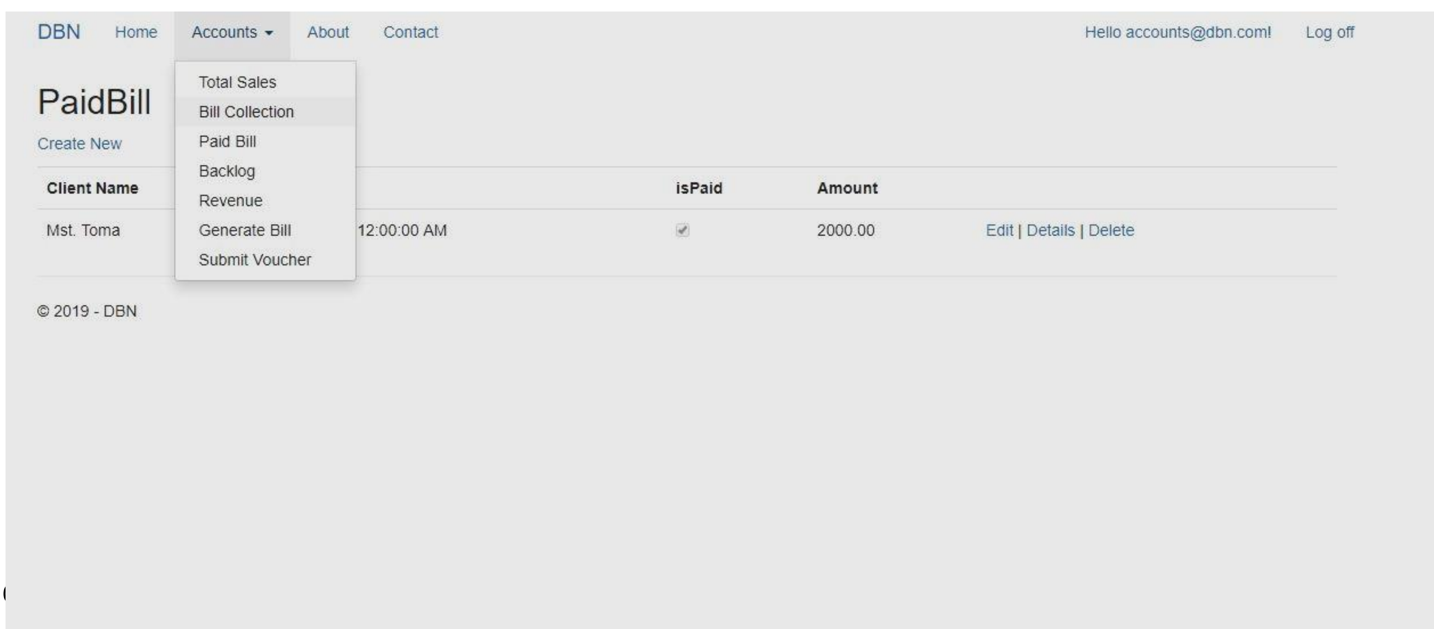
6.10 Accounts officer can manage bill collection of clients

Accounts officer login first with proper email and password. Than go to accounts button and press bill collection sub-button. Show all clients in current month. Select a client and press details and checked ispaid button. Saved the information and done.



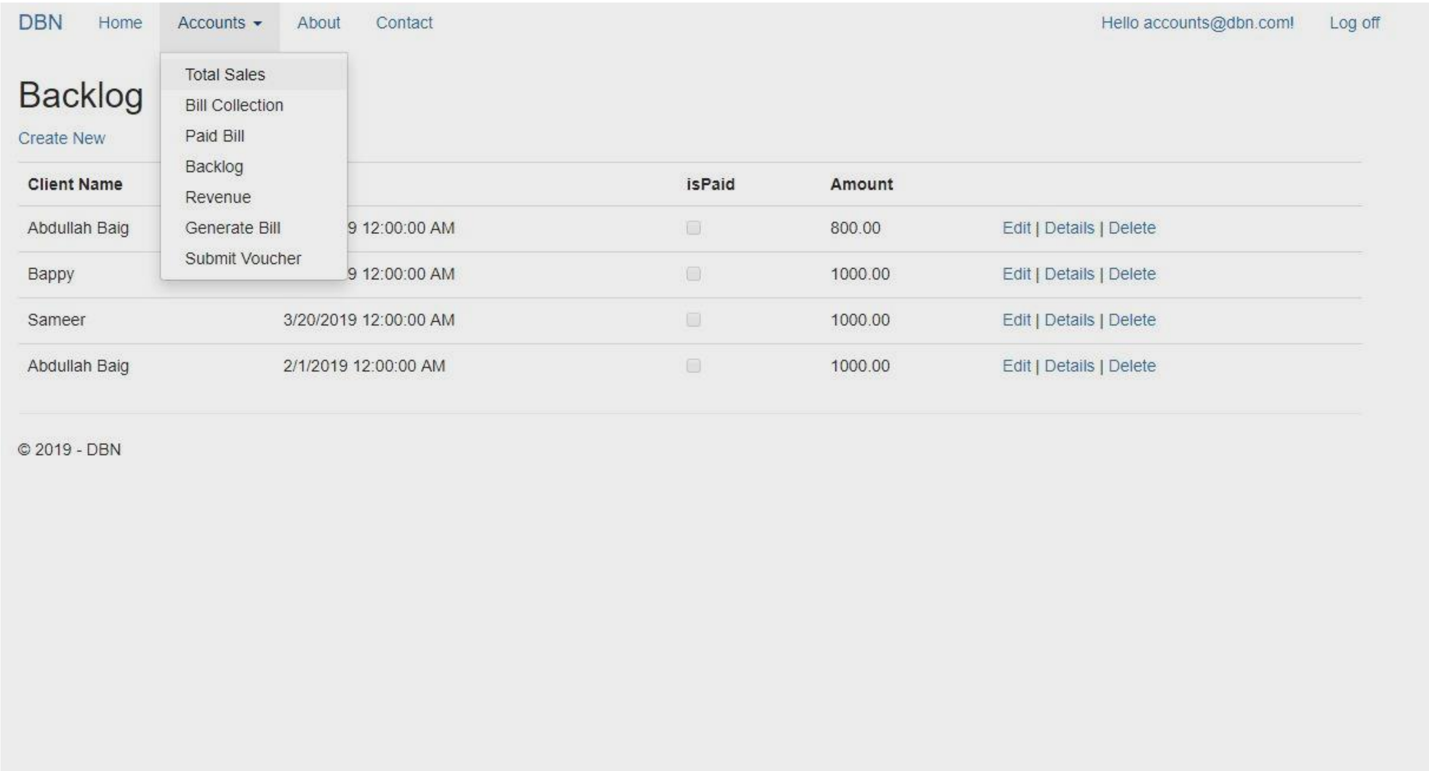
6.11 Admin can view paid bill clients information

Accounts officer login first with proper email and password. Than go to accounts button and press paid bill sub-button. Finally accounts officer can view the clients who already paid their bill.



6.12 Accounts officer can view Backlog client's information.

Accounts officer login first with proper email and password. Than go to accounts button and press backlog sub-button. Finally accounts officer can view the clients who does not paid their bill in previous month.



6.13 Accounts officer can view Revenue

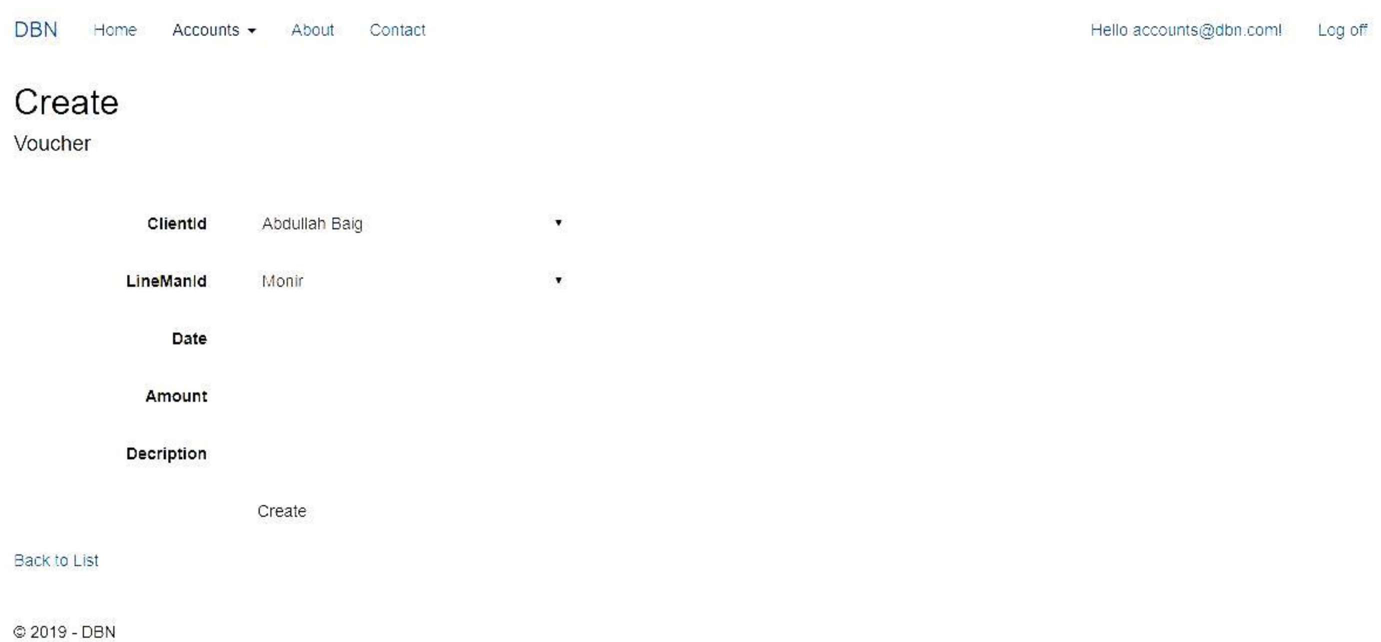
Accounts officer login first with proper email and password. Than go to accounts button and press revenue sub-button. Finally accounts officer can view the current month revenue.

6.14 Accounts officer can generate bill for every month in first time.

Accounts officer login first with proper email and password. Than go to accounts button and press generate bill sub-button. Finally accounts officer can generate current month accounts for collect bill.

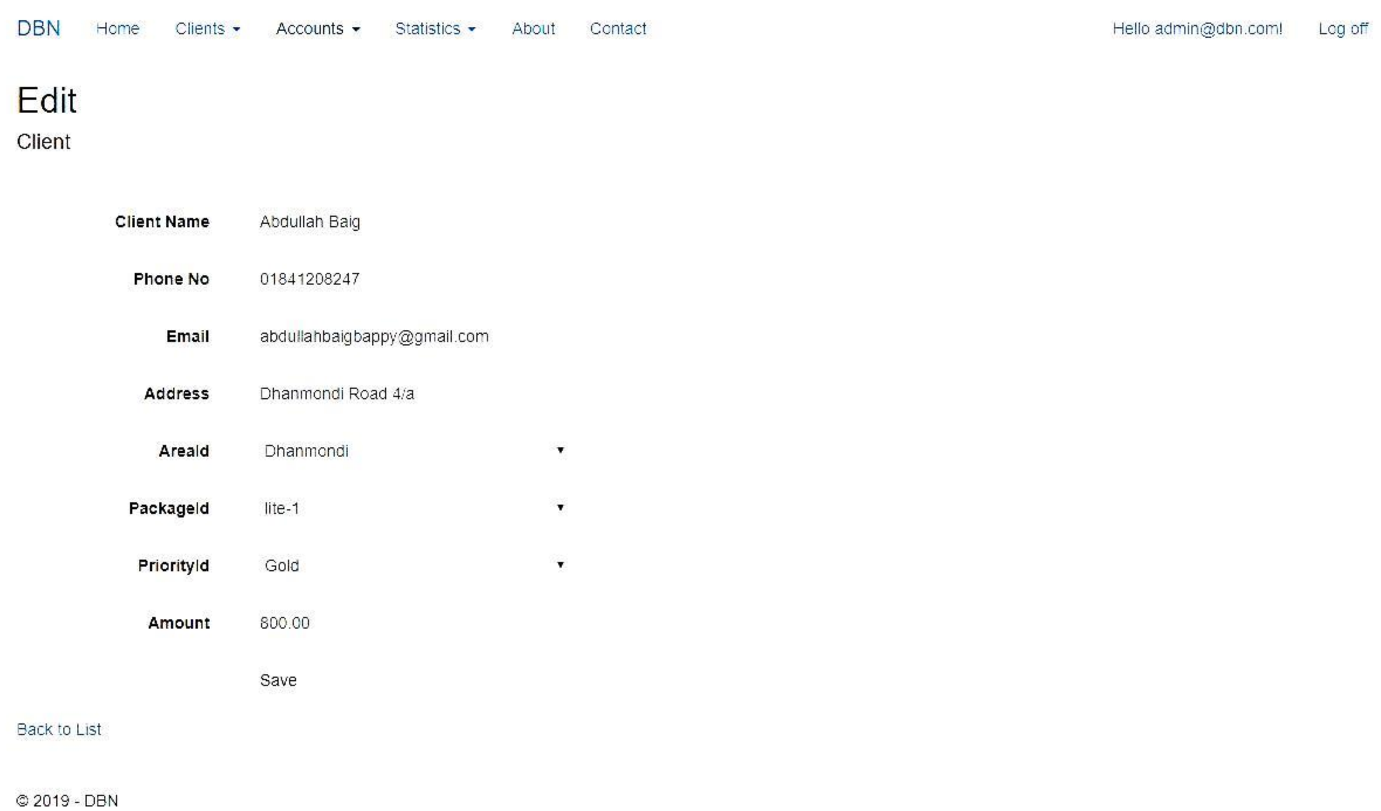
6.15 Accounts officer can manage voucher

Accounts officer login first with proper email and password. Than go to accounts button and press submit voucher sub-button. Show a fill for fill up for adds a voucher. Fill up the table and submit voucher. Then add the information as a voucher.



6.16 Admin can edit any client information

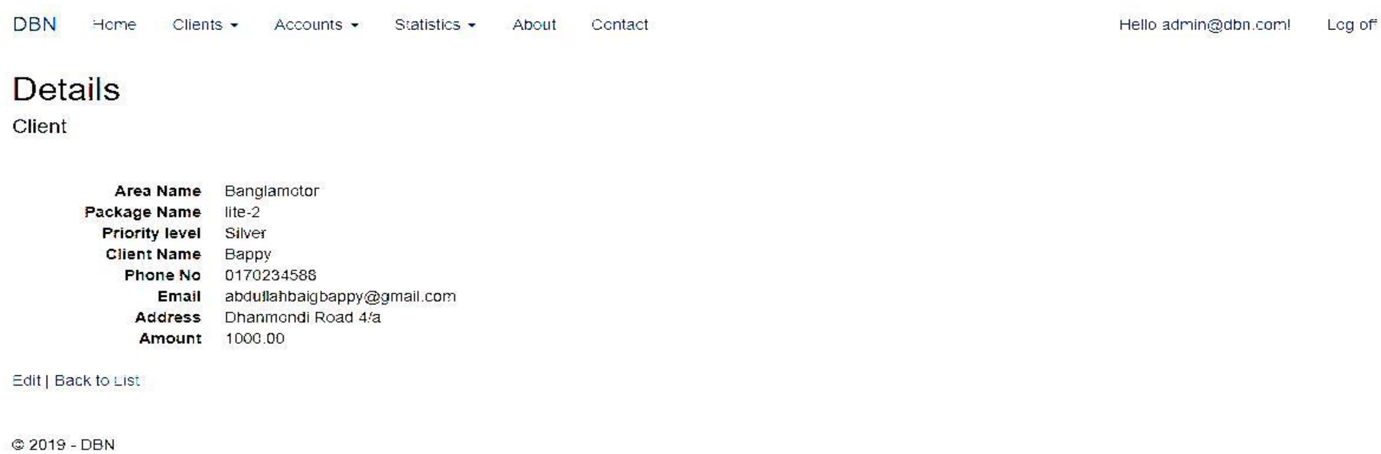
Admin go to client feature and go to clients list sub-button. When show clients list then press edit button and show a fields for edit client with full information. Update information and press update button. Finally show confirmation message.



6.17 Admin can view details of any client

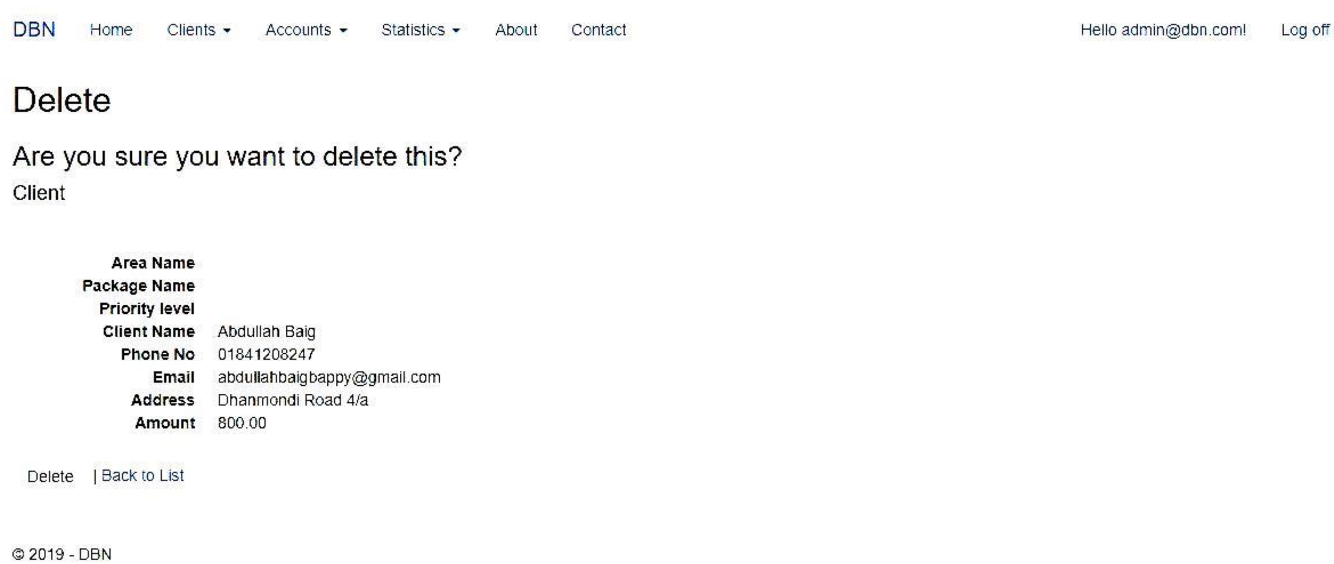
Admin first login properly. Than go to press clients list sub-button under the client's button. Admin can view all clients information in a table. Every client information have details button. If admin press details button than admin can view the details for this client.

6.



6.18 Admin can delete any client information with this client

Admin go to client button and go to clients list sub-button. When show clients list then press delete button and show delete confirmation message. And finally show success message.



Chapter 7
Conclusion

7.1 Project Summary

I have started to develop this project from January-2019. From the very starting of development of this project, it demands hard working, patients, persistency to meet the requirements of stakeholders. After that I have proposed the design. And then started to work.
Database plays a vital role for any application software. And so this is why, I have designed the database diagram having tables with proper relationship. After that, I have prepared the user interface and take their approval to continue to the next part. It is to be said that, the interface of my application is very simple and easy to understand. After completing that, I have started to write the core functionality of the project.
Developing project is not end of all tasks actually. There are some other important tasks to perform. And that is testing. It is also known as quality assurance also. Almost at every software company there are a quality assurance team. Their main responsibility is to find the loop holes or vulnerability of software. If there any bug remains before handover to the stakeholders, there is a change to ruin the whole project. So testing plan is very important. And after developing the project, I have assured the quality of this project.

7.2 Limitations

For developing this project, I have faced some limitations. Now I will describe those in brief.

• **Payment Method:** In our application, there is not having any payment method directly by which one can make their transaction through our application. End user need to pay and after that they will enter those data to our application. At last recipient will confirm the transaction.

• **No Android Version:** We haven't mobile version for manage the system at Android platform. But there are also web bootstrap so that for web base mobile operating systems for mobile like Windows or iOS. But we have not developed our mobile applications for those versions. So mobile users need to have a web browser with Android version.

7.3 Obstacles and Achievements

I believe that if there are not any obstacles to develop a project, then there doesn't have any challenges. Because we know, challenge give us the opportunity to prove ourselves. Obstacles, challenges and achievements are like a path to the success.
Before starting this project, I didn't know the actual flow of software development life cycle. By developing this project, I have learnt to know how to have a row requirement from clients. After that I have learnt system analysis, database design and many things. My supervisor helps me a lot from the very beginning of the development of this project.

7.4 Future Scope

I have learnt a lot throughout the whole development stage of this project. For making this project developed, I have also meet some young entrepreneurs and enthusiasts also. I am very much thankful to all of them as their idea and discussion gave me some opportunities to make my product complete. It will help me to work with similar type project in future also.

7.5 References

I have gained some knowledge from some platforms. Obviously I will mention those references. For making my project successful those resources help me a lot. Not I will mention the names below.

- www.google.com
- www.youtube.com
- www.wikipedia.com
- www.dotnet.microsoft.com
- www.themeforest.net
- www.getbootstrap.com
- www.w3schools.com
- www.jquery.com
- www.apachefriends.org
- www.stakeoverflow.com