Medical Store
Mangement System

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Table of Contents

1. Project Feasibility Report

1.1. Introduction

Butt pharmacy is a real business which is currently operational in Gujrat. Employee management, stock availability, sales and purchases, supplier records, and order management are just a few of the manual organizational operations that are controlled by various people. Because these actions are managed through paper, there is no special means to maintain and retain the record of these activities for the future.

Admin or Users will be able to register and login to the system in order to manage all operations inside the business using the proposed system. It eliminates manual work and improves management and business report generating efficiency. It will save a significant amount of people, time, and improve job accuracy.

Our system is used to online store, access, and manage employee information, inventory, report creation, and stock availability etc. In comparison to existing systems, our proposed system will be much more accurate, reliable, and user-friendly.

1.2. Project / Product Feasibility Report

The Project “Butt Pharmacy” provides a platform that will be available to the customers online via Web App. When a project is started the first matter to establish is to assess the feasibility of a project or product. Feasibility means the extent to which appropriate data and information are readily available or can be obtained with available resources such as staff, expertise, time, and equipment. It is basically used as a measure of how practical or beneficial the development of a software system will be to you (or organization). This activity recurs throughout the life cycle.

There are many types of feasibilities:

- Technical
- Operational
- Economic
- Schedule
- Specification
- Information
- Motivational
- Legal and Ethical

1.2.1. Technical Feasibility

Butt Pharmacy is a complete web-based application. The main technologies and tools that are associated with Tahir Pharmacy are HTML, CSS, JavaScript, Bootstrap, PHP. Each of these technologies are freely available and the technical skills required are manageable. Time limitations of the product development and the ease of implementing using these technologies are synchronized.

From these it's clear that the project Tahir Pharmacy is technically feasible.

1.2.2. Operational Feasibility

The existing systems can't provide all the basis features for better performance of all activities. Moreover, the existing systems are manual which are hard to maintain and they also possess lack of security, inconsistency and ambiguity. Also, there was no user-friendly interface for Admin. So, to solve these problems we will develop Butt Pharmacy System. This system will provide all basic features with more functionality and easiness for Admin. This web-based app can be used by an admin or a person who knows how to use a computer/mobile phone and is willing to learn something. Although, this app can be used by a person not having a technical background but the maintenance of the app can only be done by developers that is to launch upgrades, add new features and for technical assistance.

The system Butt Pharmacy will be feasibly operational in its Domain.

1.2.3. Economic Feasibility

Being a web-based application will have an associated cost. The system will follow the freeware software standards. Bug fixes and maintaining tasks will have an associated cost. Beside the associated cost, there will be many benefits for the customers. Especially the extra effort that is associated with to manually manage all the enterprise activities.

So, from these it's clear that the project Butt Pharmacy is economically feasible.

1.2.4. Schedule Feasibility

The project will be completed in the given specified time because it is divided according to the minimum time required for the completion of each module. Thus, in this way all the modules will be completed before or within the targeted time. The project will complete each deadline. It's clear that this project contains schedule feasibility.

1.2.5. Specification Feasibility

The requirements are clear and concise. Requirements are the most important part of any system. Butt Pharmacy will provide admin and customer a single platform to improve the performance of managing all activities. The admin must have an internet connection for a smooth experience of using the website.

1.2.6. Information Feasibility

The feasibility of information must be assessed regarding its completion, reliability, accuracy and meaningfulness. The information available on this website will be primarily related to clients.

1.2.7. Motivational Feasibility

Without motivation nothing can be achieved. The team members are quite motivated to work on such a unique project and their enthusiasm is worth watching. Moreover, the end users are also motivated that finally a system is going to be developed that will remove their headaches and prove a blessing for them.

1.2.8. Legal & Ethical Feasibility

This project does not conflict with any legal or ethical requirements and does not violate any laws in the country. There is no political effect of using this app. We do not want to promote piracy or disobey any right but we want to help our client by providing a platform that has everything a client might need.

So, this system is legally and ethically feasible and can be operated freely in any area with no obligations.

1.3. Project / Product Scope

It's a web-based, system. This system will offer pharmacy with online ordering (Home delivery), online platform to track pharmacy, suppliers and customer data needed to create a pharmacy that meets the needs and desires of customers. This management system will give a single login platform for registered admin/users to handle employee, supplier, customer, inventory, business report production, and stock present in the pharmacy most accurately using this Pharmacy system.

- All information of the system is maintained in a database.
- The system is easy to use and flexible.
- The information related to sales and purchases of items should be saved and used for estimation of profit or loss for the future reports.

1.4. Vision Document

A vision document defines the high-level scope and purpose of a program, product, or project. A clear statement of the problem, proposed solution, and the high-level features of a product helps establish expectations and reduce risks. The Vision defines the product/service to be developed specified in terms of the stakeholder's key needs and desired features.

This document defines the vision for the project “Butt Pharmacy”. The purpose of this document is to:

- Identify the problems faced by the admin and customer.
- Gather the client’s requirements.
- Propose a solution of problems
- Identify any constraints to the purpose solution
- Identify people who involve in the system
- Identify the team for software development

1.5. Risk List

Risk is an expectation of loss, a potential problem that may or may not occur in the future. It is generally caused due to lack of information, control or time. A possibility of suffering from loss in software development process is called a software risk.

Possible risks to the success of implementation include, but are not limited to:

- Absence of software development support.
- Not user friendly
- Incomplete assistance for the customers
- Inaccuracy problem
- Addition of new requirements; demanded by end user

2. Software Requirement Specification

2.1. Introduction

Requirements engineering process provides the appropriate mechanism for understanding what the customer wants, analyzing need, assessing feasibility, negotiating a reasonable solution, specifying the solution unambiguously, validating the specification and managing the requirements as they are transformed into an operational system. The task of capturing, structuring, and accurately representing the user's requirements so that they can be correctly embodied in systems which meet those requirements (i.e., are of good quality).

- Requirement's elicitation
- Requirement's analysis and negotiation
- Requirement's specification
- System modeling
- Requirement's validation
- Requirements management

2.2. System Specification

Butt pharmacy is a real time business which is currently operational in Gujrat. Employee management, stock availability, sales and purchases, supplier records, and order management are just a few of the manual organizational operations that are controlled by various people. Because these actions are managed through paper, there is no special means to maintain and retain the record of these activities for the future use.

Admin or users will be able to register and login to the system in order to manage all operations inside the business using the proposed system. It eliminates manual work and improves management and business report generating efficiency. It will save a significant amount of people, time, and improve job accuracy.

Our system is used to online store, access, and manage employee information, inventory, report creation, and stock availability etc. In comparison to existing systems, our proposed system will be more accurate, reliable, and user-friendly.

2.2.1. Existing System

Pharmacy's manual system is being used for managing all activities. This system has many disadvantages like inconsistency, lack of accuracy, time consuming, lack of security, inefficiency and costly for reports generation.

But we have also studied some previous systems in this domain such as Shafeeq pharmacy, Naseer medical store and Mehar's brother pharmacy Which plays an important role in developing a more effective software with new attributes.

2.3. Scope of the System

Butt Pharmacy is a web-based application that targets the pharmacy system to manage records and generate business report.

This generic application installs to be any type of business.

- Creating an attractive and user-friendly interface for the Admin.
- To provide security by giving the proper login.
- To manage accounts and generate business report.
- The system will be convenient to use.

2.3.1. Identifying the Entities

The identification of the external entities will be based on the information contained in your Abstract. We will map the "Butt Pharmacy" requirements to make things more comprehensible. The Identification of External Entities is done in two phases.

a. Over *Specify* Entities from Abstract:

On the basis of the Abstract, one might identify the entities from the problem.

- Registration
- Record Management
    - Employee Record
    - Customer Record
    - Product Record
    - Supplier Record
    - Stock Availability Record
- Expense Management
    - Raw Material
    - Salaries
    - Miscellaneous Expense
- Order Management
- Inventory Management
    - Sales
    - Purchase
- Reports
    - Sales Report
    - Purchase Report
    - Stock Report
    - Expense Report
- Manage Accounts

b. *Perform* Refinement:

After over specifying the entities, you have to refine them on the basis of your business logic. We found the following entities more related to our system.

- Admin
- Customer

2.3.2. 'Shall' Requirements

Identify "shall" statements, as they would be all functional requirements.

Table 2.1.4.1: Capture "shall" Statements

Para #	Initial Requirements
1.0	Admin "shall" register himself/herself to the system.
1.0	Admin "shall" provide his/her credential for registration.
1.0	Admin authentication "shall" accept, reject and temporarily waive the requests on the basis of credentials provided.
1.0	Admin "shall" login to the system
1.0	Admin "shall" Login to change his/her password.
1.0	System "shall" provide the access to admin for performing different operations.
1.0	Admin "shall" process different types of updating e.g., updating his password or upgrading his managements.
1.0	Admin "shall" manage the orders by assigning it to required department.
1.0	System "shall" allow customer to place order.
1.0	System "shall" allow the user to select the quantity.
1.0	Customer "shall" confirm, cancel or modify his/her order.
1.0	System "shall" allow customer to view his/her order status by providing order number.
2.0	Admin "shall" manage the records of supplier, employee, customer and stock availability.
2.0	Admin "shall" manage the inventory of sales and purchases by adding, viewing and updating them.
2.0	Admin "shall" manage all the expense of salaries, raw materials and miscellaneous expense.
2.0	Admin "shall" manage all the reports of sales, purchases, expense and stock Availability.
3.0	System "shall" able to generate the reports of sales, purchases, stock availability and expense.
3.0	Admin "shall" manage accounts.
3.0	System "shall" able to generate business report of profit, loss and performance.

2.3.3. Allocate Requirements

Allocate the requirements in the use cases.

Table 2.1.5.1: Allocate Requirements

Para #	Initial Requirements	Use Case Name
1.0	Admin “shall” register himself/herself to the system.	UC-Registration
1.0	Admin “shall” provide his/her credential for registration.	UC-Registration
1.0	Admin authentication “shall” accept, reject and temporarily waive the requests on the basis of credentials provided.	UC-Registration
1.0	Admin “shall” login to the system	UC-Login
1.0	Admin “shall” Login To change his/her password.	UC-Login
1.0	System “shall” provide the access to admin for performing different operations.	UC-Login
1.0	Admin “shall” process different types of updating e.g., updating his password or upgrading his managements.	UC-Login
1.0	Admin “shall” manage the orders by assigning it to required department.	UC-Order Management
1.0	System “shall” allow customer to place order.	UC-Order Management
1.0	System “shall” allow the user to select the quantity.	UC-Order Management
1.0	Customer “shall” confirm, cancel or modify his/her order.	UC-Order Management
1.0	System “shall” allow customer to view his/her order status by providing order number.	UC-Order Management
2.0	Admin “shall” manage the records of supplier, employee, customer and stock availability.	UC-Record Management
2.0	Admin “shall” manage the inventory of sales and purchases by adding, viewing and updating them.	UC-Inventory Management
2.0	Admin “shall” manage all the expense of salaries, raw materials and miscellaneous expense.	UC-Expense Management
2.0	Admin “shall” manage all the reports of sales, purchases, expense and stock Availability.	UC-Report Management
3.0	System “shall” able to generate the reports of sales, purchases, stock availability and expense.	UC-Report Management
3.0	Admin “shall” manage accounts.	UC-Manage Accounts

3.0	System “shall” able to generate business report of profit, loss and performance.	UC-Manage Accounts

2.3.4. Prioritize Requirements

Requirements must be prioritized as this will help achieve tasks easily. Rank them as “highest, medium, and lowest”.

Table 2.1.6.1: Allocate Requirements

Para #	Rank	Initial Requirements	UC-ID	Use Case Name
1.0	Highest	Admin “shall” register himself/herself to the system.	UC-1	UC-Registration
1.0	Highest	Admin “shall” provide his/her credential for registration.	UC-1	UC-Registration
1.0	Medium	Admin authentication “shall” accept, reject and temporarily waive the requests on the basis of credentials provided.	UC-1	UC-Registration
1.0	Highest	Admin “shall” login to the system	UC-2	UC-Login
1.0	Lowest	Admin “shall” Login To change his/her password.	UC-2	UC-Login
1.0	Highest	System “shall” provide the access to admin for performing different operations.	UC-2	UC-Login
1.0	Medium	Admin “shall” process different types of updating e.g., updating his password or upgrading his managements.	UC-2	UC-Login
1.0	Highest	Admin “shall” manage the orders by assigning it to required department.	UC-3	UC-Order Management
1.0	Highest	System “shall” allow customer to place order.	UC-3	UC-Order Management
1.0	Medium	System “shall” allow the user to select the quantity.	UC-3	UC-Order Management
1.0	Medium	Customer “shall” confirm, cancel or modify his/her order.	UC-3	UC-Order Management
1.0	Lowest	System “shall” allow customer to view his/her order status by providing order number.	UC-3	UC-Order Management

2.0	Highest	Admin “shall” manage the records of supplier, employee, customer and stock availability.	UC-7	UC-Record Management
2.0	Highest	Admin “shall” manage the inventory of sales and purchases by adding, viewing and updating them.	UC-5	UC-Inventory Management
2.0	Highest	Admin “shall” manage all the expense of salaries, raw materials and miscellaneous expense.	UC-6	UC-Expense Management
2.0	Highest	Admin “shall” manage all the reports of sales, purchases, expense and stock Availability.	UC-7	UC-Report Management
3.0	Highest	System “shall” able to generate the reports of sales, purchases, stock availability and expense.	UC-7	UC-Report Management
3.0	Highest	Admin “shall” manage accounts.	UC-9	UC-Manage Accounts
3.0	Highest	System “shall” able to generate business report of profit, loss and performance.	UC-9	UC-Manage Accounts

2.3.5. High-Level Use Case Diagram

A use case scenario is a visual description, typically written in structured English or point form, of a potential business situation that a system may or may not be able to handle. A use case defines a goal-oriented set of interactions between external actors and the system under consideration.

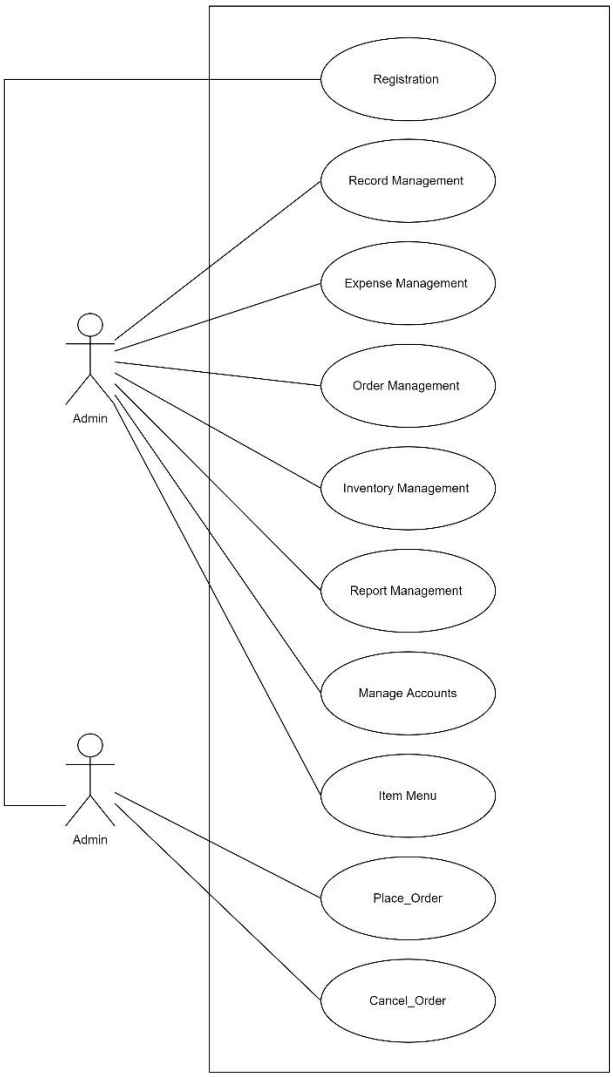

Figure 2.3.5: High-Level Use Case Diagram

2.3.6. Analysis-Level Use Case Diagram

Analysis level use case diagram is actually the explanation of high-level use case diagram. In this diagram high level use cases are expanded in a way that exhibit how high-level use cases will reach to their functionality. Two types of relationships are used in this diagram. Which are:

- Extend
- Include

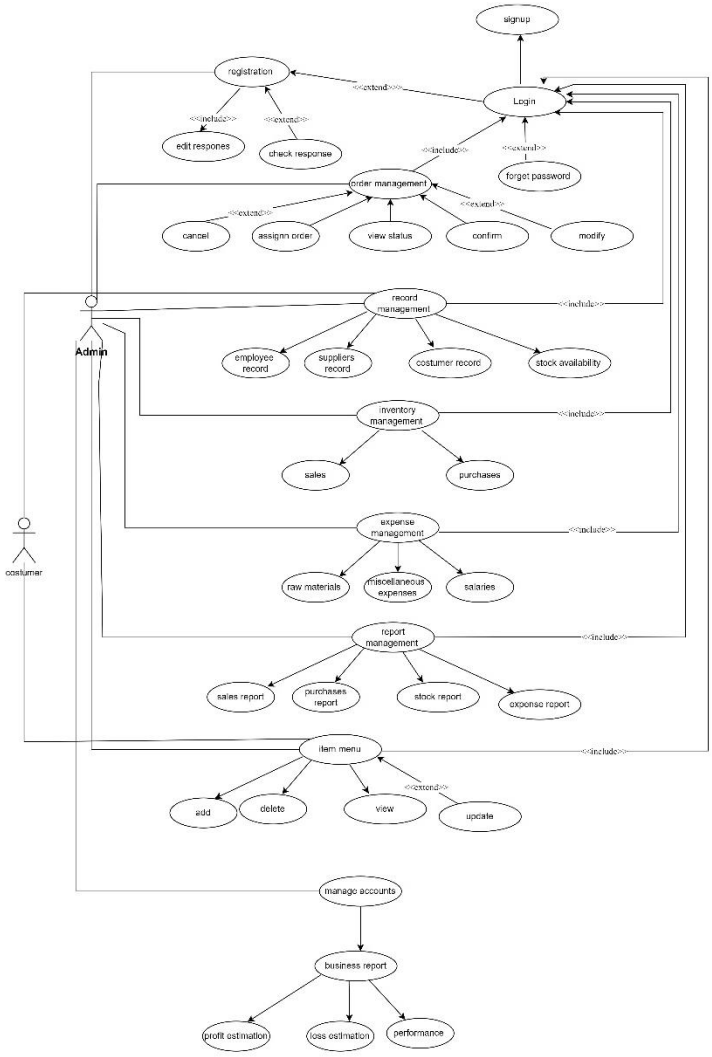

Figure 2.3.6: Analysis-Level Use Case Diagram

2.3.7. Use Case Description

While technically not part of UML, use case documents are closely related to UML use cases. A use case document is text that captures the detailed functionality of a use case. Such documents typically contain the following parts:

Table 2.1.9.1: Registration Description

Use Case Section	**Comments**
Use Case Name	Registration
Use Case ID	UC-1
Scope	The specified system is under design.
Level	Admin Level
Primary Actor	Admin and Customer

<table>
<tr><td>Stakeholders & Interests</td><td>Student, Admin and Client</td></tr>
<tr><td>Pre-Conditions</td><td>Admin should have a PC with internet.</td></tr>
<tr><td>Success Guarantee / Post Conditions</td><td>▪ Admin can open web app and successfully registered her/his account.
▪ System prompts the admin to perform another action.</td></tr>
<tr><td>Main Success Scenario</td><td><table><tr><th>Actor’s Action</th><th>System’s Response</th></tr><tr><td>▪ Admin shall open the web app and request the system for registration of account.
▪ Admin enter his/her required personal details.
▪ Admin successfully registered his/her account.</td><td>▪ System will display a page to admin to complete it by entering his/her personal details.
▪ System successfully get admin’s personal details & register his/h account.</td></tr></table></td></tr>
<tr><td>Extension</td><td>Admin enter his/her ID for registration. If admin’s ID is wrong then his/her registration fail and he/she has to enter his/her personal details for account registration.</td></tr>
</table>

Table 2.1.9.2: Login Description

Use Case Section	**Comments**
Use Case Name	Login
Use Case ID	UC-2
Scope	The specified system is under design.
Level	Admin Level
Primary Actor	Admin and Customer
Stakeholders & Interests	Student, Admin and Client
Pre-Conditions	Admin must be an authorized person. Admin must be login to the system.
Success Guarantee / Post Conditions	▪ Admin successfully Login to avail different services provided by the system. ▪ System prompts the admin to perform another action.

<table>
<tr><td>Main Success Scenario</td><td><table>
<tr><th>Actor’s Action</th><th>System’s Response</th></tr>
<tr><td>▪ Admin shall request the system for login to the account.
▪ Admin enter his/her name & password.
▪ Admin successfully login his/her account.</td><td>▪ System display a page to admin to complete it by entering his/her name & password.
▪ System successfully get name & password and login account.</td></tr>
</table></td></tr>
<tr><td>Extension</td><td>If log in admin’s account is registered, then he/she enter his/her name & password. If user forget his/her password then he/she can reset his/her password by entering new password.</td></tr>
</table>

Table 2.1.9.3: Order Management Description

<table>
<tr><th>Use Case Section</th><th>Comments</th></tr>
<tr><td>Use Case Name</td><td>Order Management</td></tr>
<tr><td>Use Case ID</td><td>UC-3</td></tr>
<tr><td>Scope</td><td>The specified system is under design.</td></tr>
<tr><td>Level</td><td>Admin and Customer Level</td></tr>
<tr><td>Primary Actor</td><td>Admin and Customer</td></tr>
<tr><td>Stakeholders & Interests</td><td>Student, Admin and Client</td></tr>
<tr><td>Pre-Conditions</td><td>Admin must be an authorized person.
Admin must be login to the system.</td></tr>
<tr><td>Success Guarantee / Post Conditions</td><td>▪ Customer successfully full fill all details related to order. He/she can successfully view order status, confirm order, cancel it and modify it as his/her own wish.
▪ Admin successfully manage order by assign it to the required department.
▪ System prompts the admin to perform another action.</td></tr>
<tr><td>Main Success Scenario</td><td><table>
<tr><th>Actor’s Action</th><th>System’s Response</th></tr>
<tr><td>▪ Customer shall request the system for ordering.
▪ Customer enter/choose his/her required item form menu.
▪ Customer shall choose an option b/w confirm, cancel and modification for his/her order.
▪ Customer successfully Place his/her order.</td><td>▪ System display item menu for ordering.
▪ System successfully get customer’s order detail & display a form for order confirmation.
▪ System successfully get order’s details of customer.</td></tr>
</table></td></tr>
</table>

Extension	If logged in admin account is registered and admin can forget his/her password, then admin can reset his/her password. Customer can enter his/her details in order management form. If admin is not registered then he/she can't manage order.

Table 2.1.9.4: Record Management Description

Use Case Section	**Comments**
Use Case Name	Record Management
Use Case ID	UC-4
Scope	The specified system is under design.
Level	Admin Level
Primary Actor	Admin and Customer
Stakeholders & Interests	Student, Admin and Client
Pre-Conditions	Admin must be an authorized person. Admin must be login to the system.
Success Guarantee / Post Conditions	▪ Admin successfully view & update employee's record, supplier's record, stock availability record and customer's record. ▪ System prompt the admin to perform another action.
Main Success Scenario	**Actor's Action** / **System's Response** ▪ Admin shall request the system to view, update & maintain record of employees, suppliers, stock availability and customers. ▪ Admin shall view & update the records of employees, suppliers, stock availability and customers. ▪ Admin shall request to view record of a particular person. ▪ Admin shall enter ID. ▪ Admin successfully view, update & maintain record of employees, suppliers, stock availability and customers. ▪ System display all the record of employees, suppliers, stock availability and customers. ▪ System successfully update record according to the admin's requirement. ▪ System display a form to enter ID. ▪ System successfully view required record details.

Extension	If logged in Admin's account is registered and Admin can forget his/her password, then Admin can reset his/her password. Admin can request to update, view & maintain all the records of employees, suppliers, stock availability and customers. If Admin is not registered then he/she can't update, view & maintain record.

Table 2.1.9.5: Inventory Management Description

Use Case Section	**Comments**
Use Case Name	Inventory Management
Use Case ID	UC-5
Scope	The specified system is under design.
Level	Admin Level
Primary Actor	Student and Customer
Stakeholders & Interests	Student, Admin and Client
Pre-Conditions	Admin must be an authorized person. Admin must be login to the system.
Success Guarantee / Post Conditions	▪ Admin successfully manage inventory record by viewing, updating and adding in sales and purchases record. ▪ System prompts the admin to perform another action.
Main Success Scenario	**Actor's Action**: ▪ Admin shall request the system to view, update, add & maintain inventory record. ▪ Admin shall view, add, update inventory record according to his/her needs. ▪ Admin successfully view, add & update inventory record. **System's Response**: ▪ System should display the list of inventory record. ▪ System successfully show, add & update record according to the admin's need.
Extension	If logged in admin's account is registered and admin can forget his/her password, then admin can reset his/her password. Admin can request to add, view, update & maintain inventory record. If admin is not registered then he/she can't add, view, update & maintain inventory record.

Table 2.1.9.6: Expense Management Description

Use Case Section	**Comments**

<table>
<tr><td>Use Case Name</td><td>Expense Management</td></tr>
<tr><td>Use Case ID</td><td>UC-6</td></tr>
<tr><td>Scope</td><td>The specified system is under design.</td></tr>
<tr><td>Level</td><td>Admin Level</td></tr>
<tr><td>Primary Actor</td><td>Admin and Customer</td></tr>
<tr><td>Stakeholders & Interests</td><td>Student, Admin and Client</td></tr>
<tr><td>Pre-Conditions</td><td>Admin must be an authorized person.
Admin must be Login to the system.</td></tr>
<tr><td>Success Guarantee / Post Conditions</td><td>▪ Admin successfully manage different expenses record like salaries, raw materials and miscellaneous expenses.
▪ System prompts the admin to perform another action.</td></tr>
<tr><td>Main Success Scenario</td><td><table><tr><th>Actor’s Action</th><th>System’s Response</th></tr><tr><td>▪ Admin shall request the system to view & update salaries and raw materials records of expenses.
▪ Admin shall view & update expense records of salaries, raw materials.
▪ Admin shall request to view & update miscellaneous Expense record.
▪ Admin successfully update & view all records of expenditures.</td><td>▪ System show & update salaries and raw materials expenses records.
▪ System successfully view & update expense records of salaries and raw materials.
▪ System successfully update miscellaneous record.
▪ 4. System successfully view and update all records.</td></tr></table></td></tr>
<tr><td>Extension</td><td>If logged in admin’s account is registered and admin can forget his/her password, then admin can reset his/her password. Admin can request to update & view all records of expenses. If admin is not registered then he/she can’t update & view expenses record.</td></tr>
</table>

Table 2.1.9.7: Report Management Description

Use Case Section	**Comments**
Use Case Name	Report Management
Use Case ID	UC-7
Scope	The specified system is under design.
Level	Admin Level

<table>
<tr><td>Primary Actor</td><td>Admin and Customer</td></tr>
<tr><td>Stakeholders & Interests</td><td>Student, Admin and Client</td></tr>
<tr><td>Pre-Conditions</td><td>Admin must be an authorized person.
Admin must be Login to the system.</td></tr>
<tr><td>Success Guarantee / Post Conditions</td><td>▪ Admin successfully manage and generate reports of sales, purchases, stocks and expenses.
▪ System prompts the admin to perform another action.</td></tr>
<tr><td>Main Success Scenario</td><td><table><tr><th>Actor’s Action</th><th>System’s Response</th></tr><tr><td>▪ Admin shall request the system to manage all reports e.g., sales, purchases, stock availability and expenses.
▪ Admin shall request to generate report of required field.
▪ Admin successfully generate the require report.</td><td>▪ System display list of all the repots.
▪ System show generate command on the screen.
▪ System successfully manage and generate reports of sales, purchases, stock availability and expenses.</td></tr></table></td></tr>
<tr><td>Extension</td><td>If logged in admin’s account is registered and admin can forget his/her password, then admin can reset his/her password. Admin can request to manage and generate reports of sales, purchases, stock availability and expenses. Admin can manage and generate all reports. If admin is not registered then he/she can’t manage and generate any report.</td></tr>
</table>

Table 2.1.9.8: Item Menu Description

Use Case Section	**Comments**
Use Case Name	Item Menu
Use Case ID	UC-8
Scope	The specified system is under design
Level	Admin and Customer Level
Primary Actor	Admin and Customer
Stakeholders & Interests	Student, Admin and Client
Pre-Conditions	Admin must be an authorized person. Admin must be login to the system.
Success Guarantee / Post Conditions	▪ Admin successfully manage item menu. ▪ Customer successfully view item menu and select an item it he/she like it.

<table>
<tr><td></td><td>▪ System prompts the admin to perform another action.</td></tr>
<tr><td>Main Success Scenario</td><td><table><tr><th>Actor’s Action</th><th>System’s Response</th></tr><tr><td>▪ Admin shall request the system to manage item meu.
▪ Admin shall request to add, delete, view and update items in item menu.
▪ Admin successfully manage item menu.
▪ Customer shall request the system to view item menu.
▪ Customer select an item from item menu.
▪ Customer successfully select item from item meu.</td><td>▪ System display item menu.
▪ System successfully update item menu.
▪ System display item menu.
▪ System save the selected item.</td></tr></table></td></tr>
<tr><td>Extension</td><td>If logged in admin’s account is registered and admin can forget his/her password, then admin can reset his/her password. Admin can Manage item menu. If admin is not registered then he/she can’t enter add, delete, view and update item in item menu.</td></tr>
</table>

Table 2.1.9.9: Manage Accounts Description

Use Case Section	**Comments**
Use Case Name	Manage Accounts
Use Case ID	UC-9
Scope	The specified system is under design.
Level	Admin Level
Primary Actor	Admin and Customer
Stakeholders & Interests	Student, Admin and Client
Pre-Conditions	Admin must be an authorized person. Admin must be login to the system.
Success Guarantee / Post Conditions	▪ Admin successfully manage accounts for estimation of profit loss and performance. ▪ System prompts the admin to perform another action.

<table>
<tr><td>Main Success Scenario</td><td><table><tr><th>Actor's Action</th><th>System's Response</th></tr><tr><td>Admin shall request the system to manage all accounts to generate business report.
Admin shall request to generate business report for estimation of profit, loss and performance.
Admin successfully generate the business report.</td><td>System display screen for account management.
System successfully generate business report.</td></tr></table></td></tr>
<tr><td>Extension</td><td>If logged in admin's account is registered and admin can forget his/her password, then admin can reset his/her password. Admin can request to manage and generate business reports for estimation of profit, loss and performance. Admin can manage and generate all business reports. If admin is not registered then he/she can't manage and generate any business report.</td></tr>
</table>

3. Design Document

3.1. Introduction

Third deliverable is all about the software design. In the previous deliverable, analysis of the system is completed. So, we understand the current situation of the problem domain. Now we are ready to strive for a solution for the problem domain by using object-oriented approach.

Following artifacts must be included in the 3rd deliverable.

- Sequence Diagrams
- Collaboration Diagram
- Design Class Diagram
- Data Model

3.2. Sequence Diagrams

A sequence diagram shows, a particular scenario of a use case, the events that external actors generate, their order, and possible inter-system events. It depicts the objects involved in the scenario and the sequence of messages exchanged between the objects needed to carry out the functionality of the scenario.

We draw different Sequence Diagrams of the Modules:

3.2.1. Admin Registration

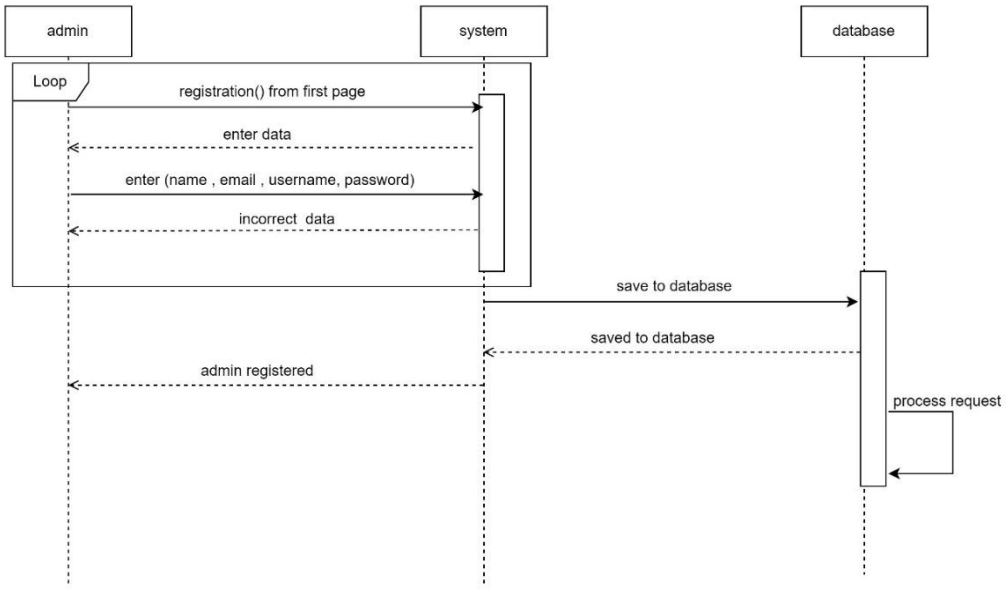

Figure 3.2.1: Admin Registration Sequence Diagram

3.2.2. Admin Login

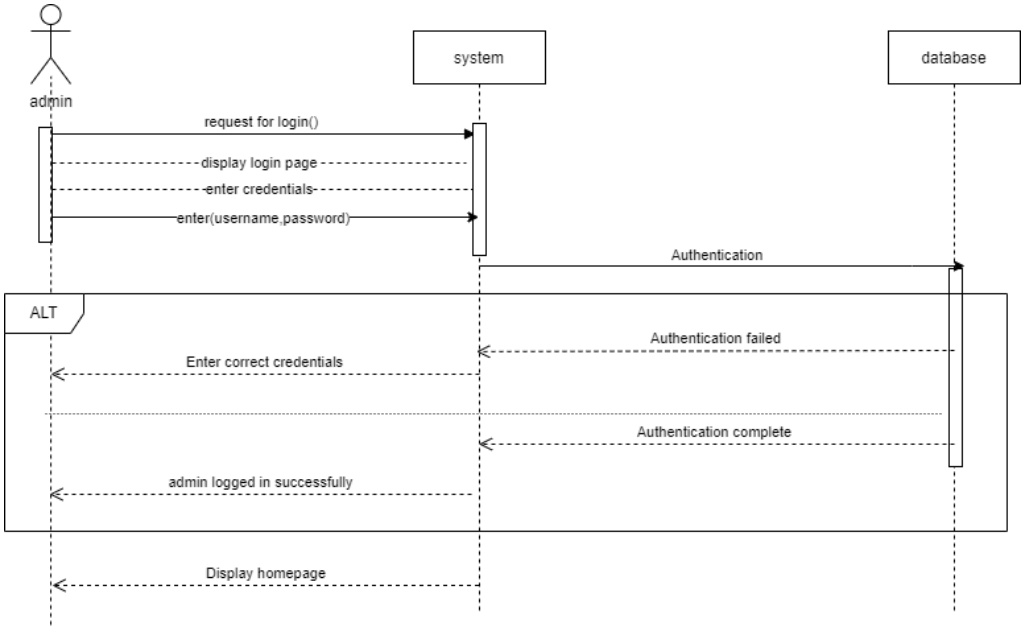

Figure 3.2.2: Admin Login Sequence Diagram

3.2.3. Record Management

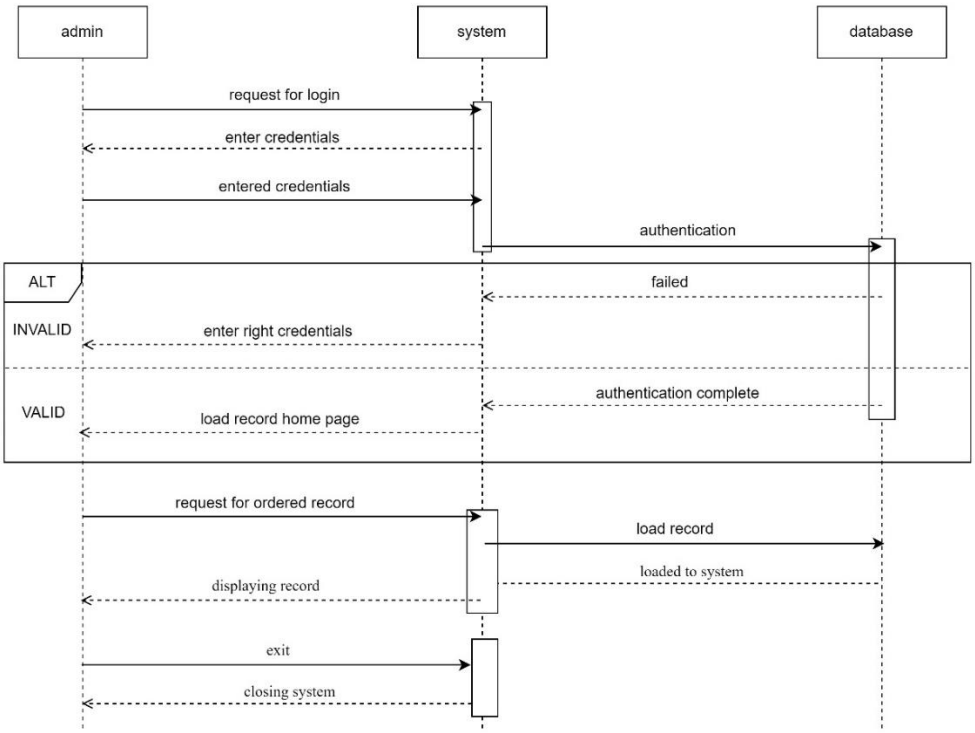

Figure 3.2.3: Record Management Sequence Diagram

3.2.4. Inventory Management

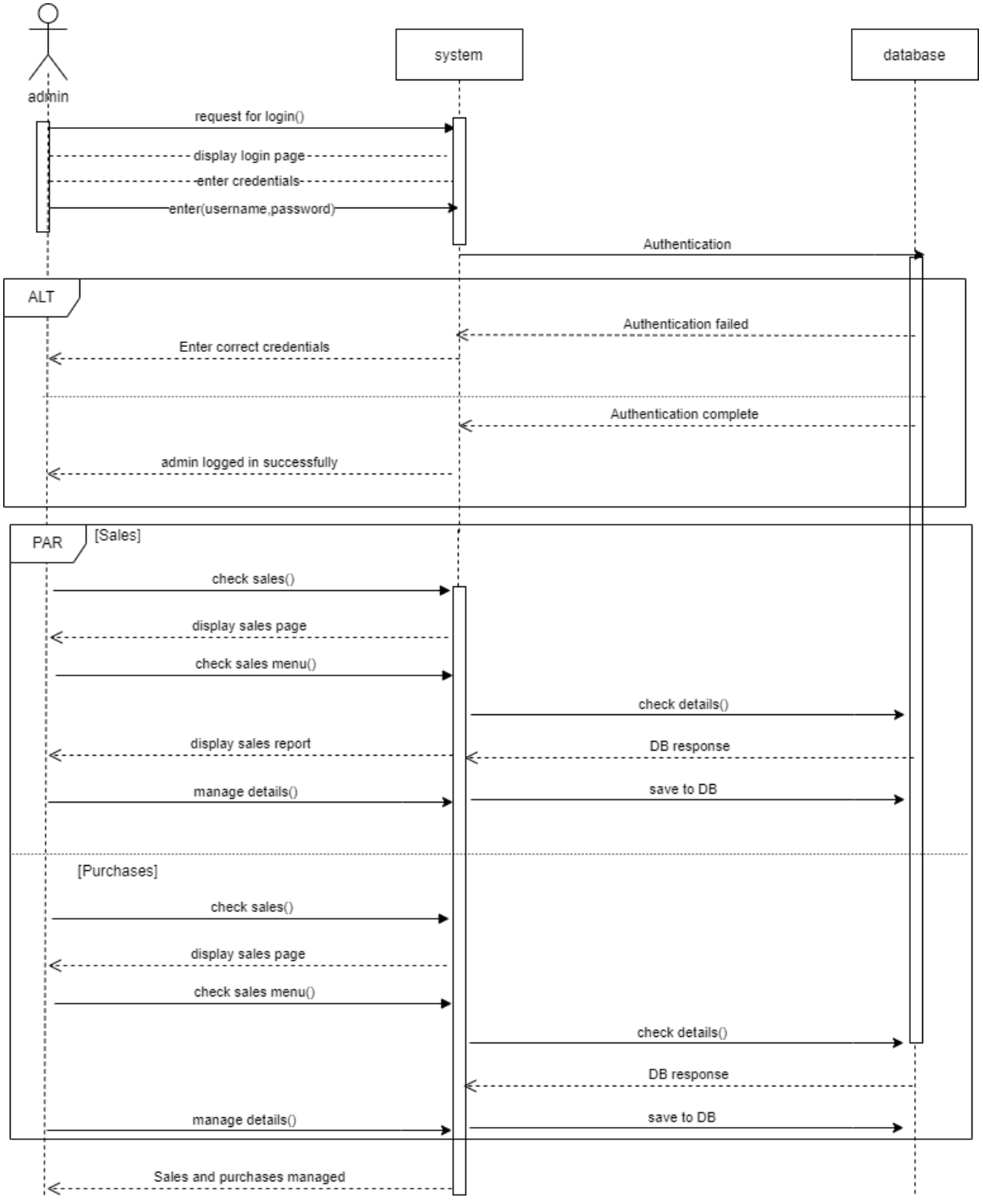

Figure 3.2.4: Inventory Management Sequence Diagram

3.2.5. Customer Order Product

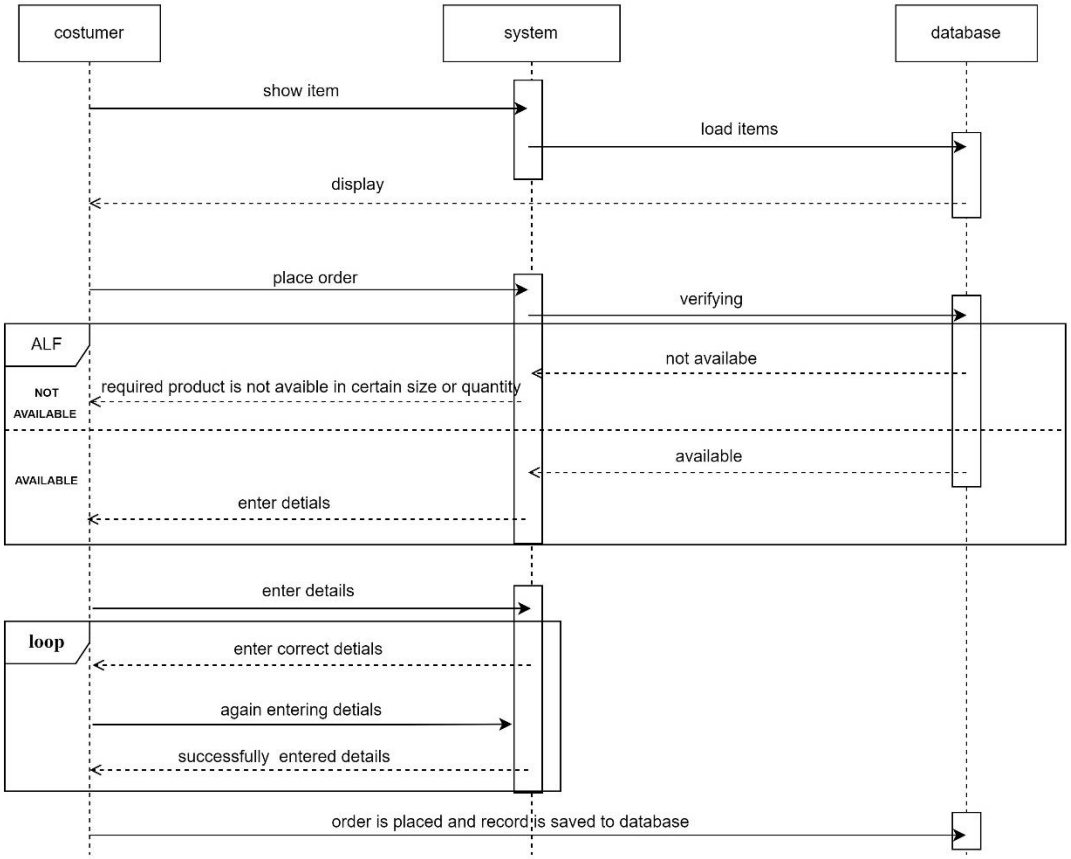

Figure 3.2.5: Customer Order Product Sequence Diagram

3.2.6. Expense Management

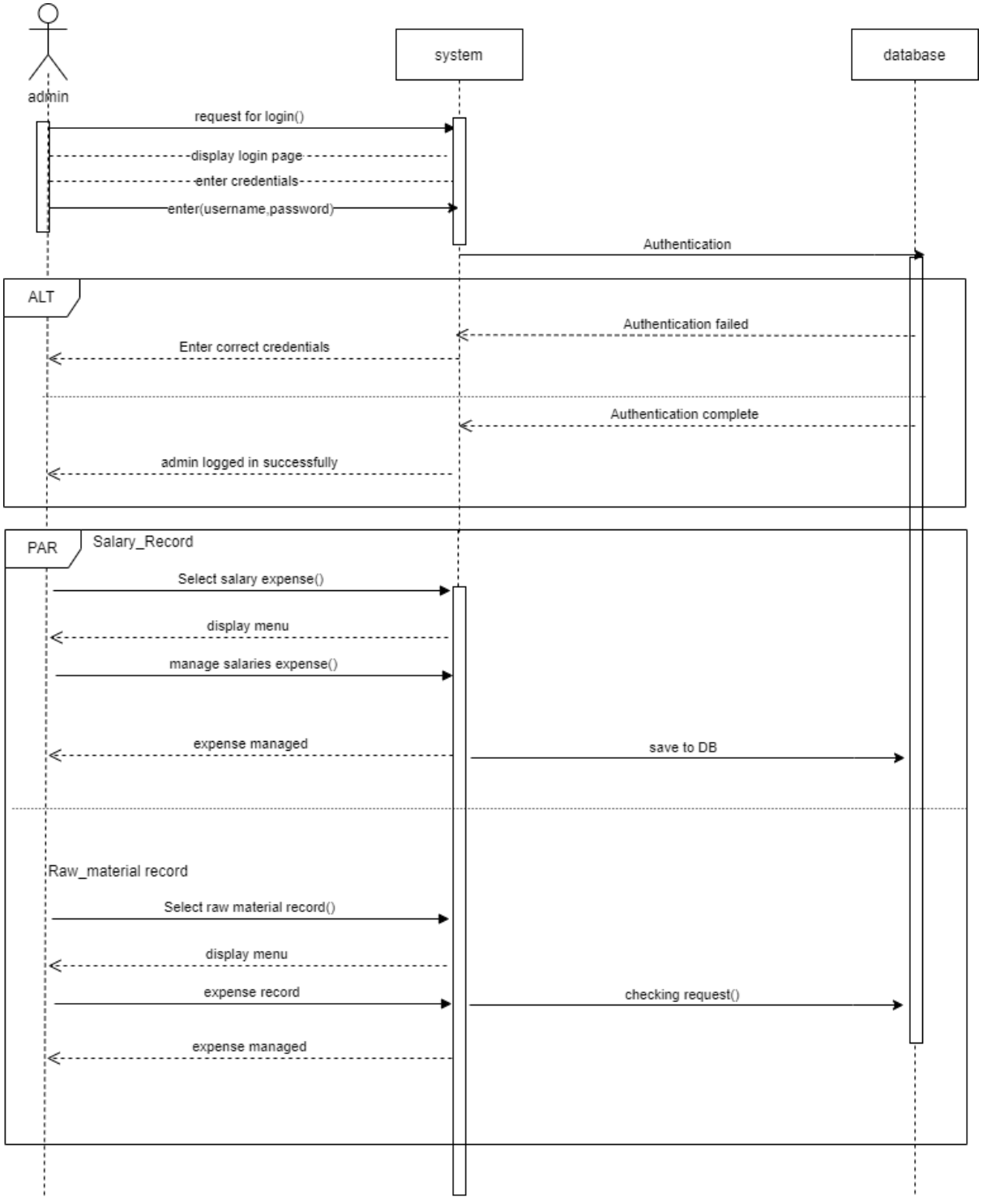

Figure 3.2.6: Expense Management Sequence Diagram

3.3. Collaboration Diagram

A collaboration diagram describes a pattern of interaction among objects; it shows the objects participating in the interaction by their links to each other and the messages that they send to each other.

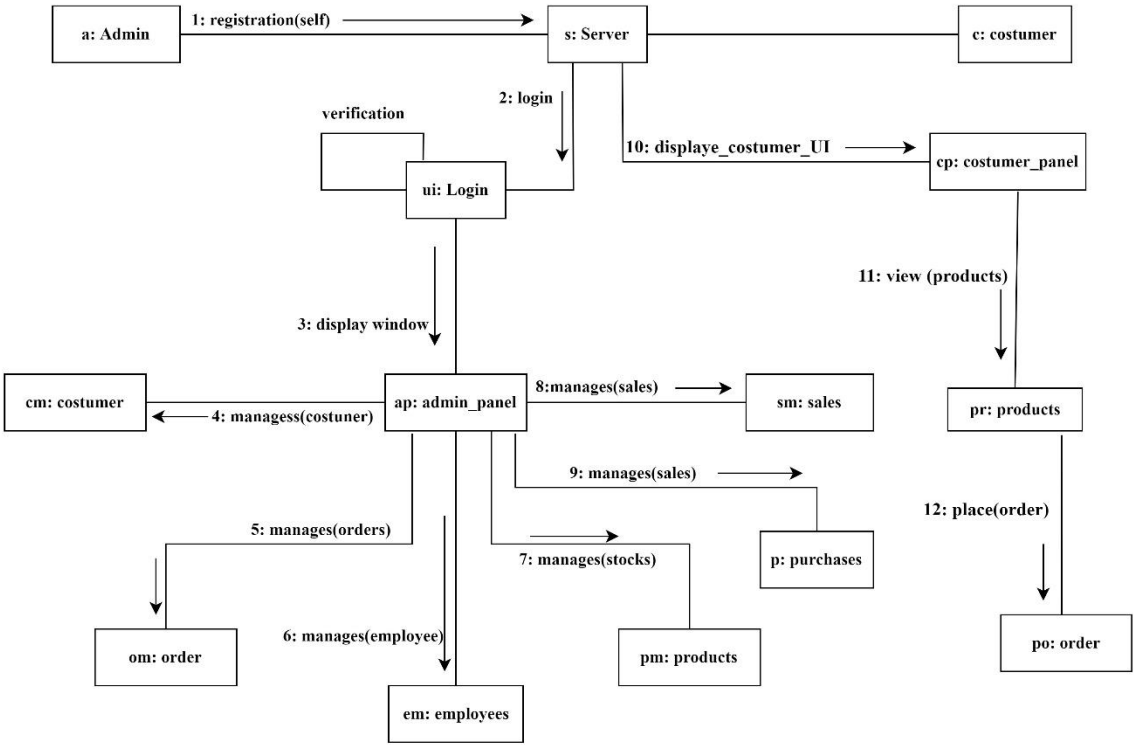

Figure 3.3: Collaboration Diagram

3.4. Class Diagram

Classes are the work-horses of the design effort they actually perform the real work of the system. The other design elements subsystems, packages and collaborations simply describe how classes are grouped or how they interoperate.

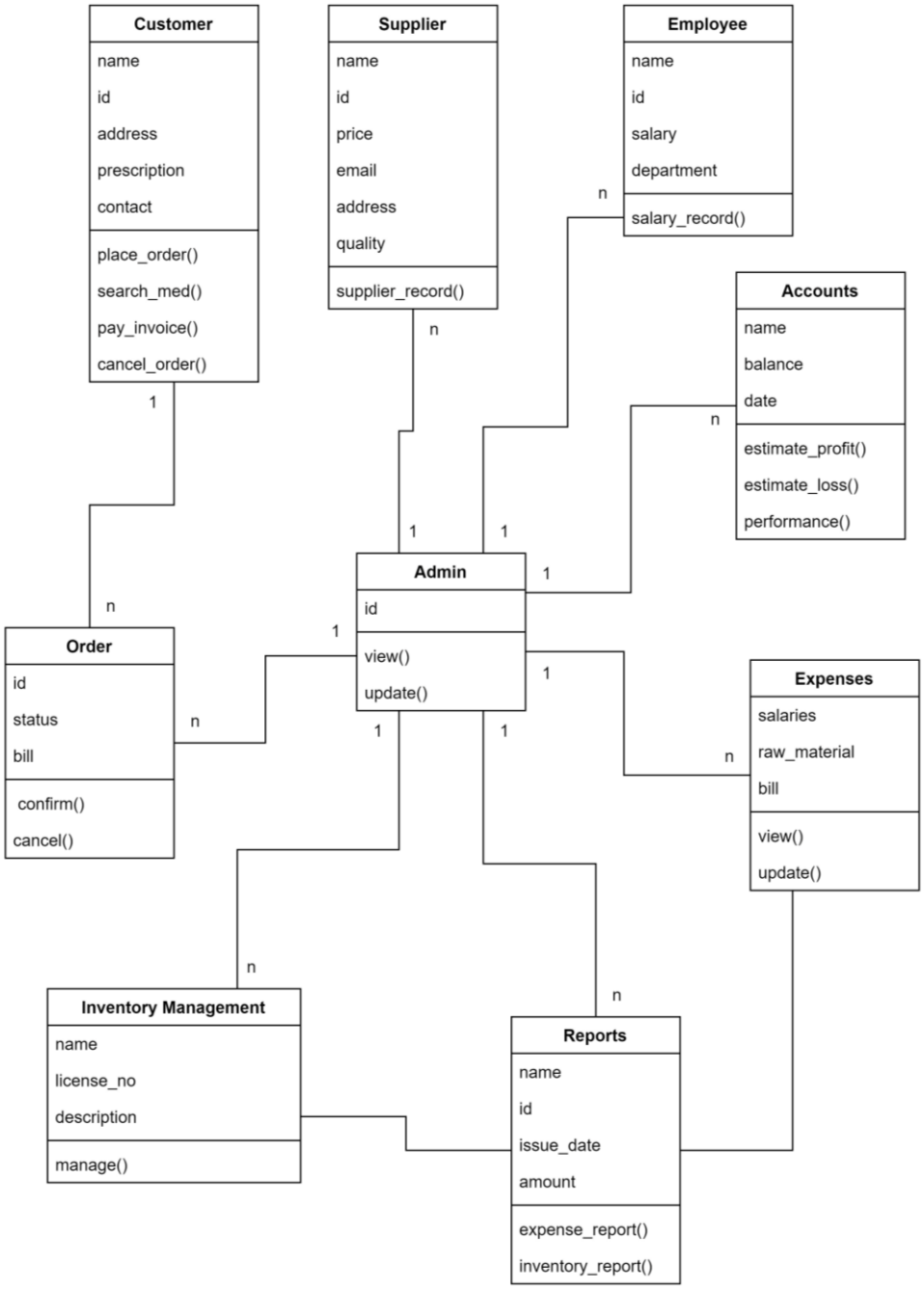

Figure 3.4: Class Diagram

4. Database Design

4.1. Introduction

Fourth deliverable is all about the Database Design. In the previous deliverable, we completed a design analysis. So, now we understand how the system is going to look like and how the things are going to work with each other. Now we are ready to give the first solution to the problem. The Database design is necessary for the data storing and retrieving.

4.2. Entity Relation Diagram

An entity relationship diagram (ERD), also known as an entity relationship model, is a graphical representation that depicts relationships among objects, concepts or events within a System.

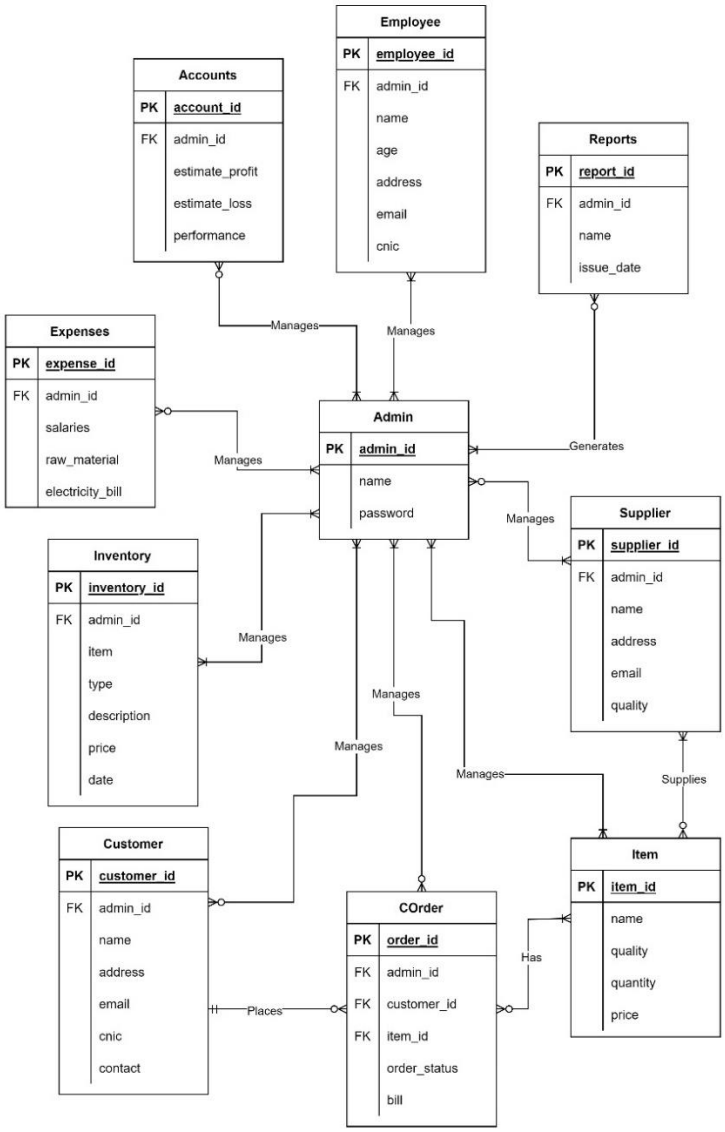

Figure 4.2: Entity Relation Diagram

4.3. Database Creation

Query to create and use database:

```
create database Medical_Store;
use Medical_Store;
```

4.4. Tables

4.4.1. Admin

Create table query:

```
create table Admin(
admin_id int not null primary key,
name varchar(20),
password varchar(20)
);
```

Table data using select query:

```
select * from Admin;
```

Results:

	admin_id	name	password
1	1001	James Hoog	qwerty
2	1002	Nail Knite	SanJoe
3	1003	Pit Alex	RomeParis

4.4.2. Customer

Create table query:

```
create table Customer(
customer_id int not null primary key,
admin_id int foreign key references Admin(admin_id),
name varchar(40),
address varchar(200),
email varchar(200),
cnic varchar(30),
contact varchar(30)
);
```

Table data using select query:

```
select * from Customer;
```

Results:

	customer_id	admin_id	name	address	email	cnic	contact
1	1	1003	Hedwiga Boeck	2469 Hudson Way	hboeck0@goo.ne.jp	517-60-2394	855-333-8849
2	2	1002	Portia Slinn	47317 Orin Hill	pslinn1@hud.gov	376-69-1535	729-470-4063
3	3	1002	Isidora Sabie	32 Westridge Terrace	isabie2@macromedia.com	528-74-7007	441-463-3862
4	4	1001	Sergio MacAindreis	65119 Oneill Drive	smacaindreis3@sourceforge.net	252-82-6112	885-959-8981
5	5	1001	Cesaro Grent	714 Grasskamp Crossing	cgrent4@1und1.de	740-80-6008	971-605-8951
6	6	1003	Hana Mc Queen	53 Garrison Way	hmc5@cnet.com	555-07-5650	415-484-0566
7	7	1001	Moyna Kuhlen	3 Sage Crossing	mkuhlen6@yandex.ru	312-29-5138	895-317-3044
8	8	1001	Lexine Gaukrodge	31566 Jana Circle	lgaukrodge7@joomla.org	832-26-8071	437-939-1530
9	9	1002	Ophelie Waliszek	3573 Raven Lane	owaliszek8@pinterest.com	445-37-5813	295-105-0367
10	10	1003	Ewan Bourley	58 Sage Point	ebourley9@mediafire.com	138-67-3036	855-556-0239
11	11	1003	Yorgos Waudby	0 Gerald Center	ywaudbya@altervista.org	419-67-0733	240-916-4685
12	12	1001	Farleigh Kilner	37 Fair Oaks Drive	fkilnerb@amazonaws.com	464-63-3785	456-881-4336
13	13	1002	Earvin Puckrin	833 Homewood Way	epuckrinc@yandex.ru	757-70-1743	443-531-8985
14	14	1003	Datha Girardet	95790 Fisk Alley	dgirardetd@aol.com	307-72-2602	898-213-6635
15	15	1003	Donnamarie Suggate	94 Norway Maple Drive	dsuggatee@issuu.com	332-51-5861	886-237-2952
16	16	1002	Mal Brunnen	04 Sutteridge Plaza	mbrunnenf@globo.com	201-07-0005	999-807-9590
17	17	1002	Brigitta Halesworth	597 Schmedeman Cros...	bhalesworthg@privacy.gov.au	571-71-2342	286-899-8995
18	18	1003	Jeremy Flucker	92 Sachs Crossing	jfluckerh@woothemes.com	260-29-4636	138-859-6801
19	19	1002	Geri Maddigan	1 Dorton Road	gmaddigani@un.org	429-46-6650	367-391-9951

4.4.3. Item

Create table query:

```
create table Item(
item_id int not null primary key,
name varchar(30),
quality varchar(20),
quantity int,
price float
);
```

Table data using select query:

```
select * from Item;
```

Results:

	item_id	name	quality	quantity	price
1	1	Curly Dock	in	25	579.12
2	2	WITCH HAZEL	mauris	30	964.83
3	3	CEFPROZIL	ante	3	943.42
4	4	Doxapram hydrochloride	mauris	80	552
5	5	Oxcarbazepine	mi	75	369.92
6	7	Ibuprofen	at	45	379.36
7	8	Aspirin, Caffeine	quam	69	218.12
8	9	NITROGEN	sagittis	38	94.01
9	10	iothalamate meglumine	lacinia	68	542.14
10	11	Naproxen sodium	tempus	43	342.35
11	12	Benzoyl Peroxide	venenatis	91	53.9
12	13	SERTRALINE HYDROCHLORIDE	velit	44	370.41
13	14	Metoprolol succinate	in	65	954.58
14	15	Metoprolol Tartrate	nullam	55	145.83

4.4.4. COrder

Create table query:

```
create table COrder(
order_id int not null primary key,
customer_id int foreign key references Customer(customer_id),
item_id int foreign key references Item(item_id),
```

```
admin_id int foreign key references Admin(admin_id),
order_status varchar(20),
bill float
);
```

Table data using select query:

```
select * from COrder;
```

Results:

	order_id	customer_id	item_id	admin_id	order_status	bill
1	1	475	382	1002	pending	301.67
2	2	863	987	1003	completed	832.39
3	3	840	795	1003	completed	326.14
4	4	237	414	1001	completed	912.5
5	5	516	12	1002	pending	740.23
6	7	881	113	1002	completed	132.76
7	9	653	120	1003	completed	172.07
8	12	715	30	1002	completed	148.76
9	13	387	699	1001	completed	264.55
10	14	678	557	1001	completed	645.77
11	15	683	289	1002	completed	378.17
12	16	229	678	1003	completed	196.55
13	17	418	884	1001	completed	737.3
14	19	852	357	1003	pending	70.09
15	22	559	837	1001	completed	362.23

4.4.5. Employee

Create table query:

```
create table Employee(
employee_id int not null primary key,
admin_id int foreign key references Admin(admin_id),
name varchar(40),
age int,
address varchar(200),
email varchar(200),
cnic varchar(30)
);
```

Table data using select query:

```
select * from Employee;
```

Results:

	employee_id	admin_id	name	age	address	email	cnic
1	1	1001	Gannon Lovejoy	49	8 Moland Pass	glovejoy0@apple.com	376-06-1467
2	2	1003	Hashim Sheddan	44	7 Forest Crossing	hsheddan1@delicious.com	610-17-2428
3	3	1002	Tris Tryhorn	48	40 Oriole Court	ttryhorn2@gravatar.com	269-76-7702
4	4	1003	Perri Grundon	55	55 Transport Circle	pgrundon3@digg.com	808-49-9389
5	5	1002	Emera Petrosian	42	05 Northfield Pass	epetrosian4@macromedia.com	426-56-3779
6	6	1003	Jewelle Leathers	41	04 Drewry Hill	jleathers5@bloglovin.com	609-09-0332
7	7	1001	Vevay Faint	62	8 Mosinee Center	vfaint6@github.com	695-52-7198
8	8	1002	Eugen Matignon	62	60391 Michigan Lane	ematignon7@hud.gov	253-69-3119
9	9	1003	Zachary Brocking	24	946 Westerfield Junction	zbrocking8@wordpress.com	438-67-6669
10	10	1003	Des Allden	27	33351 Bonner Road	dallden9@virginia.edu	750-73-4933
11	11	1001	Evania Jurgensen	62	5 Iowa Way	ejurgensena@prweb.com	219-65-6104
12	12	1003	Dex Lum	35	7 Alpine Center	dlumb@accuweather.com	166-05-2016
13	13	1003	Reamonn Jepp...	18	37557 Bellgrove Place	rjeppensenc@chron.com	353-77-6942
14	14	1001	Elberta Regler	39	0 4th Parkway	ereglerd@fotki.com	877-82-2767
15	15	1002	Sonny Drillingco...	74	21 Hoffman Park	sdrillingcourte@wix.com	348-73-4068

4.4.6. Report

Create table query:

```
create table Report(
report_id int not null primary key,
admin_id int foreign key references Admin(admin_id),
name varchar(30),
issue_date varchar(20)
);
```

Table data using select query:

```
select * from Report;
```

Results:

	report_id	admin_id	name	issue_date
1	1	1001	sales	12/13/2021
2	2	1001	purchases	11/17/2021
3	3	1001	e-bill	10/28/2021
4	4	1003	e-bill	6/30/2022
5	5	1003	sales	11/24/2021
6	6	1003	purchases	10/31/2021
7	7	1001	salary	6/4/2022
8	8	1002	purchases	11/15/2021
9	9	1002	sales	2/4/2022
10	10	1001	e-bill	3/1/2022
11	11	1002	purchases	9/3/2021
12	12	1002	sales	6/29/2022
13	13	1003	purchases	10/20/2021
14	14	1001	purchases	11/14/2021
15	15	1002	miscella...	12/12/2021

4.4.7. Accounts

Create table query:

```
create table Accounts(
account_id int not null primary key,
admin_id int foreign key references Admin(admin_id),
estimate_profit int,
estimate_loss int,
performance varchar(20)
);
```

Table data using select query:

```
select * from Accounts;
```

Results:

	account_id	admin_id	estimate_profit	estimate_loss	performance
1	1	1001	9711	1034	bad
2	2	1003	7405	9838	nill
3	3	1001	2511	3535	best
4	4	1001	4000	5919	nill
5	5	1002	8664	8957	good
6	6	1003	9682	2130	nill
7	7	1002	2105	9938	bad
8	8	1001	9814	10000	best
9	9	1001	1597	1757	good
10	10	1001	5109	9644	nill
11	11	1003	2877	6152	nill
12	12	1002	3588	1026	bad
13	13	1002	4113	6097	bad
14	14	1001	2008	3082	good
15	15	1003	8615	3138	nill

4.4.8. Supplier

Create table query:

```
create table Supplier(
supplier_id int not null primary key,
admin_id int foreign key references Admin(admin_id),
name varchar(30),
address varchar(200),
email varchar(200),
quality varchar(20)
);
```

Table data using select query:

```
select * from Supplier;
```

Results:

	supplier_id	admin_id	name	address	email	quality
1	1	1001	Malissa Francis	94055 Crownhardt Trail	mfrancis0@adobe.com	best
2	2	1001	Bartolemo Lansly	92 Moose Terrace	blansly1@icq.com	good
3	3	1002	Renae Sheers	5578 American Court	rsheers2@free.fr	best
4	4	1001	Rory Degg	88 Lien Terrace	rdegg3@discuz.net	good
5	5	1003	Sacha Fleeman	219 Thierer Crossing	sfleeman4@sogou.com	bad
6	6	1002	Jacquenetta Trumper	599 Hanson Terrace	jtrumper5@yellowbook.com	good
7	7	1001	Osgood Whereat	3 Debra Trail	owhereat6@facebook.com	good
8	8	1003	Larine Loweth	481 Shelley Drive	lloweth7@rambler.ru	nill
9	9	1002	Jasper Rockhall	2837 Havey Park	jrockhall8@nydailynews.c...	nill
10	10	1001	Olympie Edinburgh	68 Hallows Avenue	oedinburgh9@fotki.com	best
11	11	1001	Rudie Sims	8 Mallard Junction	rsimsa@oaic.gov.au	bad
12	12	1003	Kimberlee Blaszczy...	21549 Elmside Park	kblaszczynskib@bloglines...	good
13	13	1003	Wiatt Penni	8 Nobel Terrace	wpennic@blogtalkradio.co...	nill
14	14	1002	Haley Ciobotaro	578 Cody Place	hciobotarod@economist.c...	bad
15	15	1001	Danella Tieraney	36 Dennis Circle	dtieraneye@google.cn	nill

4.4.9. Inventory

Create table query:

```
create table Inventory(
inventory_id int not null primary key,
admin_id int foreign key references Admin(admin_id),
item varchar(30),
type varchar(30),
description varchar(200),
price float,
date varchar(20)
);
```

Table data using select query:

```
select * from Inventory;
```

Results:

	inventory_id	admin_id	item	type	description	price	date
1	1	1003	Oxygen	external	eu orci mauris lacinia	749.1	5/1/2022
2	2	1001	Amitriptyline Hydrochloride	internal	morbi porttitor lorem id	300.07	9/18/2021
3	3	1002	Prednisolone	internal	sollicitudin ut suscipit a	730.24	7/8/2022
4	4	1001	Famotidine	internal	in quis justo maecenas rhoncus	307.52	8/26/2021
5	5	1002	equate nicotine	external	nibh fusce lacus	492.11	4/27/2022
6	6	1002	Good Sense Miconazole 7	internal	vestibulum ante ipsum primis in	462.89	8/31/2021
7	8	1001	Extreme GH	external	sapien sapien	467.1	9/27/2021
8	9	1001	Shagbark Hickory Pollen	external	tristique est et tempus semper	203.08	7/18/2022
9	10	1001	Sulindac	internal	ligula pellentesque	968.03	6/1/2022
10	11	1002	Zosyn	internal	eleifend luctus ultricies	162.45	3/17/2022
11	13	1003	Pramipexole dihydrochlo...	internal	quam nec dui	474.28	6/3/2022
12	14	1003	Pain Reliever PM	external	massa volutpat convallis	342.04	11/15/2...
13	15	1002	Aspergillus flavus	external	dictumst maecenas ut massa ...	631.92	7/20/2022
14	16	1001	Doxorubicin Hydrochloride	external	donec diam	997.35	3/30/2022
15	17	1003	Wheat Bunt	external	mi integer ac neque	610.25	7/26/2022

4.4.10. Expenses

Create table query:

```
create table Expenses(
expense_id int not null primary key,
admin_id int foreign key references Admin(admin_id),
salaries int,
raw_material int,
electricity_bill int
);
```

Table data using select query:

```
select * from Expenses;
```

Results:

	expense_id	admin_id	salaries	raw_material	electricity_bill
1	1	1003	1865	5280	3110
2	2	1002	6860	1980	1881
3	3	1003	7958	11877	4029
4	4	1003	6726	11653	2669
5	5	1001	6586	5624	817
6	6	1002	6469	10938	1038
7	7	1003	2546	8838	4304
8	8	1002	6981	2890	1809
9	9	1001	4502	1953	1479
10	10	1001	2720	1564	28
11	11	1002	2301	4068	3829
12	12	1003	4859	3626	2183
13	13	1001	5311	14972	1400
14	14	1002	3734	12055	4329
15	15	1003	6447	1315	2451
16	16	1001	7457	3138	3932

4.5. Select Queries

4.5.1. Order, Item and Customer

Select query:

```
select COrder.order_id, Item.item_id, Customer.customer_id, Customer.name,
order_status
from COrder
join Customer on COrder.customer_id = Customer.customer_id
join Item on Item.item_id = COrder.item_id order by order_id;
```

Results:

	order_id	item_id	customer_id	name	order_status
1	1	382	475	Francis Dowry	pending
2	2	987	863	Greg Mulran	completed
3	3	795	840	Goldy Mathelon	completed
4	4	414	237	Paulie Niessen	completed
5	5	12	516	Violette Gero	pending
6	7	113	881	Otis Twelvetree	completed
7	9	120	653	Pernell McGenis	completed
8	12	30	715	Atlanta Larby	completed
9	13	699	387	Ruthe Crat	completed
10	14	557	678	Virginie Hearsey	completed
11	15	289	683	Tyne Messam	completed
12	16	678	229	Aubrey Blackall	completed
13	17	884	418	Kleon Plak	completed
14	19	357	852	Melisandra Go...	pending
15	22	837	559	Kenon Jepson	completed

4.5.2. Item and Order

Select query:

```
select order_id, name, price as unit_price, order_status
from COrder
join Item
on COrder.item_id = Item.item_id;
```

Results:

	order_id	name	unit_price	order_status
1	953	Curly Dock	579.12	completed
2	638	Oxcarbazepine	369.92	completed
3	663	Ibuprofen	379.36	completed
4	699	Ibuprofen	379.36	pending
5	755	Ibuprofen	379.36	completed
6	301	Ibuprofen	379.36	completed
7	391	Ibuprofen	379.36	completed
8	98	Aspirin, Caffeine	218.12	pending
9	472	Aspirin, Caffeine	218.12	completed
10	262	Naproxen sodium	342.35	pending
11	282	Benzoyl Peroxide	53.9	completed
12	5	Benzoyl Peroxide	53.9	pending
13	480	Benzoyl Peroxide	53.9	pending
14	415	Benzoyl Peroxide	53.9	pending
15	759	Metoprolol succinate	954.58	pending

4.5.3. Admin and Reports

Select query:

```
select Admin.admin_id, report_id, report.name, issue_date
from Report
join Admin
on Admin.admin_id = Report.admin_id;
```

Results:

	admin_id	report_id	name	issue_date
1	1001	1	sales	12/13/2021
2	1001	2	purchases	11/17/2021
3	1001	3	e-bill	10/28/2021
4	1003	4	e-bill	6/30/2022
5	1003	5	sales	11/24/2021
6	1003	6	purchases	10/31/2021
7	1001	7	salary	6/4/2022
8	1002	8	purchases	11/15/2021
9	1002	9	sales	2/4/2022
10	1001	10	e-bill	3/1/2022
11	1002	11	purchases	9/3/2021
12	1002	12	sales	6/29/2022
13	1003	13	purchases	10/20/2021
14	1001	14	purchases	11/14/2021
15	1002	15	miscella...	12/12/2021

4.5.4. Customer and Order

Select query:

```
select Customer.customer_id, name, address, order_id, item_id, order_status
from Customer
join COrder
on COrder.customer_id = COrder.customer_id;
```

Results:

	customer_id	name	address	order_id	item_id	order_status
1	1	Hedwiga Boeck	2469 Hudson Way	1	382	pending
2	2	Portia Slinn	47317 Orin Hill	1	382	pending
3	3	Isidora Sabie	32 Westridge Terrace	1	382	pending
4	4	Sergio MacAindreis	65119 Oneill Drive	1	382	pending
5	5	Cesaro Grent	714 Grasskamp Crossing	1	382	pending
6	6	Hana Mc Queen	53 Garrison Way	1	382	pending
7	7	Moyna Kuhlen	3 Sage Crossing	1	382	pending
8	8	Lexine Gaukrodge	31566 Jana Circle	1	382	pending
9	9	Ophelie Waliszek	3573 Raven Lane	1	382	pending
10	10	Ewan Bourley	58 Sage Point	1	382	pending
11	11	Yorgos Waudby	0 Gerald Center	1	382	pending
12	12	Farleigh Kilner	37 Fair Oaks Drive	1	382	pending
13	13	Earvin Puckrin	833 Homewood Way	1	382	pending
14	14	Datha Girardet	95790 Fisk Alley	1	382	pending
15	15	Donnamarie Sug...	94 Norway Maple Drive	1	382	pending

4.6. Database Diagram

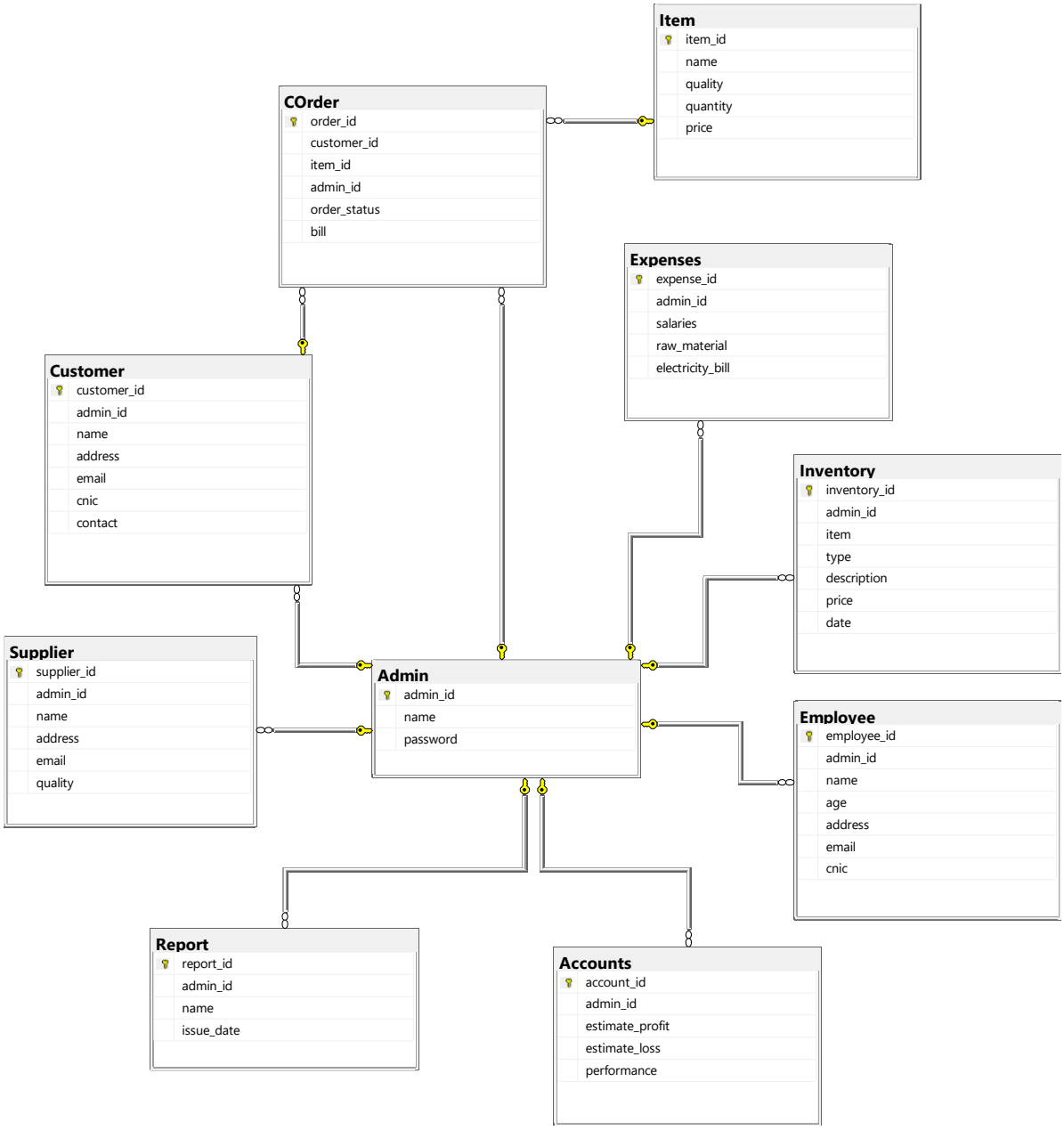

Figure 4.6: Database Diagram