# **Chapter 3: Design**

## **3.1 Introduction to design:**

The third phase of software development is design which answer the question “how” in software development. It displays the ideas how the system will appears. The user requirement will be converted in suitable form with the help of design. Which further helps developer in implementation of software. During development of software various tools and technique are used which makes the design more effective and efficient. It is the method of defining various methods, technique and overall structure of the code which will further satisfy the user’s requirements.

It is an important part of software development because it reduces redundancy and increases reusability. It also allows software developer and owner to allow how the function of software really works. Here, I have used structural and behavioral model to show the work flow of system which is going to be developed. Furthermore, database design and user interface design is also provided to show the overview of the system as how it works or the system backend.

### **3.1.1 Final Class Diagram:**

A static view which represent the static view of the system or application is class diagram. It helps to visualize the system and helps to create the executable code of the system. It describes operation of class, its attributes and constraints executed in the system. It is a structural diagram which shows the classes, interface, constraints and associations.

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### **3.1.2 Optional:**

## **3.2 Behavioral Model:**

### **3.2.1 Activity Diagram:**

The dynamic aspect of system is described by activity diagram. Dynamic behavior is also captured by it. It shows the message flow of one activity to another activity. It uses reverse and forward engineering show that to create the executable system.

### **3.2.2 Sequence Diagram:**

## **3.3 Database Model:**

A model that represents the consistence flow of logical structure in database and which shows the way in which data is stored, manipulated and organized is database model.

### **3.3.1 Data Dictionary:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S.No** | **Name** | **Data type** | **Constraints** | **Null able** | **Documentation** |
| 1 | userid | integer(10) | PK | No |  |
| 2 | firstname | varchar(20) | - | yes |  |
| 3 | middlename | varchar(20) | - | yes |  |
| 4 | lastname | varchar(20) | - | yes |  |
| 5 | mobileno | varchar(20) | - | yes |  |
| 6 | dob | varchar(20) | - | yes |  |
| 7 | address | varchar(50) | - | yes |  |
| 8 | email | varchar(50) | - | yes |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S.No** | **Name** | **Data type** | **Constraints** | **Null able** | **Documentation** |
| 1 | orderid | integer(10) | PK | No |  |
| 2 | OrderID | integer(10) | - | yes |  |
| 3 | ProductName | varchar(50) | - | yes |  |
| 4 | TotalCost | varchar(50) | - | yes |  |
| 5 | Date | date | - | yes |  |
| 6 | useruserid | integer(10) | FK |  |  |
| 7 | productproductid | integer(10) | FK |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S.No** | **Name** | **Data type** | **Constraints** | **Null able** | **Documentation** |
| 1 | productid | integer(10) | PK | No |  |
| 2 | productname | varchar(30) | - | yes |  |
| 3 | price | float(10) | - | yes |  |
| 4 | details | varchar(50) | - | yes |  |
| 5 | image | varchar(20) | - | yes |  |
| 6 | producttypeproductid | integer(10) | FK |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S.No** | **Name** | **Data type** | **Constraints** | **Null able** | **Documentation** |
| 1 | bookingid | integer(10) | PK | No |  |
| 2 | productname | varchar(30) | - | yes |  |
| 3 | price | float(10) | - | yes |  |
| 4 | quantity | varchar(40) | - | yes |  |
| 5 | Useruserid | Integer(10) | FK |  |  |
| 7 | productproductid | integer(10) | FK |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S.No** | **Name** | **Data type** | **Constraints** | **Null able** | **Documentation** |
| 1 | subscribeid | integer(10) | PK | No |  |
| 2 | email | varchar(50) | - | yes |  |
| 3 | useruserid | integer(10) | FK |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S.No** | **Name** | **Data type** | **Constraints** | **Null able** | **Documentation** |
| 1 | productid | integer(10) | PK | No |  |
| 2 | type | varchar(20) | - | yes |  |

### **3.3.2 ER Diagram:**



## **3.4 Architectural Model:**

## **3.5 Prototype Design:**