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PRINITING PRESS MANAGEMENT SYSTEM

In partial fulfilment of the requirements for the degree of

Bachelor of Science in Computer Science

Supervisor: ASGHAR ALI SHAH

Department of Computer Sciences

Bahria University, Lahore Campus

June 2018

C e r t i f i c a t e

We accept the work contained in the report titled
"PRINTING PRESS MANAGEMENT SYSTEM",
written by
AMMAD HASSAN
AMMAR MAQSOOD

as a confirmation to the required standard for the partial fulfilment of the degree of Bachelor of Science in Computer Science.

Approved by:

Supervisor: Mr. ASGHAR ALI SHAH

_____ (Signature)

June 4*th*, 2018

DECLARATION

We hereby declare that this project report is based on our original work except for citations and **quotations** which have been duly acknowledged. We also declare that it has not been previously and concurrently submitted for any other degree or award at Bahria University or other institutions.

Enrolment	Name	Signature
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Date : _____

Specially dedicated to

My beloved grandmother, mother and father

(AMMAD HASSAN)

My beloved grandmother, mother and father

(AMMAR MAQSOOD)

ACKNOWLEDGEMENTS

We would like to thank everyone who had contributed to the successful completion of this project. We would like to express my gratitude to my research supervisor, ASGHAR ALI SHAH for his invaluable advice, guidance and his enormous patience throughout the development of the research.

In addition, we would also like to express my gratitude to our loving parent and friends who had helped and given me encouragement.

AMMAD HASSAN
AMMAR MAQSOOD

PRINTING PRESS MANAGEMENT SYSTEM (ERP)

ABSTRACT

Printing press Organization need a Printing Press Management System, which is designed to provide a cheap, easy, and quick-response system. Printing press organization currently using manual system. The efficiency of manual system is not quite enough for the organization, for increasing the efficiency printing press organization need the automatic management system. Which will cover all the aspect of current manual system with few enhancement. Which increase the efficiency of organizational work. This will proper desktop application, which having a database for keeping all kinds of organizational records. It will be having a feature of shared database, which connect through main server and provide facility for other computer users to access the main server database according to the privileges assigned to them. The reason user need automatic management system is to compete with market trend. The Organization have well reputation and number of permanent clients due to the excellent work. This initiate taken by the CEO of organization to convert manual system into automating system.

The user will install the desktop application onto their office computer and through the account get login into the system. Once login to the account the user can able to interact with the printing press management system. User can mark their attendance take the order give feedback to report section and see their salary slip. The User can able to see the details of vendor, customer and check the inventory details. User can also get the notification of process information. User can able to generate the report according to the previous feedbacks. Three type of user will be interact with the system. It can be Employee, Admin and Owner.

Printing Press Management System is the best solution for the upcoming problems of the organization. This ERP System is the need of the organization to keep up with the market trends and increase the efficiency of their organization. All the data is collected from the organization by putting questioner, MCQ and by taking the interviews of main product champions. These champions define by the organization. The raw data is verify with the product consumers. Printing Press Organization is agree upon all the conformance and validity of the requirement given by the product champions.

The main goal is to provide the best solution for the printing press organization, which increase the work efficiency

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LIST OF SYMBOLS / ABBREVIATIONS

PPO – Printing Press Organization

APPMS –Printing Press Management System

PP - Project Plan

CHAPTER 1

INTRODUCTION

1.1 Background

Printing Press Management System (PPMS) is a desktop application system which will convert current manual management system of organization into automate management system, having all the modules for an organizational requirements. The printing press management system is client request. The client is having his own business of printing press. He is the CEO of his company, right now they are doing work on a manual system. They have manual management system, on which they are encountering many hurdles, so they want to come on automatic management system. This system will cover all the aspect of current manual system but few enhancement will make it better for the organization. These enhancements will be made in the system on the request of our client, desktop application having a database for keeping all kinds of organizational records. It will be a proper desktop application. It will be having a feature of shared database, which connect through main server and provide facility for other computer users to access the main server database according to the privileges assigned to them. The reason they want to make automatic management system is to compete with market trend. They have really well reputation and number of permanent clients due to their excellent work. This initiate taken by their CEO to convert their manual system into automating system.

The user will install the desktop application onto their office computer and through the account get login into the system. Once login to the account the user can able to interact with the printing press management system. User can mark their attendance take the order give feedback to report section and see their salary slip. The User can able to see the details of vendor, customer and check the inventory details. User can also get the notification of process information. User can able to generate the report according to the previous feedbacks. Three type of user will be interact with the system. It can be Employee, Admin and Owner.

Printing Press Management System is the best solution for the upcoming problems of the organization. This ERP System is the need of the organization to keep up with the market trends and increase the efficiency of their organization. All the data is collected from the organization by putting questioner, MCQ and by taking the interviews of main product champions. These champions define by the organization. The raw data is verify with the product consumers. Printing Press Organization is agree upon all the conformance and validity of the requirement given by the product champions.

The main goal is to provide the best solution for the printing press organization, which increase the work efficiency.

1.2 Problem Statements

Printing Press Organization Currently handling all things manually their main problem is keeping their record manually I-e customer's information, vendor's information, managing their employees information, on time delivery report generation, sometime order remembering due to load of orders, salary generation for this employee and their attendance issues. This system is capable of resolving their current issues according to their requirement specification. This system is the best solution for their problems and will give them relief for their current organizational issues. This system will provide a bug free software environment to the end-user.

1.3 Aims and Objective

Objectives of PPMS would be as follows:

- To provide automate management system which having the capabilities just like manual management system but with some enhancements.
- To provide proper computerized management to the organization in which every software user has his own privileges assigned by one and only root user of this software.
- To provides proper database system in order to enable the organization to keep their record effectively.
- To Enable the Organization, take decision in the future, on the basis of reports generated by the software.

1.4 Scope

The Printing Press Organization (PPO) is requesting proposals to build an Automated Printing Press Management System (PPMS) for their current system. This new PPMS needs to be scalable enough so that it can accommodate the increase in order caused by Printing Press Organization. The system will be designed to provide an electronic version of the current manual management system. The system will have a user-friendly graphical interface and will be more cost effective compared to the current non-electronic version of the printing press organization.

The objectives of this development effort are:

- To provide automate management system which having the capabilities just like manual management system but with some enhancements.

- To provide proper computerized management to the organization in which every software user has his own privileges assigned by one and only root user of this software.

- To provides proper database system in order to enable the organization to keep their record effectively.

1.5 Project/Product Costing

A metric is some measurement we can make of a product or process in the overall development process. Metrics are split into two broad categories:
Knowledge oriented metrics: these are oriented to tracking the process to evaluate, predict or monitor some part of the process.
Achievement oriented metrics: these are often oriented to measure some product aspects, often related to some overall measures of quality of the product.

1.5.1 Project Cost Estimation by Function Point Analysis

External Inputs		
No.	**Inputs**	**Complexity**
1.	order and information record	Average
2.	Process information record	Average
3.	Vendor record	Average
4.	Notification service	Low
5.	Login data of admin or employee	High

EXTERNAL INPUT TABLE 1.0 1

External Outputs:		
No.	**Outputs**	**Complexity**
1.	View Attendance Employee/Admin	Average
2.	Employee/Admin salary	Average
3.	Sale information	High
4.	Get Notification	Low
5.	Profile	Low
6.	Inventory information	Average
7.	Report	High

EXTERNAL OUTPUT TABLE 1.02

External Inquires:		
No.	**Inquiries**	**Complexity**
1.	Employee salary slip	High
2.	Sale record updating	High
3.	Order progress	Average

EXTERNAT INQUIRES 1.03

Internal Logic Files:		
No.	**Logical Files**	**Complexity**
1.	Database for notification	Low
2.	Database for vender/inventory/customer	High
3.	Layout Database for final report	Average

INTERNAL LOGIC FILES 1.04

External Interface Files:		
No.	**Interface Files**	**Complexity**
1.	API	Average

Type of component	Complexity of components				
	Count	Low	Average	High	Total
External Inputs	5	1*3	3*4	1*6	21
External Outputs	7	1*4	3*5	3*7	37
External Inquiries	3	0*3	1*4	2*6	16
External Logical Files	3	1*7	1*10	1*15	32
Internal Interface Files	1	0*5	1*7	0*10	7

Total number of unadjusted function points	103

EXTERNAL INTERFACE FLIES TABLE 1.05

Value Adjustment Factors

Sr.	Factors	0-5
1	Data communications	5
2	Distributed data processing	4
3	Performance	4
4	Heavily used configuration	1
5	Transaction rate	2
6	On-Line data entry	1
7	End-user efficiency	3
8	On-Lineup date	1
9	Complex processing	2
10	Reusability	4
11	Installation ease	5
12	Operational ease	5
13	Multiple sites	2
14	Facilitate change	4
	Value Adjustment Factor $\sum Fi$	**43**

VALUE ADJUSTMENT FACTORS TABLE 1.06

FP Estimate = Count Total * [0.65 + 0.01 * (Fi)]

FP estimate = 103* [0.65 + (0.01 * 43)]

FP estimate = 111.24 FP

Productivity parameter = FP estimate/Hours per function

= 111.24/2
= 55.62

Labor Rate = 15000**Rs. /PM**

Cost / FP = Labor Rate / Productivity Parameter

=15000 / 55.62

=270 Rs/FP

Total Project Cost = FP est. * (Cost / FP)

= 111.24 * 270
= RS. 30035

Total Estimated Effort = FP est. / productivity parameter

= 111.24 /55.62
= 2 pm

1.6 Introduction to Team member and their skill set

Group Leader: Ammad Hassan			
Project Members:			
Name	Roll No.	Email Address	Signature
Ammar Maqsood	03-134142-025	Ammarkhan967@gmail.com	
Ammad Hassan	03-134142-055	ammadhassanqureshi@gmail.com	

INTRODUCTION TO TEAM TABLE 1.07

Ammad Hassan

He is the group leader and will manage and co-ordinate all the activities. He will divide activities among the group members; provide them with all the given requirements, constraints and the scope. He is responsible for managing project, database and design phase. He is quite exquisite in programming skills so that will contribute in the front end and back end programming for our Desktop Application. He is very good in searching so as far the major components about the application are concerned they would be searched accordingly.

Ammar Maqsood

This member has good programming skills. She knows how to work as a team member. He is good in software engineering. A hardworking individual. He is familiar with

different frameworks. He have good communication and interpersonal skills. He is responsible for server side development which includes the development of database design. He will also contribute in the front-end programming.

1.7 Tools and Technology with reasoning

Printing Press Management system will be developed in the .Net Framework as a desktop Application.

Back End/Front End

a) .Net Framework

It includes a large class library known as Framework Class Library (FCL) and provides language interoperability across several programming languages. Programs written for .NET Framework execute in a software environment known as Common Language Runtime (CLR), an application virtual machine that provides services such as security, memory management, and exception handling. FCL and CLR together constitute .NET Framework.

b) Microsoft Visual Studio 2015

Microsoft Visual Studio is an integrated development environment (IDE) from Microsoft. It is used to develop computer programs for Microsoft Windows, desktop windows application.

c) MS SQL Database

MySQL for Visual Studio provides access to MySQL objects and data without forcing your developers to leave Visual Studio. Designed and developed as a Visual Studio package, MySQL for Visual Studio integrates directly into Server Explorer providing a seamless experience for setting up new connections and working with database objects.

Other Software and Technology

a) Microsoft Project 2010

Microsoft Project is project management software which is designed to assist project managers in developing plans, assigning resources to tasks, tracking progress, managing budgets and analysing workloads. We'll be using this software for developing schedules, critical path analysis, managing resources and creating Gantt chart.

b) Microsoft word 2010

Microsoft Word is a very efficient and reliable word processor. We'll be using this tool for our documentation purposes.

1.8 Vision Document

Introduction

Printing Press Management System (PPMS) is a desktop application system which will convert current manual management system of organization into automate management system, having all the modules for an organizational requirements. The printing press management system is client request. The client is having his own business of printing press. He is the owner of his company, right now they are doing work on a manual system. They have manual management system, on which they are encountering many hurdles, so they want to come on automatic management system.

Business Opportunity

As we intend to create a user-friendly application, it is not only a designer who can take advantage of this application. Even clients, without knowing anything about application development at all, will be able to show designers what they aim for before the actual implementation. This is good because fixing issues in the prototype is much easier and cheaper than fixing them later, when they are set in code.

Stack Holders:

Stack Holder	Description	Responsibilities
Manager	Manage server side	A person that manage and use the server side.
Owner	check and balance	Organizational flow by the help of System.
User(Employee)	use of this application	Application for organizational purpose.

STAKEHOLDER TABLE 1.08

1.9 Risk List

Acceptance

- Customer may not accept delivery of the system if it will not meet his requirements.
- Health factor of staff (illness issues).
- Effects of changes in requirements of project.
- The development team might not be able to estimate the work time, preventing customers from deciding priorities effectively. The rate of defects repair is underestimated.
- Some uncertain situations like crashing of database may lead to failure of software.

Maintenance & design level risks

As we have a real-world client, he can reject the design if it does not according to his perception.

Development level risks

Time: Limited time available to complete this whole

CHAPTER 2

LITERATURE REVIEW

2.1 The General Description

This section describes the general factors that affect the product and its requirements. This section consists of five subsections that follow. This section does not state specific requirements. Each of the subsections makes those requirements easier to understand, it does not specify design or express specific requirements.

2.2 Product Perspective

The Automate Printing Press Management System diagram showing the overview of the system's modules and the relationship of the system.

Functions of System Components:

2.2.1 Database:

- Stores data
- Creates reports
- Provides access to data
- Updates information

2.2.2 Server:

- Provides access to the shared database
- Authenticates users
- Performs backups
- Produces report

2.2.3 External Interfaces:

Desktop Computers:

Users (employee, administration) may use desktop computers to obtain a remote access to the server and the reservation database via the Internet.

2.3 Product Functions

Provide a summary of the functions that the software will perform. Sometimes the function summary that is necessary for this part can be taken directly from the section of the higher-level specification that allocates particular functions to the software product. The functions should be organized in a way that makes the list of functions understandable to the customer or to anyone else reading the document for the first time. Block diagrams showing the different functions and their relationships can be helpful. Such a diagram is not a requirement on the design of a product itself; it is simply an effective explanatory tool.

2.3.1 Function Descriptions

This section 2 will contain the information of each functionality. These functionality will use in the application as a module. Each functionality will be briefly explain into next section 3.

2.3.2 User Account Management Function

Description: This function ensures that only authorized users gain access to the Printing press databases. An authorized user is a user who has an account on the system. Users include Employee, Manager and Owner. The user must type a valid username and password to gain access.

2.3.3 Employee Management Function

Description: This function allows the employee to interact with the system and update his data regarding the attendance issue, it will also help owner to add new account of employee into the database. Owner can also delete any account from the database, search any account and its data. Owner have access to update the profile of any employee if needed.

2.3.4 Salary Management Function

Description: This functionality allow owner to set and finalized the salary of employee and manager. This can help owner to set the salary of the person, who is working into his organization and update their salary on the basis of their attendance. Owner can also view the salary of everyone in the organization. The rights of this functionality only granted to the owner account.

2.3.5 Billing Management Function

Description: This function allows the user to keep the record of account and billing purpose. This function perform all the action regarding organization billing. This will allow consumer to store account records. It will keep the information of consumer billing and generate billing slips. This module help consumer to perform all the function automatically regarding its billing and accounts.

2.3.6 Expense Management Function

Description: This function allows the user to see a list of all expense, he spent on anything while in the process of order. These expense add up into the expense account of user, which is deal by all the users. Then calculate their expense after the order project end up. This functionality help organization to manage other expenses on the project.

2.3.7 Inventory Management Function

Description: This function allows the user to see a list of all the inventory item and their stocks. It can also add any new inventory item, user can have access to delete any inventory item. If there is no need of it now. User have access to update the current status of inventory item by this functionality.

2.3.8 Payment Management Function

Description: This function allow owner to manage the payroll of the employee and Manager. After managing the payroll they can set it as their salary. Owner can add the pay, delete, and update and view all the pay. Only owner can access this functionality and can perform task in it. The access privilege of this functionality only granted to the owner account.

2.3.9 Process Management function

Description: This function allows the user to see the process of printing press and analyst binding and printing process. This will identify currently the order is in which phase, whether it is in binding, printing and lamination process. User can add the process regarding any particular order, can delete any process if not needed. User can update the current status of order into the process. This functionality help user to see the list of processes on the orders.

2.3.10 Managing Profile Function

Description: This function will allow the user to work with his profile. It can help to change its password and update the profile picture into it. This functionality help user to logout from the system. This is the main functionality which require to the user after the login to manage its user account.

2.3.11 Notification Management Function

Description: This function allows the user to see the notification regarding each thing, each item, due date of order delivery and issue date of order delivery. This function allow Admin or project manager to work efficiently into the organization. This will insure the quality of the order and the reputation of the organization into the market.

2.3.12 Report Analysis Function

Description: This function allows the user to integrate the reports of the each module and show the report graph by taking the information from every module. The information user enter in each module will be integrate into this module and shown the final result. Monthly report will be shown to admin and CEO to understand where the organization going in these days. This report will be generate automatically monthly in Report Analysis module.

2.4 User Characteristics

The main users of the system will be the employee and the PPO administration that access the reports generated by the system. The users are required to have knowledge in the computer field. The graphical interface provides an easy way of using the APPM system with minimum of training.

2.5 General Constraints

The constraints for the project are:

- The number of people interact with the software at a time.
- The number of product in the printing process.
- Team members are restricted from bringing their own equipment, and insufficient equipment supply may hinder project development.
- Changing scope / objectives
- Changing customer product strategy and priority Project scope expansion
- This software will be restrict to allow only 80 personal computer to access application server.
- Provide a general description of any other items that will limit the developer's options for designing the system.

These can include:

- Hardware limitations.
- Interface to applications
- Parallel operation
- Control functions
- Criticality of the application.

2.6 Assumptions and Dependencies

The assumptions for the project are:

- The each module of the ERP will be integrated by the requirement of the user. Parallel process of the order will ensure by the help of this software.
- Vender should have to deliver the project in time in order to get the best result for the consumer. Each order have their unique number ID and completion date.
- Phone number and address of the consumer will be stored in the database for long use.
- The order deliver notification will come in each phase of order development. This will ensure the deliver time.
- Consumer list will be save into database for maintain the standard in future.

The following management reports will be available:

- Number of vender order made
- Number of customers get their product in a month
- Number of employee's attendance
- Number and names of people who show up late on job
- Billing and production report
- Failure rate of any order

The dependencies, or external events, for the project are:

PPO Orders occasionally may become day by day. In that case, person of the organization

- Divided into group for each order to ensure the quality and time.
- 2 developers will be working on this PPO Project.
- 1 person who do the analyst work as well SRS documentation. He also ensure the quality of the project development. He work on the dot.net framework top develop the desktop application.
- 1 Programmer/Analyst who has extensive programing skill work on the project.
- They have all the required hardware and software resources for the development of the project.

CHAPTER 3

DESIGN AND METHODOLOGY

3.1 Specific Requirements.

This section of the SRS contains requirements for the Automated Printing Press Management System.

3.1.1 User Account Management Function

Description: This function ensures that only authorized users gain access to the Printing press databases. An authorized user is a user who has an account on the system. Users include Employee, administrator and CEO. The user must type a valid username and password to gain access.

Rationale: Logging into the system provides security and confidentiality to the system. It reduces the chance that someone can taper any individual's personal information and prevents unauthorized users from modifying the confidential information such as reports of PPMS.

3.1.2 Employee Management Function

Description: This function allows the employee to interact with the system and update his data regarding the attendance issue, it will also help owner to add new account of employee into the database. Owner can also delete any account from the database, search any account and its data. Owner have access to update the profile of any employee if needed.

Rationale: A user must have the ability to add his data like attendance, the admin will able to use the sub module of employee management to update, delete, add and view all the employee of the organization and their current status.

3.1.3 Billing Management Function

Description: This function allows the user to keep the record of account and billing purpose. This function perform all the action regarding organization billing. This will allow consumer to store account records. It will keep the information of consumer billing and generate billing slips. This module help consumer to perform all the function automatically regarding its billing and accounts.

Rationale: A user must have some record which it can feed into this module and store all the information. User able to generate bill of regular client/ non regular client as well regular vendor/ non regular vendor. Billing functionality perform all the billing action, which will take by the user.

3.1.4 Salary Management Function

Description: This functionality allow owner to set and finalized the salary of employee and manager. This can help owner to set the salary of the person, who is working into his organization and update their salary on the basis of their attendance. Owner can also view the salary of everyone in the organization. The rights of this functionality only granted to the owner account.

Rationale: This function will be used primarily as the record of employee and manager this can help to set the salary update the salary and view all the salary current status of working person in the organization.

3.1.5 Inventory Management Function

Description: This function allows the user to see a list of all the inventory item and their stocks. It can also add any new inventory item, user can have access to delete any inventory item. If there is no need of it now. User have access to update the current status of inventory item by this functionality.

Rationale: A list of inventory stocks and item will be submit into database. User can add up any inventory item, can update the status of inventory item, can delete the inventory item or view all the inventory item via this module.

3.1.6 Expense Management Function

Description: This function allows the user to see a list of all expense, he spent on anything while in the process of order. These expense add up into the expense account of user, which is deal by all the users. Then calculate their expense after the order project end up. This functionality help organization to manage other expenses on the project.

Rationale: This function allows the user to keep accurate financial records on total orders and their manufacturing. All the expenses which spent on the order manufacturing can add up, update and view via this functionality.

3.1.7 Payment Management Function

Description: This function allow owner to manage the payroll of the employee and Manager. After managing the payroll they can set it as their salary. Owner can add the pay, delete, and update and view all the pay. Only owner can access this functionality and can perform task in it. The access privilege of this functionality only granted to the owner account.

Rationale: This function allows the user to add the pay of any organizational worker. All the payroll of workers can be add up, update and view via this functionality.

3.1.8 Process Management function

Description: This function allows the user to see the process of printing press and analyst binding and printing process. This will identify currently the order is in which phase, whether it is in binding, printing and lamination process. User can add the process regarding any particular order, can delete any process if not needed. User can update the current status of order into the process. This functionality help user to see the list of processes on the orders.

Rationale: This function allows the user to analyst organizational work in the process of preparing the order. This will identify the current status of order, user can add up any process regarding any order, can delete the process, can update the process and its current status into the system.

3.1.9 Notification Management function

Description: This function allows the user to see the notification regarding each thing, each item, due date of order delivery and issue date of order delivery. This function allow Admin or project manager to work efficiently into the organization. This will insure the quality of the order and the reputation of the organization into the market.

Rationale: This function will set on each module for getting notification from few modules. Those module notification can set through this module of notification management. Notification management module can generate all those notification which will set by the admin in this module, it will trigger the notification according the information feed in it by the organization admin.

3.1.10 Managing Profile Function

Description: This function will allow the user to work with his profile. It can help to change its password and update the profile picture into it. This functionality help user to logout from the system. This is the main functionality which require to the user after the login to manage its user account.

Rationale: This function will help to the user to manage its account in which he logged in. after the login the things which require to the user of system is updating its profile, managing the password of his account and update the username.

3.1.11 Report Analysis Function

Description: This function allows the user to integrate the reports of the each module and show the report graph by taking the information from every module. The information user enter in each module will be integrate into this module and shown the final result. Monthly report will be shown to Manager and Owner to understand where the organization going in these days. This report will be generate automatically monthly in Report Analysis module.

Rationale: this function will generate the final report for the organization on monthly basics. This module take the report information from each module after collecting the information from each module, which will feed by the organization employee. This module can able to generate the final report by sinking the reports of other modules. The report access will be only to Manager and Owner of the company. This help the Owner and Manager to maintaining the standards working of their organization.

3.2 External Interface Requirements

3.2.1 User Interfaces

This should specify the characteristics that the software must support for each human interface to the software product. All the aspects of optimizing the interface with the person who must use the system. This may simply comprise a list of do's and don'ts on how the system will appear to the user.

3.2.2 Hardware Interfaces

The APPMS includes one major hardware components: regular PC's. The request of account and other module will be transmitted to the regular server. Furthermore, the servers respond to these requests and format the data to be displayed on the screen of terminals which are directly connected to the main server. The component involves with regular PC’s/Terminals, which communicate with the server. The server then communicates with the database. The protocol involved between the PC's/Terminals and the server is FTP, this allows the communication between the PC's and the Server. All the PC’s of PPO will directly connected to the main server of the organization. All the data will be save on main server and user can access these data by the database of server. The shared database will be use and the software is also install only on the main server, other PC’s can access the software by connect with the main server with help of LAN.

3.2.3 Software Interfaces

A DBMS will be used to manage the database and any changes made to it. Furthermore, the DBMS will make regular backups of the database and generate reports regularly so that they can be accessed by the APPMS. The Microsoft SQL Management Server between the client and the database will handle all communication, and the server will run on a window operating system.

3.3 Performance Requirements

The following sections list the performance requirements for the system.

3.3.1 User Requirements

User Requirements	**Description of Requirement For Design Environment**
Location(s) and Number(s) of Users	MODEL TOWN
Expected Growth in Number of Users	
After 1 Year	50%
After 2 Years	
After 3 Years	
User Expectation	
Interactivity	User expect that it provides a very easy to use graphical user interface
Reliability	For some applications, reliability must be 100% during the application session
Adaptability	Network must adapt to user additions, deletions and changes
Security	Encryption software would be used for Credit Card transactions
Cost / Funding	

USER REQUIREMENTS TABLE 1.09

3.3.2 Application Requirements

Since no specified service is indicated, then we have listed the applications as best – efforts. This may change as we learn more about the application.

The communication package is determined to be burst in nature, with small data sizes and frequent transmissions. We can consider this application to be interactive-burst, while the database transaction-processing application is described by the PPO as transferring large amounts of data (initial estimates are 1 MB/transaction), we have listed this application as interactive-bulk.

Categorizing Applications	Best-Efforts	Application Locations
Communication	100 Kb/s	Model town office
Database Access	400 Kb/s	Model town office from server to PC's
Database Transaction processing	1.5 Mb/s	Model town office from PC's to server

APPLICATION REQUIREMENT TABLE 1.10

3.3.3 Host Requirements

	Type of Host or Equipment	**Numbers and Locations**
Host A	PC	Model town office
Host B	Database Server/ Application Server	Model town office

HOST REQUIREMENT TABLE 1.11

3.4 Design Constraints

3.4.1 Standards Compliance

There are no design constraints that can be imposed by other standards limitations.

3.4.2 Software Limitations

- Must be able to run on PC's and connected to the main server.
- Must access the database and application from the main server.

3.4.3 Hardware Limitations

Input/Output: One or two-button mouse, keyboard, PC. Network card required a thin-client terminals to make communication with server possible.

3.5 Quality Characteristics

There are a number of quality characteristics that apply to the APPMS software system.

3.5.1 Portability

The APPMS system will be developed using SQL and C#.net so that it can be accessed from any type of system using just a regular desktop application. The system will be tested on all types of hardware before being released to ensure that is it compliant with this customer requirement.

3.5.2 Reliability

The system should be capable of processing a given number of order within a given time frame with no errors and the system should be available and operational all the time. During the development of the prototype the system will be tested in its actual environment to ensure that it can handle the load of orders that occur during a regular workday.

3.5.3 Usability

The APPMS system will be developed so that it is an easy to use system that requires the least amount of user input possible. Every input will be validated. The user should only have general computer use knowledge. Error messages will be displayed and notified if the user enters an invalid value or tries to access a function without the required permissions. An easy and well-structured user manual or personal training for their users will be provided to the PPO.

3.5.4 Correctness

The APPMS system will be considered correct when the PPO approves the prototype presented and agrees that all the functions they require are implemented as stated in the Software Requirements Specification.

3.5.5 Flexibility

The APPMS system should be developed in such a way that it is easily customizable. If new functions are required by PPO, there will be little effort required to update the system.

3.5.6 Security

The APPMS system should not compromise the user information at any time. The user information will never be sold to other parties and will be kept secure at all times. Users will be authenticated to ensure that no unauthorized users gain access to private information.

3.5.7 Maintainability

The APPMS source code will be kept well structure and documented so that it is easier to maintain and extend the system. All changes to the system shall be documented.

3.6 Other Requirements

Certain requirements may, due to the nature of the software, the user organization, etc., be placed in separate categories such as those below.

3.6.1 Database.

The Automate Railway Reservation System will have one main databases. This database will be created with SQL Management server 2014. The following are the requirements for these databases that are to be developed as part of the product.

3.7 Non Functional Requirement.

The normal operations required by the user can be viewed as the following:

3.7.1 User-initiated Operations

These operations include the user account operation, which is initiated by the users, admin and CEO of the organization. The information of attendance will be stored into the system like this, salary management, payroll initiated the operations of the system.

3.7.2 Interactive Operations and Unattended Operations

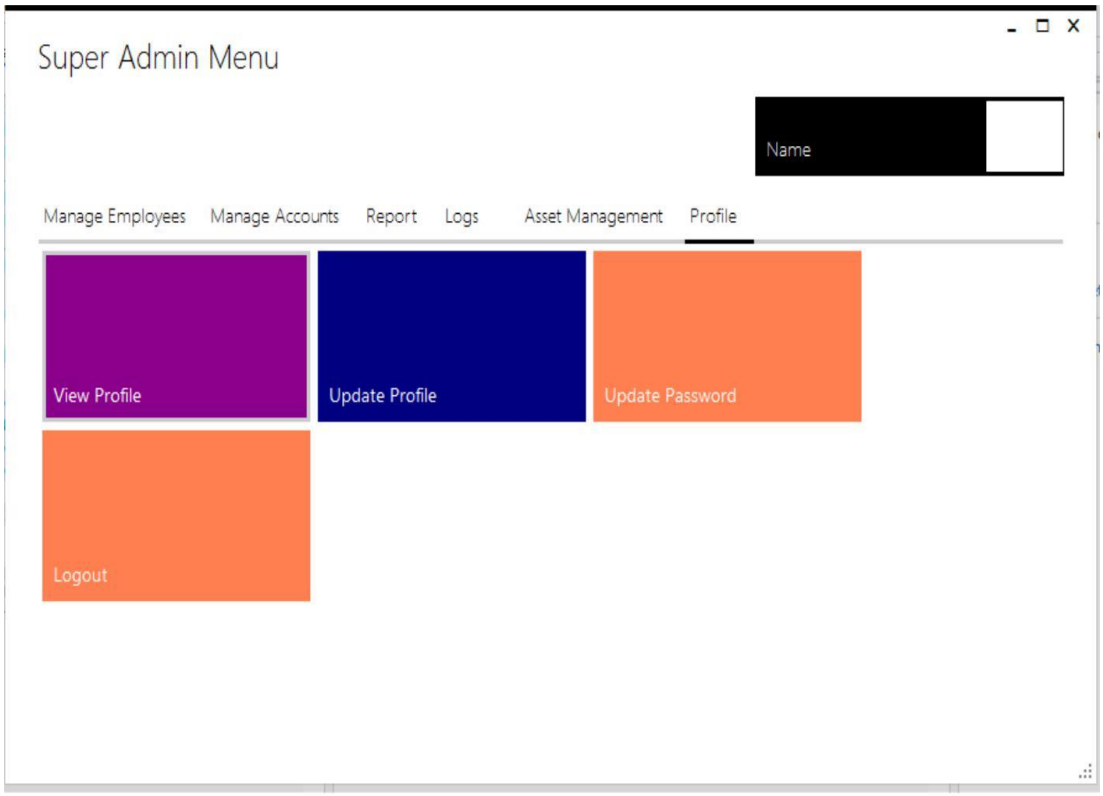
The users initiate all the operations mentioned above, and almost all of them are somehow interactive. The report display is a non-interactive operation, although selecting the desired reports will require user input.

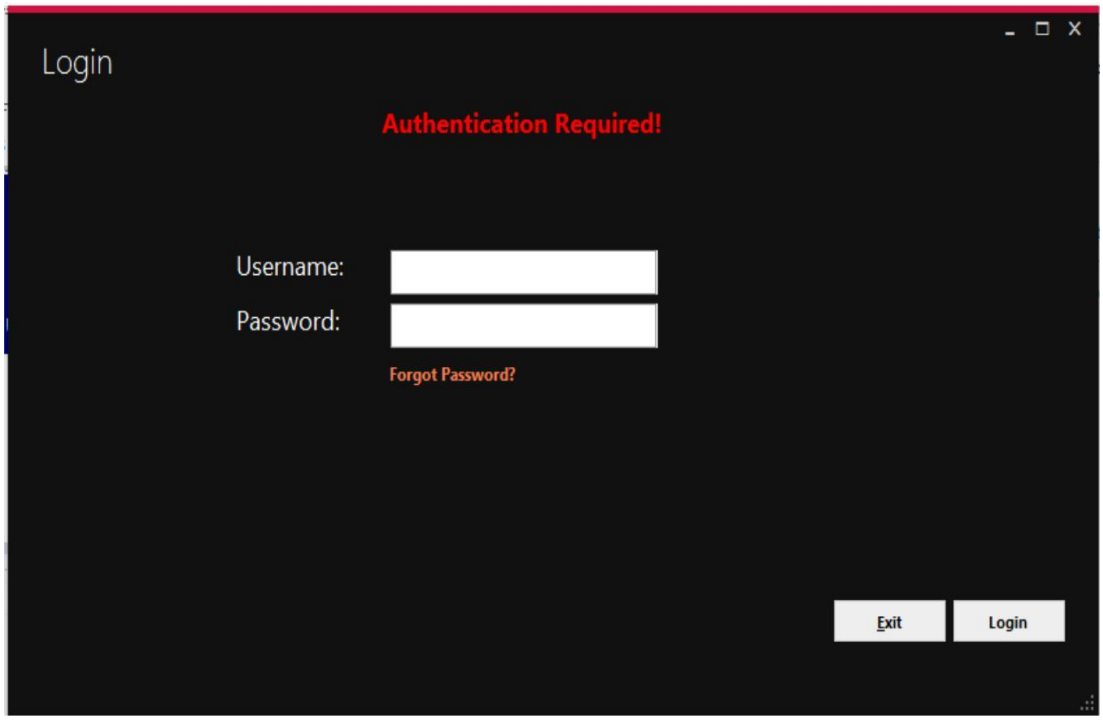
3.7.3 Data Processing Support Functions

The user account data is used to validate employee ID's, Admin ID and as well CEO ID’s. For building itineraries, user input, User account data, and order information data are used, and processed. User data along with final results is used for report generation purposes. Administrative users' inputs are collected in order to modify and view the present company position with the help of report.

DESIGN VEIW OF PROTOYPE

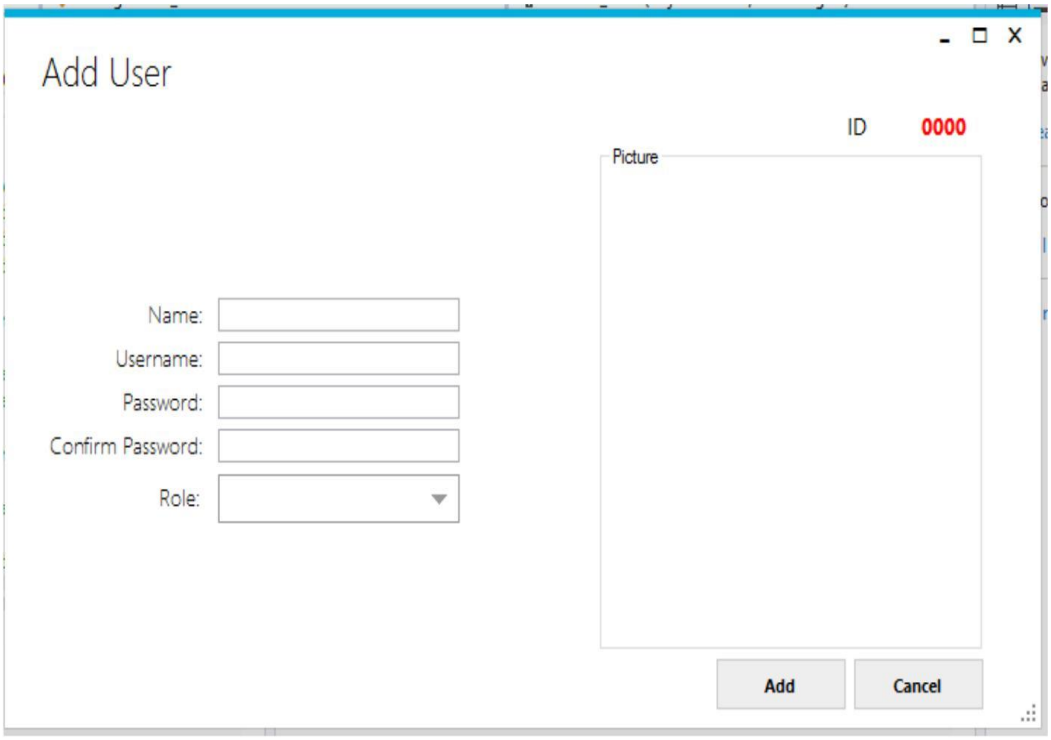
SUPER ADMIN FIGURE 1.00

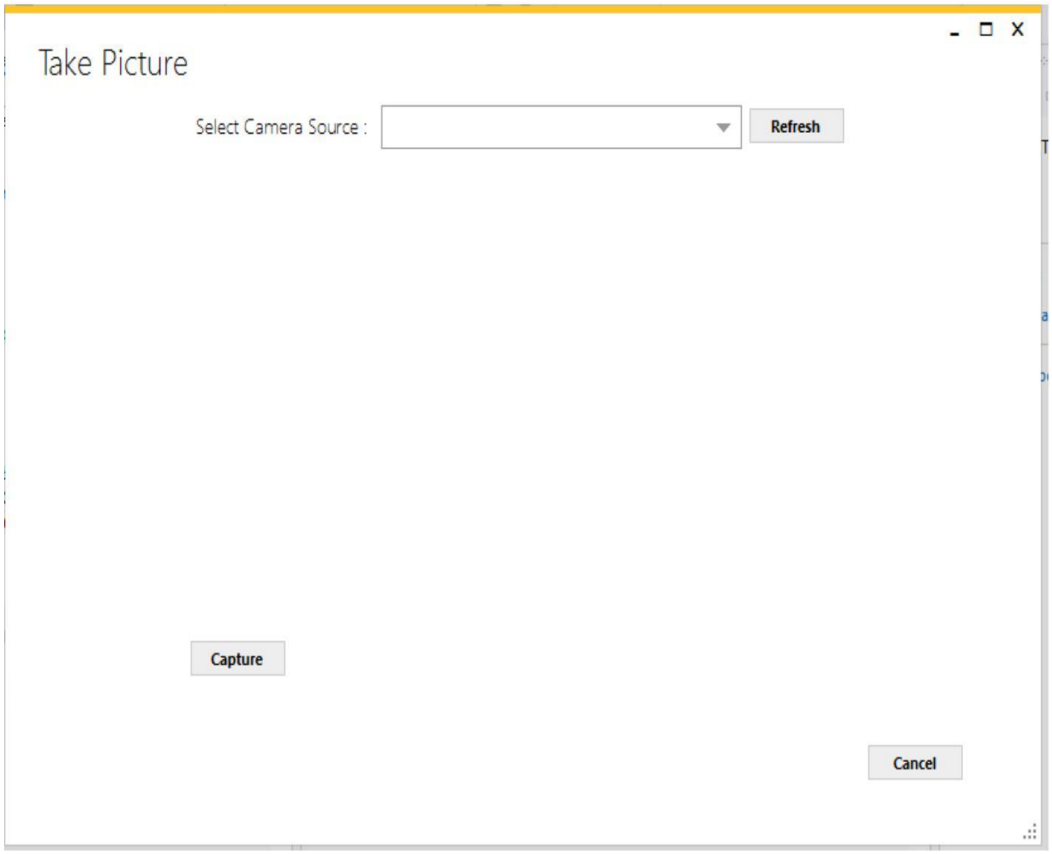




LOGIN FIGURE 1.01

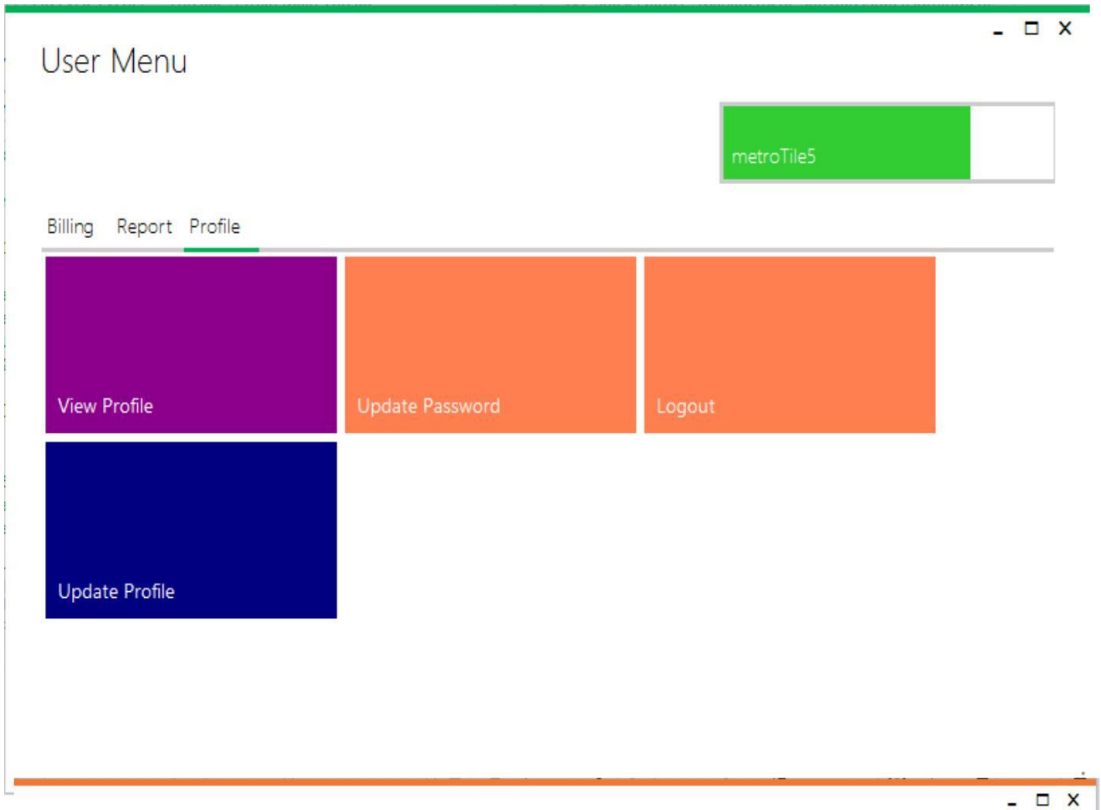
ADD USER FIGURE 1.02

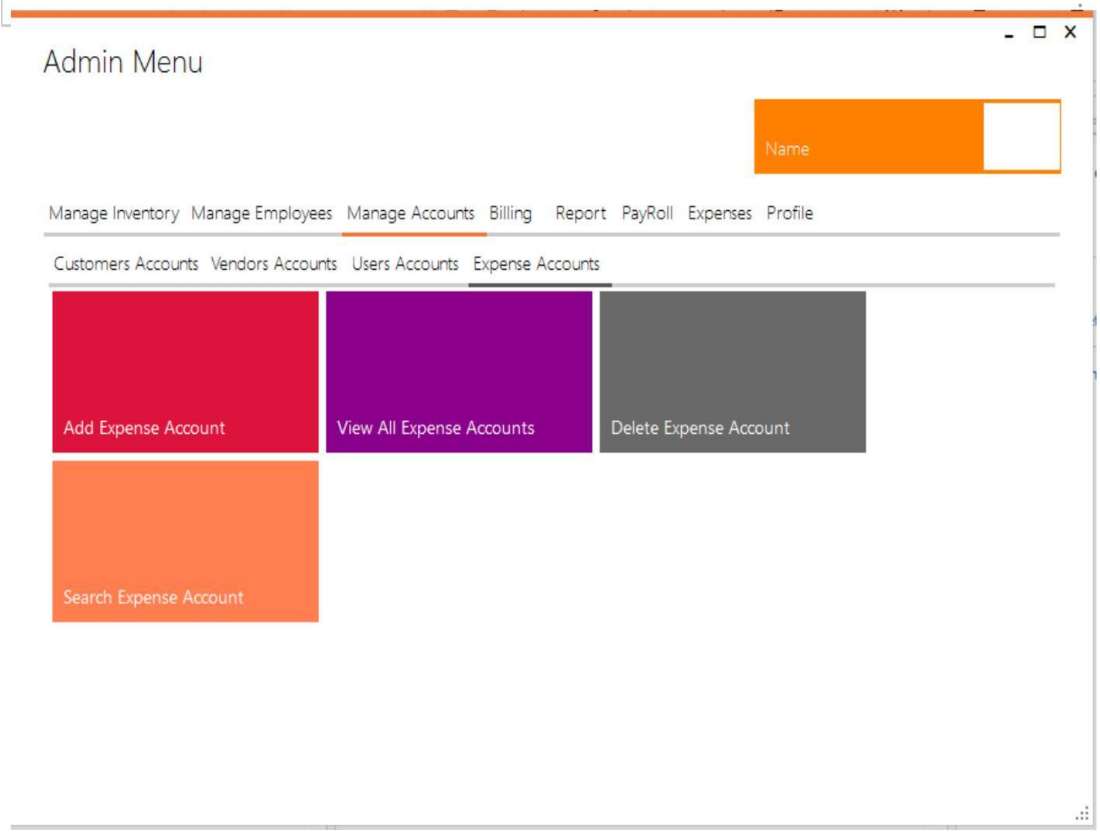




USER TAKE PICTURE FIGURE 1.03

USER MENU FIGURE 1.04





ADMIN MENU FIGURE 1.05

CHAPTER 4

DATA AND EXPERIMENTS

4.1 Technical Process

This section specifies the technical methods, tools, and techniques to be used on the project. It also includes identification of the work products and reviews to be held and the plans for the support group activities in user documentation, software quality assurance, and configuration management.

4.2 Methods, Tools, and Techniques

Identify the computing system(s), development method(s), standards, policies, procedures, team structure(s), programming language(s), and other notations, tools, techniques, and methods to be used to specify, design, build, test, integrate, document and deliver the project.

4.3 Software Documentation

Specify the work products to be built for this project. It may be useful to include a table that is adapted from the organization's standard collection of work products. Identify IEEE relevant style guide, naming conventions and documentation formats. In either this documentation plan or the project schedule provide a summary of the schedule and resource requirements for the documentation effort. To ensure that the implementation of the software satisfies the requirements, the following documentation is required as a minimum:

4.3.1 Software Requirements Specification (SRS)

The SRS clearly and precisely describes each of the essential requirements (functions, performances, design constraints, and attributes) of the software and the external interfaces. Each requirement is defined such that its achievement is capable of being objectively verified and validated by a prescribed method, for example, inspection, analysis, demonstration, or test.

4.3.2 Software Design Description (SDD)

The SDD describes the major components of the software design including databases and internal interfaces.

4.3.3 Software Test Plan

The Software Test Plan describes the methods to be used for testing at all levels of development and integration: requirements as expressed in the SRS, designs as expressed in the SDD, code as expressed in the implemented product. The test plan also describes the test procedures, test cases, and test results that are created during testing activities.

4.3.4 User Documentation

Describe how the user documentation will be planned and developed. Paper documentation and support facilities.

4.4 Project Support Functions

Provide either directly or by reference, plans for the supporting functions for the software project. These functions may include, but are not limited to, configuration management, software quality assurance, and verification and validation. Plans for project support functions are developed to a level of detail consistent with the other sections of the SPMP. In particular, the responsibilities, resource requirements, schedules and budgets for each supporting function must be specified. The nature and type of support functions required will vary from project to project, however, the absence of a software quality assurance, configuration management, or, verification and validation plan must be explicitly justified in project plans that do not include them.

4.4.1 Work Packages and Schedule

Specify the work packages, dependency relationships, resource requirements, allocation and resources to work packages, and a project schedule. Much of the content may be in appendices that are living documents.

4.4.2 Work Packages

Specify the work packages for the activities and tasks that must be completed in order to satisfy the project. Each work package is uniquely identified. A diagram depicting the breakdown of project activities and tasks (a work breakdown structure) may be used to depict hierarchical relationships among work packages.

4.4.3 Dependencies.

Specify the ordering relations among work packages to account for interdependencies among them and dependencies on external events. Techniques such as dependency lists, activity networks, and the critical path method may be used to depict dependencies among work packages.

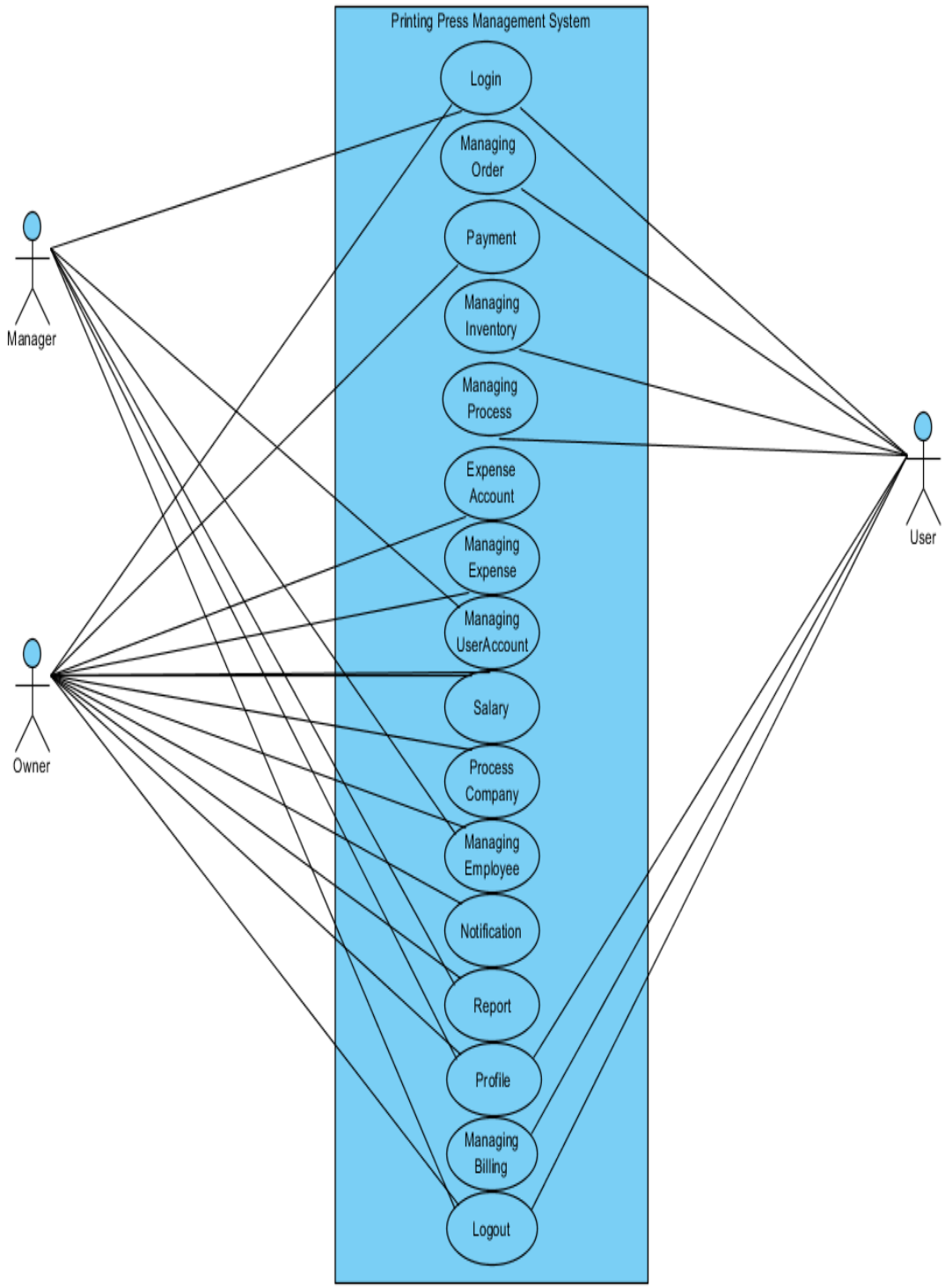
4.4.4 Resource Requirements

Provide, as a function of time, estimates of the total resources required to complete the project. Numbers and types of personnel, computer time, support software, computer hardware, office and laboratory facilities and maintenance requirements for the project resources are typical resources that should be specified.

4.4.5 Schedule

Provide the schedule for the various project functions, activities, and tasks, taking into the precedence relations and the required milestone dates. Schedules may be expressed in absolute calendar time or in increments relative to a key project milestone.

4.5 System Use Cases High Level



SYSTEM USE-CASE FIGURE 1.06

4.5.1 Login	
Unique Identifier:	User Name, Password
Objective:	Main objective of this use-case is to allow admin, employee and Owner to login with system.
Priority:	High
Source:	The main source of this functionality will be employee, admin and Owner who need to interact with system and perform their duties.
Actors:	Employee, Admin and Owner
Flow of Events	
Basic Flow:	Owner, admin and employee put their use-name and password to login into their account.
Alternative Flow(s):	If employee forget his user-name and password then admin have the power to regenerate new user-name and password.
Exception Flow(s):	user-name and password lost
Includes:	no other use case will include during this functionality
Preconditions:	User put their password and user- name to get the access of system.
Post conditions:	If the user-name and password is correct, then user logged into the system.
Notes/Issues:	Person should have to remember his unique User-name and password to login into the system.

LOGIN USE-CASE TABLE 1.12

4.5.2 Employee Attendance	
Unique Identifier:	Biometric
Objective:	The main objective of this function is to mark the attendance of employee, admin via biometric system. The final attendance report submit into system.
Priority:	Medium.
Source:	The main source of this functionality is admin and employee who have to put this attendance via biometric system.
Actors:	Employee and Admin
Flow of Events	
Basic Flow:	Employee and admin mark their attendance via biometric system.
Alternative Flow(s):	If biometric system is not working admin have to authorization to mark the attendance of everyone.
Exception Flow(s):	Employee and Admin should be in office to interact with system.
Includes:	Report management.
Preconditions:	Employee and Admin should come into office for mark their attendance via biometric.
Post conditions:	Admin and employee will login to their system for office work
Notes/Issues:	If person biometric is not verified via biometric then he/she should have to complain to admin for this problem

EMPLOYEE ATTENDANCE USE-CASE TABLE 1.13

4.5.3 Billing Management	
Unique Identifier:	Keep the record for billing and account purpose.
Objective:	Main objective of this functionality will help employee to manage all the account and billing functionality. It will take all the information and perform task according to their need.
Priority:	High
Source:	The information take by the client or vendor and generate the billing slips for Use. This can also allow the user to keep the record of all the information which Collect from the client or vendor. This information use for record purpose.
Actors:	Employee.
Flow of Events	
Basic Flow:	Employee can generate billing slips and keep the account information.
Alternative Flow(s):	It can manually feed the information into module or get the output result on its Screen.
Exception Flow(s):	Functionality not work correctly because some error into the system.
Includes:	Client order, vendor record
Preconditions:	Employee should login into the system and then able to open the billing module For generating the bill on some particular order/vendor. This information store Into the system.
Post conditions:	Module will able to generate the slip for account purpose and billing purpose. This functionality will keep the record of client and vendor placing orders and Taking orders
Notes/Issues:	Employee login and order placing is must for this module. On other option Vendor taking order slip and keeping the information into the system.

BILLING MANAGEMENT USE-CASE TABLE 1.14

4.5.4 Salary Management	
Unique Identifier:	Database in which salary of employee and admin make.
Objective:	Main objective of this functionality will help Admin to make the salary and manage it with by seeing the attendance of the employee. Final report of employee salary will submit into system
Priority:	High
Source:	Attendance will be make source where the salary from which the salary will be made. Admin can able to send the final salary of each employee and employee can see the review of his salary, which will be delivered at the end of month.
Actors:	Admin and employee.
Flow of Events	
Basic Flow:	Salary will be made in this function by seeing the attendance of employee.
Alternative Flow(s):	If admin want to make salary by customize way, this functionality can help him to do so.
Exception Flow(s):	Attendance not marked due to the failure of access on any date this
Includes:	Attendance of employee and Report management.
Preconditions:	Employee should have to reach into office each day to avoid the deduction into his/ her salary. Attendance identify the presentence of the employee into the office.
Post conditions:	Payroll generation slip is the functionality which will happen after this functionality, once the salary manage of each employee the final salary updating will be forward into the payroll generation functions.
Notes/Issues:	Employee is presentence into the office but attendance is not marked due to the failure of his biometric ID.

SALARY MANAGEMENT USE-CASE TABLE 1.15

4.5.5 Payroll generation	
Unique Identifier:	Payroll slip of each employee.
Objective:	Generate the final payroll slip of each employee.
Priority:	High
Source:	Employee is the main source of this use-case. He can generate his payroll slip into his user login. They final updated salary slip is updated by admin, employee can generate it.
Actors:	Employee, Admin
Flow of Events	
Basic Flow:	Employee login into his system and able to see his payroll generation slip into his/her account. They can get their salary from the owner by seeing them their payroll slip which the generated by their account.
Alternative Flow(s):	Check will be given by the employee manually from the account office.
Exception Flow(s):	If employee not able to login into his/her account. They cannot able to see his final payroll generation slip. Admin have to access so employee can get the slip from the admin.
Includes:	Salary management, login and Attendance
Preconditions:	Employee can able to login into the system to see the final salary manage version into his account and view the payroll slip from her/his account.
Post conditions:	Generate his payroll slip.
Notes/Issues:	Employee should be login into account by seeing the payroll slip and generate it.

PAYROLL GENERATION USE-CASE 1.16

4.5.6 Vendor Record	
Unique Identifier:	Vendor database.
Objective:	Main objective is to see the vendor record and to identify the difference between register or non-register vendors. This will generate the main list of vendor and their past record of work. So the user can able to identify which vendor is good for this particular work. Final report of vendor will be submit into the system.
Priority:	Medium.
Source:	Admin and Owner is the main person who choose the vendor by seeing their past record which will be submit by the admin after the each project. Vendor record will be useful to the organization for identifying the best choice of the next project.
Actors:	Admin and Owner
Flow of Events	
Basic Flow:	Admin and owner can able to see the list of vendor and their past track to give them a new assignment for their next project.
Alternative Flow(s):	They have the contact number list into the admin account where they can access of each vendor by contacted them.
Exception Flow(s):	The past record will not be updated by the project completion from the admin this may accrue.
Includes:	Report Management.
Preconditions:	The admin should have to submit the vendor work report into the system for viewing the vendor past record.
Post conditions:	Give the order to vendor after selecting him.
Notes/Issues:	Admin not put the final report about vendor after the completion of the project.

VENDOR RECORD USE-CASE TABLE 1.17

4.5.7 Client information	
Unique Identifier:	Client
Objective:	Client information will be updated into database after the project completion. This will help the organization to identify the difference between regular client and non- regular client. Admin/employee can able to extract the information of client and submit the information of client after each project.
Priority:	Average
Source:	Owner is the main source which get benefit from this functionality. It help the owner of the organization to keep the record of the permanent client.
Actors:	Employee, Admin and owner.
Flow of Events	
Basic Flow:	Client information can put into the system via admin or employee and can able identify the whether this client is their regular client or non-regular client.
Alternative Flow(s):	They can see the contact list and information from final project report of regular client which is feed into database as the report of each client.
Exception Flow(s):	Employee and admin not feed the information of client in the end of the project.
Includes:	Client information is the main functionality after this other functionality can get from this.
Preconditions:	Client information must be stored into their database to view it.
Post conditions:	Client order will be taken by verifying, the past record of client. If this is the regular-client.
Notes/Issues:	Admin/employee should have to put the record of the person after the completion of the project.

CLIENT INFORMATION USE-CASE TABLE 1.18

4.5.8 Client Order Information	
Unique Identifier:	Order ID
Objective:	Main objective of this functionality is to store the information of client project and date of the project. When it will have to submit to the client. Every order have the due date, order of the date and client unique order ID. Project priority will be assign if client need it on urgent bases. Final report of client order will be submit into the system.
Priority:	High.
Source:	Admin. Owner and Employee should have to answer to everyone. If the client order is not complete in time.
Actors:	Admin, Owner and Employee
Flow of Events	
Basic Flow:	Order will be taken from the client and after identifying if they are the regular client of the organization or the non-regular client. Client order ID, due date, date of taken order will be enter into the system. So order working can able to start. Priority of the order can be entered into the system, if client need it on urgent bases.
Alternative Flow(s):	Client give the order and each client assign the unique ID and completion date. So it can delivered to the client on time.
Exception Flow(s) :	Client not come into the organization and place the order via phone. This process will only allow for the regular client.
Includes:	Client information and report management.
Preconditions:	Check the Client information whether, he is the regular Client or non-regular client. They may give the advantage to client for placing order via phone.
Post conditions:	After the completion of the order the final report will be submit to the system. This report will based upon client satisfaction.
Notes/Issues:	Final Report of each order should have to submit into the system, after the completion of the project.

CLIENT ORDER USE-CASE TABLE 1.19

4.5.9 Inventory Information	
Unique Identifier:	Inventory Records
Objective:	Inventory information functionality will give the edge to the organization. This will help the organization to identify whether the inventory is available in the organization or they are out of stock. If they are out of stock of any item the notification will be generate into the system to keep the check and balance of organization items. Final report of inventory will be submit into the system.
Priority:	High
Source:	Employee have to submit the information of each inventory item, which are out of stock. Admin have to see the notification and buy more inventory items to the organizational work. Employee is the main person who have to blame if the information of any inventory item not to put up into the system before.
Actors:	Employee and Admin
Flow of Events	
Basic Flow:	Employee put the information regarding those inventory item which are out of stock. This will help them to keep the work in flow and avoid any hurdle in the order.
Alternative Flow(s):	Employee can give the report the admin that this particular item is out of stock.
Exception Flow(s):	Employee forget to put up the information of any inventory item.
Includes:	Login, notification manager and Report management.
Preconditions:	Employee put up the information of inventory item if they are out of stock. Employee should have to identify if any item going to out of stock in process of any order.
Post conditions:	Admin should have to take action on this to avoid any order delay.
Notes/Issues:	Employee should have to submit the information of those inventory item which are going to out of stock.

INVENTORY INFORMATION USE-CASE TABLE 1.20

4.5.10 Sale Record	
Unique Identifier:	Database
Objective:	This function provides a listing of the current balance dues and payments received in the past. This information is presented in an easy to follow format and separately displays each order details. Then finally the report will be submit.
Priority:	Medium.
Source:	Employee will update the record of sale into the system and admin will check the record details. To identify where every sale spent on.
Actors:	Admin and Employee.
Flow of Events	
Basic Flow:	Employee will update the every record of sale into the system. Admin keep the check and balance of sale record and submit the final report into the system.
Alternative Flow(s):	Admin is the main key person which can update the record of any action which accrue in sales.
Exception Flow(s):	Employee forget to update the record of sales into the system.
Includes:	Report Management.
Preconditions:	Employee have to put the information of sales into the database.
Post conditions:	Final report will be generate with the help of the data store into the system.
Notes/Issues:	Information have to store into the system via Employee/Admin.

SALE RECORD USE-CASE TABLE 1.21

4.5.11 Process Management	
Unique Identifier:	Get notification of processes.
Objective:	This function allows the user to see the process of printing press and analyst binding and printing process. This will identify currently the order is in which phase, whether it is in binding, printing and lamination process. It will generate the notification to the organization how much time will it take for completion of order from these process. It also display the list of third party organization where the order sent for binding, printing and lamination. Final report will be submit into the system.
Priority:	High.
Source:	Employee have to put the processes information into the system regarding order. It set the time of each processes and get the notification. Admin can able to see the process progress.
Actors:	Admin and Employee.
Flow of Events	
Basic Flow:	Employee put the information of processes into the system notify after the each process, which will complete. Admin can see the information or progress of any order.
Alternative Flow(s):	Admin have to get the information and progress of order from employee or third party organization.
Exception Flow(s):	Employee not put the information of processes to the current order.
Includes:	Notification manager and report management.
Preconditions:	Employee put the information of processes into the system and enable the notification service from which he can get the notification of any order progress.
Post conditions:	Admin can see the information or progress and the current processes from which any order going through.
Notes/Issues:	Employee should have to enable the notification service and put the information of processes into the system.

PROCESS MANAGEMENT USE-CASE TABLE 1.22

4.5.12 Notification Management	
Unique Identifier:	Notification Alert
Objective:	The main objective of this functionality is to manage the notification from desktop application. Admin can enable the notification service into each functionality and receive the notification from every functionality. These notification service will integrate into those functionality, where needed.
Priority:	High
Source:	Admin care most about this functionality because it help admin to identify the problems and the processes which happen into the different functionalities.
Actors:	Admin
Flow of Events	
Basic Flow:	Admin can receive the notification from every function. First admin have to enable the notification services from any functionality. Then the notification will come on those functionality to maintain efficiency of order.
Alternative Flow(s):	Admin have to keep an eye of each functionality to maintain the efficiency of processes.
Exception Flow(s):	Admin not open the notification service of any functionality the resultant will be not efficient.
Includes:	Client order, process management, inventory management and sale record.
Preconditions:	Admin have to enable the notification services to get the notification from any functionality.
Post conditions:	Admin get the notification from functionality.
Notes/Issues:	Admin should have to enable the notification service.

NOTIFICATION MANAGER USE-CASE TABLE 1.23

4.5.13 Report Management	
Unique Identifier:	Generate the final report.
Objective:	This function allows the user to integrate the reports of the each module and show the report graph by taking the information from every module. The information user enter in each module will be integrate into this module and shown the final result. Monthly report will be shown to admin and Owner to understand where the organization going in these days. This report will be generate automatically monthly in Report Analysis module.
Priority:	High.
Source:	Admin have to answer about the final report. Which is based on the statistic of every functionality.
Actors:	Admin and Owner.
Flow of Events	
Basic Flow:	The reports which get from different functionality can turn into one final report.
Alternative Flow(s):	Admin and Owner have to see the report from every functionality.
Exception Flow(s):	The reports from other functionality is not integrated into this one report management functionality.
Includes:	Client order information, inventory information, sale records, vendor record, Employee attendance, process management and salary management.
Preconditions:	Admin should have to submit the report into each functionality.
Post conditions:	Admin and owner can able to see the final report version.
Notes/Issues:	Report information from every functionality should have to submit on time in order to get the final report.

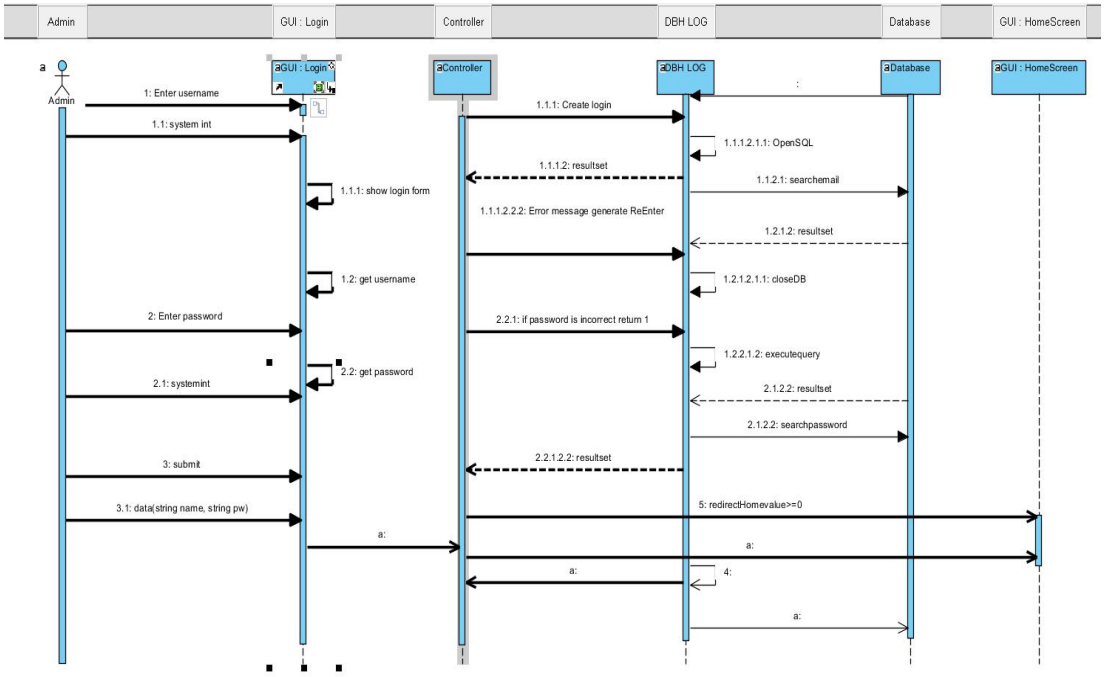
REPORT MANAGER USE-CASE TABLE 1.24

4.5.14 Logout	
Unique Identifier:	User Name, Password
Objective:	Main objective of this use-case is to allow admin, employee and Owner to logout with system.
Priority:	High
Source:	The main source of this functionality will be employee, admin and Owner who need to interact with system and perform their duties.
Actors:	Employee, Admin and Owner
Flow of Events	
Basic Flow:	Owner, admin and employee put their use-name and password to logout from there account.
Alternative Flow(s):	If employee forget his user-name and password then admin have the power to regenerate new user-name and password.
Exception Flow(s):	Ask admin to logout due to some issues
Includes:	no other use case will include during this functionality
Preconditions:	User put their password and user- name to get out from the system.
Post conditions:	User logged from the system.
Notes/Issues:	Person should have to remember his unique User-name and password for using logout functionality.

LOGOUT USE-CASE TABLE 1.25

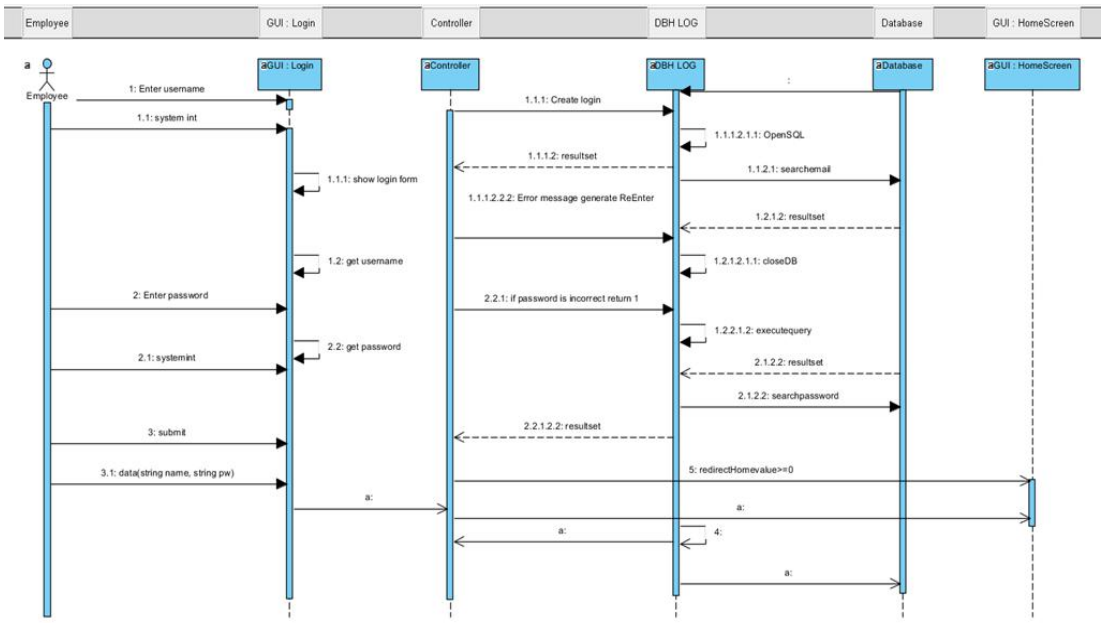
4.6 Sequence Diagram

4.6.1 loginAdmin



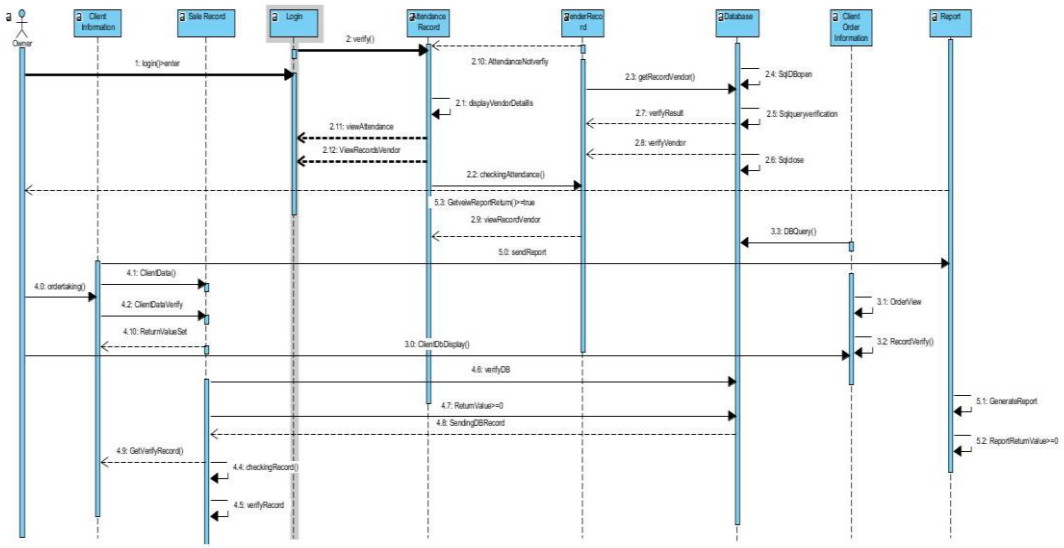
SEQUENCE DIAGRAM OF LOGIN ADMIN FIGURE 1.08

4.6.1 Login Employee



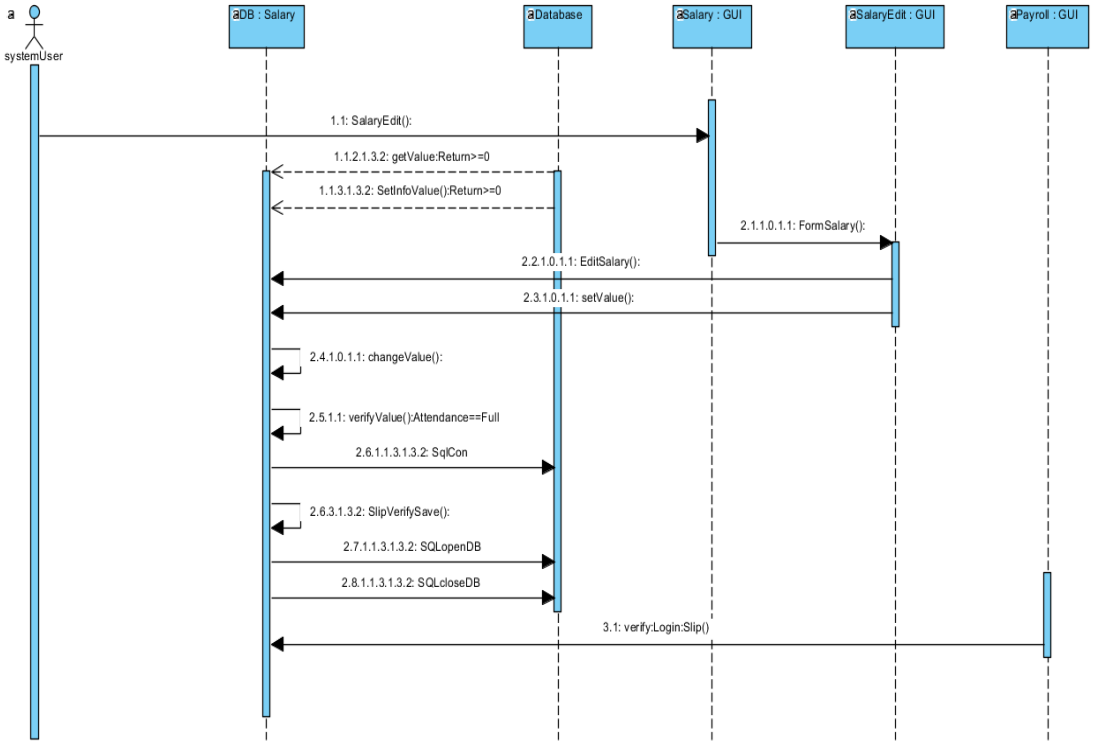
SEQUENCE DIAGRAM OF LOGIN EMPLOYEE FIGURE 1.09

4.6.1 Login Owner



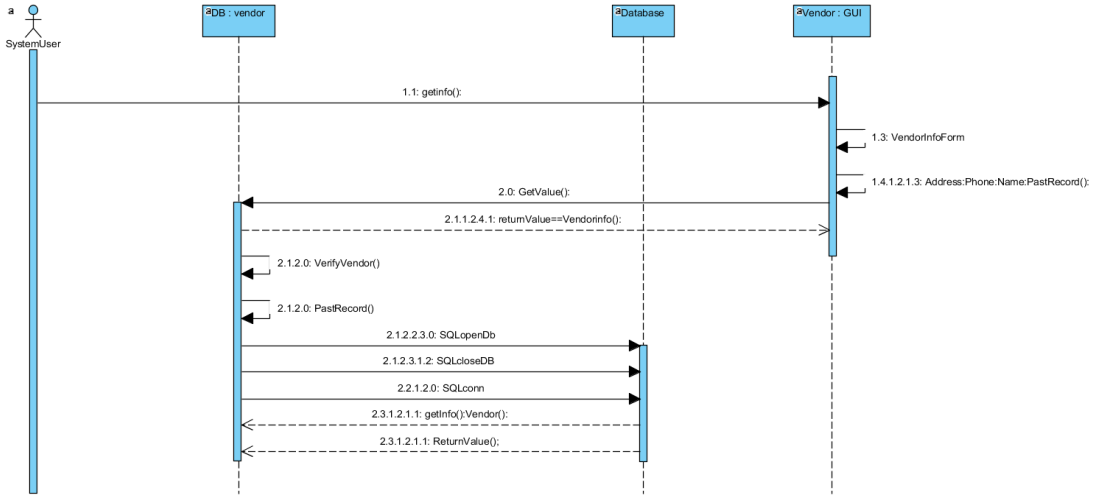
SEQUENCE DIAGRAM LOGIN OWNER FIGURE 1.10

4.6.2 Salary Manager



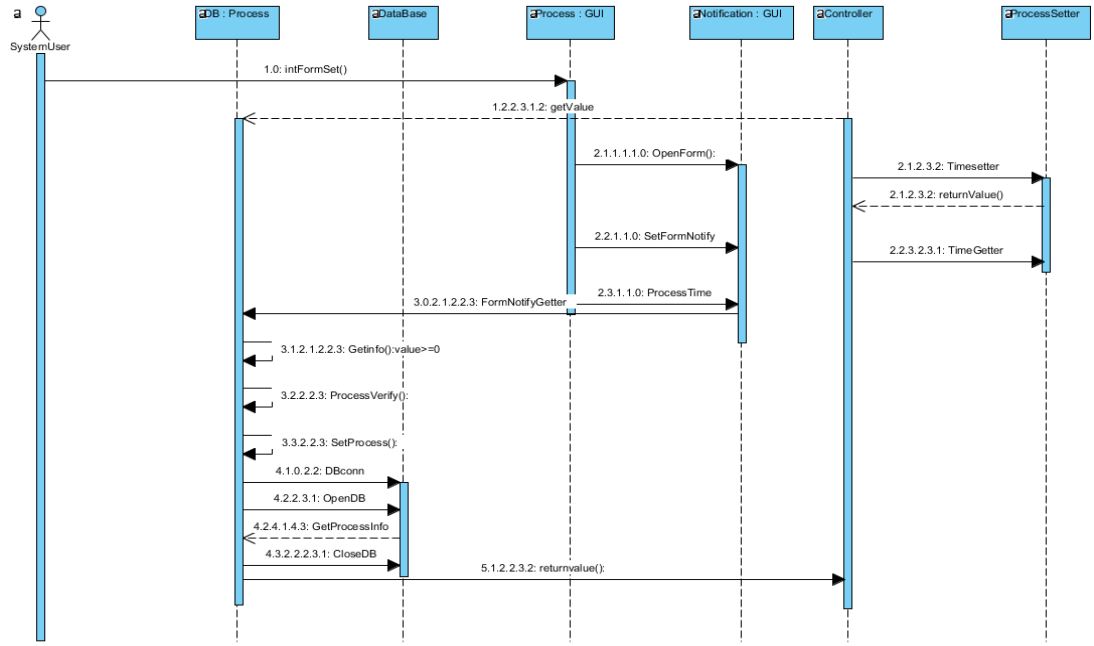
SEQUENCE DIAGRAM SALARY FIGURE ' 1.11

4.6.1 Vendor Record



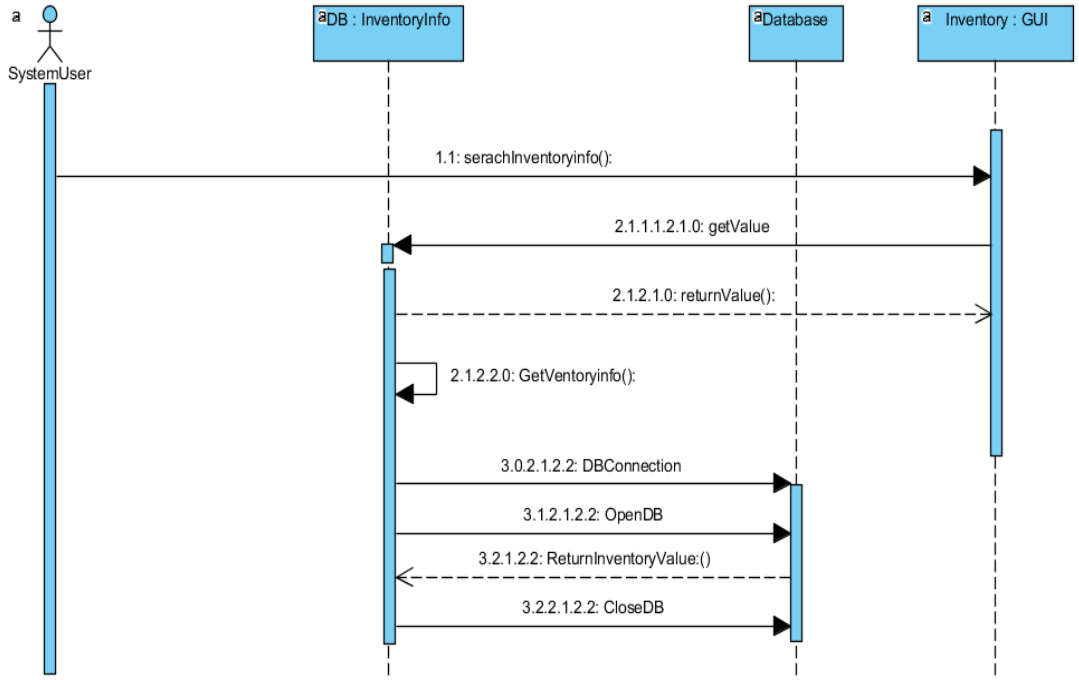
SEQUENCE DIAGRAM VENDORE RECORD FIGURE 1.12

4.6.1 Process Information



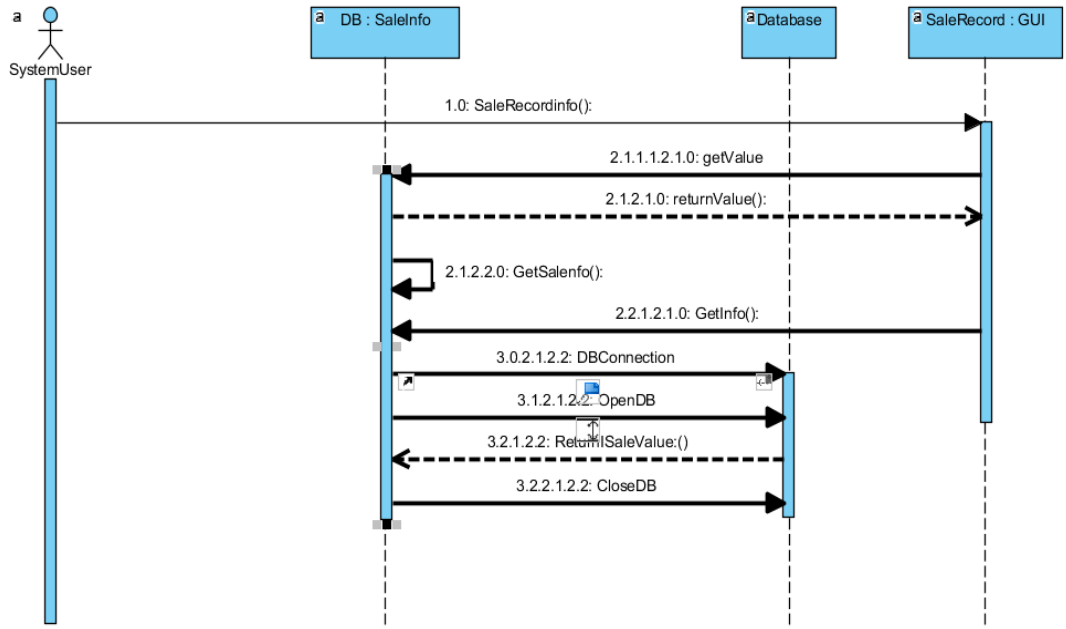
SEQUENCEC DIAGRAM PROCESS INFORMATION FIGURE 1.13

4.6.1 Inventory Information



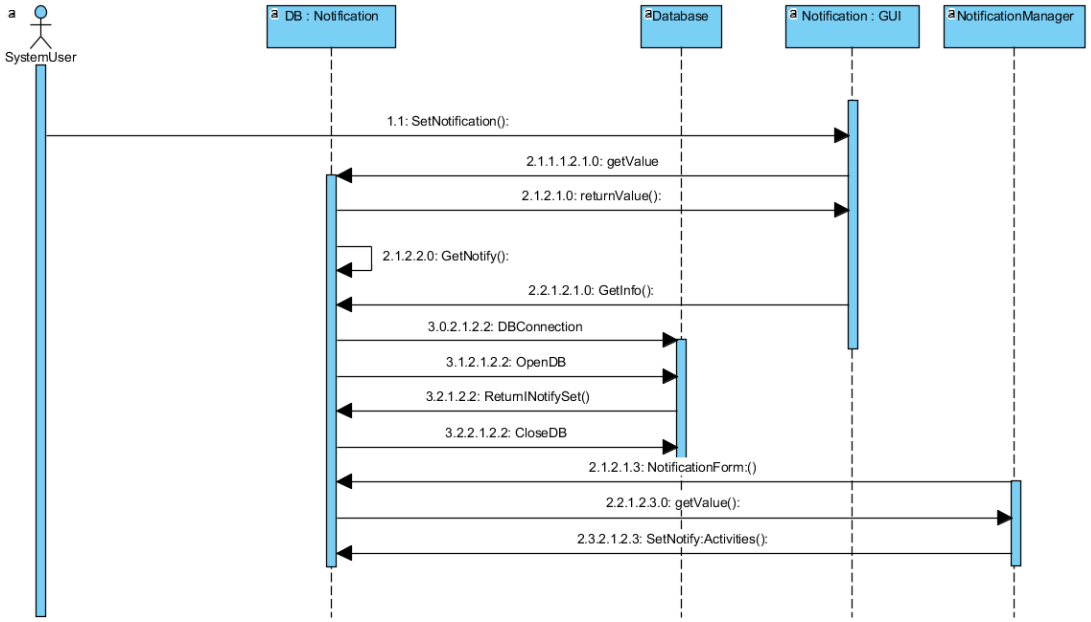
SEQUENCE DIGRAM INVENTORY INFORMATION FIGURE 1.14

4.6.2 Sale Record



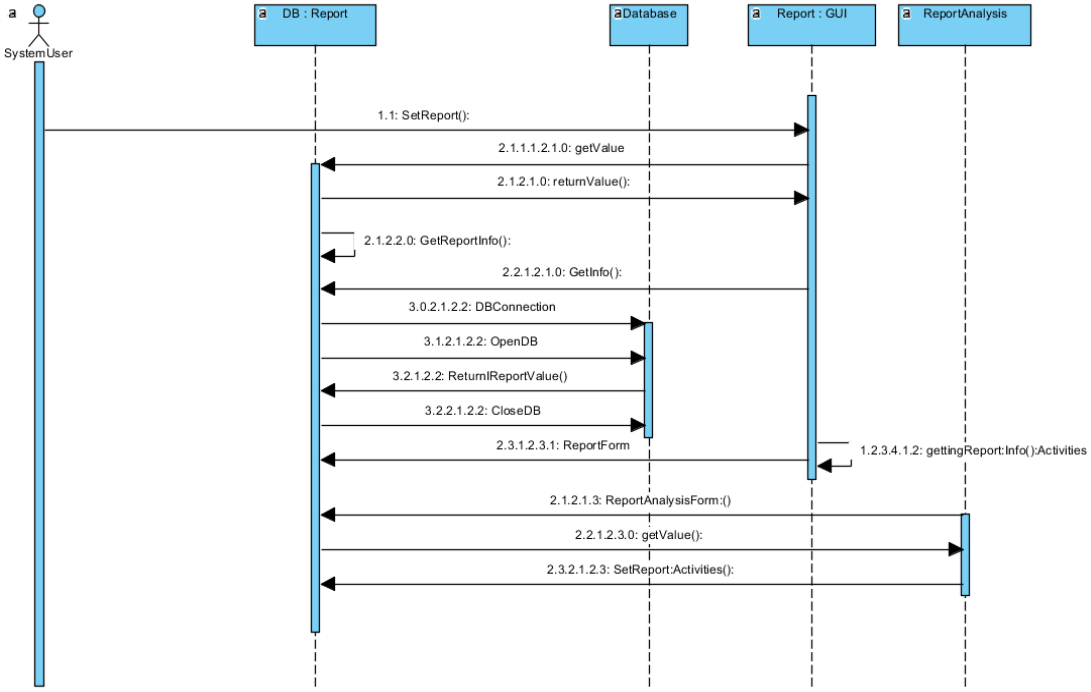
SEQUENCE DIAGRAM SALE RECORD FIGURE 1.15

4.6.1 Notification Manager



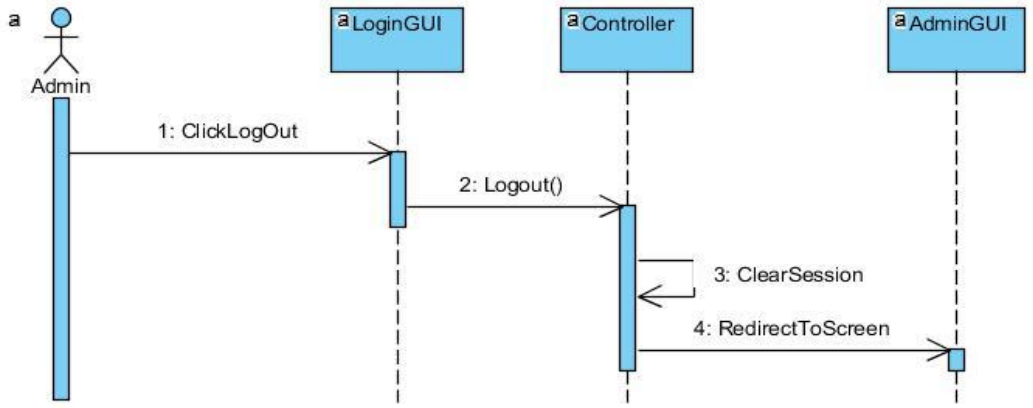
SEQUENCE DIAGRAM NOTIFICATION MANAGER FIGURE 1.16

4.6.1 Report Analysis



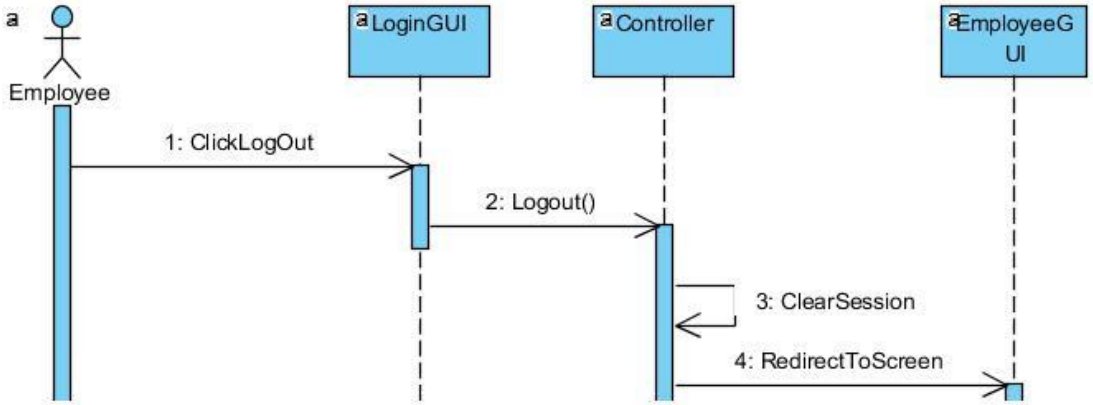
SEQUENCE DIAGRAM REPORT ANALYSIS FIGURE 1.17

4.6.1 Logout Admin



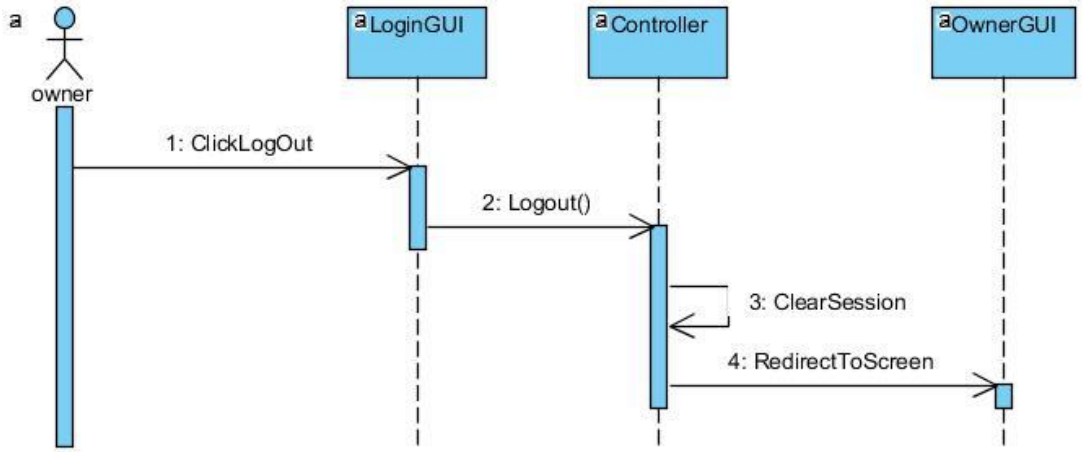
SEQUENCE DIAGRAM LOGOUT ADMIN FIGURE 1.19

4.6.2 Logout Employee



SEQUENCE DIAGRAM LOGOUT EMPLOYEE FIGURE 1.20

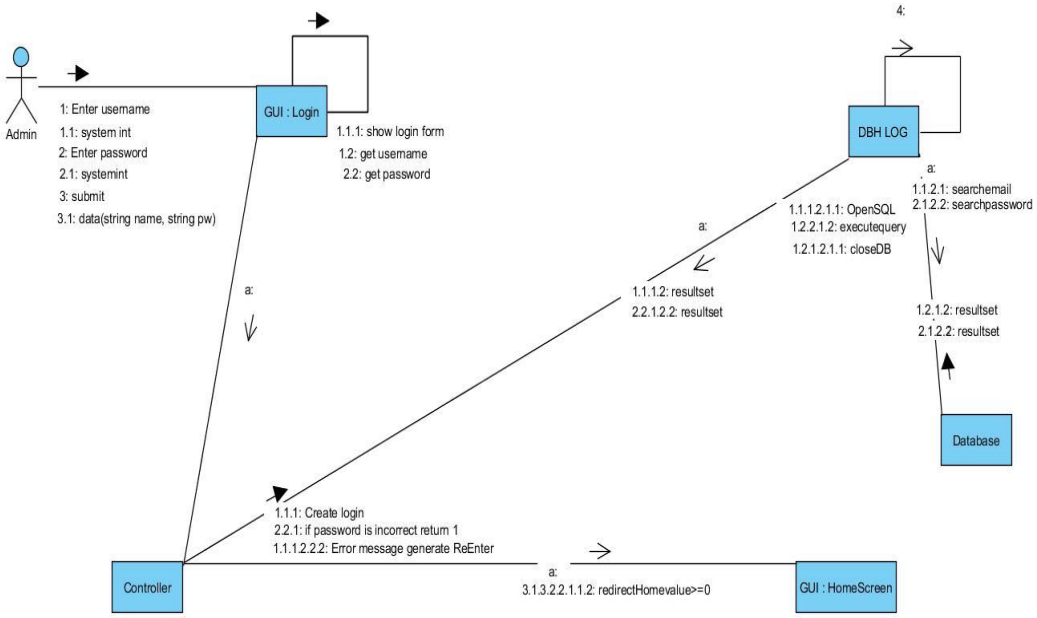
4.6.1 Logout Owner



SEQUENCE DIAGRAM LOGOUT OWNER FIGURE 1.21

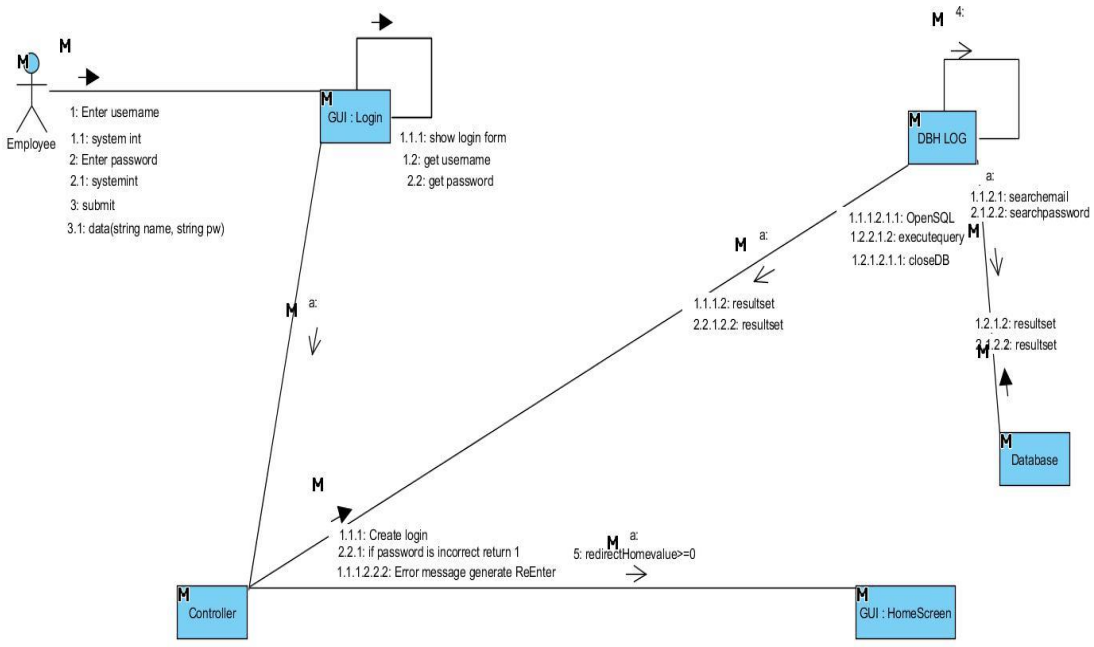
4.7 Collaboration Diagram

4.7.1 Login Admin



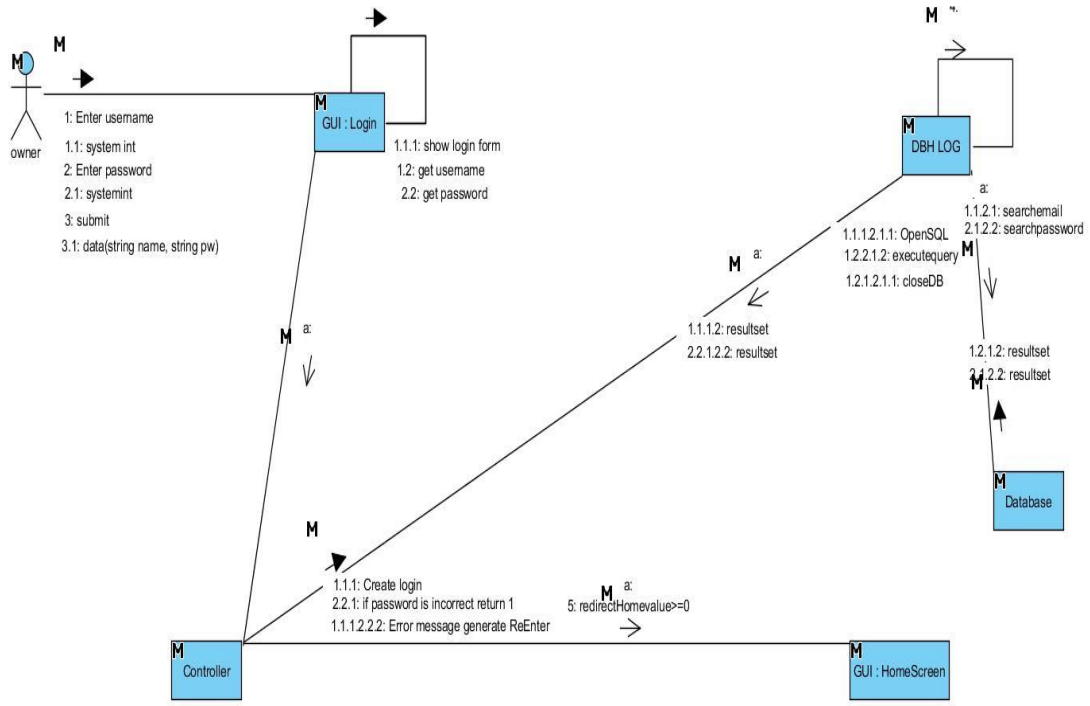
COLLABORATION DIAGRAM LOGIN ADMIN FIGURE 1.22

4.7.2 Login Employee



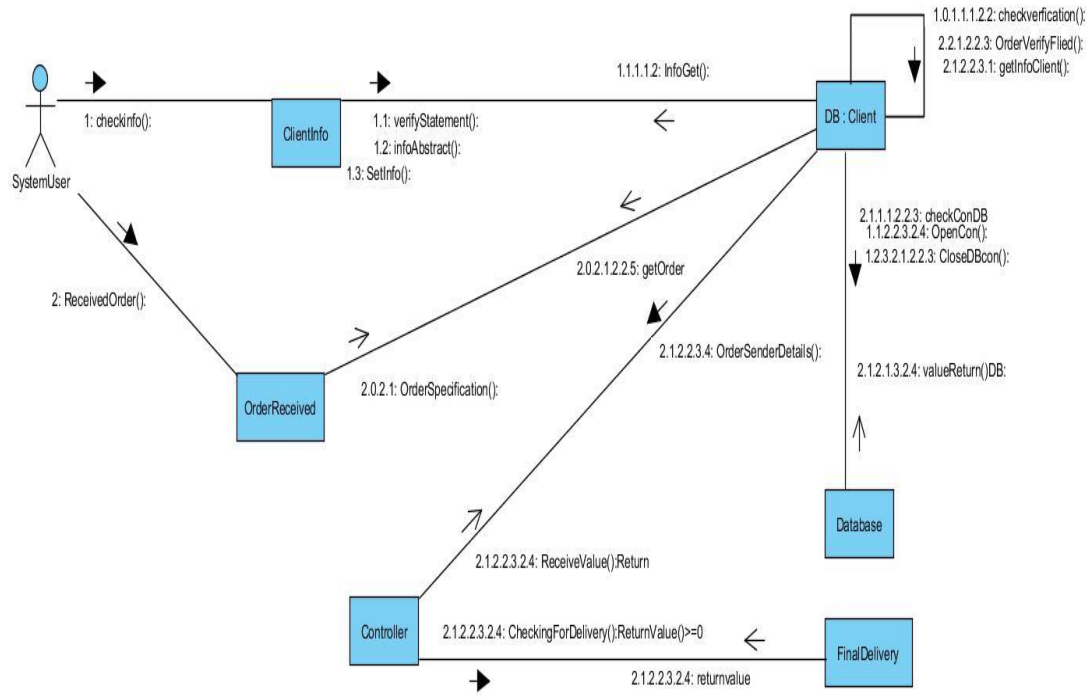
COLLABORATION DIAGRAM LOGIN EMPLOYEE FIGURE 1.23

4.7.1 Login Owner



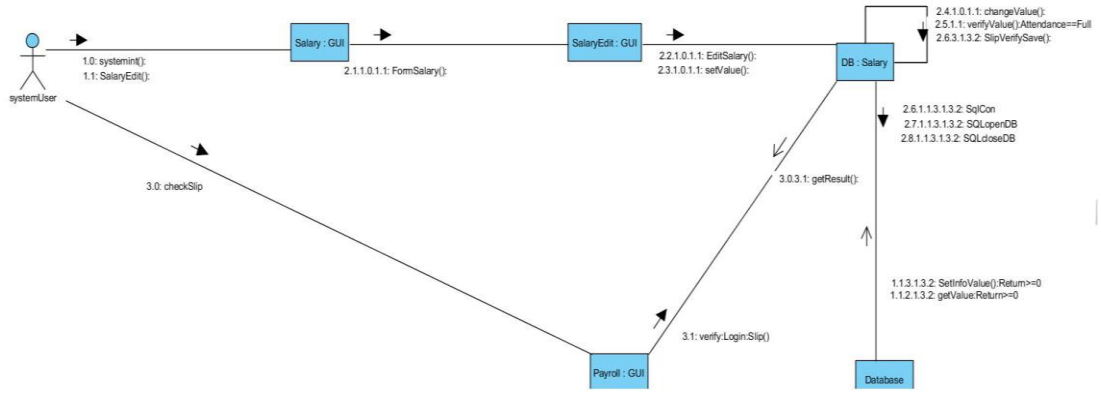
COLLABORATION DIAGRAM LOGIN OWNER FIGURE 1.24

4.7.1 Client order



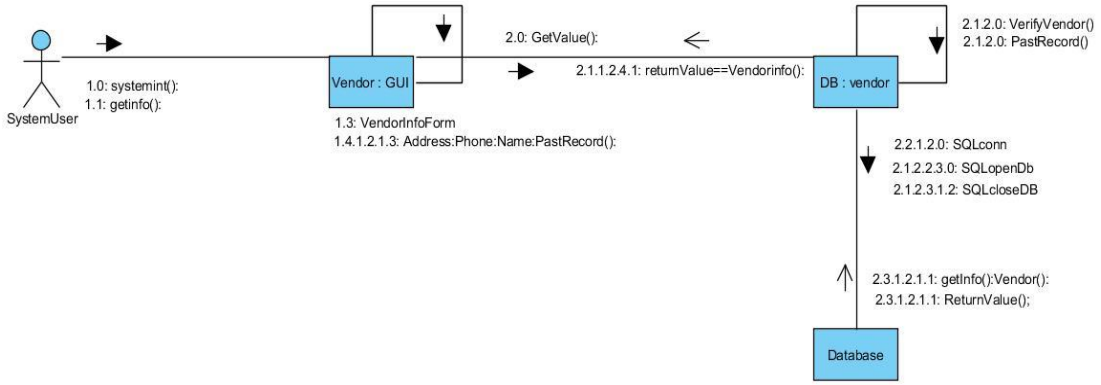
COLLABORATION DIAGRAM CLIENT FIGURE 1.25

4.7.2 Salary Manager



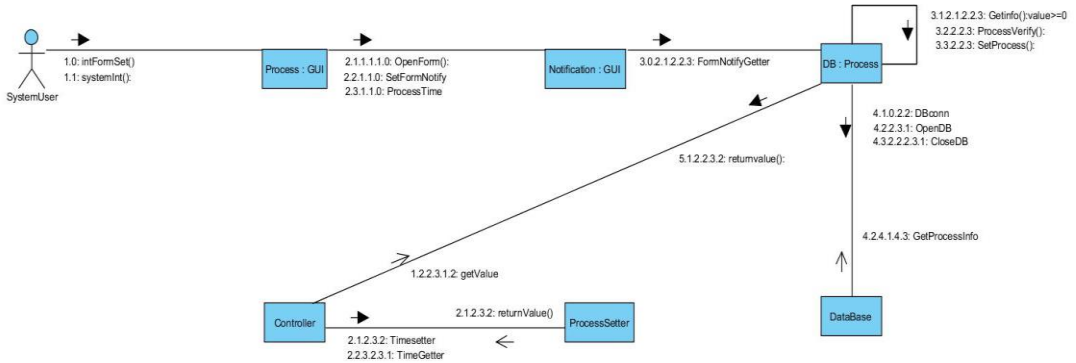
COLLABORATION DIAGRAM SALARY MANAGEMENT FIGURE 1.26

4.7.3 Vendor Record



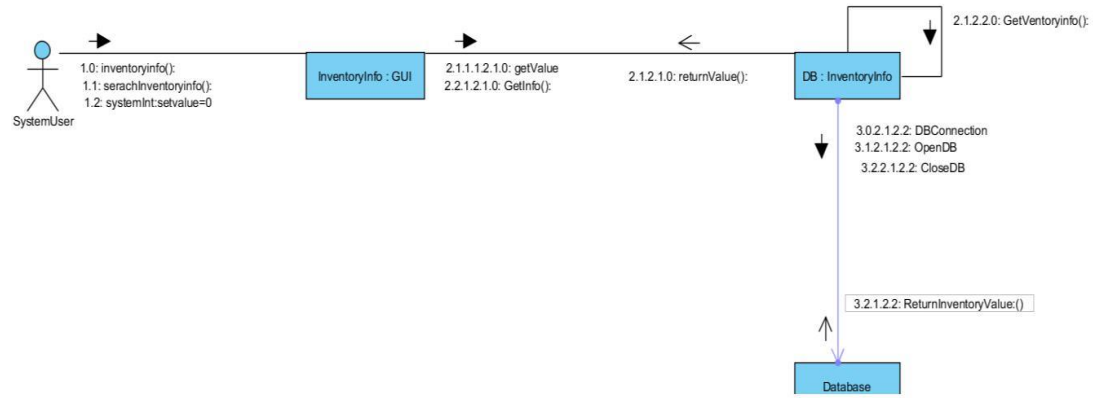
COLLABORATION DIAGRAM VENDOR RECORD FIGURE 1.27

4.7.4 Process Information



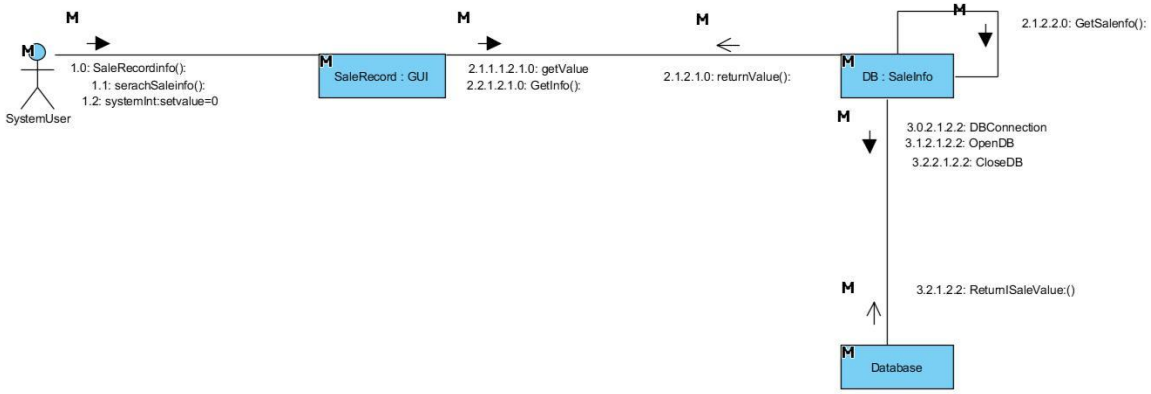
COLLABORATION DIAGRAM PROCESS INFORMATION FIGURE 1.28

4.7.5 Inventory Information



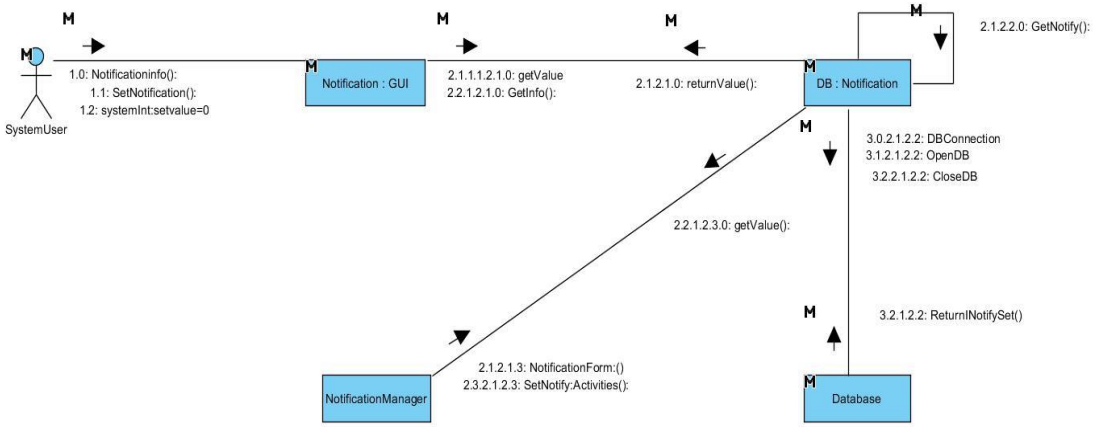
COLLABORATION DIAGRAM INVENTORY INFORMATION FIGURE 1.29

4.7.6 Sale Record



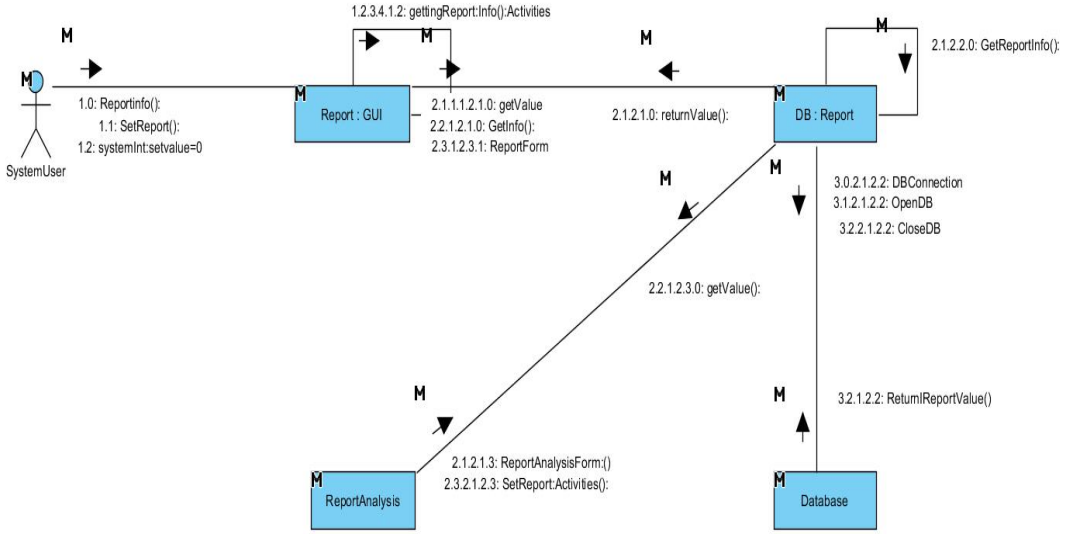
COLLABORATION DIAGRAM SALE RECORD FIGURE 1.30

4.7.7 Notification Manager



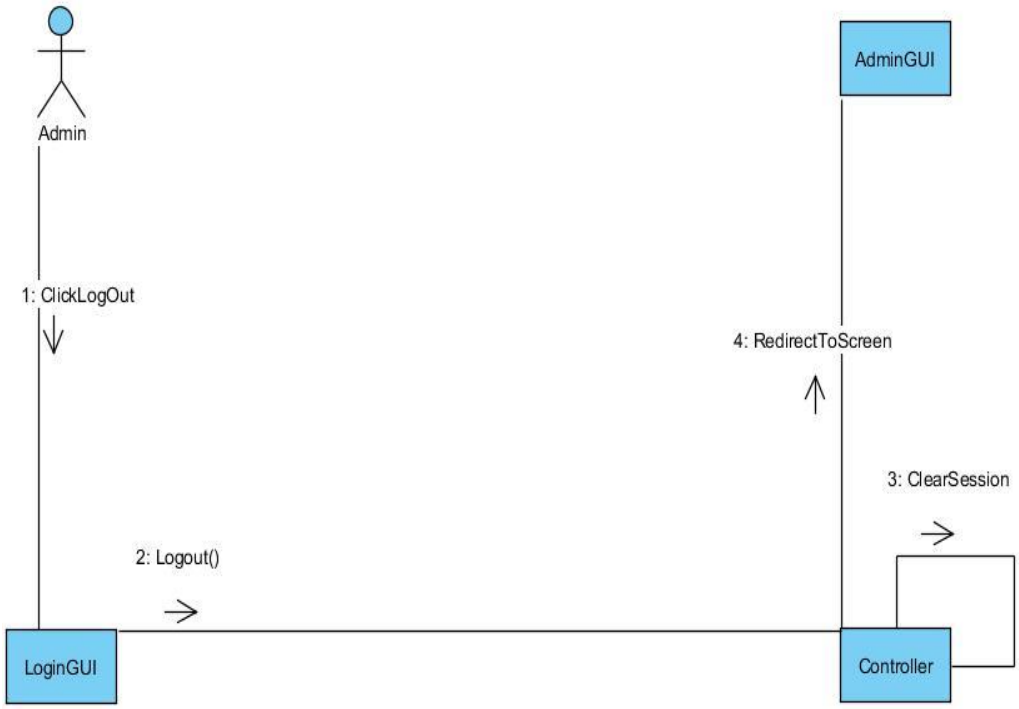
COLLABORATION DIAGRAM NOTIFICATION MANAGER FIGURE 1.31

4.7.8 Report Analysis



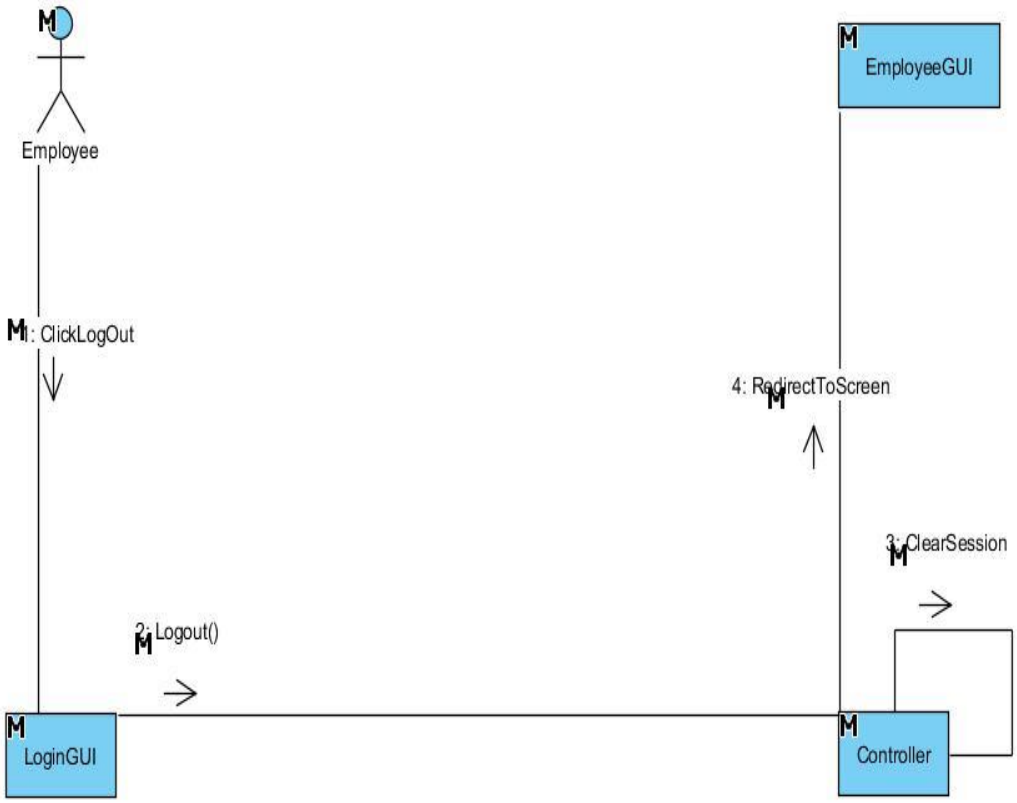
COLLABORATION DIAGRAM REPORT ANALYSIS FIGURE 1.32

4.7.9 Logout Admin



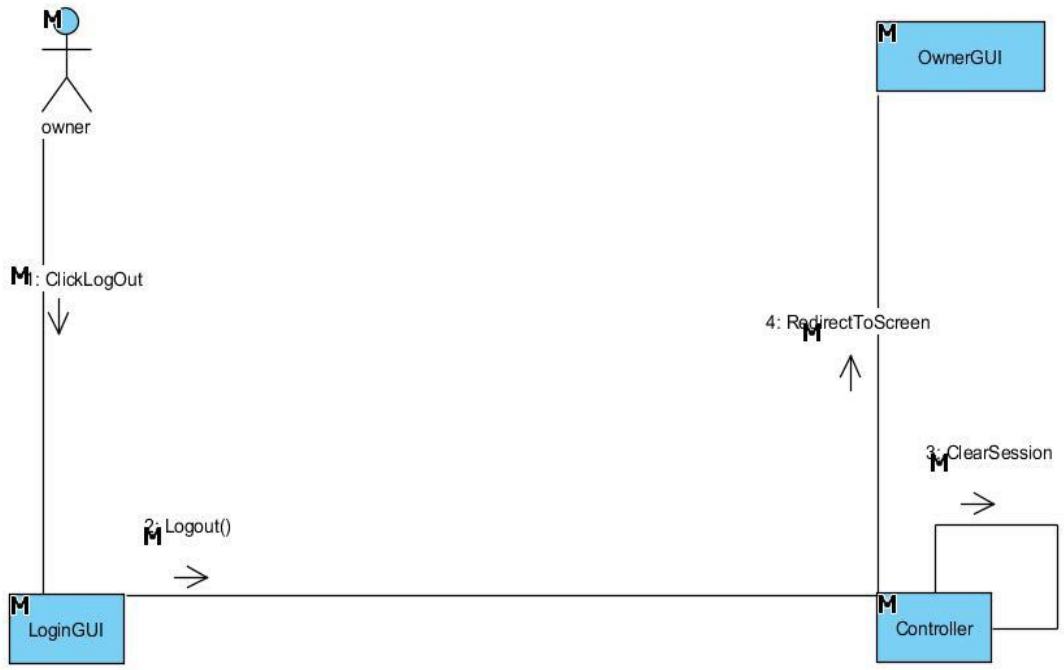
COLLABORATION DIAGRAM LOGOUT ADMIN FIGURE 1.33

4.7.10 Logout Employee



COLLABORATION DIAGRAM LOGOUT EMPLOYEE FIGURE 1.34

4.7.11 Logout Owner



COLLABORATION DIAGRAM LOGOUT OWNER FIGURE 1.35

4.8 Operational Contracts

4.8.1 Login Admin

Name:
Login_Admin (string, string)
Responsibilities:
This function will allow Admin to login in the system.
Cross-Reference:
Admin_Login
Exception:
Failure/Success of Database Exception
Pre-condition: The software must be in running condition.
Post Condition:
The system will redirect the user to the home screen.
Output: Success/failure

4.8.2 Login Owner

Name:
Owner_Login (string, string)
Responsibilities:
This function will allow owner to login in the system.
Cross-Reference:
Owner_Login
Exception:
Failure/Success of Database Exception
Pre-condition:
The software must be in running condition.
Post Condition:
The system will redirect the user to the home screen.
Output:
Success/failure

4.8.3 Login Employee

Name:
Employee_Login (string, string)
Responsibilities:
This function will allow Employee to login in the system.
Cross-Reference:
Employee_Login
Exception:
Failure/Success of Database Exception
Pre-condition:
The software must be in running condition.
Post Condition:
The system will redirect the user to the home screen.
Output:
Success/failure

4.8.4 Salary Management

Name:
Salary Management (string, string, string, float, float)
Responsibility:
The responsibility of this to edit the salary of the employee and store it into the database. This will generate the payroll slip after editing the employee salary.
Cross Reference:
Salary Management
Exception:
None
Pre-condition:
The software must in running condition
Post-condition:
The system redirects the system user to main panel screen.
Output:
Success/failure

4.8.5 Vendor Record

Name:
Vendor Record (string, string, string, float, float)
Responsibility:
The responsibility of this to keep the record of the vendor into database of the system. It also generate the report of vendor past working the project given to it.
Cross Reference:
Vendor Record
Exception:
None
Pre-condition:
The software must in running condition
Post-condition:
The system redirects the system user to main panel screen.
Output:
Success/failure

4.8.6 Inventory Information

Name:
Inventory information (string, string, string, string, string)
Responsibility:
The responsibility of this is to keep the record of the inventory item into the system
Cross Reference:
Inventory information
Exception:
None
Pre-condition:
The software must in running condition
Post-condition:
The system redirects the system user to main panel screen.
Output:
Success/failure

4.8.7 Process Information

Name:
Process Information (string, string, string)
Responsibility:
The responsibility of this is to generate the notification on the process going onto the order taken from the client.
Cross Reference:
Process information
Exception:
None
Pre-condition:
The software must in running condition
Post-condition:
The system redirects the system user to main panel screen.
Output:
Success/failure

4.8.8 Sale Record

Name:
Sale Record (string, string)
Responsibility:
The responsibility of this is to keep the record on the sales of the organization. E.g. item used in the project and new item purchase for the working..
Cross Reference:
Sale Record
Exception:
None
Pre-condition:
The software must in running condition
Post-condition:
The system redirects the system user to main panel screen.
Output:
Success/failure

4.8.9 Notification Generation

Name:
Notification generation (String, string)
Responsibilities:
This function will allow to generate the notification on other functionality. This will help to keep in check the work of the organization.
Cross-Reference:
Notification generation
Exception:
Failure/Success of Database Connection
Pre-condition:
The software must be in running condition.
Post Condition:
The system will redirect the system user to the home screen.
Output:
Success/Failure

4.8.10 Report Analysis

Name:
Report Analysis (string, string)
Responsibility:
The purpose of this to generate the report analysis of the organization structure.
Cross Reference:
Report Analysis
Pre-Conditions:
The system is in running condition.
The user must have logged in.
Post Condition:
The system will go back to main panel screen.
Exception:
None
Output:
Success/Failure

4.8.11 Admin Logout

Name:
Admin_Logout
Responsibilities:
This operation will Admin user to logout the system.
Pre-condition:
The user must be logged in.
Post Condition:
The system will redirect the user to the login screen.
Cross-Reference:
Admin_Logout
Exception:
None
Output:
The system will redirect the user to the login screen.

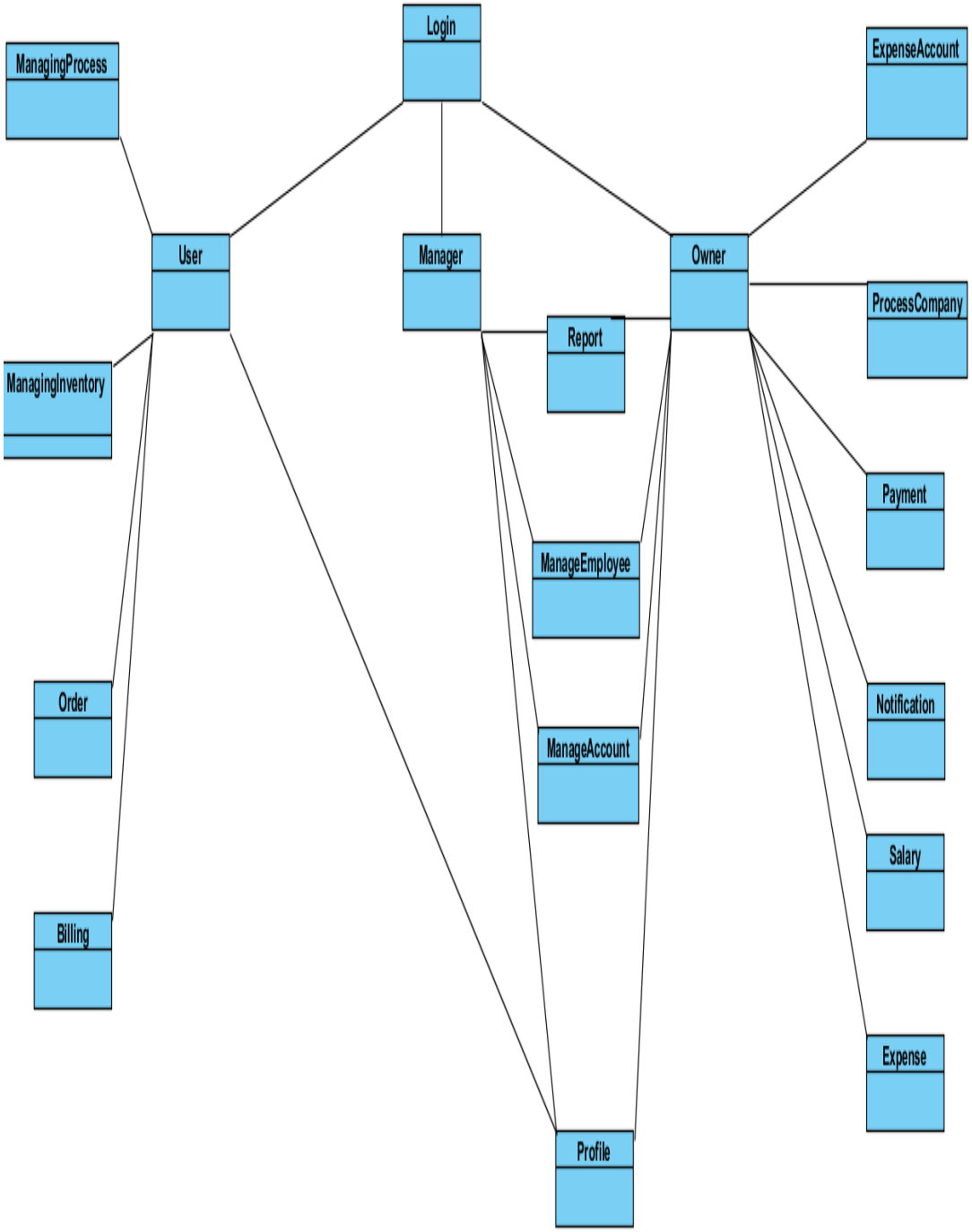
4.8.12 Owner Logout

Name:
Owner_Logout
Responsibilities:
This operation will allow Owner to logout the system.
Pre-condition:
The user must be logged in.
Post Condition:
The system will redirect the user to the login screen.
Cross-Reference:
Owner_logout
Exception:
None
Output:
The system will redirect the user to the login screen.

4.8.13 Employee Logout

Name:
Employee_Logout
Responsibilities:
This operation will allow Employee to logout the system.
Pre-condition:
The user must be logged in.
Post Condition:
The system will redirect the user to the login screen.
Cross-Reference:
Employee_Logout
Exception:
None
Output:
The system will redirect the user to the login screen.

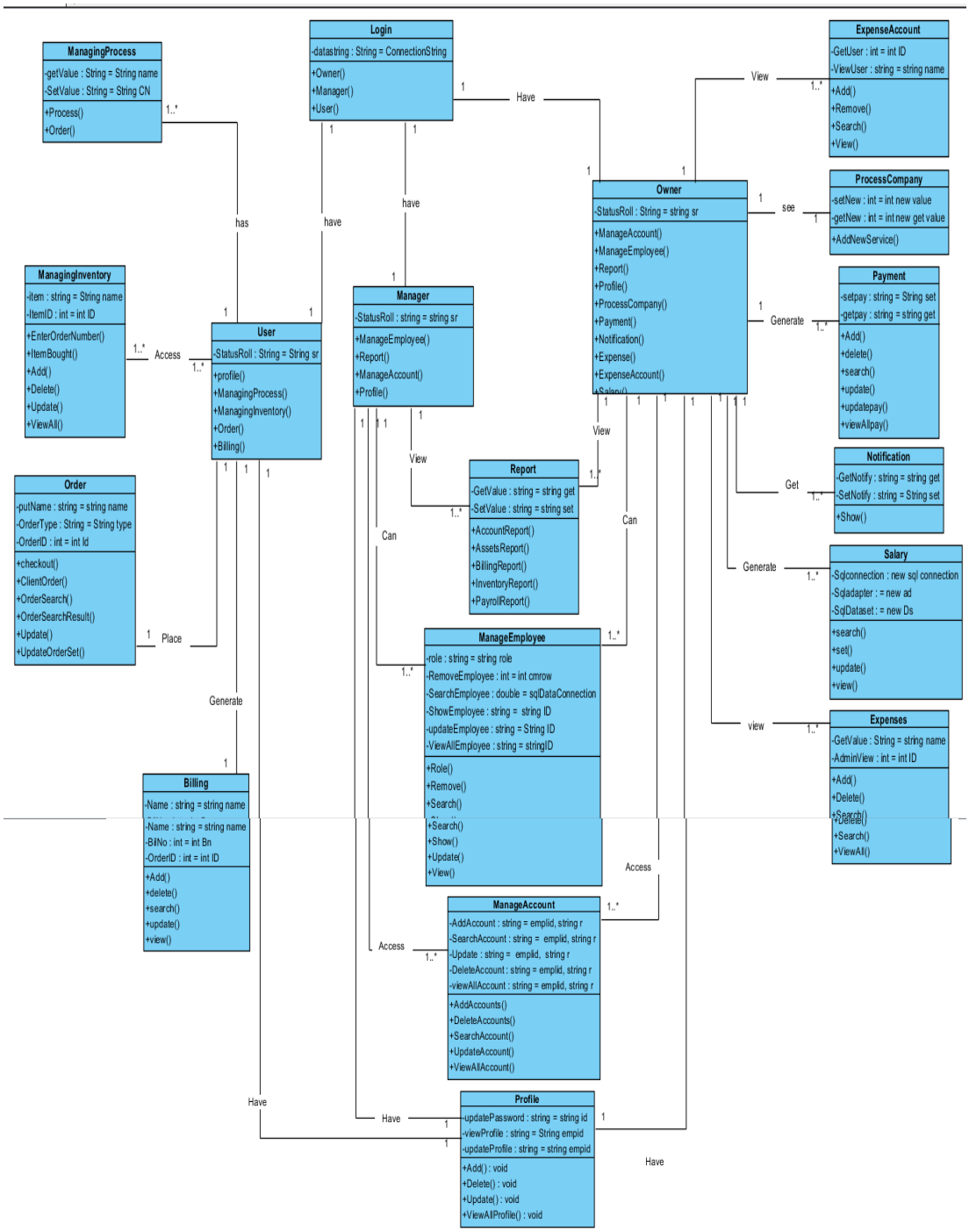
4.9 Domain Model



DOMAIN MODEL FIGURE 1.36

4.10 UML Diagram

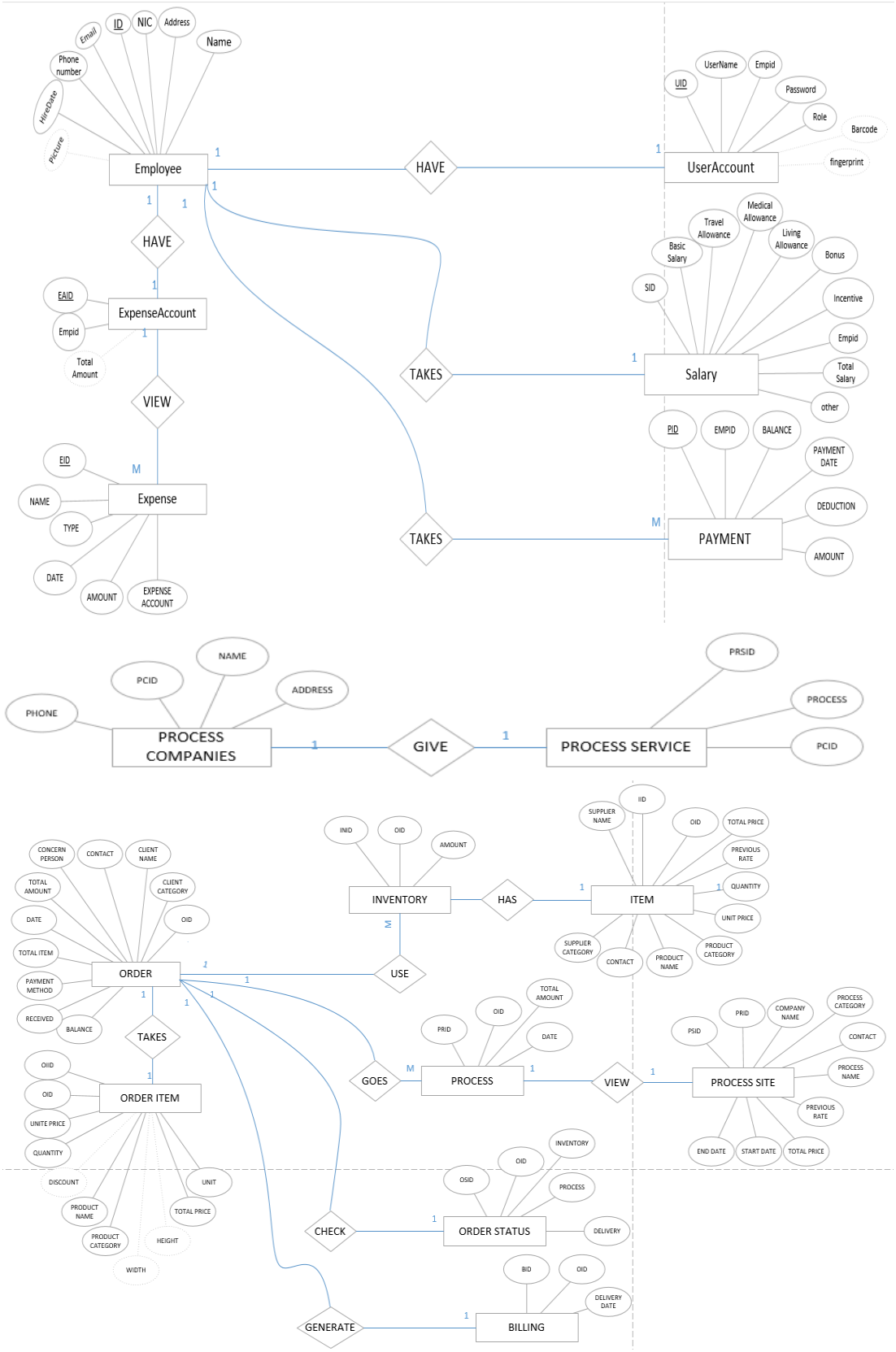
UML Printing Press Management System (ERP)



UML OF PRINTING PRESS ORGANIZATION FIGURE 1.37

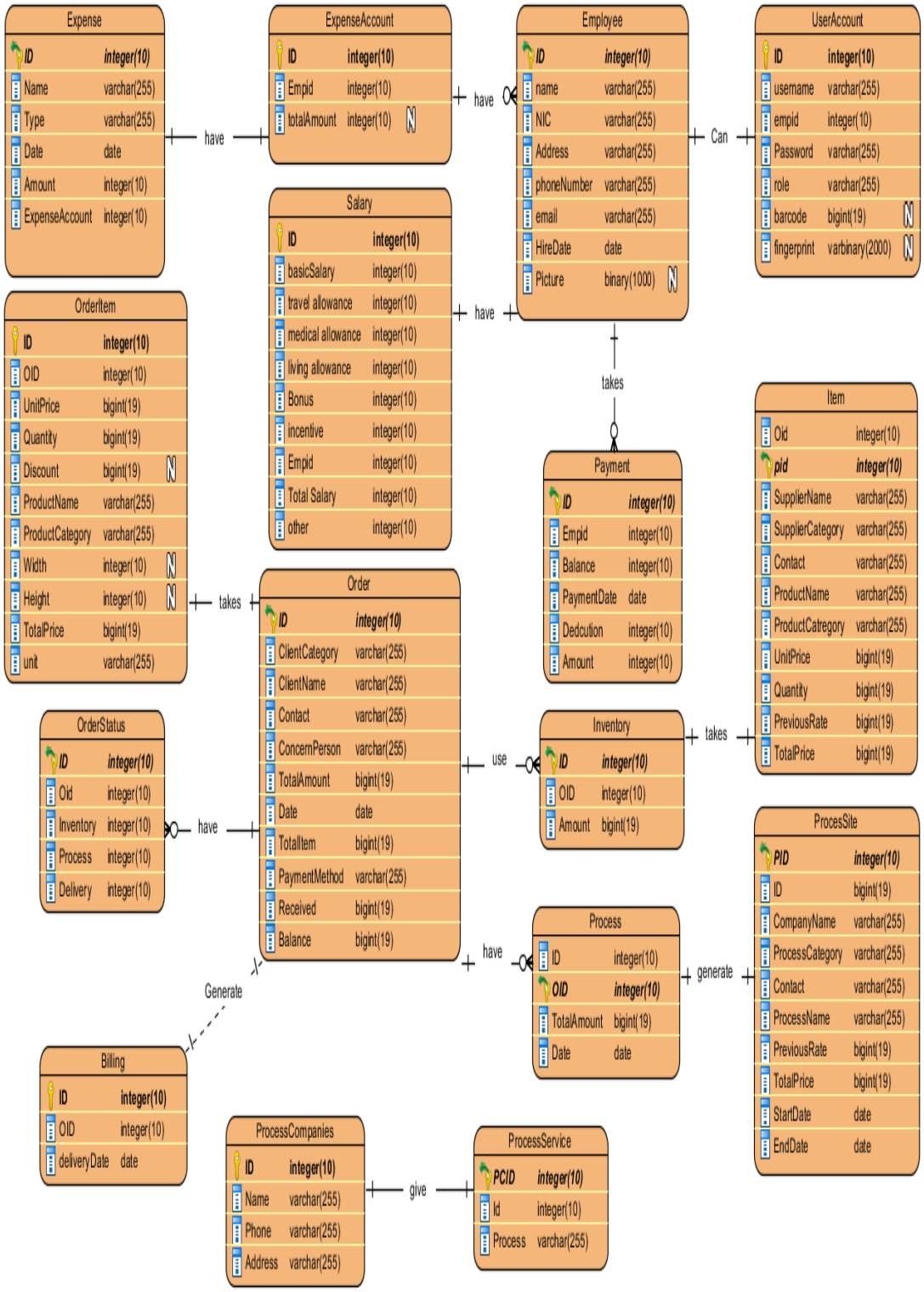
4.11 ERD PRINTING PRESS MANAGEMENT SYSTEM

4.11.1 ERD Printing Press Management System (VIEW)



ERD PRINTING PRESS MANAGEMENT SYSTEM FIGURE 1.38

4.11.2 ERD PRINGINT PRESS MANAGEMENT SYSTEM (DATABASE VIEW)



ERD DATABASE TABLE MODEL PPMS 1.39

CHAPTER 5

TESTING

5.1 Specification-Based Testing

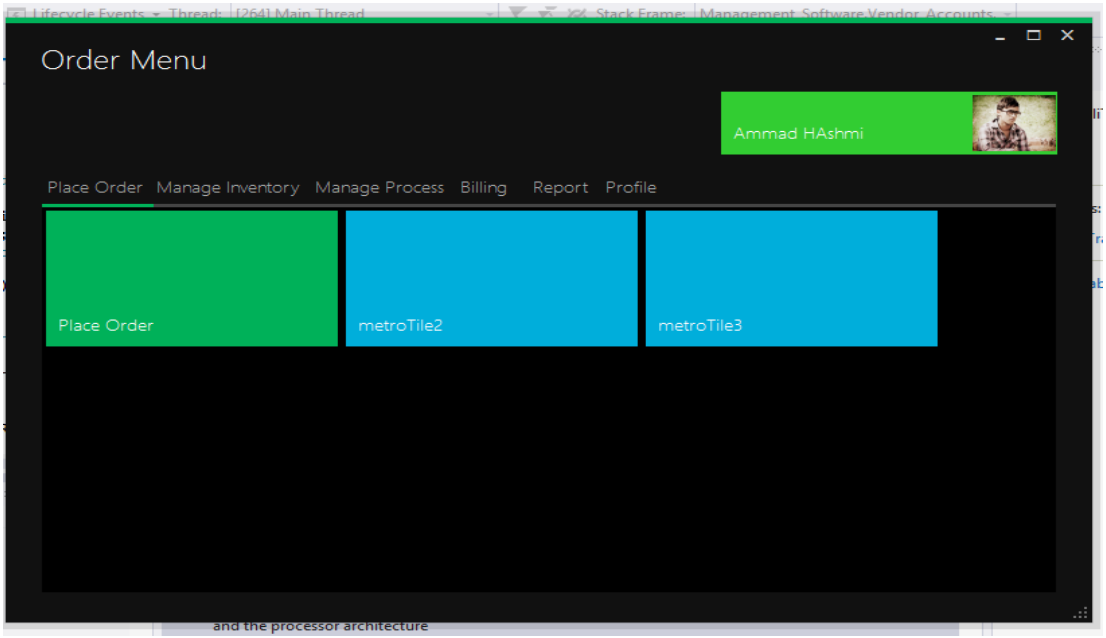
Specification-based testing aims to test the functionality of software according to the applicable requirements. Thus, the tester inputs data into, and only sees the output from, the test object. This level of testing usually requires thorough test cases to be provided to the tester, who then can simply verify that for a given input, the output value (or behaviour), either "is" or "is not" the same as the expected value specified in the test case. Specification-based testing is necessary, but it is insufficient to guard against certain risks.

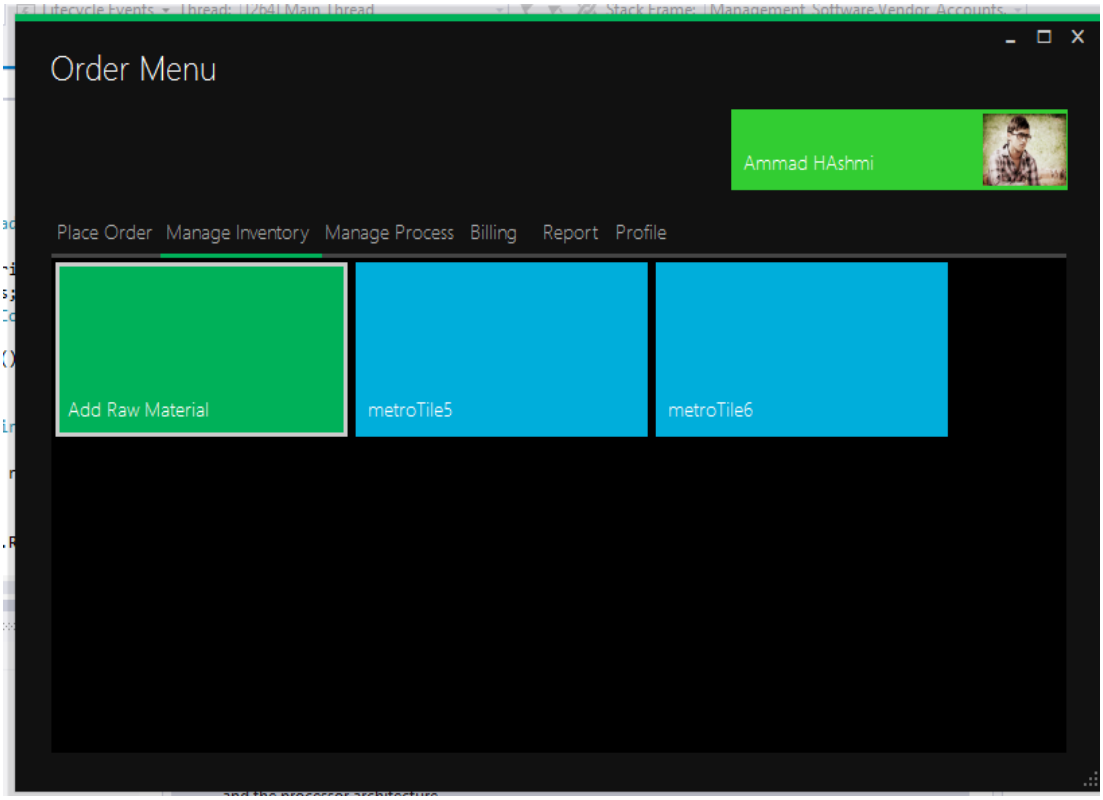
5.2 White Box Testing

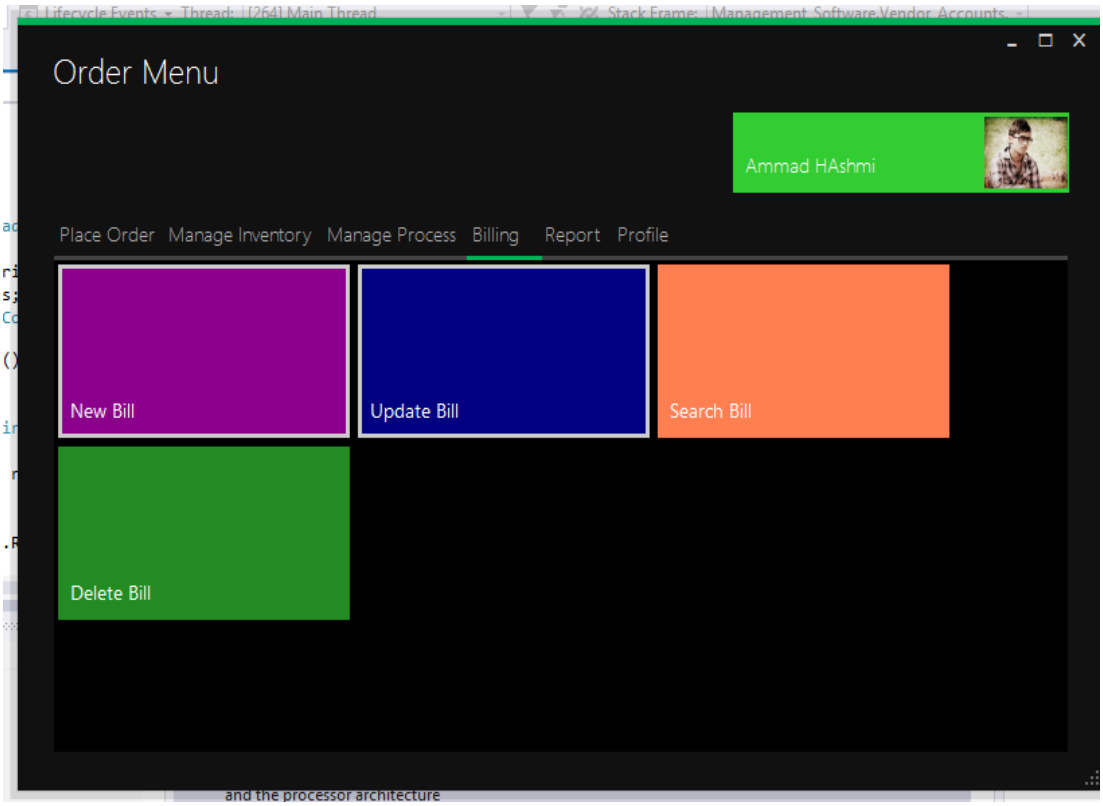
White box testing, is when the tester has access to the internal data structures and algorithms (and the code that implement these). White box testing will be used in this project to ensure it quality and use. This will help to check each module and its working according to the user requirement. The whole project will gone through the process of white box testing. This will remove the error and bugs from the Automate Printing Press Management system. Testing improve and ensure the efficiency of the system in any type of environment, which will provide towards the end user.

CHAPTER 6

RESULTS AND DISCUSSIONS



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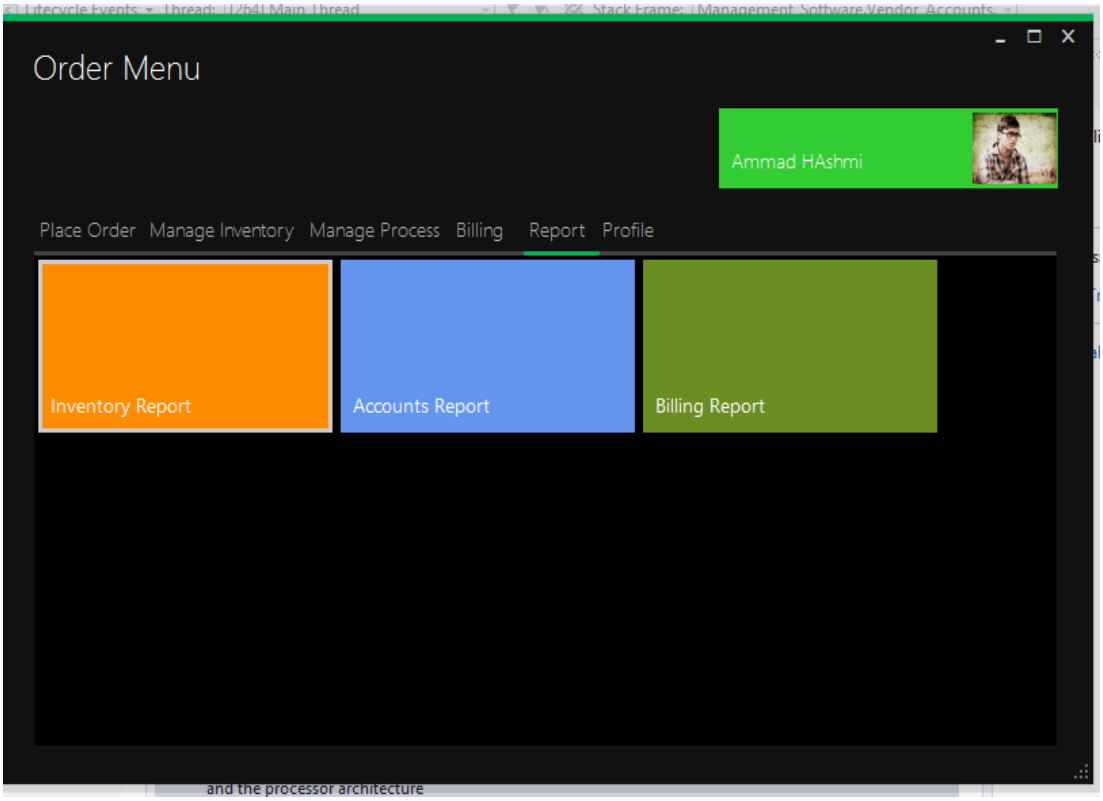
Place Order
Manage Inventory
Manage Process
Billing
Report
Profile
New Bill
Update Bill
Search Bill
Delete Bill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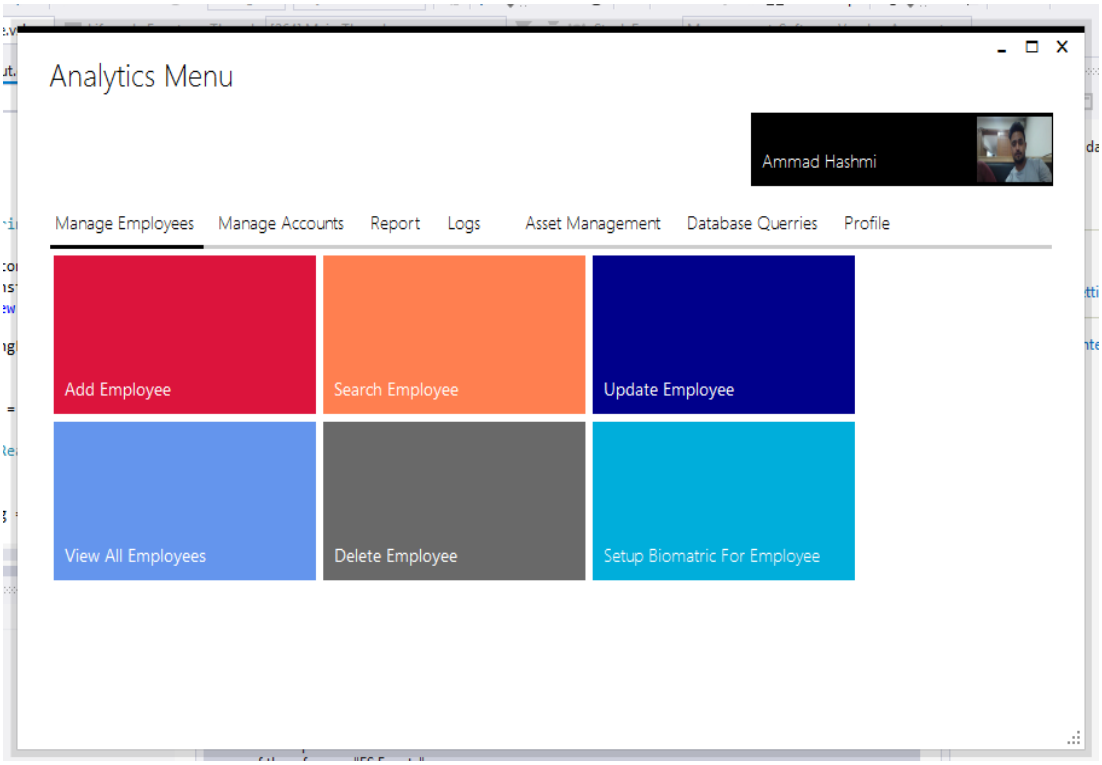
Ammad HAshmi
Place Order
Manage Inventory
Manage Process
Billing
Report
Profile
Inventory Report
Accounts Report
Billing Report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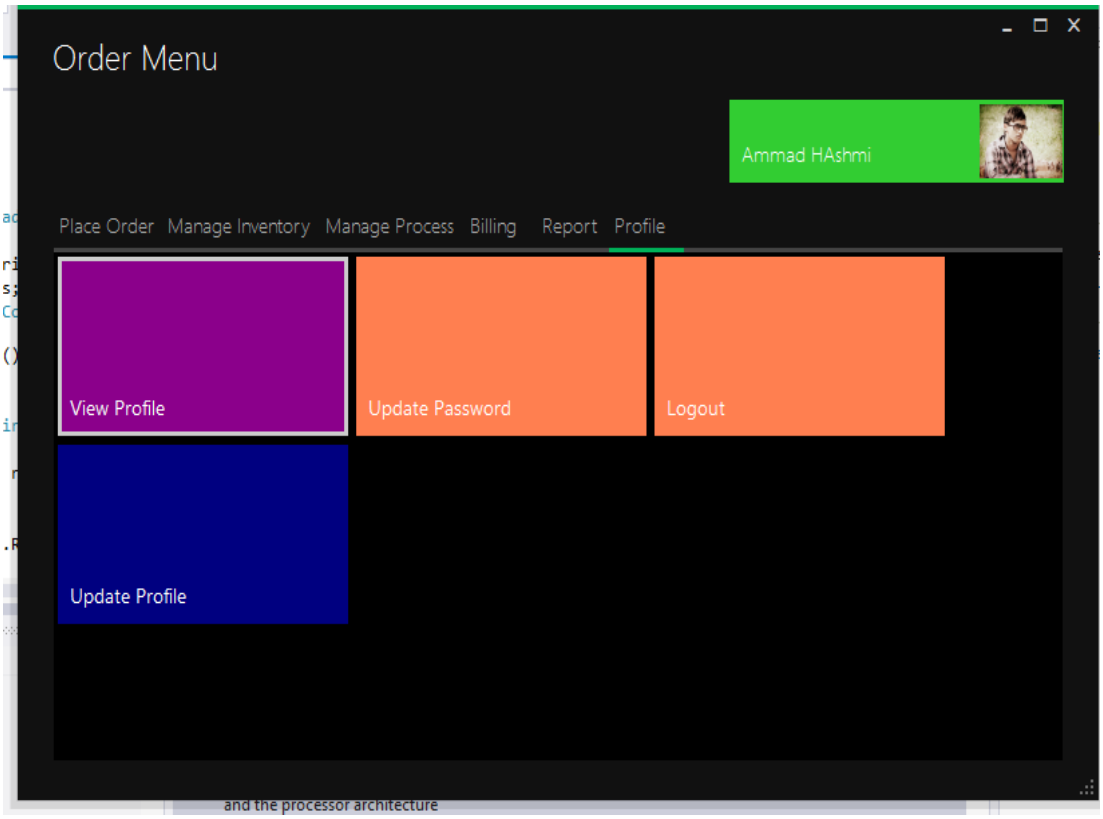
Manage Accounts
Report
Logs
Asset Management
Database Querries
Profile
Add Employee
Search Employee
Update Employee
View All Employees
Delete Employee
Setup Biomatric For Employee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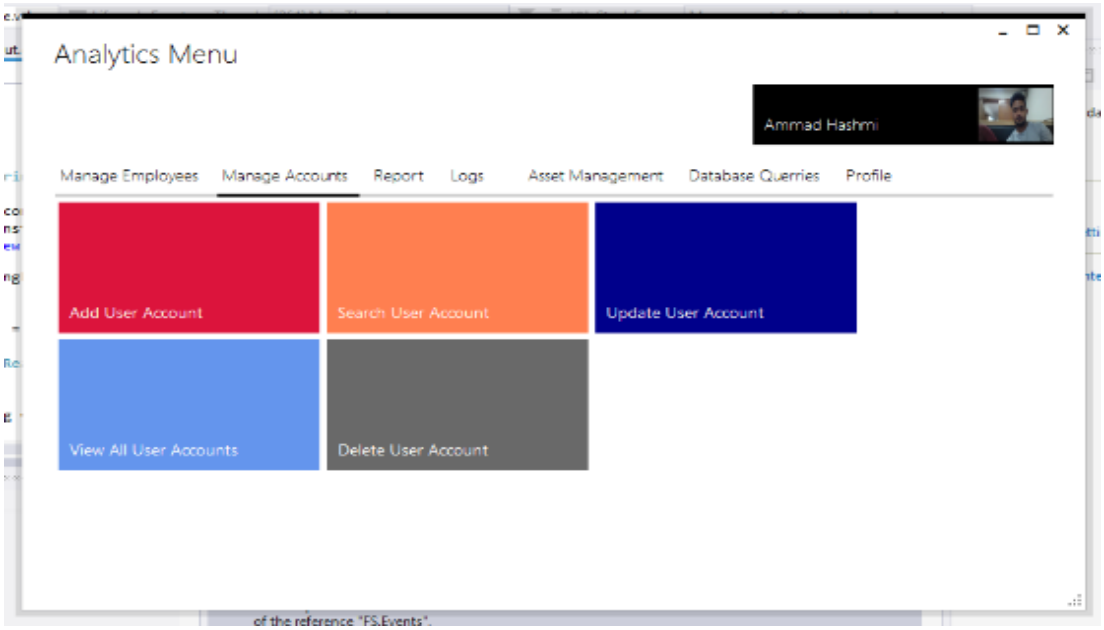
Place Order
Manage Inventory
Manage Process
Billing
Report
Profile
View Profile
Update Password
Logout
Update Profile
and the processor architecture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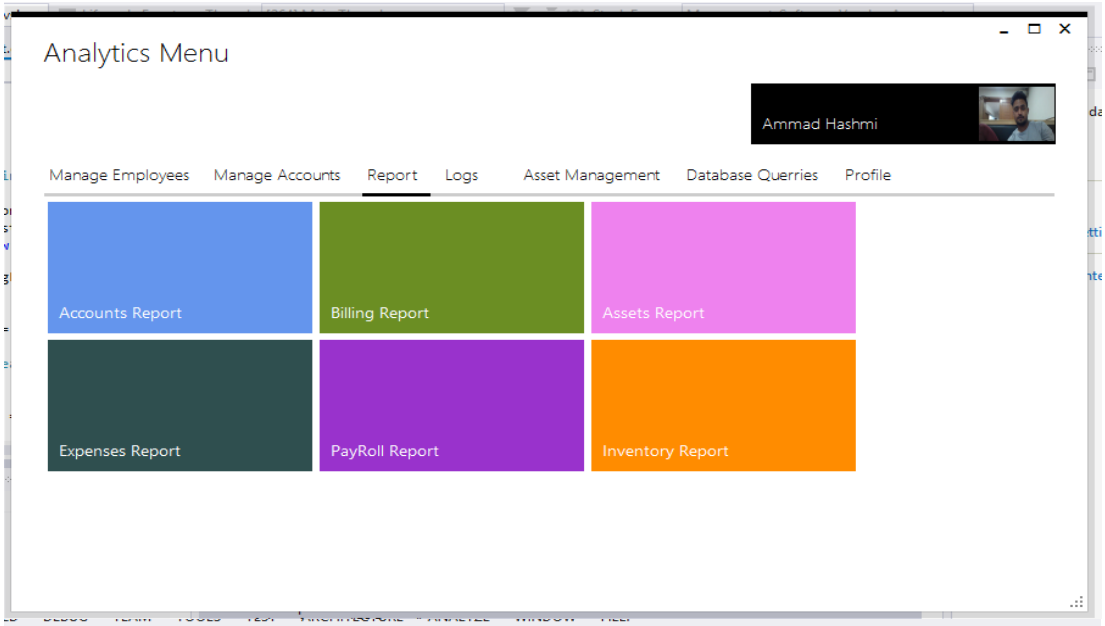
Manage Accounts
Report
Logs
Asset Management
Database Querries
Profile
Add User Account
Search User Account
Update User Account
View All User Accounts
Delete User Account


Analytics Menu
Ammad Hashmi
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Manage Accounts
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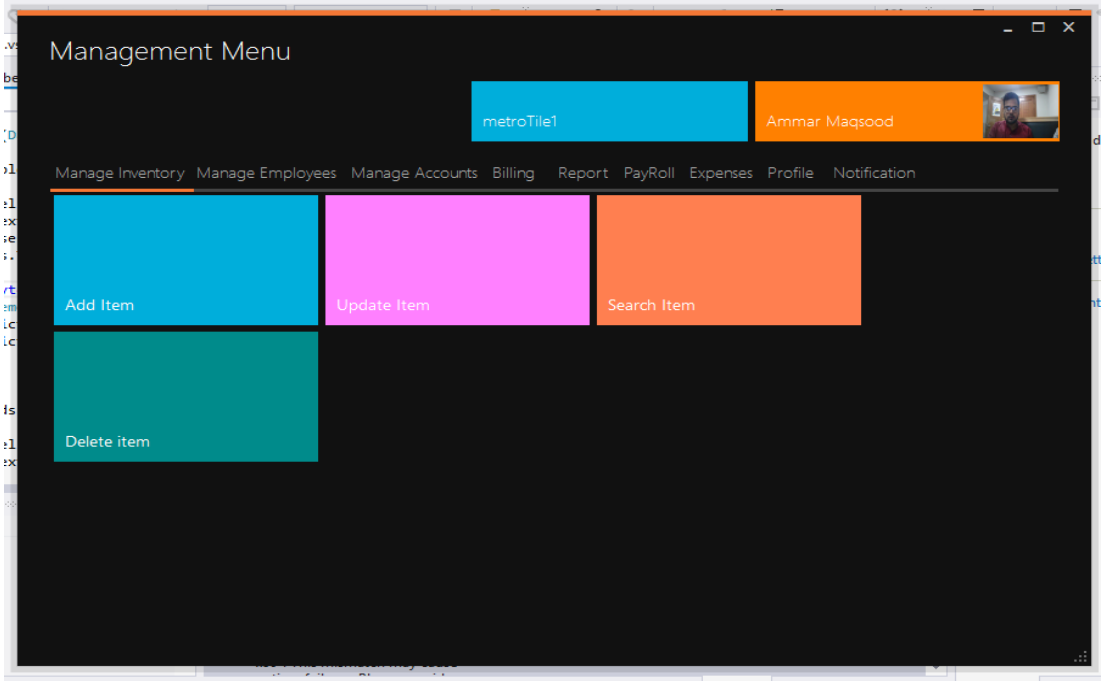
Logs
Asset Management
Database Querries
Profile
Accounts Report
Billing Report
Assets Report
Expenses Report
PayRoll Report
Inventory Report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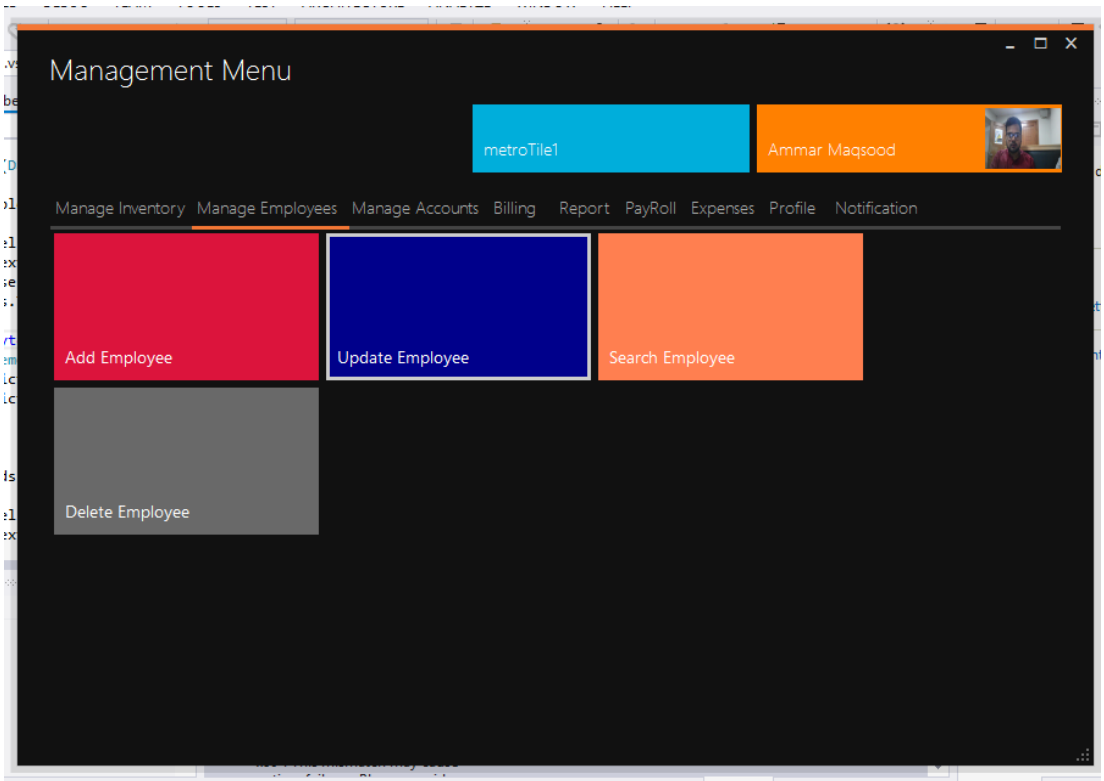
Manage Employees
Manage Accounts
Billing
Report
PayRoll
Expenses
Profile
Notification
Add Item
Update Item
Search Item
Delete item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Update Employee
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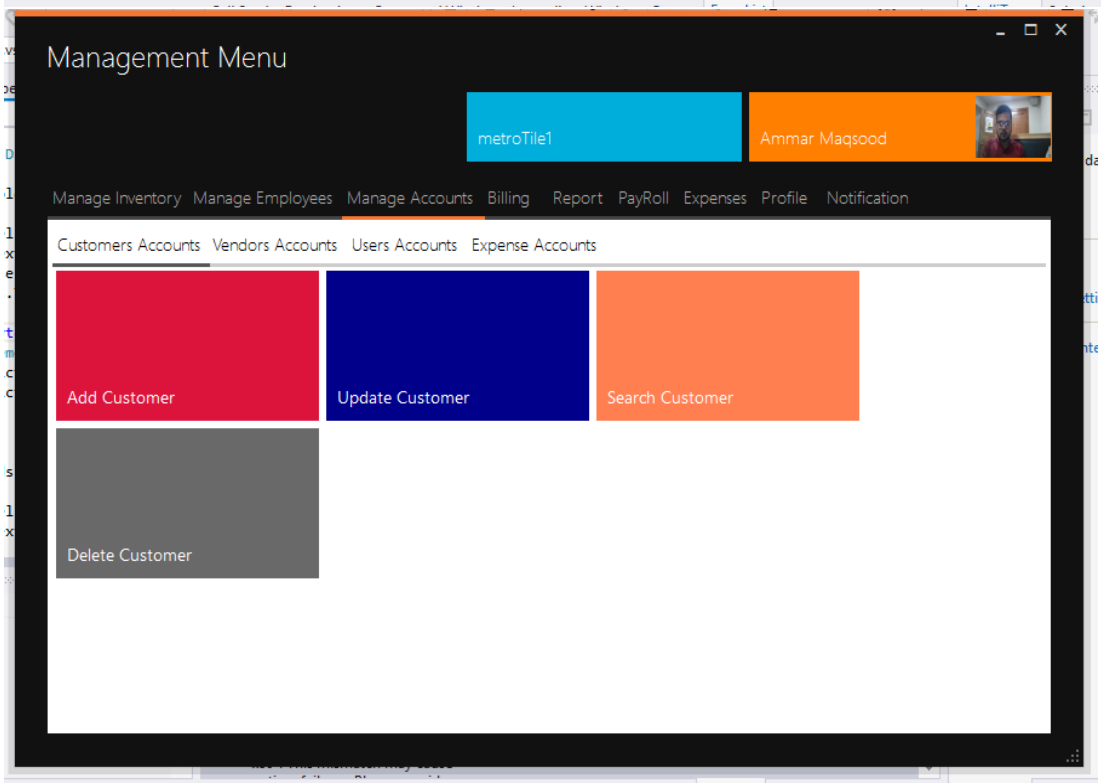
Delete Employee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Manage Employees
Manage Accounts
Billing
Report
PayRoll
Expenses
Profile
Notification
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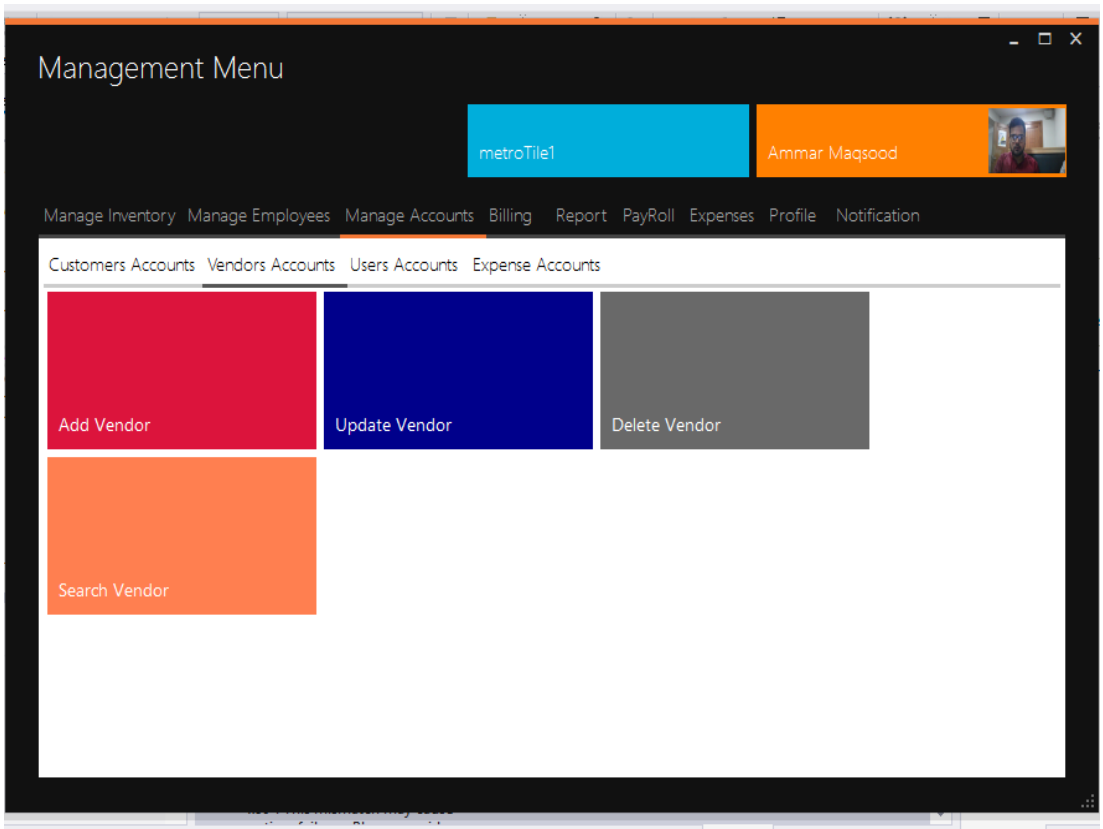
Vendors Accounts
Users Accounts
Expense Accounts
Add Customer
Update Customer
Search Customer
Delete Customer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Delete Vendor
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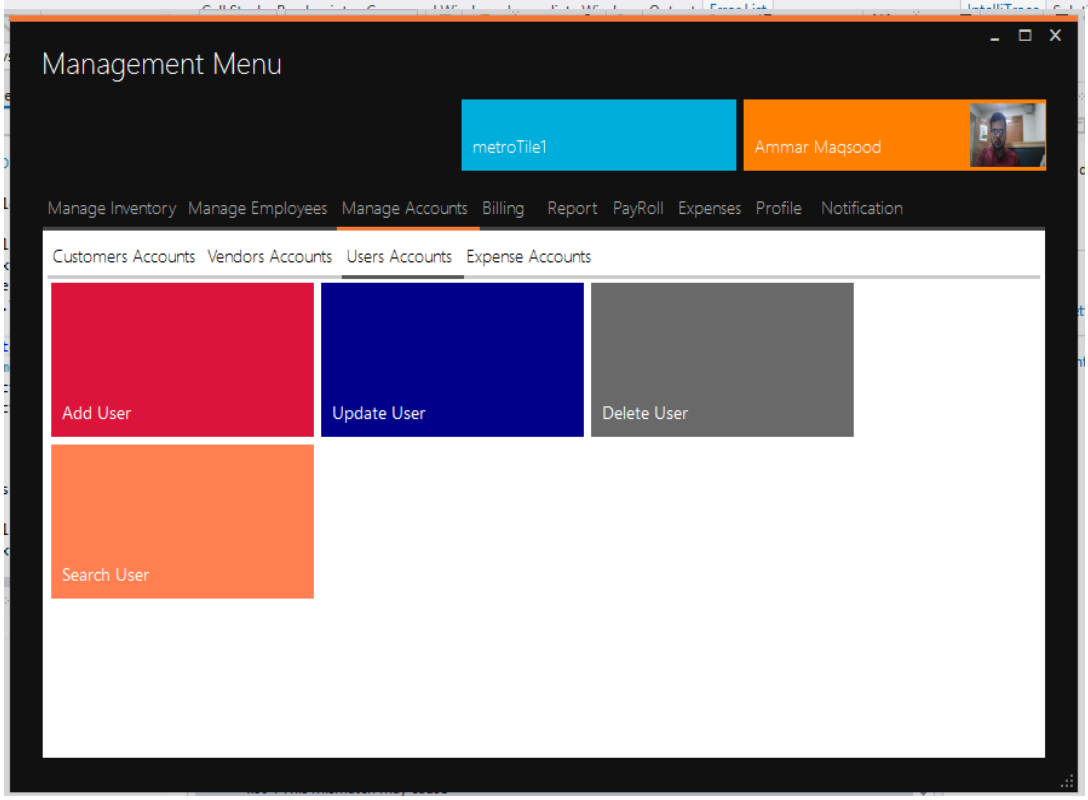
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Notification
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Vendors Accounts
Users Accounts
Expense Accounts
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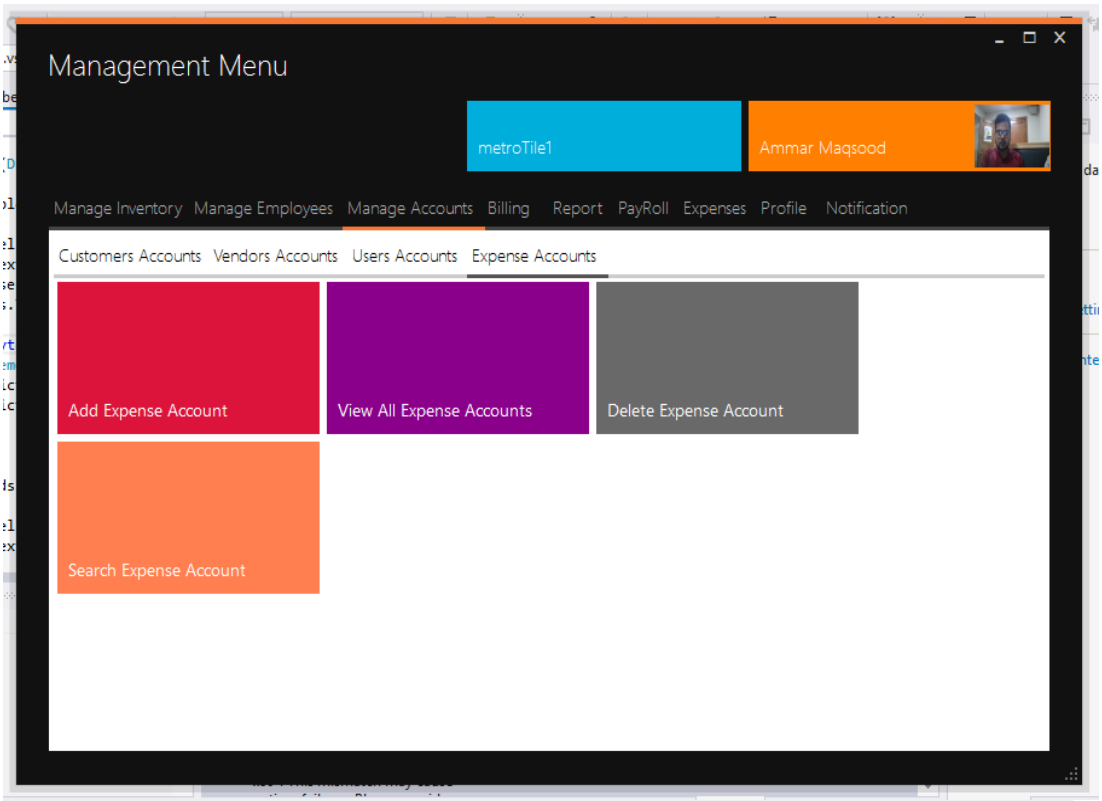
Update User
Delete User
Search User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Manage Inventory
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Manage Accounts
Billing
Report
PayRoll
Expenses
Profile
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Users Accounts
Expense Accounts
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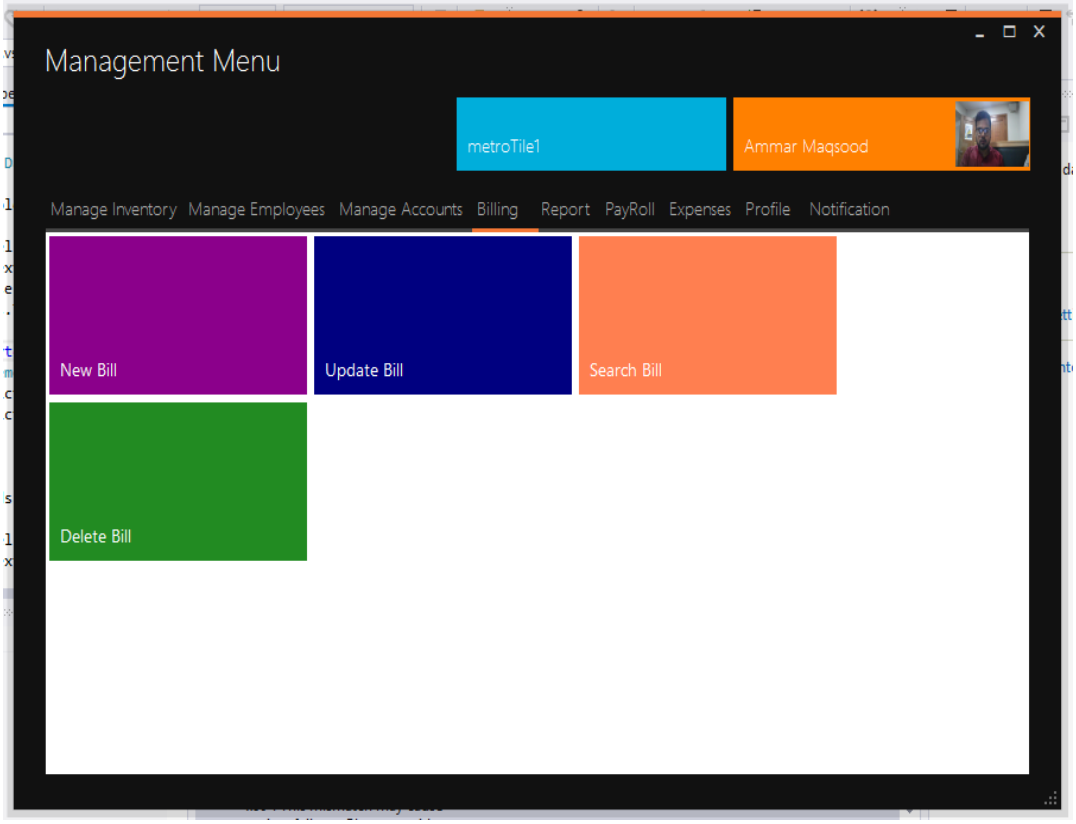
View All Expense Accounts
Delete Expense Account
Search Expense Account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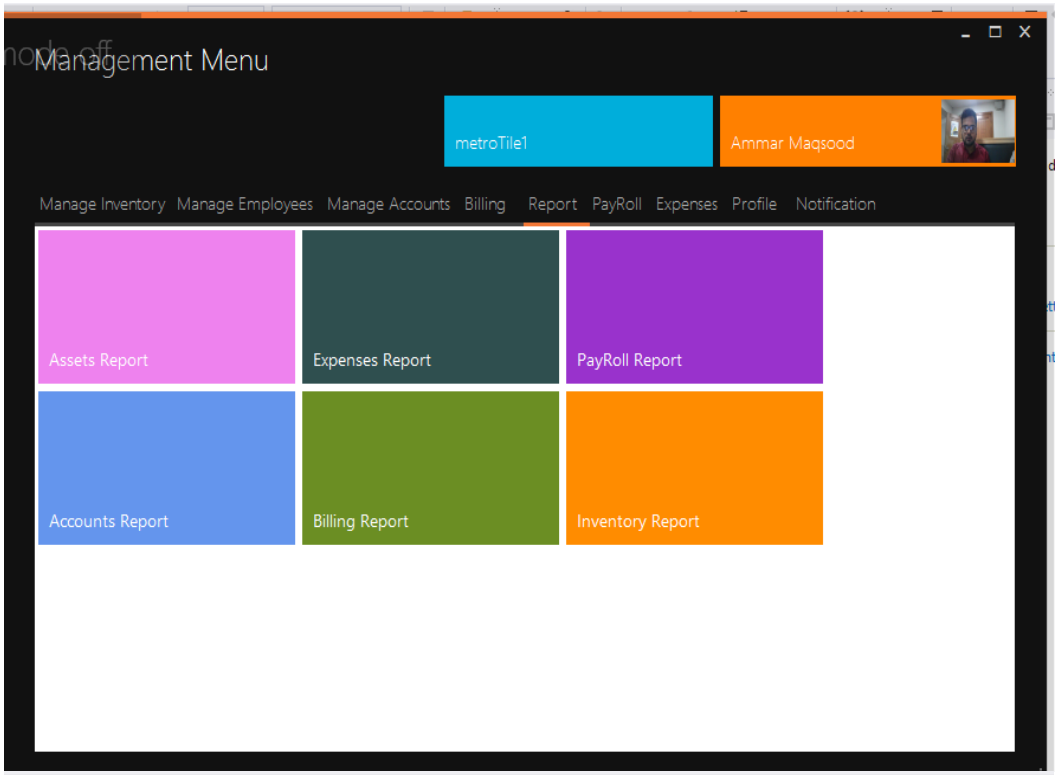
Update Bill
Search Bill
Delete Bill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PayRoll
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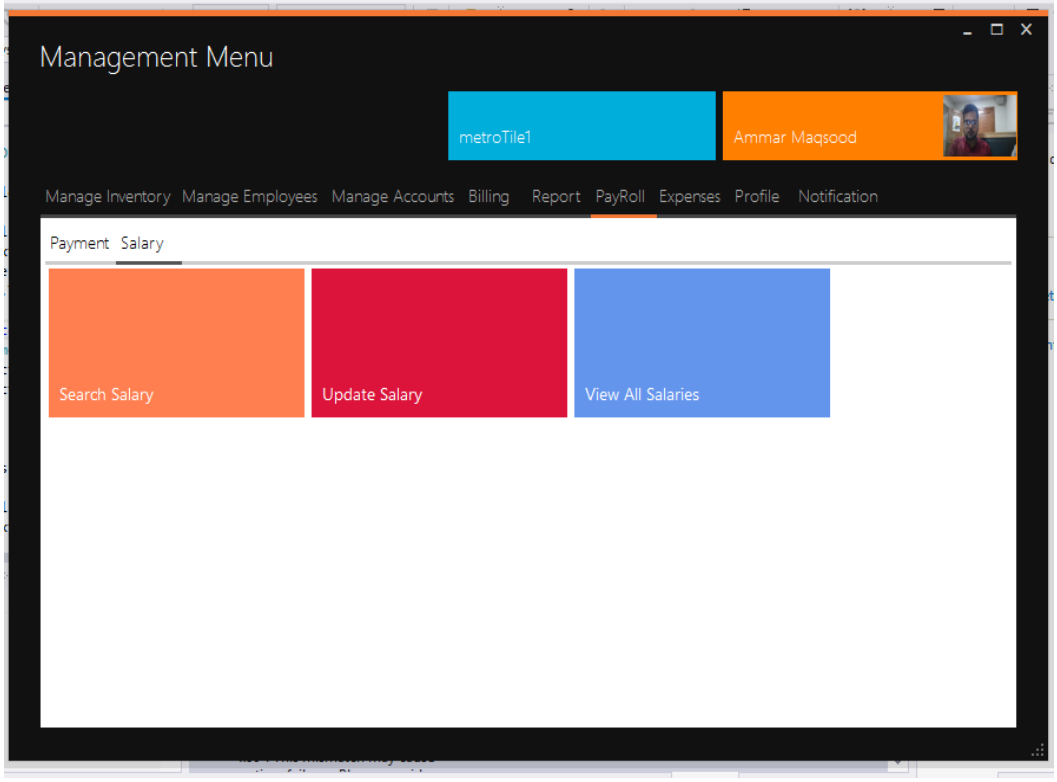
Assets Report
Expenses Report
PayRoll Report
Accounts Report
Billing Report
Inventory Report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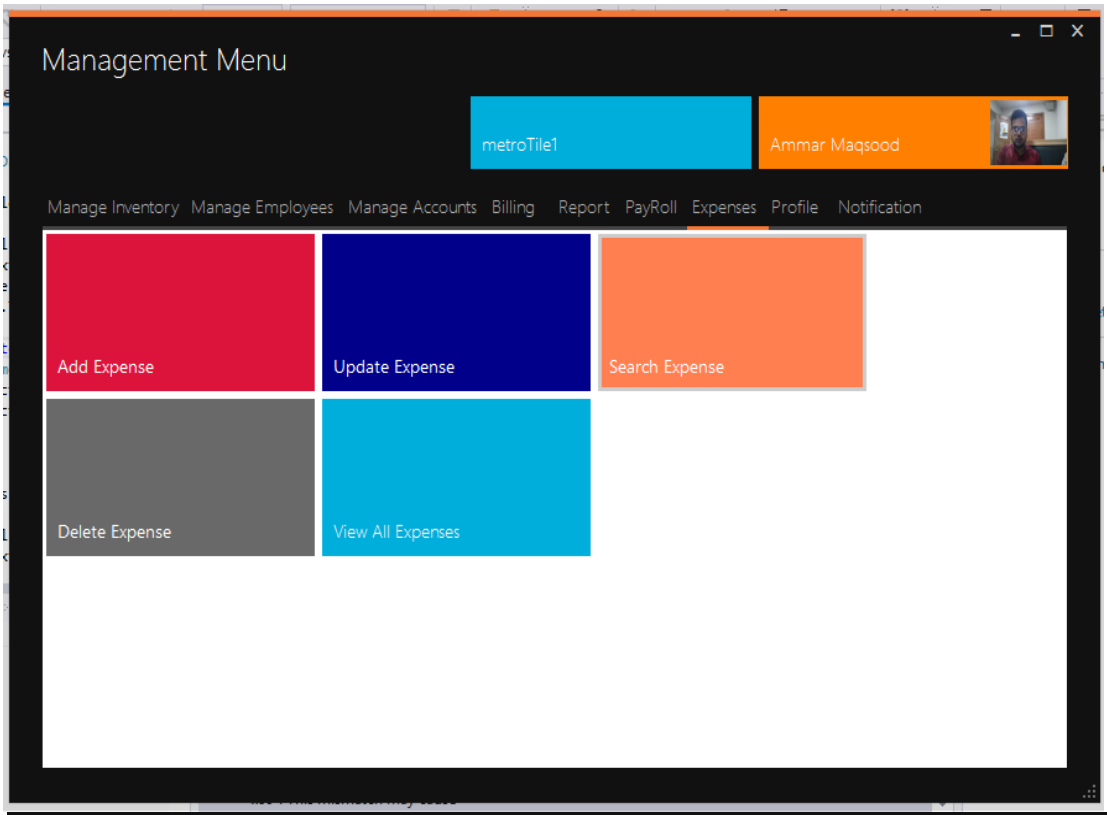
Notification
Payment
Salary
Search Salary
Update Salary
View All Salaries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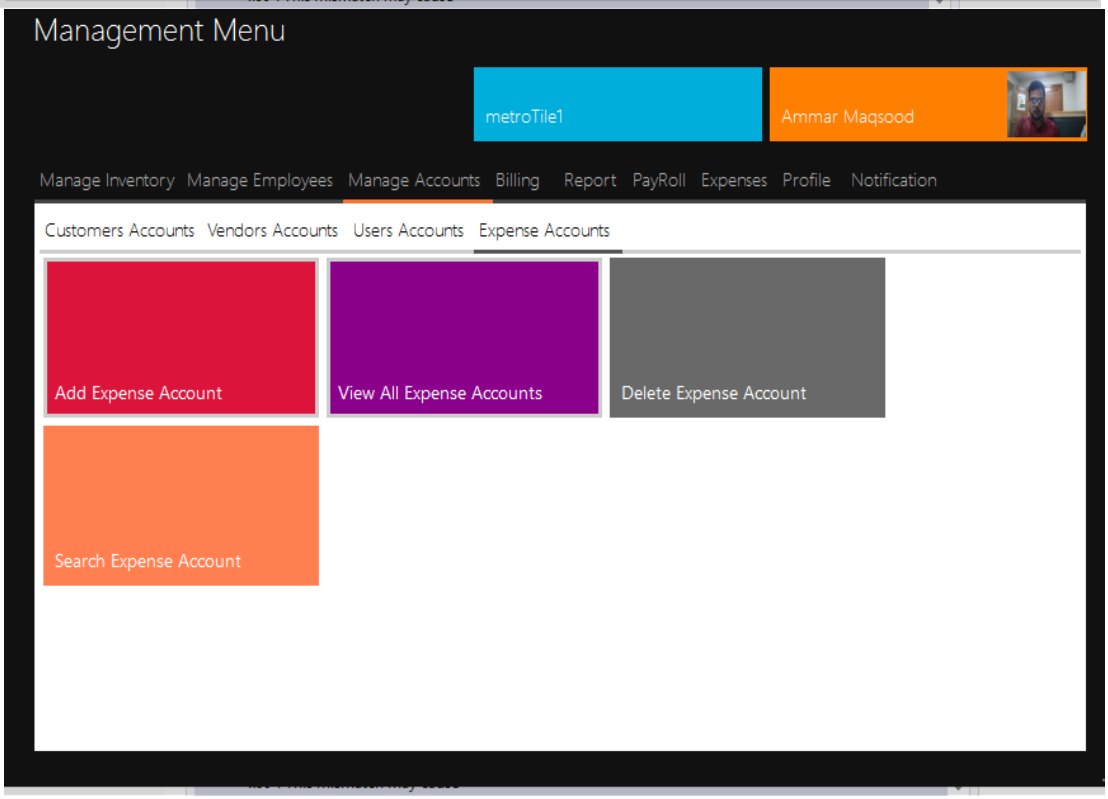
Add Expense
Update Expense
Search Expense
Delete Expense
View All Expenses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CHAPTER 7

CONCLUSION AND RECOMMENDATIONS

7.1 CONCLUSION

Therefore, the implementation of the Printing Press Management System will focus on security, rigidity, scalability, maintainability, and reliability. The various aspects of this document, and their detailed nature, will provide developers with an excellent perspective and guide in implementing this system.

This desktop application provides a computerized version of printing press management system which will benefit the customer as well as the staff of the company. It makes entire process where employee can search for items, owner can generate reports and check the employee salary. It also has a facility for employee to login and can see status of orders which are in the process of making as well check for those order which will be done and delivery them to the end clients. It has a facility of owner and admin login where owner can add, salary update salary as well add employee account, delete and update employee or admin accounts. It will also give necessary information about the monthly expenditures of the organization and generate report on the bases of these analysis. System can also add order info and generate the billing slip according to it. These processes can deliver the user the best experience while using this system.

7.2 RECOMMENDATIONS

There is a future scope of this facility that many more features such as online cloud database where no need of physical server, can be also made the mobile application through which owner can connect to the application and use it on his handset for more accurate results, a feature of vendor record through which organization can evaluate the vendor past result of work this will help to choose wisely about vendor which is more perfect to the particular job.

This system is the solution regarding their current issues. This will upgrade, if the customer needed. Each functionality made upon the customer request, but this can change in the future. If customer needed to upgrade its system. Customer satisfaction is necessary after the project completion, that’s why each functionality is cross tested on the basis of customer requirement.

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