

# ARCADE BUSINESS COLLEGE

Arya Kumar Road, Rajendra Nagar, Patna – 800016

## SYNOPSIS

(Paper : Hons. VIII)

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*for*

**Title of the Project**

.....RESTAURANT MANAGEMENT SYSTEM.....

**Group ID :** .....PRJ2331A.....

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# **TITLE OF THE PROJECT**



A **Restaurant Management System** guarantees seamless and efficient restaurant operations, with a core focus on delivering exceptional dining experiences in line with brand excellence. Proficient employee management underpins its ultimate goal: ensuring the restaurant's financial success.

This system immerses us in the dynamic realm of restaurant management services, exploring cutting-edge technologies that are revolutionizing restaurant operations. It scrutinizes emerging trends, confronts challenges, and seizes opportunities. This project is poised to offer invaluable insights into the future of dining while providing actionable recommendations for both restaurateurs and discerning consumers.

The Restaurant Management System, a comprehensive software solution, intricately streamlines and optimizes multifaceted restaurant operations. Its toolset empowers the efficient handling of day-to-day activities, elevating both customer service and operational efficiency. Key features span order processing, reservations, inventory control, employee scheduling, and billing. Precision in order handling, reduced wait times, and real-time table availability data enhance customer service. Simultaneously, it ensures robust ingredient and supply inventory management. Employee management functionalities proficiently facilitate staff scheduling and performance tracking.

In essence, the Restaurant Management System elevates the dining experience, drives operational prowess, and empowers restaurant owners with data-driven decision-making, culminating in amplified profitability and heightened customer delight. It stands as an indispensable asset in the modern food service industry.

# **ACKNOWLEDGEMENT**

We extend our heartfelt appreciation to the individuals and entities who have been instrumental in the successful completion of our project.

First and foremost, we would like to express our deepest gratitude to our Project Guide, **Anupam Singh (H.O.D)**, for her unwavering support and invaluable guidance throughout this project. Her expertise and the framework she provided allowed us to navigate the complexities of the project successfully.

Our journey would have been far more challenging without the support of our parents and friends. Their encouragement and assistance were vital, and we are profoundly thankful for their unwavering belief in our abilities.

We also acknowledge the staff of Well Food Restaurant for their cooperation during the System Study and Analysis stage. Their willingness to share critical data about the manual management system significantly contributed to the project's success.

Anupam Singh, in addition to being our project guide, played a pivotal role in initiating the ideas for our research topic. Her cooperative nature, expertise, and intelligence displayed while supervising this project were truly commendable.

Our Team and Lab teacher in the Computer Science & Engineering faculty provided us with valuable academic interactions and ideas, which greatly enriched our project.

We are also grateful to our educational institution, Arcade Business College, for providing us with the resources and platform to pursue our academic aspirations.

Our respect and gratitude go to our parents for their unconditional support and encouragement, even when our interests ventured beyond conventional boundaries.

Lastly, we'd like to convey our appreciation to Anupam Singh and Md. Khurshid Alam in our faculty for their guidance during our course.

May the good Lord bless all those mentioned here and keep them safe. We extend our love and heartfelt thanks to each one for their significant contributions to our project's success.

# **DECLARATION**

We hereby declare that the project entitled "**Restaurant Management System,**" which is being submitted as part of our 6th-semester coursework for the Bachelor of Computer Applications at Arcade Business College, Patna, is an authentic representation of our original work.

This project has been completed under the guidance of Anupam Singh, who serves as the Head of the Department of BCA at Arcade Business College, Patna.

We affirm that the contents of this project report are a result of our genuine efforts, adhering to the academic standards and guidelines set forth by our institution. We further confirm that there is no inclusion of previously submitted work or any form of academic misconduct in this project.

All external sources, references, and contributions from other authors have been appropriately cited and acknowledged. The project is devoid of any content that violates principles of academic integrity.

We acknowledge our understanding of the consequences of academic dishonesty and plagiarism and confirm that this project is a true representation of our work.

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# **INTRODUCTION**

**WELL FOOD RESTAURANT** is a food service retail chain that was established in 2016 under the visionary leadership of **Mr. Pankaj Singh**. The company has positioned itself as a leader in home delivery of food and arrange outdoor & indoor party. Over the years, the company has built a strong reputation for its commitment to services and quality.

**The Restaurant Management System** is a comprehensive software solution aimed at optimizing the operations and enhancing the overall efficiency of a restaurant. It is designed to cater to the diverse needs of the restaurant industry, including managing the menu, customer interactions, financial transactions, supplier relationships, and reporting. This system is vital for streamlining restaurant processes, ensuring a seamless customer experience, and providing insightful data for informed decision-making.

## **Key Benefits:**

The Restaurant Management System offers several key benefits:

**Improved Efficiency:** Automation of manual processes reduces errors and saves time, allowing staff to focus on delivering excellent service.

**Enhanced Customer Experience:** Streamlined order processing, reservation management, and loyalty programs lead to improved customer satisfaction.

**Financial Control:** In-depth financial tracking and reporting enable better financial management and control over expenses and profits.

**Supplier Management:** Effective procurement and inventory management ensure a consistent supply of raw materials.

**Data-Driven Decisions:** Access to comprehensive data and reporting tools empowers restaurant owners and managers to make informed decisions and optimizations for better business outcomes.

# **LIMITATIONS OF THE EXISTING SYSTEM**

Nowadays every management wants to do their work fast, accurate and easy to access, so that they can give their best and accurate output for the welfare of his management. But by using the manual system and keeping the record in the register does not provides them fast and accurate output. This is because the manual data record system has a lot of limitations and demerit. These all the limitations are discussed here in explain.

- **Takes up a lot of space:** the manual system takes a lot of spaces to maintain the records & takes a lot of registers to maintain it.
- **Prone to damage and being misplaced:** manual document filings means you are placing faith in the people handling the files. there are so many ways they can be damaged, lost or misplaced. It means you could loss all your important information and you will have to start it from the beginning.
- **Hard to make changes:** When you are working with paper documents it's much harder to make changes. You can't edit the original file so you have to make a soft copy of that file which is more time consuming.
- **Access time:** Manual document filling is very time consuming. Especially when you have to know information about any particular section then you have to search through all the register and this will take much time. And when you have to find a record that is inserted year ago this will take days or weeks thus, the productivity will decreased.
- **Lack of security:** paper document filling is not much secure. These can easily be placed in the wrong hands and can be misused. And once the data is being misused then the data is not useful for the institution.
- **Higher cost:** when we use paper documents our costs are going to be higher because we are paying for ink and paper. Here the correction process requires more resource and more is the paper and ink more is the cost. That's why we can say that it is higher in cost.
- **Avoidable errors:** The manual process is undertaken by humans, he is bound to commit errors due to the dynamism of human nature. Thus in this situation garbage data is entered in our register and resolving it is also a very hard task due to the lack of fast search.

- **High cost of training:** by using this manual data keeping system mean more persons will be engaged to increase the service and each of them will be trained according to their job to meet the basic standard required to perform their assigned task.
- **Duplication of data:** by using this manual system the possibilities of entering the duplicate data is very much high, because it's human tendency that they will forget that what they have entered and what they have not. In this case the possibility of duplication of data is very much high.

File maintenance is extremely difficult as everything is done manually: As we all know that the maintenance of file is very hard in manual system. And especially for older files that is a very difficult task.

Hard to prepare final financial report: as we all know that the final financial report is very much important for all the organization. And in the manual system the making the final report is very difficult work because some of the files get lost and some of them are in very poor condition.

### **Limitation Of the Existing System:**

By analysing the existing system, some of its drawbacks are listed.

- Time consuming.
- Lack of efficiency.
- Can't make appointments in advance for long intervals
- It is very difficult to maintain the data in working paper document .it is very difficult to make Changes.
- The paper work takes lots of time to find specific record.
- Take lots of space to Store previous data and files of patients.
- If you maintain the paper document file it not so much secure.
- Lack of immediate information retrieval
- Lack of immediate information storage
- Lack of prompt updating
- Lack of storing large information
- Redundancy information
- Fast report generation is not possible
- Tracing a patient is difficult



# **OBJECTIVE OF THE PROJECT**

The main objective of the Project on Restaurant Management System is to manage the details of Employee, Customer, Order, Product, Booking, etc. The project is totally built at administrative end and thus only the administrator is guaranteed the access. The purpose of the project is to build an application program to reduce the manual work for managing the Order, Products, Supplier, etc. It tracks all the details about the Customer, Employees, Oreder, etc.

Helping Employees to search for Orders and Booking of the customer is our main objectives. A platform where user can check customer previous history to provide extra services.

To build a system with perfection, requirement collection is a must. The study will gives a clearer idea of people's need and the system that we are planning to build as well as how much we are going to cover. The document will also describe all the interactions between employees, customer, supplier and admin. By above document anyone will be able to understand the project at a glance in this project.

Some objectives are mention below:-

- Develop a system that can replace the manual system.
- Develop a database which store user & items details.
- Record data and information.
- The primary goal of the proposed software is to address and resolve the shortcomings or limitations of the current restaurant operations.
- Get Booking for longer time.
- Track customer data and details.
- The software aims to streamline restaurant operations, making them more efficient and productive. It should facilitate faster order processing
- Efficient management of inventory is crucial in a restaurant. The software should help in tracking inventory levels, automatically placing orders for restocking, and minimizing food wastage.
- The proposed system should provide comprehensive reporting and analytics tools to restaurant owners and managers. This will enable data-driven decision-making, allowing them to identify trends, optimize menu offerings, and control costs effectively.
- Create report of patients, doctor, staff.
- Design an easy to understand user friendly environment.
- Design an attractive user interface.
- Design a module to produce technical reports.
- Provide security (i.e. only the administrator can update any information to the databases).

# H/W AND S/W REQUIREMENTS

Requirement collection and analysis is very crucial part of any project. Without analysis, collecting data or a good planning, a project will never complete properly. When we are developing on a project, a delivery time of the project has already given. That's why project work must be planned and executed to the deliver time.

## **REQUIREMENTS :**

- **CPU:** Intel or AMD processor with 64-bit support, 2 GHz or faster processor
- **RAM:** 2 GB or Higher
- **HDD:** 100GB of storage space
- **Operating System:** Windows XP (64-bit) version
- **Frontend:** Visual Basic 6.0
  - Visual Basic 6.0 is chosen for its robust capabilities in creating the user interface (UI) of the application.
  - It offers an integrated development environment for building Windows applications with a rich set of GUI controls, making it well-suited for creating user-friendly interfaces.
  - Visual Basic 6.0 provides extensive support for event-driven programming, enabling the development of interactive and responsive applications.
  - It allows for seamless integration with various data sources, making it an excellent choice for applications that require data handling, like your project.
  - Visual Basic 6.0's extensive library of components and controls simplifies the development process, reducing the need for custom code.
- **Backend:** Oracle 10g

- Oracle 10g is selected as the backend database for its strong reputation in data management, scalability, and reliability.
- Oracle 10g introduced significant improvements over its predecessors, including enhanced data warehousing and business intelligence capabilities.
- Features like partitioning and materialized views make it suitable for handling large datasets and complex queries, which is crucial in educational software.
- The database server is known for its high availability and robust security features, ensuring the integrity of sensitive educational data.
- Oracle 10g's support for multi-tier architectures and its ability to handle concurrent connections make it an ideal choice for applications that require shared data access, such as your project.
- It offers scalability to accommodate the potential growth of your project and maintain performance as data volume increases.

In summary, Visual Basic 6.0 is chosen for its ease of creating a user-friendly interface and event-driven programming capabilities, while Oracle 10g is selected for its advanced data management features, security, and scalability.

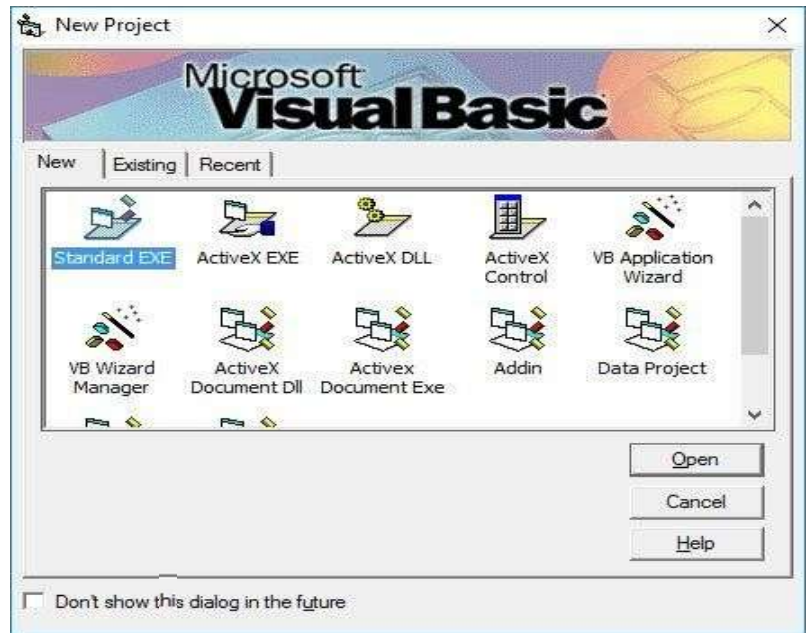
# INTRODUCTION TO VB 6.0

## What is Visual Basic?

Visual Basic 6.0, often abbreviated as VB 6.0, was a widely used programming language and integrated development environment (IDE) released by Microsoft in the late 1990s. It played a significant role in software development during its time. In this 400-word introduction, we'll explore the key features and concepts of VB 6.0.

Visual Basic 6.0, or VB 6.0, was a popular programming language and IDE that enabled developers to create Windows applications with a graphical user interface. It was known for its simplicity and rapid application development capabilities, making it accessible to both beginners and experienced programmers.

One of the standout features of VB 6.0 was its visual programming model. Developers could design the user interface of their applications by dragging and dropping controls, such as buttons, text boxes, and menus, directly onto forms. This made it easy to create interactive and user-friendly applications without writing extensive code.



VB 6.0 used an event-driven programming paradigm. Events, such as button clicks or mouse movements, triggered specific code to execute. Developers could create event handlers to define what should happen when a particular event occurred. This made it straightforward to respond to user interactions and create dynamic applications.

The language itself was based on the Basic programming language, which is known for its simplicity and readability. VB 6.0 supported object-oriented

programming (OOP) concepts, allowing developers to create and manipulate objects. This facilitated code organization and reusability.

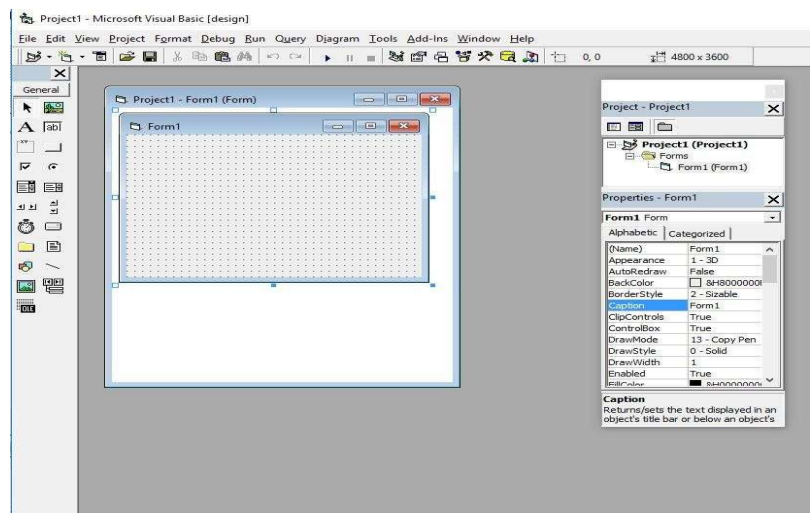
Another notable feature was the extensive set of built-in controls and libraries. VB 6.0 included a wide range of pre-built components for tasks like database access, file handling, and user interface design. This reduced the need to write code from scratch, speeding up development.

VB 6.0 was also renowned for its ActiveX support, which allowed developers to create reusable components that could be easily integrated into other applications. This technology was particularly useful for building custom controls and extending the functionality of applications.

Furthermore, VB 6.0 had strong database integration capabilities. It could connect to various databases through Data Access Objects (DAO) and ActiveX Data Objects (ADO), making it suitable for developing database-driven applications.

Despite its popularity, VB 6.0 is considered a legacy technology today, as Microsoft discontinued its support and development. Modern alternatives like VB.NET and C# have taken its place, offering more advanced features, security, and compatibility with contemporary software environments.

In conclusion, Visual Basic 6.0 was a powerful and accessible programming language and IDE that played a pivotal role in software development during the late 1990s and early 2000s. Its visual programming model, event-driven paradigm, and support for object-oriented programming made it a valuable tool for building Windows applications. However, its legacy has been succeeded by more modern and robust programming languages and tools.



# **INTRODUCTION TO ORACLE 10G**

Oracle 10g, released by Oracle Corporation in 2003, was a significant milestone in the world of relational database management systems (RDBMS). This version introduced several important features and improvements, making it a popular choice for enterprises. In this introduction, we'll explore the key aspects of Oracle 10g.

Oracle 10g stands for "Oracle Database 10g," with the 'g' signifying "Grid Computing." This version of the Oracle Database was designed to embrace grid computing principles, which allowed organizations to manage and allocate resources more efficiently.

One of the standout features of Oracle 10g was its enhanced support for self-management and automation. It introduced the concept of Automatic Database Diagnostic Monitor (ADDM) and Automatic Workload Repository (AWR), which helped database administrators (DBAs) proactively identify and resolve performance issues. This self-tuning aspect significantly reduced the administrative overhead.

Another important feature was the introduction of Oracle Real Application Clusters (RAC) improvements. RAC allowed a single database to run on a cluster of servers, providing high availability and scalability. Oracle 10g brought enhancements to RAC, making it easier to set up and manage clusters, thus improving the overall reliability and performance of the system.

Security was a prime focus in Oracle 10g. It introduced features like Fine-Grained Auditing and Virtual Private Database (VPD) to enhance data security and compliance. This was particularly important for organizations dealing with sensitive or regulated data.

In terms of development, Oracle 10g continued to support SQL and PL/SQL, Oracle's proprietary procedural language. Developers could take advantage of enhancements to these languages, making it easier to work with and manipulate data.

Another innovation was the introduction of XML database capabilities. Oracle 10g included native support for XML data and provided tools for storing,

querying, and transforming XML documents within the database, reflecting the growing importance of XML in modern data-driven applications.

Oracle 10g also featured improved support for data warehousing and business intelligence with features like materialized views and the Oracle OLAP option. These capabilities allowed organizations to efficiently analyze large volumes of data for decision-making.

This version marked the beginning of a more granular management approach with features such as the Database Control and Enterprise Manager Grid Control. These tools allowed DBAs to monitor, manage, and administer Oracle databases more easily.

However, it's essential to note that Oracle 10g reached its end of life and is no longer officially supported by Oracle Corporation. Organizations have since transitioned to newer versions like Oracle 11g, 12c, and beyond, each offering further advancements in performance, security, and scalability.

In summary, Oracle 10g was a significant release in the Oracle Database family, marked by its emphasis on grid computing, self-management, security, and XML capabilities. While it's no longer supported, it laid the foundation for subsequent versions that continued to evolve and meet the ever-growing demands of the database industry.

# **MODULE DESCRIPTION**

In the context of software development and system design, a module is a self-contained unit or component of a software system that performs a specific set of related functions. Modules are used to break down a complex system into smaller, more manageable parts, making it easier to develop, test, and maintain the software. Each module typically focuses on a particular aspect of the system's functionality.

## **1. Login Module:**

a. **Description:** The Login Module handles user authentication and access control. It ensures that only authorized personnel can access the restaurant management system.

### **b. Functionality:**

- i. User authentication through usernames and passwords.
- ii. Role-based access control to determine permissions.
- iii. Password recovery and security features.

## **2. Product Module:**

a. **Description:** The Product Module manages the restaurant's product catalog. It includes food and beverage items, and may also cover non-food items such as merchandise.

### **b. Functionality:**

- i. Product creation, editing, and deletion.
- ii. Categorization of products (e.g., appetizers, entrees, beverages).
- iii. Pricing, descriptions, and images for each product.

## **3. Menu Module:**

a. **Description:** The Menu Module focuses on creating and maintaining the restaurant's menu. It includes various menu items, their descriptions, pricing, and categorization.

### **b. Functionality:**

- i. Menu item creation, modification, and removal.
- ii. Categorization (e.g., starters, mains, desserts).
- iii. Management of availability and special promotions.

## **4. Supplier Module:**



- a. **Description:** The Supplier Module handles interactions with suppliers, particularly related to the procurement of raw materials, ingredients, and other supplies.

- b. Functionality:**

- i. Creating purchase orders for raw materials and supplies.
  - ii. Tracking deliveries and managing inventory.
  - iii. Storing and managing supplier details.

## **5. Purchase Module:**

- a. **Description:** The Purchase Module is responsible for recording and tracking all purchase transactions made by the restaurant, including raw materials, equipment, and other items.

- b. Functionality:**

- i. Recording purchases, including date, supplier, and items purchased.
  - ii. Updating inventory levels based on purchases.
  - iii. Managing payment and accounts payable.

## **6. Customer Module:**

- a. **Description:** The Customer Module focuses on managing customer interactions, reservations, and loyalty programs.

- b. Functionality:**

- i. Booking and managing customer reservations.
  - ii. Administering customer loyalty programs.
  - iii. Recording customer information and preferences.

## **7. Order Module:**

- a. **Description:** The Order Module handles customer orders for dining in, takeout, or delivery. It tracks orders from placement to delivery or service.

- b. Functionality:**

- i. Order creation, modification, and cancellation.
  - ii. Tracking order status and kitchen communications.
  - iii. Generating order tickets for the kitchen staff.

## **8. Booking Module:**

- a. **Description:** The Booking Module is responsible for managing reservations, which are appointments made by customers for dining at the restaurant.

- b. Functionality:**

- i. Reservation creation, modification, and cancellation.
- ii. Assignment of tables and reservation details.
- iii. Notifications and reminders for upcoming reservations.

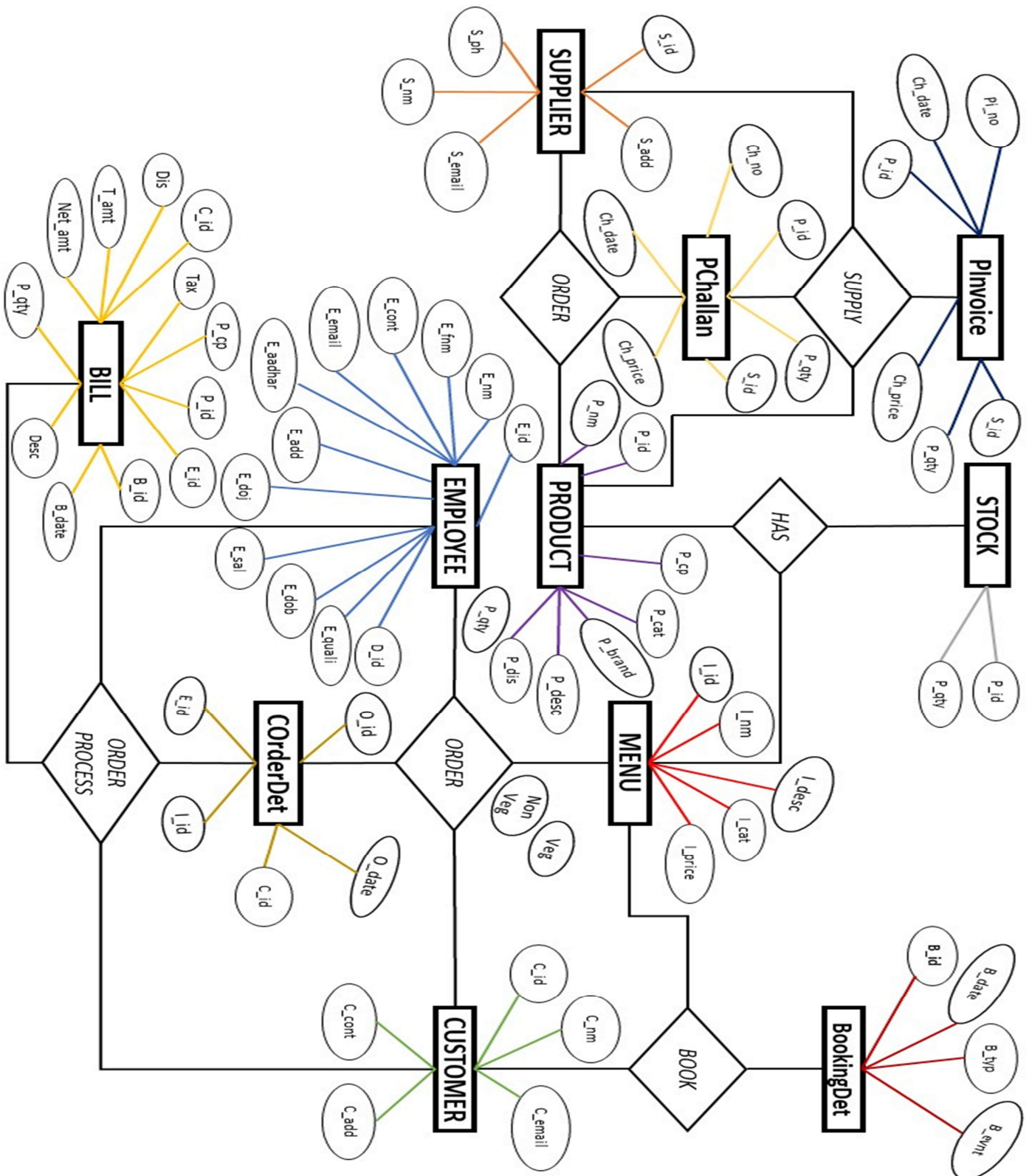
## 9. **Service Module:**

- a. **Description:** The Service Module ensures that the restaurant provides quality service to customers. It includes order processing, table assignments, and customer interactions.
- b. **Functionality:**
  - i. Order processing, including communication with the kitchen.
  - ii. Table assignment for dine-in customers.
  - iii. Handling customer requests and feedback.

## 10. **Report Module:**

- a. **Description:** The Report Module generates various reports to provide insights into restaurant operations, including financial performance, customer feedback, and inventory status.
- b. **Functionality:**
  - i. Generating financial reports (e.g., sales, expenses, profits).
  - ii. Analyzing customer feedback and satisfaction data.
  - iii. Monitoring inventory levels and ordering trends.
  - iv. These modules collectively form the core of a restaurant management system, allowing the restaurant to efficiently manage its products, services, customers, and operations.

## E-R DIAGRAM



# **DATA FLOW DIAGRAM (DFD)**

A Data Flow Diagram (DFD) is a graphical representation of how data flows through a system and how it is processed. It's a modeling technique used in software engineering, business analysis, and system design to visualize and analyze the flow of data within a system or between systems.

## **Key components of a DFD include:**

- **Processes:** These represent actions or functions that process data. Processes are usually represented as circles or ovals in a DFD.
- **Data Flows:** These are represented by arrows and show the movement of data between processes, entities (external entities that interact with the system), and data stores.
- **Data Stores:** These are where data is stored. Data stores are represented as rectangles and can be physical (like a database) or conceptual (representing a collection of data).
- **External Entities:** These are entities that interact with the system but are outside of it. They are usually represented as rectangles.

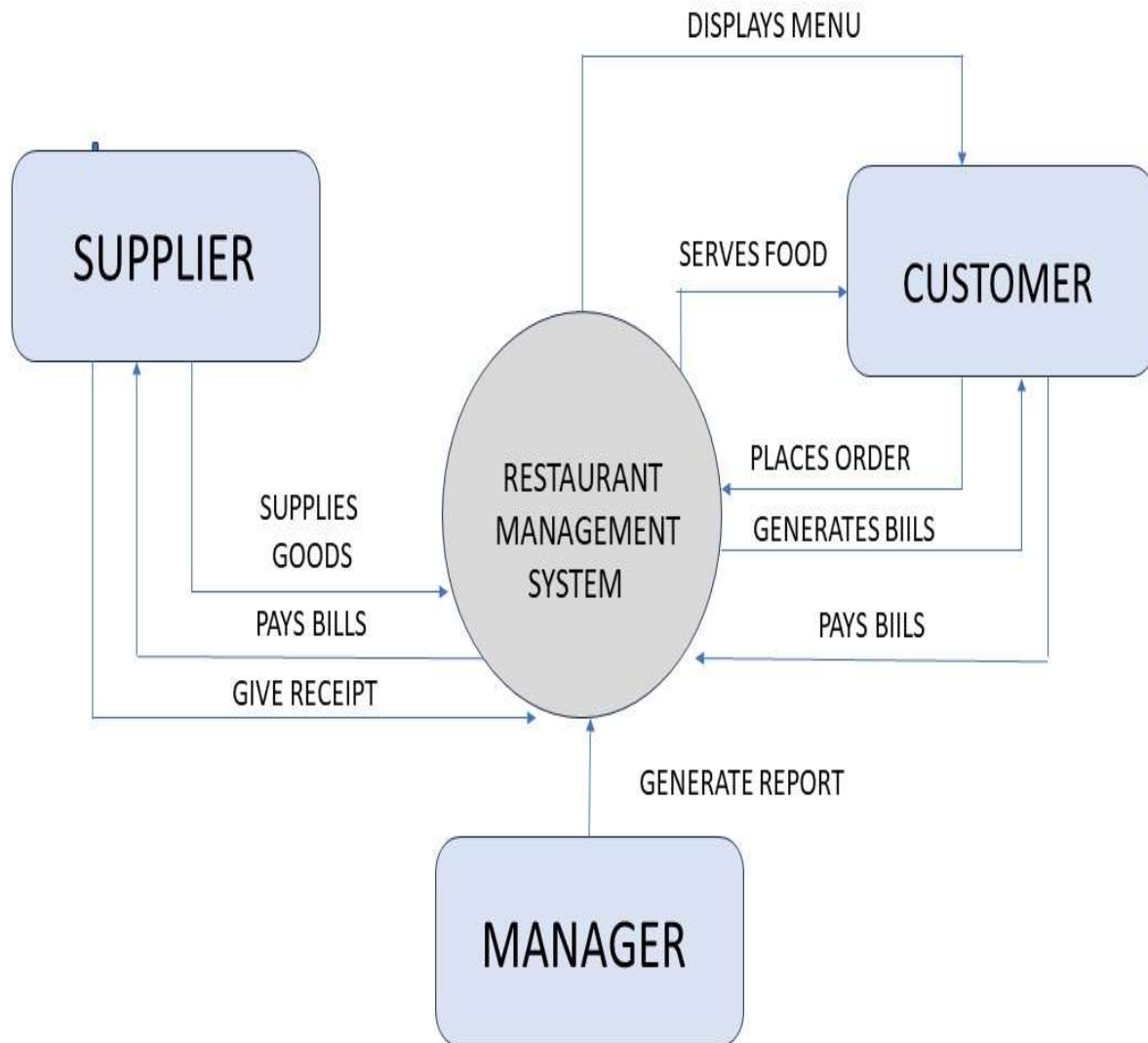
## **DFDs are used to:**

- **Visualize Data Flow:** They help you understand how data moves through a system and how it's transformed and processed.
- **Analyze Processes:** DFDs allow you to analyze and identify the processes and data flows in a system, which can help in process optimization.
- **Document Systems:** DFDs are often used to document existing systems or to plan and design new systems.
- **Communication:** They provide a clear and concise way to communicate how a system works to stakeholders and team members.

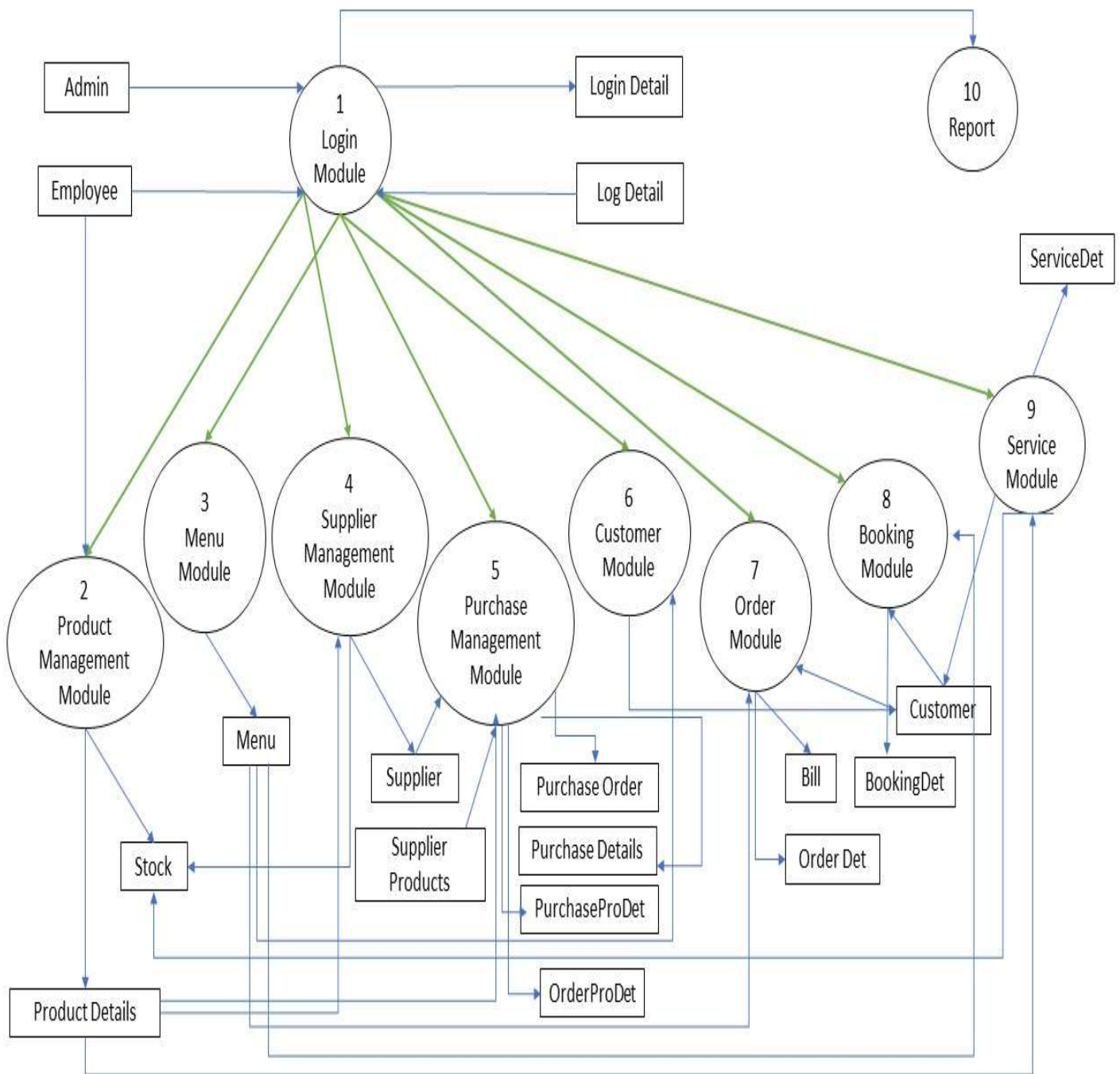
DFDs can be created at different levels of detail, ranging from a high-level overview (Level 0 DFD) to more detailed diagrams that break down processes into subprocesses and show finer-grained data flows (Level 1 DFD, Level 2 DFD, etc.).

Overall, DFDs are a valuable tool for understanding, designing, and communicating the flow of data and processes within a system.

## 0 (ZERO) LEVEL DFD



# 1st LEVEL DFD



# **TABLE DESCRIPTION**

## **1. Table: Product**

S.No.	Field Name	Data Type	Size	Constraint	Description
1.	P_id	Char	8	PRIMARY KEY	Unique identifier for each product.
2.	P_nm	Varchar	—	NOT NULL	Name or title of the product.
3.	P_cp	Decimal	8,2	NOT NULL	Cost price of the product.
4.	P_cat	Varchar	—		Category of the product.
5.	P_brand	Varchar	—		Brand of the product.
6.	P_desc	Varchar	—		Brief description of the product.
7.	P_dis	Number	—		Got discount.
8.	P_qty	Number	—	NOT NULL	Total number of products.

## **2. Table: Booking**

S.No.	Field Name	Data Type	Size	Constraint	Description
1.	Bk_id	Char	8	PRIMARY KEY	Booking id.
2.	Bk_date	Date	—	NOT NULL	Booking date.
3.	Bk_typ	Varchar	20	NOT NULL	Booking type.
4.	Bk_evnt	Varchar	30	NOT NULL	Booking Event.

### **3. Table: Employee**

S.No.	Field Name	Data Type	Size	Constraint	Description
1.	E_id	Char	8	PRIMARY KEY	Unique identifier for each employee.
2.	E_nm	Varchar	20	NOT NULL	Name of the employee.
3.	E_fnm	Varchar	20	NOT NULL	Father's Name of the employee.
4.	E_cont	Number	10	UNIQUE NOT NULL	Contact number of the employee.
5.	E_email	Char	20	UNIQUE NOT NULL	Email address of the employee.
6.	E_add	Varchar	50	NOT NULL	Residence of the employee.
7.	E_quali	Varchar	20	NOT NULL	Qualifications of the employee.
8.	E_aadhar	Char	12	UNIQUE NOT NULL	Aadhar number of the employee.
9.	E_dob	Date	—		Date of birth of the employee.
10.	E_doj	Date	—	NOT NULL	Date of joining of the employee.
11.	E_sal	Decimal	8,2		Salary of the employee.
12.	D_id	Char	8	NOT NULL	Department id for each employee.

### **4. Table: Stock**

S.No.	Field Name	Data Type	Size	Constraint	Description
1.	P_id	Char	8	FOREIGN KEY	Unique identifier for each product.
2.	P_qty	Number	—	NOT NULL	Total number of products.



## **5. Table: Supplier**

S.No.	Field Name	Data Type	Size	Constraint	Description
1.	S_id	Char	8	PRIMARY KEY	Unique identifier for each supplier.
2.	S_nm	Varchar	20	NOT NULL	Name of the supplier.
3.	S_ph	Number	10	UNIQUE NOT NULL	Phone number of the supplier.
4.	S_add	Varchar	30	NOT NULL	Address of the supplier.
5.	S_email	Char	20		Email address of the supplier.

## **6. Table: Customer**

S.No.	Field Name	Data Type	Size	Constraint	Description
1.	C_id	Char	8	PRIMARY KEY	Unique identifier for every customer.
2.	C_nm	Varchar	20	NOT NULL	Name of the customer.
3.	C_cont	Number	10	NOT NULL	Contact number of the customer.
4.	C_add	Varchar	30	NOT NULL	Residence of the customer.
5.	C_email	Char	20		Email address of the customer.

## **7. Table: PInvoice**

S.No.	Field Name	Data Type	Size	Constraint	Description
1.	Pi_no	Char	6	PRIMARY KEY	Unique purchase invoice number for each purchase.
2.	Ch_date	Date	—	FOREIGN KEY	Date of the purchase.
3.	P_id	Char	8	FOREIGN KEY	Product id for the product purchase.
4.	P_qty	Number	—	NOT NULL	Total number if the products to be purchased.
5.	Ch_price	Decimal	6,2	NOT NULL	Total price of the product.
6.	S_id	Char	8	FOREIGN KEY	Id of the supplier.

## **8. Table: PChallan**

S.No.	Field Name	Data Type	Size	Constraint	Description
1.	P_id	Char	8	PRIMARY KEY	Product id.
2.	Ch_no	Char	6	UNIQUE NOT NULL	Challan Number.
3.	Ch_date	Date	—	NOT NULL	Challan Date.
4.	P_qty	Number	—	NOT NULL	Total number of quantity.
5.	Ch_price	Decimal	8,2	NOT NULL	Price on challan.
6.	S_id	Char	8	FOREIGN KEY	Supplier id.

## **9. Table: Bill**

<b>S.No.</b>	<b>Field Name</b>	<b>Data Type</b>	<b>Size</b>	<b>Constraint</b>	<b>Description</b>
1.	B_id	Char	8	PRIMARY KEY	Unique identifier for the bill.
2.	B_date	Date	—	NOT NULL	Date at the time bill is generated.
3.	P_id	Char	8	FOREIGN KEY	Unique identifier for products.
4.	P_qty	Number	—	NOT NULL	Total number of products.
5.	P_cp	Decimal	8,2	NOT NULL	Cost price.
6.	C_id	Char	8	FOREIGN KEY	Customer id.
7.	E_id	Char	8	FOREIGN KEY	Employee id.
8.	Desc	Varchar	15	NOT NULL	Description.
8.	Net_amt	Decimal	8,2	NOT NULL	Net Amount.
9.	Dis	Number	2		Discount.
10.	Tax	Number	—	NOT NULL	Taxation.
11.	T_amt	Decimal	8,2	NOT NULL	Total Amount.

### **10. Table: Menu**

S.No.	Field Name	Data Type	Size	Constraint	Description
1.	I_id	Char	8	PRIMARY KEY	Item id.
2.	I_nm	Varchar	20	NOT NULL	Item name.
3.	I_desc	Varchar	20	NOT NULL	Item description.
4.	I_cat	Varchar	30	NOT NULL	Item category.
5.	I_price	Decimal	8,2	NOT NULL	Item Price.

### **11. Table: COrderDet**

S.No.	Field Name	Data Type	Size	Constraint	Description
1.	O_id	Char	8	PRIMARY KEY	Order id.
2.	O_date	Date	—	NOT NULL	Order date.
3.	E_id	Char	8	FOREIGN KEY	Employee id.
4.	I_id	Char	8	FOREIGN KEY	Item id.
5.	C_id	Char	8	FOREIGN KEY	Customer id.

# **PROJECT PLANNING**

PHASES	MEMBERS	TOTAL DAYS
1. ANALYSIS <ul style="list-style-type: none"><li>• DATA GATHERING</li><li>• FEASIBILITY STUDY</li><li>• COSTBENEFIT ANALYSIS</li><li>• PROJECT PROPOSAL</li></ul>	<b>AKASH KUMAR (LEADER)</b> ANISH ANAND ADITYA PRAKASH	26
2. DESIGN	ABHISHEK KUMAR	7
3. CODING	AKASH KUMAR ADITYA PRAKASH	16
4. TESTING	AKASH KUMAR ADITYA PRAKASH	12
5. IMPLEMENTATION		4
6. DOCUMENTATION	AKASH KUMAR ANISH ANAND ADITYA PRAKASH ABHISHEK KUMAR	

# **FUTURE SCOPE OF THE PROJECT**

**Modification can easily done according to requirements when necessary.**

This application can be easily implemented under various situations. We can add new features as and when we require. Reusability is possible as and when require in this application. There is flexibility in all the modules.

## **SOFTWARE SCOPE:**

- **Extensibility:** This software is extendable in ways that its original developers may not expect. The following principles enhances extensibility like hide data structure, avoid traversing multiple links or methods, avoid case statements on object type and distinguish public and private operations.
- **Reusability:** Reusability is possible as and when require in this application. We can update it next version. Reusable software reduces design, coding and testing cost by amortizing effort over several designs. Reducing the amount of code also simplifies understanding, which increases the likelihood that the code is correct. We follow up both types of reusability: Sharing of newly written code within a project and reuse of previously written code on new projects.
- **Understandability:** A method is understandable if someone other than the creator of the method can understand the code (as well as the creator after a time lapse). We use the method, which small and coherent helps to accomplish this.