

# Chapter: 1

## ***SOFTWARE DEVELOPMENT LIFE CYCLE***

### **Software Development Life Cycle (SDLC)**

#### **1.1 Introduction:-**

##### **Software Engineering:-**

Software Engineering is the establishment and use of sound engineering principles in order to obtain economically software i.e. reliable and works efficiently on machines.

1. The application of systematic, disciplined, quantifiable approach to the development, operation and maintenance of software; that is, the application of engineering to software.
2. The study of approaches as in (1).

##### **A Generic view of Software Engineering:-**

Engineering is the analysis, design, construction, verification and management of technical entities. Regardless of the entity to be engineered, the following questions must be asked and answered:

1. What is the problem to be solved?
2. What characteristics of entity are used to solve the problem?
3. How will the entity be realized?
4. How will the entity be constructed?
5. What will be the approach to uncover the errors in design?
6. How will the entity be supported over the long term?

## What is the SDLC?

The Systems Development Life Cycle (SDLC), or Software Development Life Cycle in systems engineering and software engineering, is the process of creating or altering systems, and the models and methodologies that people use to develop these systems. The concept generally refers to computer or information system.



*Fig 1.1 Software Development Life Cycle*

In software engineering the SDLC concept underpins many kinds of software development methodologies. These methodologies form the framework for planning and controlling the creation of an information system software development process.

### 1.2 Planning:-

Software project management begins with set of a activities that are collectively called Project Planning. The important task in creating a software product is extracting the requirements or analysis. Customers typically have an abstract idea of what they want as an end result, but not what software should do. Skilled and experienced software engineers recognize incomplete, ambiguous, or even contradictory requirements at this point. Frequently demonstrating live code may help reduce the risk that the requirements are incorrect.

Once the general requirements are gleaned from the client, an analysis of the scope of the development should be determined and clearly stated. This is often called a scope document.

### **Software Scope:-**

The first activity in software project planning is the determination of software scope. Functions and performance allocated to software during system engineering should be assessed to establish a project scope that is unambiguous and understandable at the management and technical level.

### **Feasibility:-**

A feasibility study looks at the viability of an idea with an emphasis on identifying potential problems and attempts to answer one main question: Will the idea work and should you proceed with it? Before you begin writing your business plan you need to identify how, where, and to whom you intend to sell a service or product. You also need to assess your competition and figure out how much money you need to start your business and keep it running until it is established.

Feasibility studies address things like where and how the business will operate. They provide in-depth details about the business to determine if and how it can succeed, and serve as a valuable tool for developing a winning business plan.

### **Why Are Feasibility Studies so Important?**

The information you gather and present in your feasibility study will help you:

1. List in detail all the things you need to make the business work.
2. Identify logistical and other business-related problems and solutions.
3. Develop marketing strategies to convince a bank or investor that your business is worth considering as an investment and Serve as a solid foundation for developing your business plan.

## **The Components of a Feasibility Study:**

**Description of the Business:** The product or services to be offered and how they will be delivered.

**Market Feasibility:** Includes a description of the industry, current market, anticipated future market potential, competition, sales projections, potential buyers, etc.

**Technical Feasibility:** Details how you will deliver a product or service (i.e., materials, labor, transportation, where your business will be located, technology needed, etc.).

**Financial Feasibility:** Projects how much start-up capital is needed, sources of capital, returns on investment, etc.

**Organizational Feasibility:** Defines the legal and corporate structure of the business (may also include professional background information about the founders and what skills they can contribute to the business).

### **1.3 Development:-**

The development phase involves converting design specifications into executable programs. Effective development standards include requirements that programmers and other project participants discuss design specifications before programming begins.

Programmers use various techniques to develop computer programs. The large transaction oriented programs associated with financial institutions have traditionally been developed using procedural programming techniques. Procedural programming involves the line-by-line scripting of logical instructions that are combined to form a program. Primary procedural programming activities include the creation and testing of source code and the refinement and finalization of test plans. Typically, individual programmers write and review (desk test) program modules or components, which are small routines that perform a particular task within an application. Completed components are integrated with other components and reviewed, often by a group of programmers, to ensure the components properly interact. The process continues as component groups are progressively integrated and as interfaces between component groups and other systems are tested.

- **Development Standards:**

Development standards should be in place to address the responsibilities of application and system programmers. Application programmers are responsible for developing and maintaining end-user applications. System programmers are responsible for developing and maintaining internal and open-source operating system programs that link application programs to system software and subsequently to hardware. Managers should thoroughly understand development and production environments to ensure they appropriately assign programmer's responsibilities.

Development standards should prohibit a programmer's access to data, programs, utilities, and systems outside their individual responsibilities. Library controls can be used to manage access to, and the movement of programs between, development, testing, and production environments. Management should also establish standards requiring programmers to document completed programs and test results thoroughly. Appropriate documentation enhances a programmer's ability to correct programming errors and modify production programs.

- **Software Documentation:**

Organizations should maintain detailed documentation for each application and application system in production. Thorough documentation enhances an organization's ability to understand functional, security, and control features and improves its ability to use and maintain the software. The documentation should contain detailed application descriptions, programming documentation, and operating instructions. Standards should be in place that identify the type and format of required documentation such as system narratives, flowcharts, and any special system coding, internal controls, or file layouts not identified within individual application documentation.

- **System documentation should include:**

System Descriptions-System descriptions provide narrative explanations of operating environments and the interrelated input, processing, and output functions of integrated application systems.

## 1.4 Maintenance:-

Software maintenance in software engineering is the modification of a software product after delivery to correct faults, to improve performance or other attributes, or to adapt the product to a modified environment.

This international standard describes the software maintenance processes as:

1. The implementation processes contains software preparation and transition activities, such as the conception and creation of the maintenance plan, the preparation for handling problems identified during development, and the follow-up on product configuration management.
2. The problem and modification analysis process, which is executed once the application has become the responsibility of the maintenance group. The maintenance programmer must analyze each request, confirm it (by reproducing the situation) and check its validity, investigate it and propose a solution, document the request and the solution proposal, and, finally, obtain all the required authorizations to apply the modifications.
3. The process considering the implementation of the modification itself.
4. The process acceptance of the modification, by confirming the modified work with the individual who submitted the request in order to make sure the modification provided a solution.

**Corrective maintenance:** Reactive modification of a software product performed after delivery to correct discovered problems.

**Adaptive maintenance:** Modification of a software product performed after delivery to keep a software product usable in a changed or changing environment.

**Perfective maintenance:** Modification of a software product after delivery to improve performance or maintainability. **Preventive maintenance:** Modification of a software product after delivery to detect and correct latent faults in the software product before they become effective faults.

## Chapter: 2

# *INTRODUCTION TO PROJECT*

### **2.1 Introduction to project:-**

As the internet is growing fast and large group of people have access to the internet, people started doing transaction through internet instead of visiting places directly.

Whenever a customer goes in any big restaurant he is been welcome by the bouncer of the restaurant. Customer needs to convey him number of person dining, as per the seating arrangement bouncer allots him a table. Bouncer introduces the customer with the restaurant menu items with the help of the menu card and places the order. Many times in rush hours customer need to wait outside the restaurant for free tables. When table get allotted, customer can place order. This order also takes time to prepare. In fastest internet era this process is quiet time consuming and inconvenient.

The proposed Online Restaurant Management System is designed keeping both customer and restaurant management in the mind so that customers can book table online and place order with the help of interacting menu.

As Online Restaurant Management System is web based application will reachable to wide range of customers and will allow them to book table and place order online.

It is an Online Restaurant Management System, a comprehensive Restaurant Management Application which allows customers to place food orders online as well as helps restaurants to manage their customers and their orders. The system employs the latest, state-of-the-art technology and operates under a local network, combined with external Intranet and Internet networks.

This application provides an online order placement solution for the customers. It is web based, this makes it highly scalable and extremely portable as it can be accessed anywhere in the world as long as you have access to the Internet and the application.

## 2.2 Objective & Scope Of Project:-

### Objective

- I. Display interactive menu items.
- II. Display ongoing offers and discounts.
- III. Online request for ordering items.
- IV. Online request for delivery of an order as per convenience.
- V. Online bill generation.
- VI. Reach to wide range of customers.
- VII. Online table booking in the restaurant.
- VIII. Home Delivery.

## 2.3 Purpose and Scope:-

The main purpose of the Online Restaurant Food Ordering System is to reach to wider range of customers and to educate them about existing and new packages and discounts offered by restaurants. One more purpose is to allow customers to place order online using interactive menu so that they can receive order at home. Allow customer to pay online. Provide customers to place order from outside restaurant and get order placed when table is been allotted to them. This reduces the time consumption.

*The Online Restaurant Food Ordering System* is to be developed to reduce the manual work carried out in restaurants; customers will be introduced with the interactive menu. This project helps the management to know customers order details in few seconds.

## 2.4 Problem Definition:-

It is assumed that currently order placement is done through bouncers or waiters. In both the cases menu list is being provided to customer in form of printed menus or through menu boards. Then interested customer has to call waiter or bouncer for table and order placement. This is time consuming. Also its coverage is limited.

## 2.5 Existing System:-

- The Existing system is manual system.
- All kind of works are carried out manually by the employees of the organization.
- Bill books are having bill number and the name of the customers.
- Separate registers are maintained for keeping written records of Bill, Stock, Services and Customers.



## **2.6 Limitations of the Current System:-**

1. At present, the requirements of the system are done manually and hence there are number of limitations.
2. The information is maintained in books and files, which is very difficult.
3. Reports are produced by manual processing, that will be an unformatted manual and unreliable.
4. Data security is less.
5. Records are more prone to getting lost or misplaced.
6. The Online Restaurant Management System has a large customer database which cannot be deal with using files and paper work methods.
7. Customer Register:-Separate books are maintained to keep the of a customer name, address, contact information, car no etc.
8. Employee Register: - It has the details of the sales handled by the vendor. This register has the vendor name and the bill number.
9. Customer Bill Register:- Separate bill book are maintained in which date, total amount and number of items sales are written by the cashier.
10. Administration Register:-A separate book of all the details of the vendor and its bill are maintained.

## **2.7 Proposed System:-**

The Online Restaurant Management System maintains systematic records of the dealers, cars, employees, customers in a cost effective manner. It provides Data security by providing authentication for the user of the system. All records can be accessed exclusively by the administrator. The administrator has the rights to modify any record. Increased end user productivity because of flexible data access. Graphically oriented, highly interactive user interface.

Increased developer productivity through usage of easy to use easy tools. Improved access to information because of networking. Better control of corporate data through centralized data, Systems & network management. Easier maintenance of application & data. It reduces the burden of staff.

## **2.8 Advantages of Proposed System:-**

The proposed system fulfills all the functions needed by the management regarding database entries, customer and payments details. System maintains all required information of the customer, vendor, purchase payment details, sales details. System provides various notes related to service to facilitate the employees. System maintain backup of data base, import data, export data, to avoid loss of data.

System gives alert automatically for low stock status. System maintains detail of the stock. The system allows the user to calculate any sort of payment related calculations. Reports are generated automatically when required. Bills are also generated automatically.

## **2.9 In addition the system provides:-**

- Improved reports generation with improved handling of data.
- Accurate and systematic archiving of records.
- Radical facility of payment calculations.
- More automated payment calculations.

## **2.10 Hardware Configuration:-**

Hardware specification of the system that is used in this project is:

- **Processor** Intel® Core ®(1.75 GHZ)
- **Memory** 1 GB RAM
- **Hard disk** 50 GB

## **2.11 Software Configuration:-**

Software Specification

Software specification of the system that is used in this project is:

- **Operating System** WINDOWS OS
- **Front end** VISUAL STUDIO 2012 EXPRESS EDITION
- **Back end** MICROSOFT ACCESS DATABASE

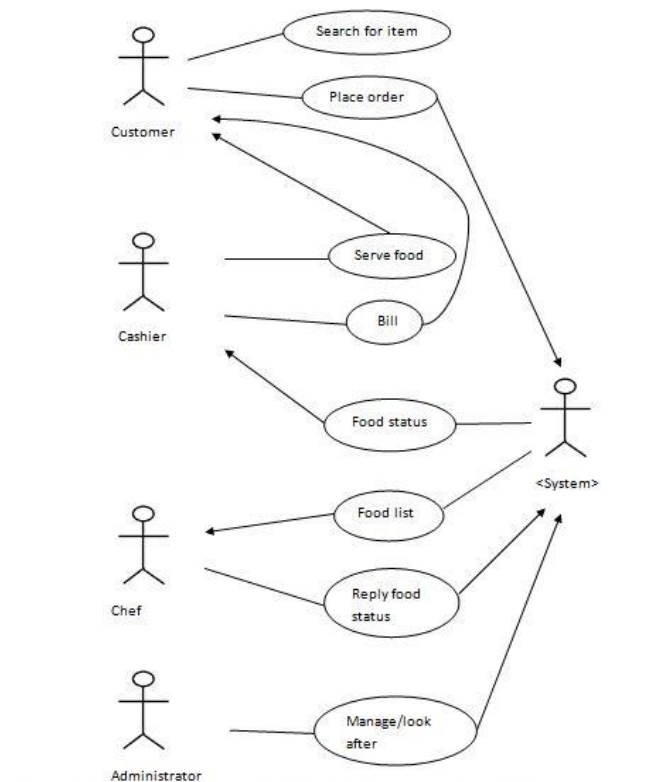
# Chapter: 3

## *System Design*

### 3.1 Introduction:

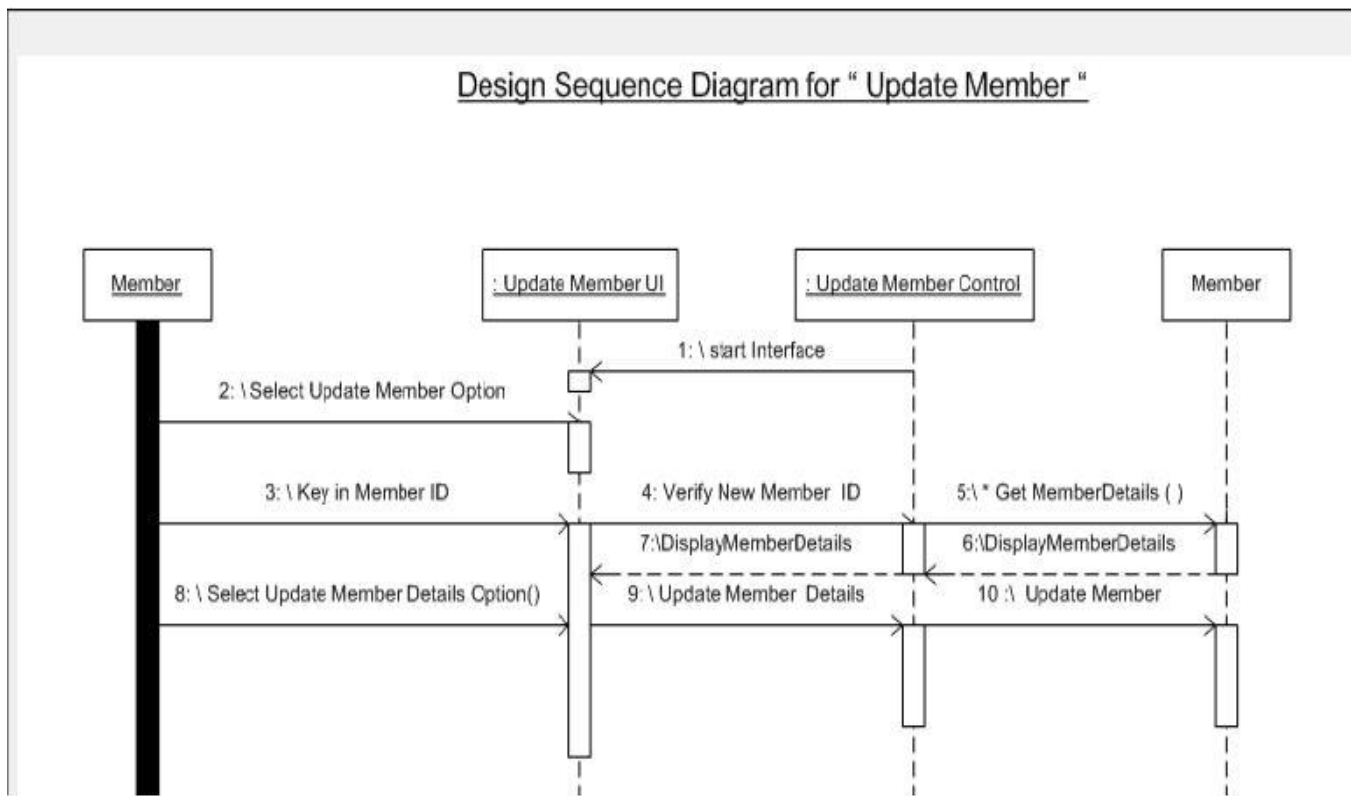
After we analyze the requirement of the system, next is to process system design. The system design is important because it transform information that ultimately result in software. With the system design, it can help us to create a design physical model. In this chapter we will discuss about the database design, sequence diagram and the design of the system user interface.

### 3.2 Use Case Diagram:



*Fig: Use case diagram for a full session.*

### 3.3 Sequence Diagram:

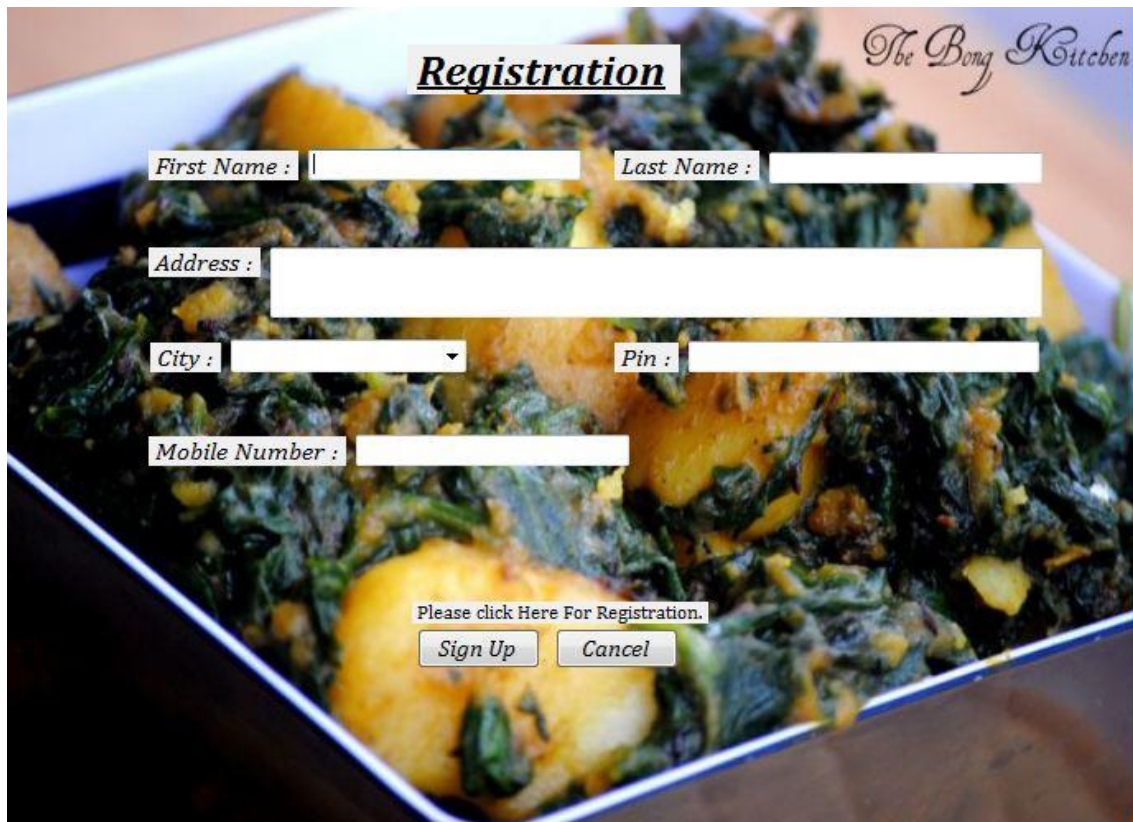


*Fig. Sequence diagram for adding a new member.*

### 3.4 System Interface:-



*Fig. Login Form*



**Registration**

First Name :  Last Name :

Address :

City :  Pin :


Mobile Number :

Please click Here For Registration.

Fig. Registration Form

**WANNA TRY:)**

- \*INDIAN
- \*SOUTH INDIAN
- \*SEA FOOD
- \*ITALIAN
- \*CHINESE
- \*SNACKS
- \*COFFEES
- \*TEA
- \*ICECREAM
- \*CONTINENTAL



[CART](#)

[FEEDBACK](#)

[ABOUT US](#)

[LOGOUT](#)

Operational Hour :

Mon to Fri : 10.00am to 10:pm

Sat : 8:00am to 10:pm

Sun : 8:00am to 12:00pm

Fig. Main Menu





Fig. South Indian (Sub menu)



Fig. Coffees (Sub menu)

**ORDER DETAILS**

**ORDER DETAILS :** Dosa

**Prize :** Rs. 180 /-

**Quantity :**

Fig. Order Details

**My Cart**

Mint Lemon Tea - Qty(1) - Rs.70
-----
Cold Lemon Tea - Qty() - Rs.0
-----
Dosa - Qty(1) - Rs.180
-----

**Total Bill : Rs. 250 /-**

Fig. My Cart

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Feedback

We welcome any queries and improvement here

so nice |

Submit

Fig. Feedback Form

### 3.4 Chapter Summary:-

The database design is the most important part to develop a system. It is very critical because it can influence the whole system function and operation. Each data table, data fields, data types and relationship of the table must proper implement. Therefore, the problem will be be minimized during the development of the system.

The interface design also important part to develop the system , because poor design will affect the overall quality of the system. A user interface must be user friendly and attractive, because it allows user easy understand how the system process. It is possible save time from system learning curve.



# Chapter: 4

## *Future Scope*

### **Future scope**

#### **4.1 Introduction:**

Future scope is the further implementation of our project which we have define for the development of our project. this future scopes makes our project to be able to used in future without any problems and which will define our project for future.

#### **4.2 Some future scopes:**

1. Complexity of our database will be reduce for faster transaction and order placement.
2. GUIs will be improved for better interface for the user and easy understanding.
3. It will be connected to the LAN for a small network ordering and management. (eg. In hotels or restaurant).
4. It will be made online without internet by using WI-FI for a small locality to make it easier for the user to place order.
5. For people at farther places had made an option for home delivery for the ease of users