NRI INSTITUTE OF INFORMATION SCIENCE & TECHNOLOGY

SESSION 2017-18

PROJECT SYNOPSIS REPORT
ON
"RESTAURANT MANAGEMENT SYSTEM"

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

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Date of Submission ……..

ACKNOWLEDGEMENT

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I wish to acknowledge my deep gratitude to **Asst. Prof. Rajni Jain**, teacher at **NIIST** for her cooperation and guidance. I am also thankful to his Lab assistant that provided staunch support throughout the project and helped us to complete the project successfully

Furthermore, I would also like to acknowledge with much appreciation the crucial role of our **H.O.D Prof**. **Amit Kanskar** for this encouragement & providing all the facilities in the department

Finally, I would like to say that I am indebted to my parents for everything that they have done for me. All of this would have been impossible without their constant support. And I also thank to God for being kind to me and driving me through this journey.

ABSTRACT

Running a restaurant is hectic enough as it is, so why not make the day-to-day processes easier by having a system that will help ease the workload for you? There are so many day-to-day processes that restaurants have to deal with. These can range from scheduling in employees, managing HR, monitoring employee attendance to preparing for payroll and to keep record of transactions and database. In current marketplace, there is a great value for food, restaurants and its management. There is day by day increment on the number of restaurants and food places that are emerging today. It can be considered as a rapid growth in the field of business and food restaurants and its management system. The management system applied for every restaurant is different from the other one. Some restaurants may be bigger while the other may be smaller but every restaurant or hotel requires a management system and this is termed as Restaurant Management System.

RMS that is, Restaurant Management Systems are the crucial technologies that enables a single outlet or enterprise to better serve its customers and aid employees with food and beverage transactions and controls. Restaurant management System is database program that keeps record of all transaction carried out in the restaurant on daily bases. The Restaurant Management System helps the restaurant management to keep adequate record of all transactions carried out and does that will still be carried out by the restaurant and maintain the database of the restaurant.

While investing in elements such as marketing and décor will go a long way in advancing the growth of a restaurant, investing in the right technology also plays a huge role, with restaurant management software being among the “must haves”. Every restaurant out there, whether small, medium-sized, or large, will benefit greatly by switching from manual restaurant management processes to automated or software-based ones.

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1. REQUIREMENT ELICIATION:

Initial investigation:

There are so many day-to-day processes that restaurants have to deal with. These can range from scheduling in employees, managing HR, monitoring employee attendance to preparing for payroll and to keep record of transactions and database.

Restaurant Management is the profession of managing a restaurant. Associate, bachelor, and graduate degree programs are offered in restaurant management by community colleges, junior colleges, and some universities in the United States. Management generally involves three major responsibilities: Administration, Front-of-the-House Management and Back-of-the-House Management. This system is developed to automate day to day activity of a restaurant. Restaurant is a kind of business that serves people all over world with readymade food. This system is developed to provide service facility to restaurant and also to the customer. This restaurant management system can be used by employees in a restaurant to handle the clients, their orders and can help them easily find free tables or place orders.

Study & Requirement Gathering:

In our current situation we face many problems while we order food (from customers point of view).

Doubt on waiters (from manager's/ management's point of view).

To revoke these types of problem we need this software. It is very logical to handle the above problems. This system will not be complex, very easy to understand (user friendly interface). In current marketplace, upper and middle-class restaurants will have much demand of this system.

2. INTRODUCTION

Restaurant Management system:

This restaurant management system can be used by employees in a restaurant to handle the clients, their orders and can help them easily find free tables. The restaurant menu is organized by categories (appetizers, soups, salads, entrees, sides and drinks) of menu items. Each menu item has a name, price and associated recipe. A recipe for a menu item has a chef, preparation instructions and associated ingredients.

Restaurant management system is the system for manage the restaurant business. Restaurant management can vary across multiple management styles, however, there is always one common denominator when it comes to setting goals: maximizing a restaurant's profitability. In order to maximize a restaurant's profitability, one has to always examine and understand a restaurant's operational costs and how these relate to a restaurant's productivity and efficiency in delivering quality service to its customers. Management takes a very important role in controlling and manipulating the balance of costs and profitability. An effective manager must always concern himself/herself with restaurant issues that pertain to inventory/stocking, pricing, order-taking, and much more. Oftentimes, a restaurant's profitability either rises or falls depending on how well it is being managed.

Managing a restaurant using a well-developed software minimizes the liabilities of mismanagement and productivity loopholes. The incorporation of a Restaurant Management Software in the managing of various business processes entails that your restaurant is competitive, innovative, well-managed, and up-to-date with the latest management and business trends.

3. SCOPE OF PROJECT:

Scope of project in building a computerized system for silk route to handle billing restaurant records was to include the employees who are involved in the process of billing of a customer to storage of restaurant records and enables to view the records as desired.

The employees are given limited access in order to safe guard the privacy and security of the records. The database is maintained in the whole project.

4. OBJECTIVES:

The main objective is to maximize the profit by increasing efficient and decreasing the mistakes that takes place in the kitchen, this will be done without compromising customer satisfaction. At this moment of time, there are still numerous restaurants that still use paper based system to get messages across between the restaurant and the kitchen, this way of communication is one of the least efficient method. However, this approach may be implemented and designed in a successful profitable restaurant but there are numerous problems which might be seen as reducing the restaurants efficiency, they are the following:

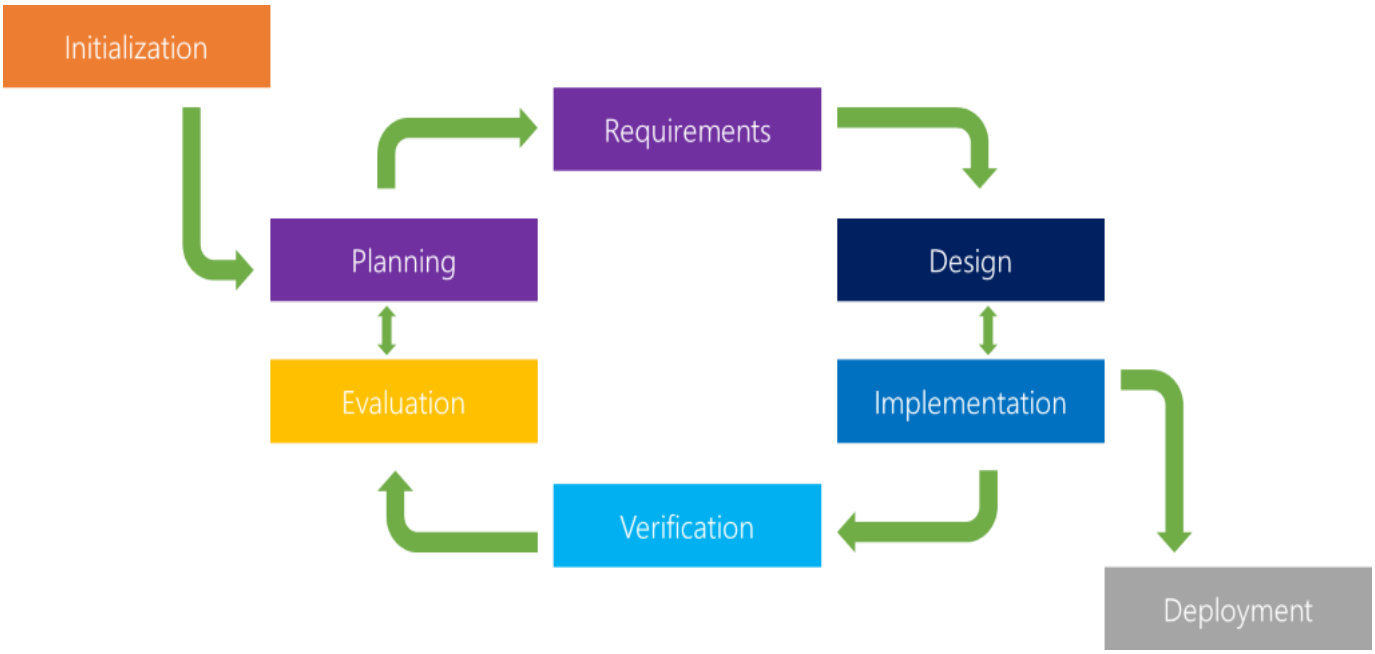
- The lack of communication that is caused by handwriting.
- Uncontrolled order logging (poor order taking).
- Unproductive communication between restaurant and kitchen.
- Faults with order taking and lack of time management.
- Lack of good quality stock management.
- Limited statistical output.

So, in order to overcome these problems, we have made an application that is restaurant management system that mainly focuses on the above given problems. We have tried to build a user-friendly interface.

5. PROCESS MODEL TO BE USED WITH THE REASON:

The process model we have used here is iterative model. The iterative model is a particular implementation of a software development life cycle (SDLC) that focuses on an initial, simplified implementation, which then progressively gains more complexity and a broader feature set until the final system is complete. When discussing the iterative method, the concept of incremental development will also often be used liberally and interchangeably, which describes the incremental alterations made during the design and implementation of each new iteration.

Unlike the more traditional waterfall model, which focuses on a stringent step-by-step process of development stages, the iterative model is best thought of as a cyclical process. The requirements of our project can be accomplished through iterative model.



Phases to be covered in iterative model for Restaurant Management System:

- **Planning & Requirements:** As with most any development project, the first step is go through an initial planning stage to map out the specification documents, establish software or hardware requirements, and generally prepare for the upcoming stages of the cycle.

- **Analysis & Design**: Once planning is complete, an analysis is performed to nail down the appropriate business logic, database models, and the like that will be required at this stage in the project. The design stage also occurs here, establishing any technical requirements (languages, data layers, services, etc) that will be utilized in order to meet the needs of the analysis stage.

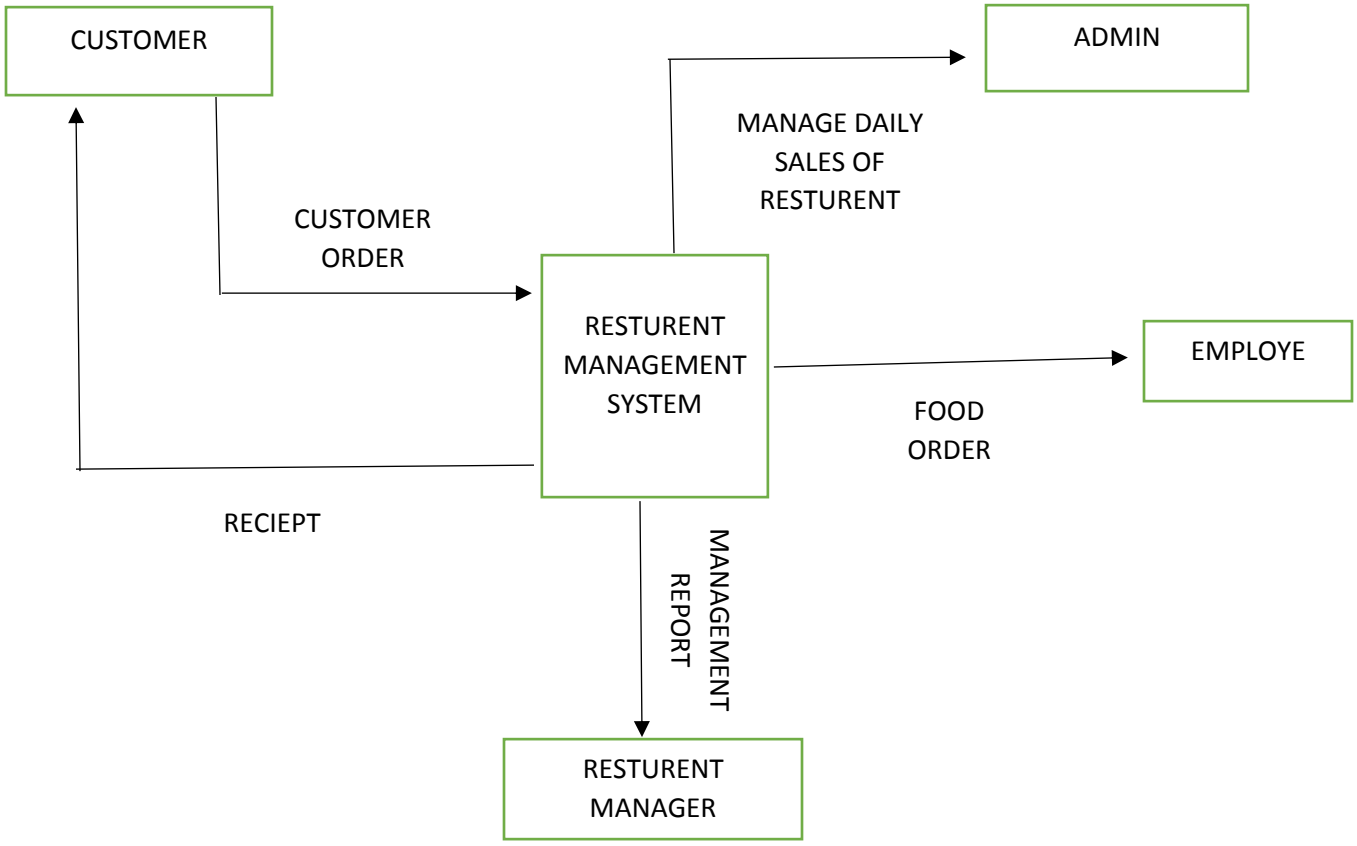
- **Implementation:** With the planning and analysis out of the way, the actual implementation and coding process can now begin. All planning, specification, and design docs up to this point are coded and implemented into this initial iteration of the project.

- **Testing:** Once this current build iteration has been coded and implemented, the next step is to go through a series of testing procedures to identify and locate any potential bugs or issues that have cropped up.

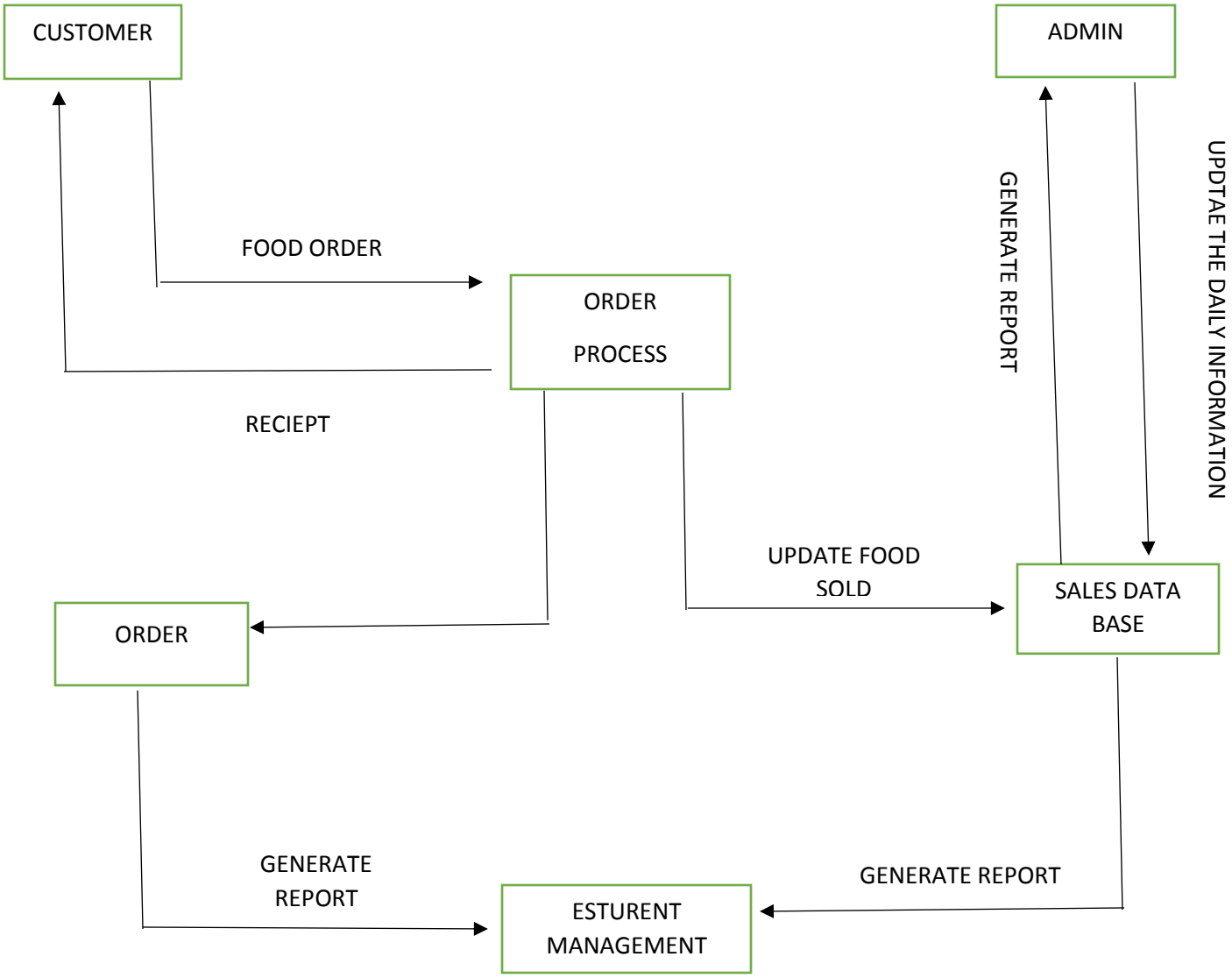
- **Evaluation**: Once all prior stages have been completed, it is time for a thorough evaluation of development up to this stage. This allows the entire team, as well as clients or other outside parties, to examine where the project is at, where it needs to be, what can or should change, and so on.

6. SYSTEM REQUIREMENT SPECIFICATION

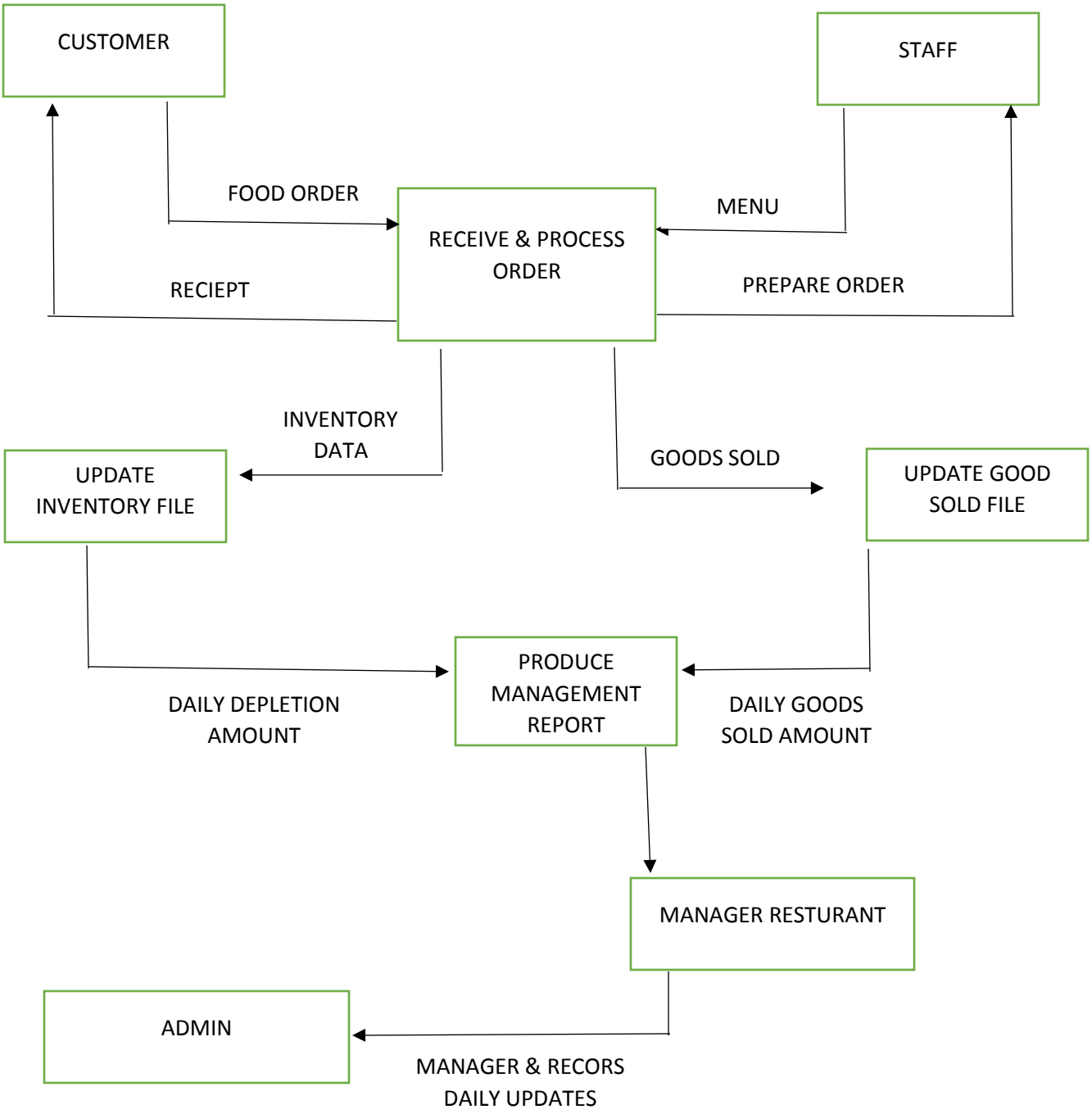
6.1 DATA FLOW DIAGRAM



Level 0: Data Flow Diagram



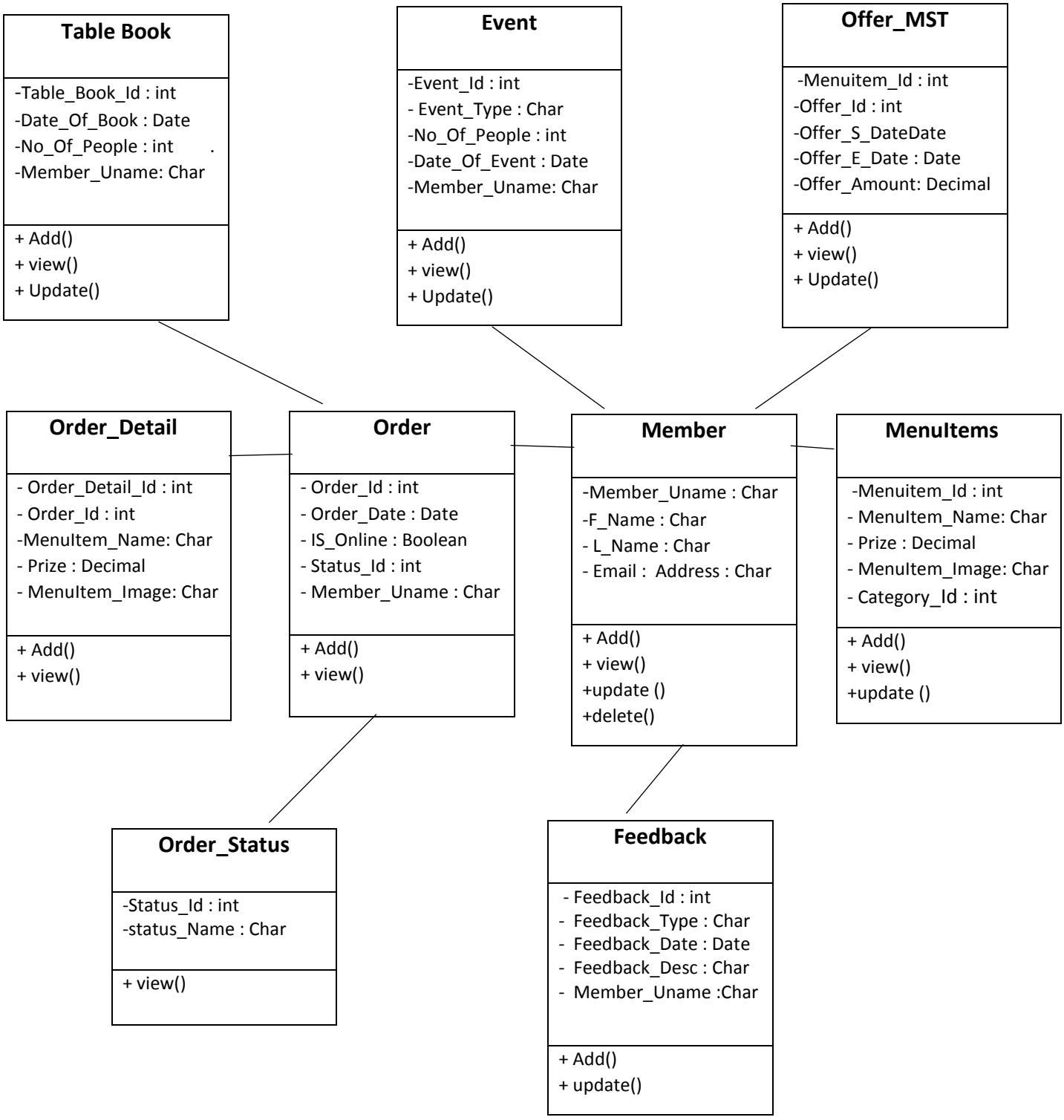
Level 1: Data Flow Diagram



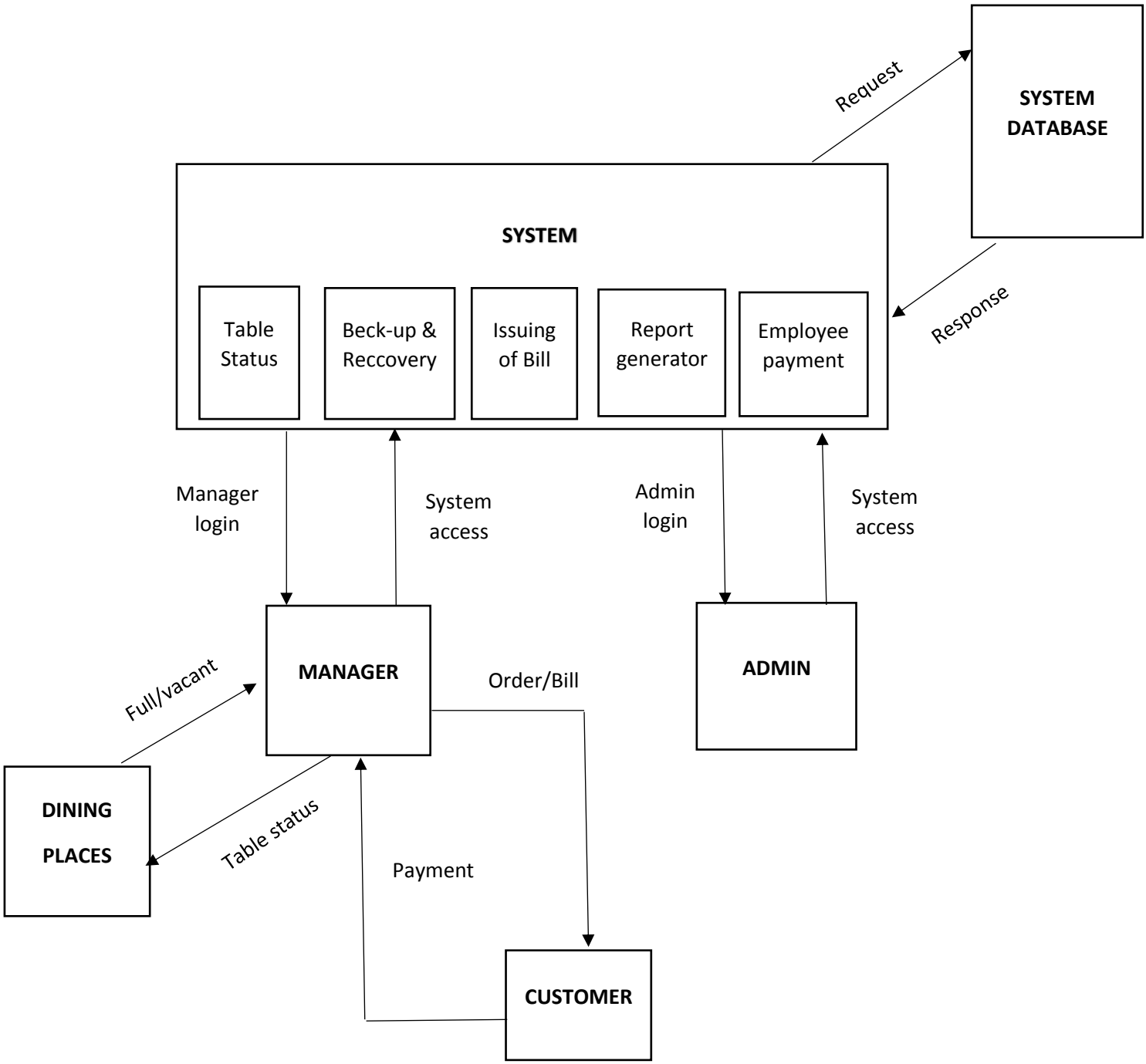
Level 2: Data Flow Diagram

6.2 STRUCTURAL DIAGRAM

6.2.1 CLASS DIAGRAM

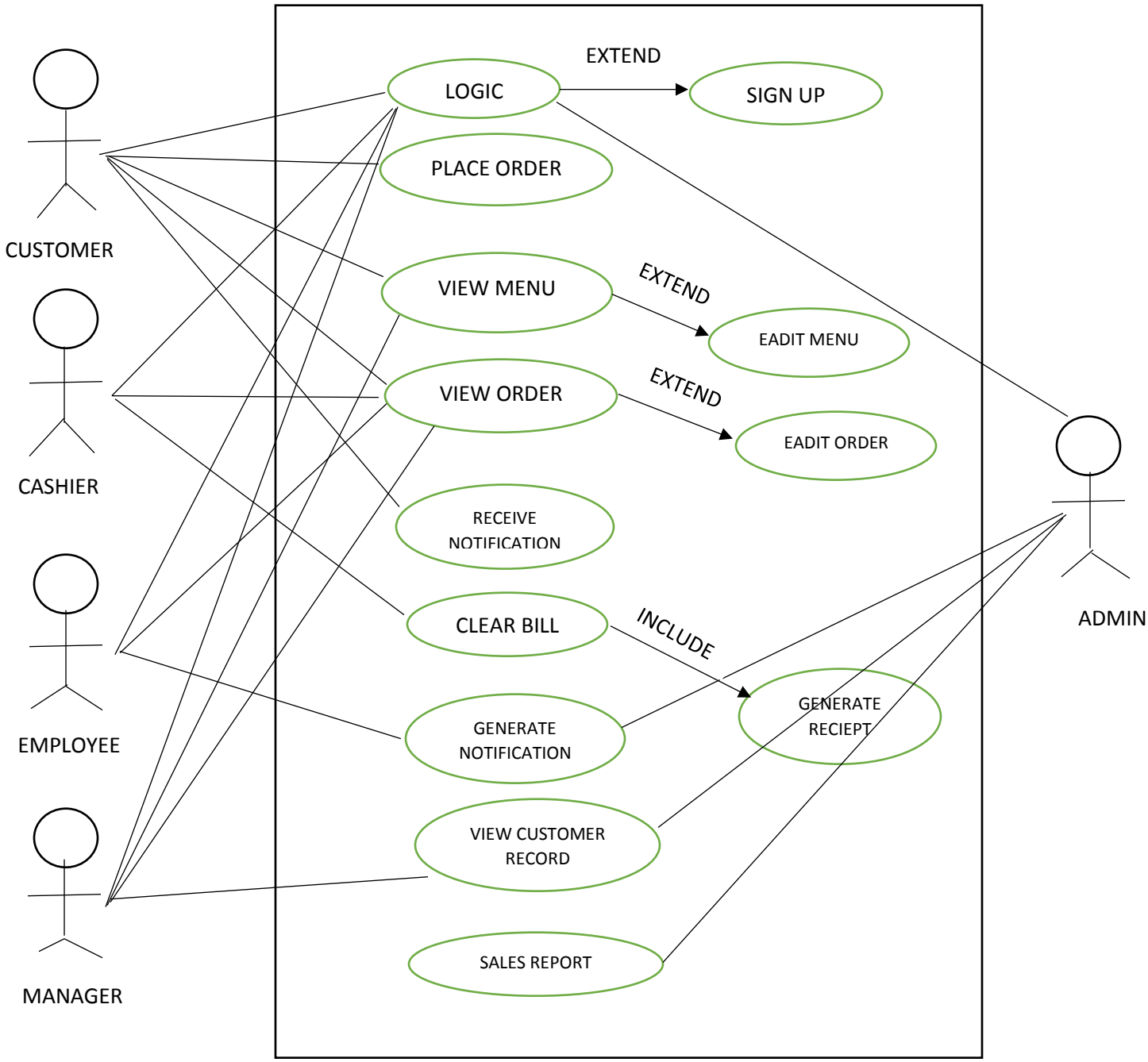


6.2.2 ARCHITECTURE DIAGRAM

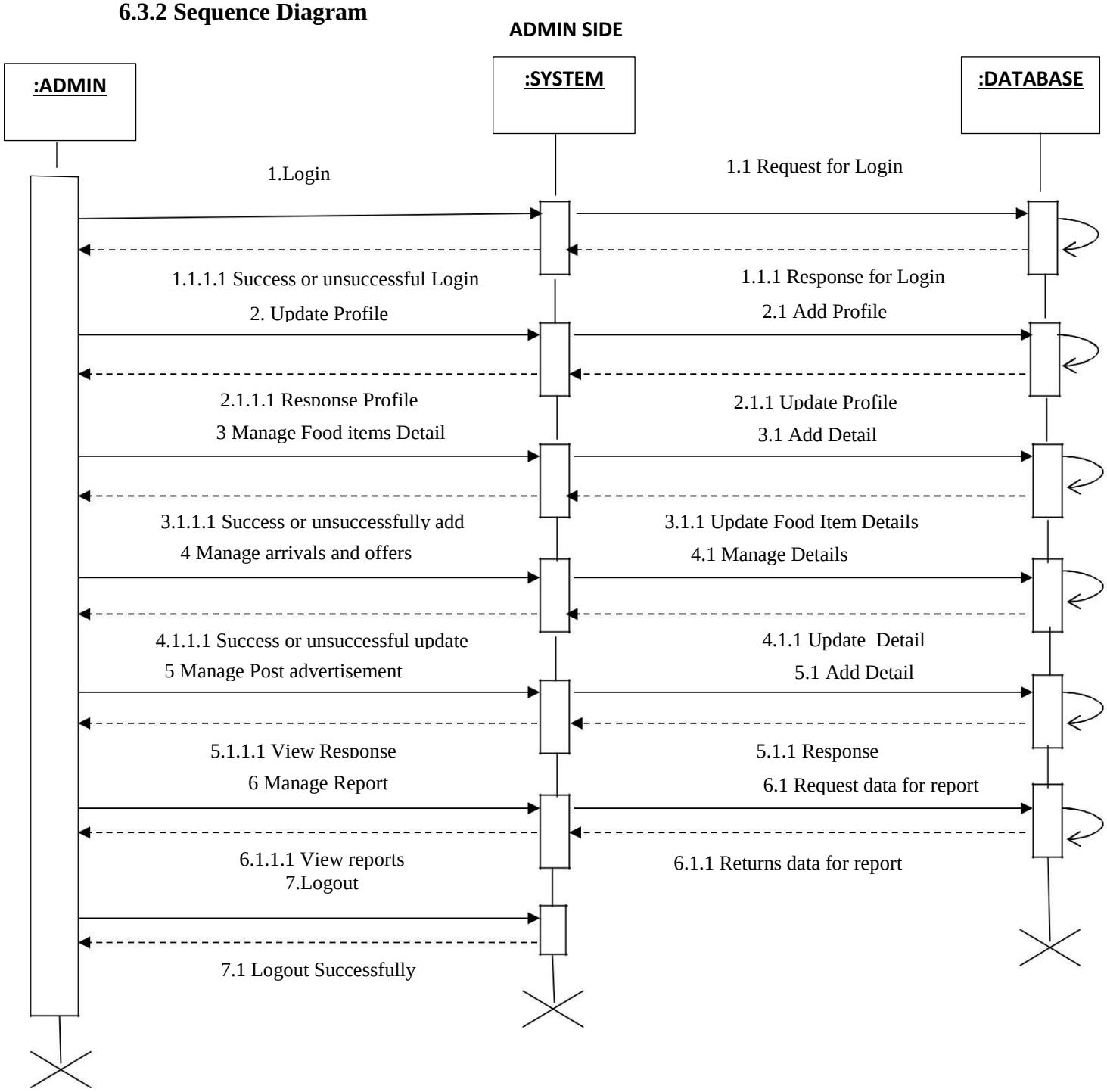


6.3 BEHAVIORAL DIAGRAM

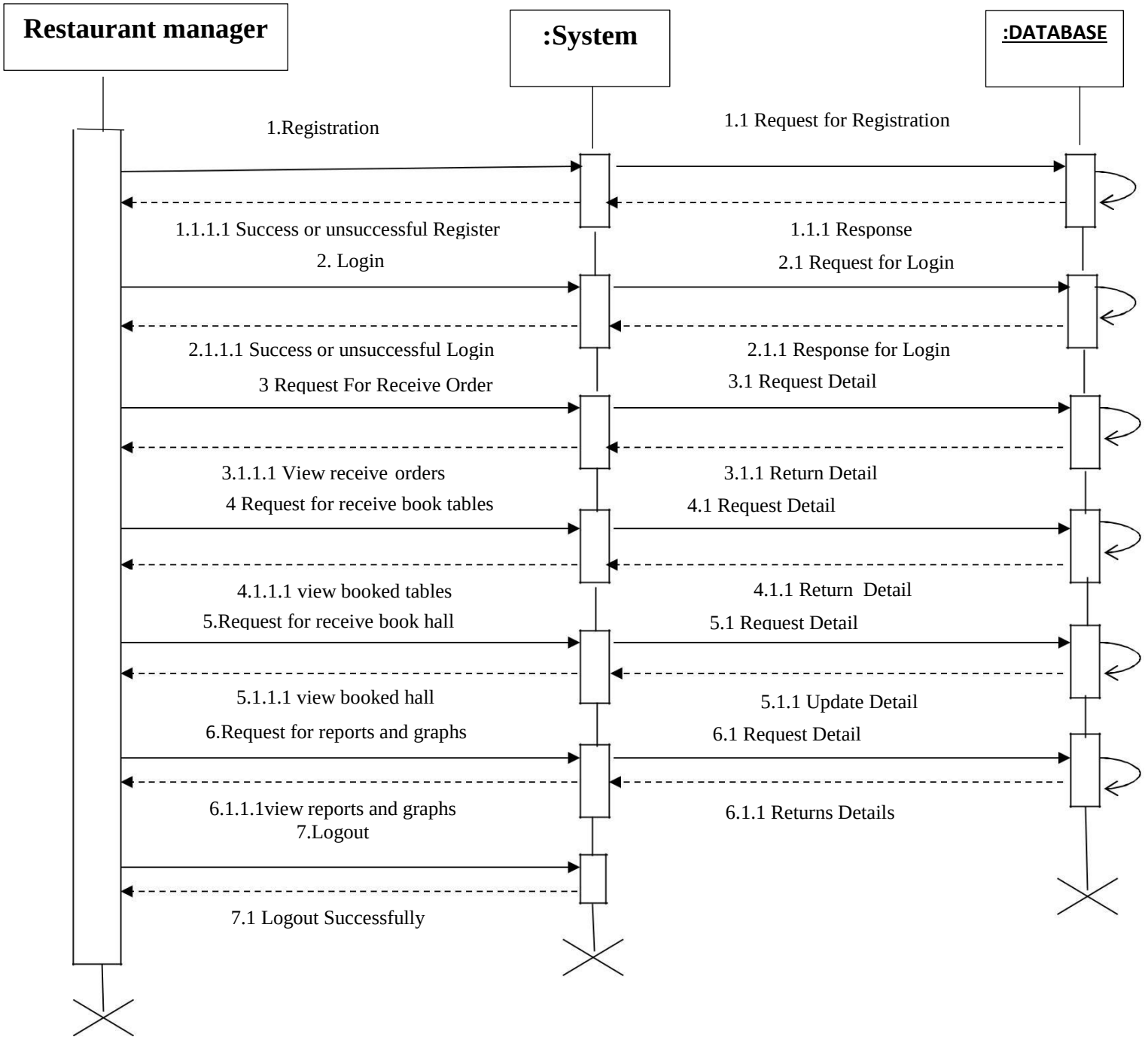
6.3.1 Use Case Diagram



6.3.2 Sequence Diagram

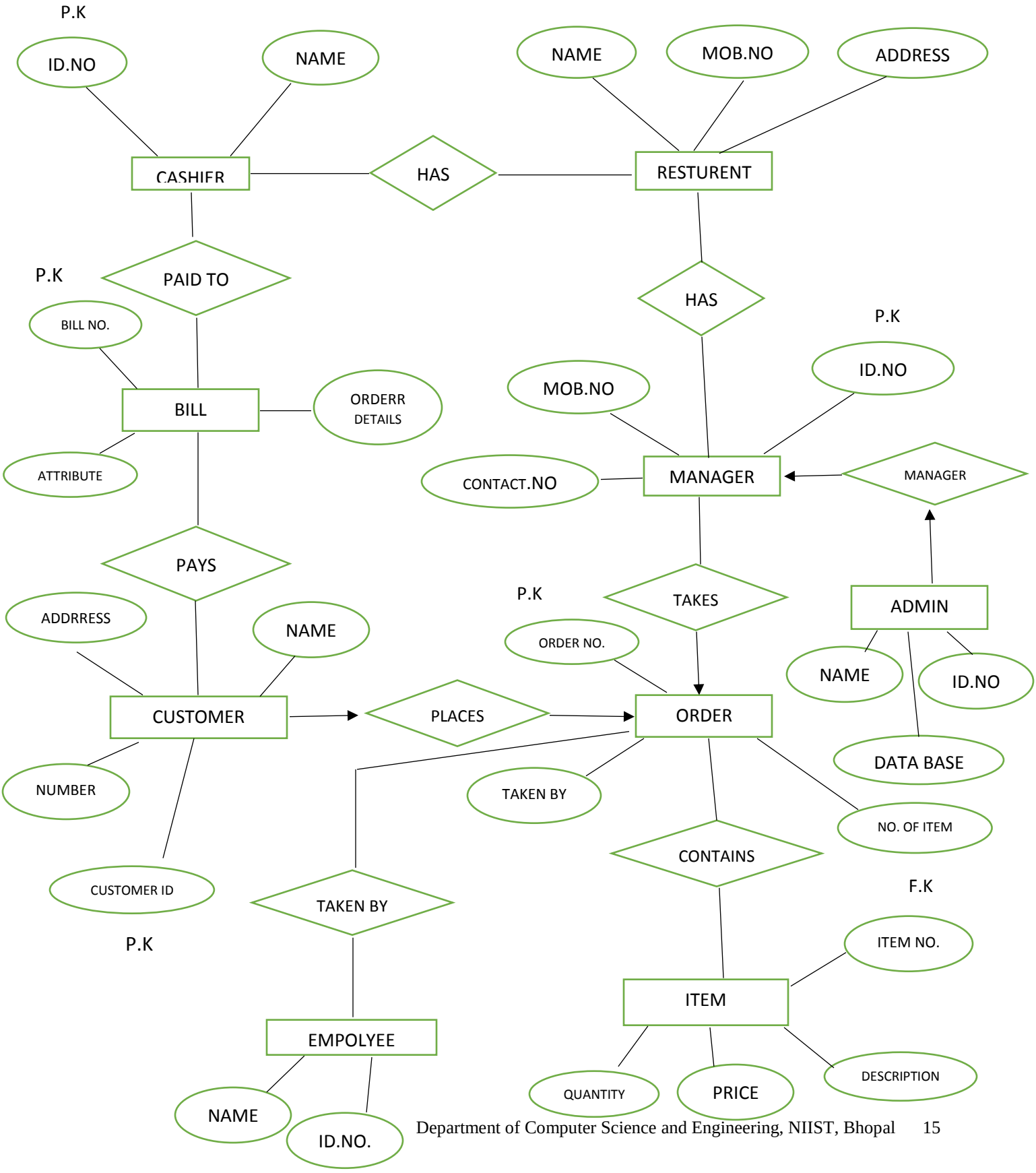


Restaurant manager side：



6.4 DATABASE DIAGRAM

6.4.1 ER Diagram



7. REQUIREMENT SPECIFICATION

7.1 HARDWARE REQUIREMENTS

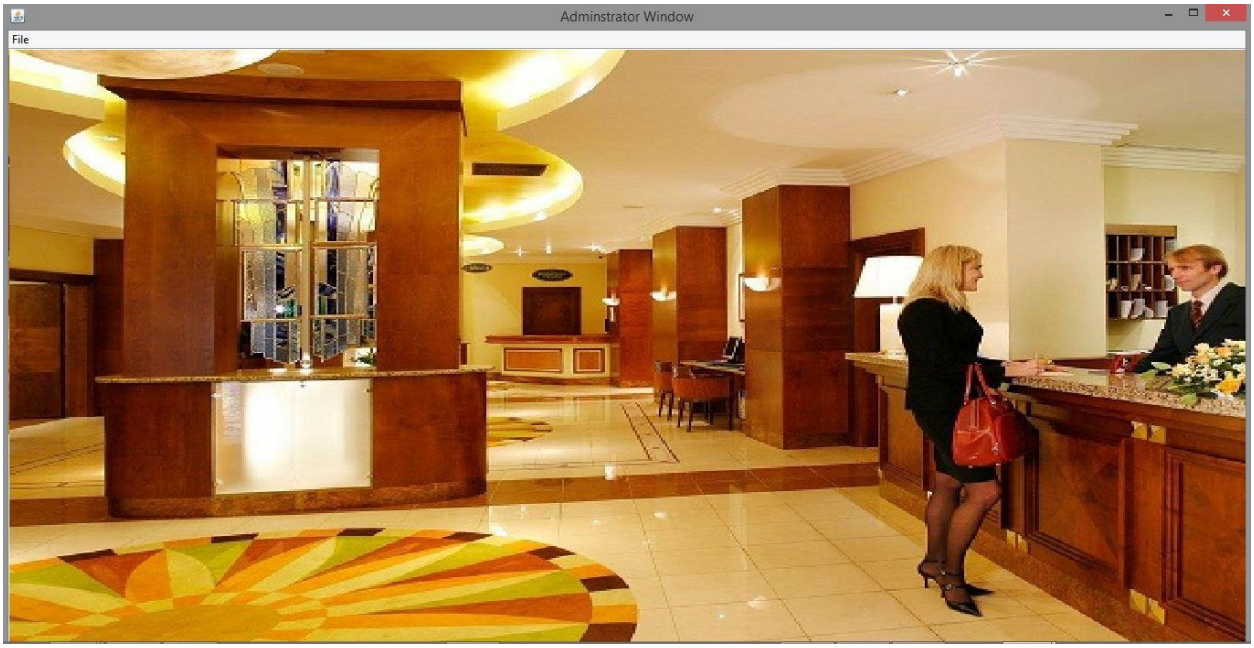
MEMORY (RAM): 1.00 GB
SYSTEM TYPE: 64-bit OS, x64-based processor
STORAGE CAPACITY: 30 GB HDD
CPU: 2.30GHz

7.2 SOFTWARE REQUIREMENTS

OPERATING SYSTEM: Windows 7 or Higher
Development Tools: Java 8, Netbeans IDE
Database: Oracle

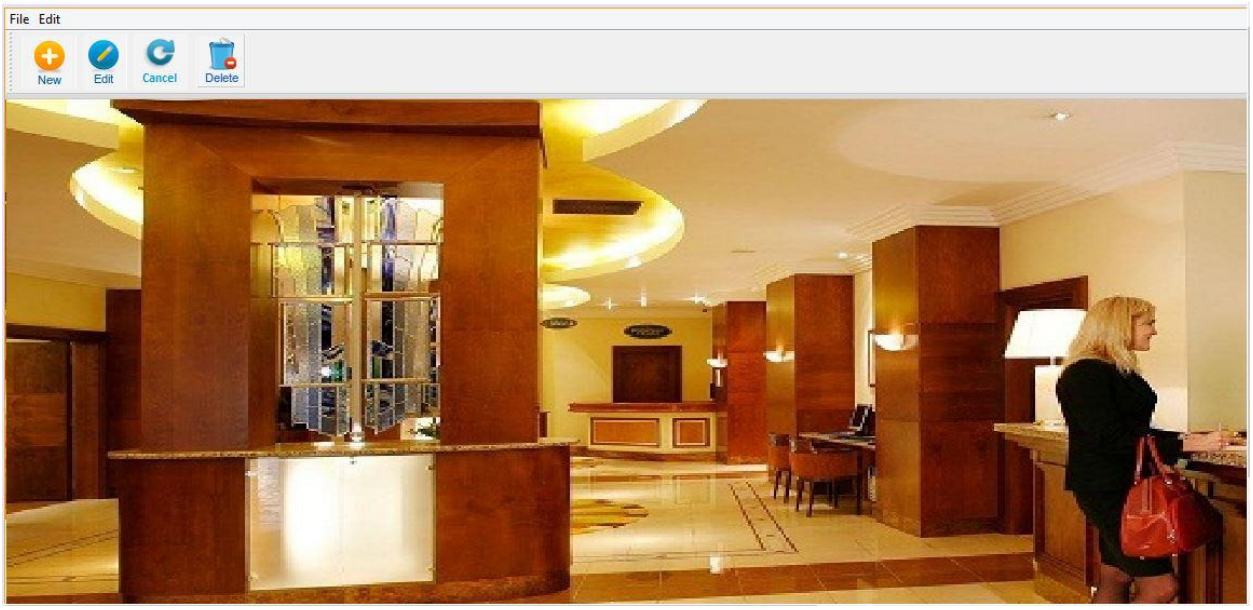
8.SOFTWARE DESIGN

8.1 USER INTERFACES

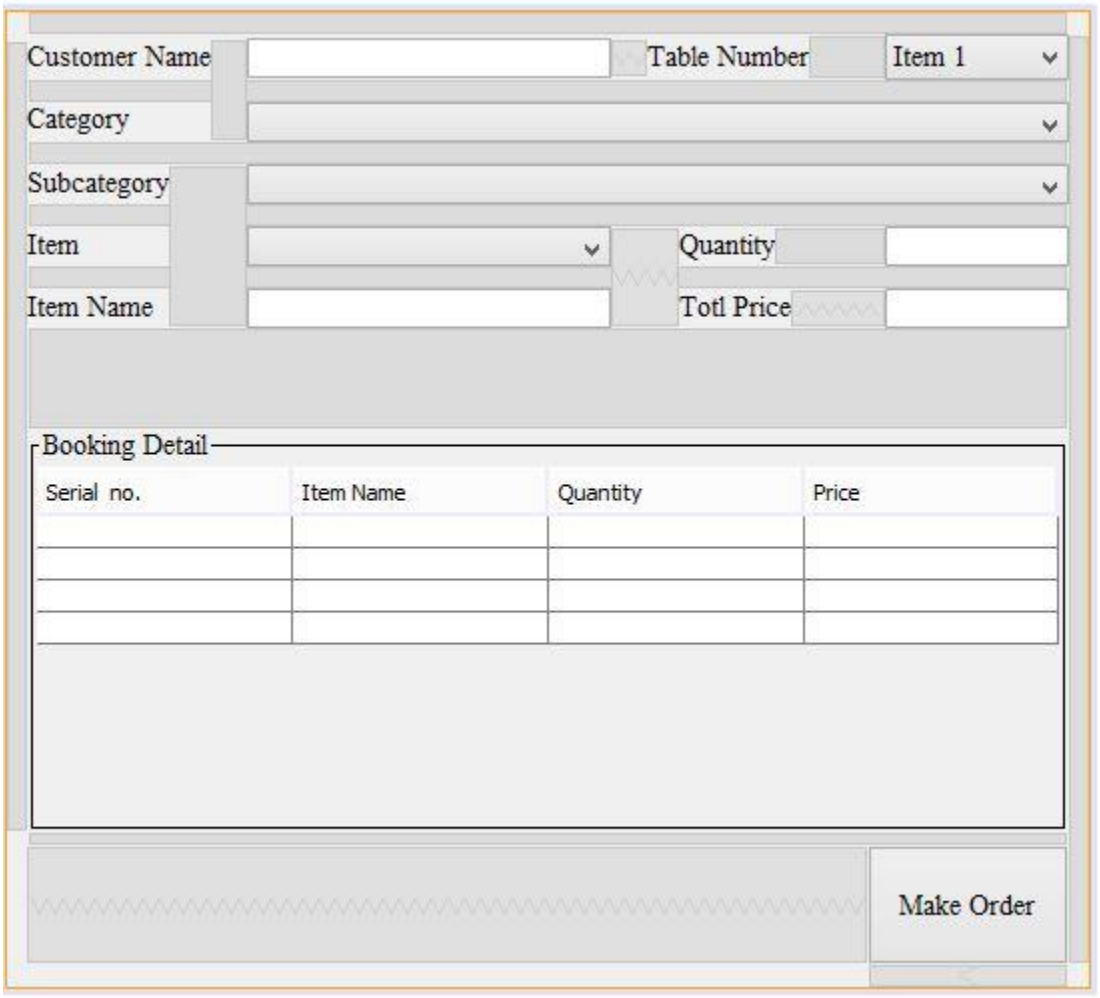


Welcome Page

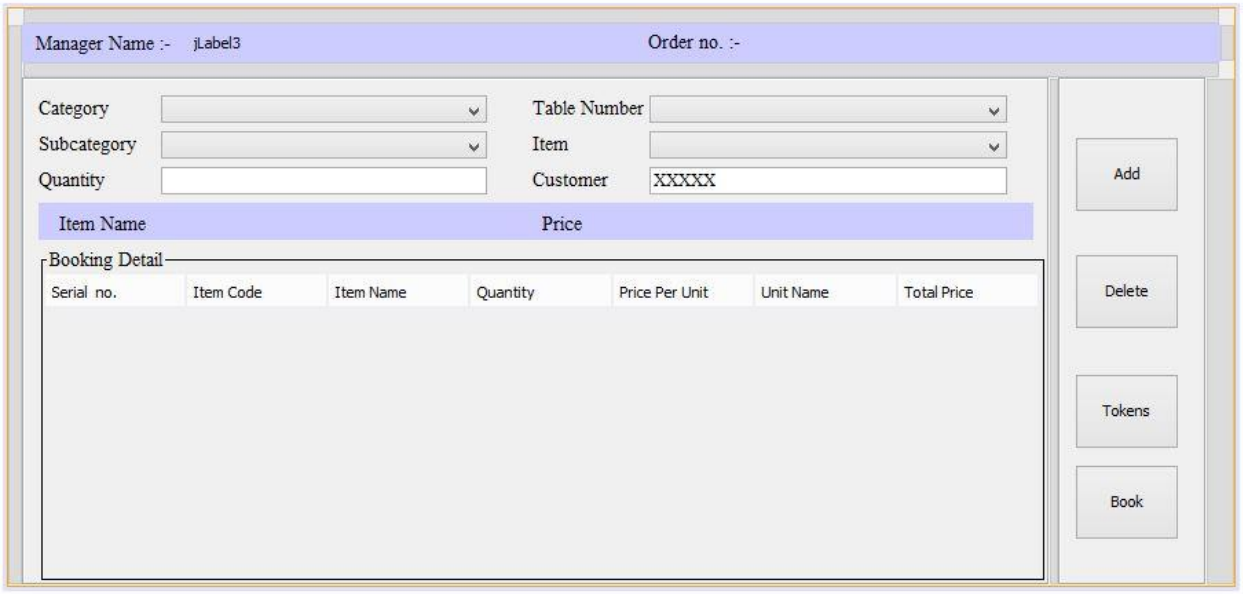
Login Page



Admin Start Window



Order Booking


Manager Name :-
jLabel3
Order no. :-
Category
Subcategory
Quantity
Table Number
Item
Customer
XXXXX
Item Name
Price
Booking Detail
Serial no.
Item Code
Item Name
Quantity
Price Per Unit
Unit Name
Total Price
Add
Delete
Tokens
Book

Order

8.2 FUNCTIONAL DESCRIPTION

8.2.1 ORDER

User can give order online with cash on delivery option.
Restaurant manager can get the notification via sms of placed orders.

8.2.2 FOOD ITEMS

Admin will manage the food items and their categories with prize.
Visitor or registered user can view or select the food item.

8.2.3 ACCOUNT MANAGEMENT

All the online/offline orders will be managed in the system.
Bill will be generated by the system.
Report can be generated of different criteria

Orders between two dates.

Which food items are sold most.

How many Registered user was increased at end of month.

9.TESTING STRATERGY

What is Testing?

In computer hardware and software development, testing is used at key checkpoints in the overall process to determine whether objectives are being met. For example, in software development, product objectives are sometimes tested by product user representatives.

Software testing is very important because of the following reasons:

Software testing is really required to point out the defects and errors that were made during the development phases. It's essential since it makes sure of the customer reliability and their satisfaction in the application.

Types of Testing:

- Unit Testing.
- Integrated Testing
- Functional Testing.
- System Testing.
- Performance Testing.
- Usability Testing.
- Beta Testing.

1. **Unit Testing:** Unit testing is the testing of an individual unit or group of related units. It is often by the programmer to test that the unit he/she has implemented, is producing output against given input.

2. **Integrated Testing:** Integration testing is testing in which a group of components are combined to produce output. Also, the interaction between software and hardware is tested in integration testing if software and hardware components have any relation.

3. **Functional Testing:** Functional testing is the testing to ensure that the specified functionality required in the system requirements works.

4. **System Testing:** System testing is the testing to ensure that by putting the software in different environments (e.g., Operating System) it still works. System testing is done with full system implementation and environment.

5. **Performance Testing:** Performance testing is the testing to assess the speed and effectiveness of the system and to make sure it is generating results within a specified time as in performance requirements.

6. **Usability Testing:** Usability testing is performed to the perspective of the client, to evaluate how the GUI is user-friendly? How easily can the client learn?

7. **Beta testing:** Beta testing is the testing which is done by end users, a team outside development, or publicly releasing full pre-version of the product which is known as beta version.

Test Cases:

Test Case ID	Test scenario	Test steps	Test Plan	Expected Result	Actual Result	Pass/ Fail
TC01	Check Admin/manager login	1. Go to the page 2. Enter the Food you want.	NO user Id password required	User login to the application	As expected.	Pass.
TC02	Search the query	Enter any food which you want to search	-	List Of Food Appeared	As expected.	Pass

Test Plan:

SERIAL NUMBER.	WORK BREAKDOWN STRUCTURE.	PROJECT TEAM MEMBER.	RESULT.	PROPOSED DATE OF COMPLETION.
1.	ANALYSIS	ALFIYA ADITI FAIYAZ MEHANDI	SUCCESSFULLY COMPLETED.	--
2.	DESIGN	FAIYAZ MEHANDI	SUCCESSFULLY COMPLETED.	--
3.	CODING		UNDER PROCESS	--
4.	TESTING		UNDER PROCESS	--

10.SOFTWARE MAINTENANCE PLAN

10.1 SOFTWARE PROJECT PLAN – GANTT CHART

Devlopment Phase	90 Days						Duration Day
	0 to 15 Days	16 to 30 Days	31 to 45 Days	46 to 60 Days	61 to 75 Days	76 to 90 Days	
Requirement Gatehring							10
Analysis							08
Design							30
Coding							52
Testing							10
Implementation Deployment							10
Documnetation							80 (parallel)
Total Time							90

11.CURRENT STATUS OF DEVELOPMENT

Initialization, Planning and Designing has been completed and only Implementaion is under process.

12.LIMITATIONS:

1. Limitations of periodic system:

With the periodic system, the company knows the inventory level with certainty only when it physically counts the inventory at the end of each period. Throughout the period, the company takes customer orders without knowing the exact inventory count or whether enough products are available to meet customer demand.

2. Limited connection:

The system limits human interaction. In this system, they are only limited to software access and maintenance and interaction amongst themselves as it is an offline management system. Offline ventures lease or build facilities for their customers, while e-commerce websites are global storefronts for online companies.

3. Redundancy of data:

It would be considered one of the important aspect of any software that is, data redundancy. The data that is to be maintained and stored in database should not have redundancy. If it has redundant data it would lead to data inconsistency.

4. Limited growth:

The market for an offline business is usually limited. For example, a restaurant's clientele may live within a 10-mile radius, which could restrict the owner's growth opportunities. Several traditional business ventures, such as bookstores and video rental stores, have become unprofitable because they cannot compete with the low-cost structure of their online counterparts.

13.FUTURE SCOPE

1. Enhanced and Rich UI will be Designed.
2. Special Offer will be implemented.
3. Another payment option will be included.
4. User Will get a Discount of 30% in an order of Rs 300 or above.

14.CONCLUSION

We were able to create a computerized system for Silk Route to maintain billing & Restaurant records .This system is able to store billing records securely and retrieve the records whenever needed easily.Data entering of customers and employees are also included in this system along with the order and the billing process.Customers,restaurant records and employees are interconnected in order to maintain the accuracy of this system .This system can also be further improved adding many other features and including the other systems as well. Finally we believe that we were able to launch an effective computerized system to the restaurant causing the restaurant to perform well in the future regarding the billing and restaurant records.

15.REFERENCES

During the development of our system, we have taken the reference from Books and journals, which we would like to mention in this section.

These books acted as our tutors during the system development.

Name	Author	Publisher	Edition
JAVA:The Complete Reference	Herbert Schildt	Oracle Press	10th
NetBeans IDE 8 Cookbook	David Salter & Rhwai Dantas	PACKT	3rd

Besides these we were referring the online manuals from the sites.

http://www.oracle-dba-online.com/sql/oracle_sql_tutorial.htm

https://www.tutorialspoint.com/java/java_pdf_version.htm