**Chapter-4**

**System Design**

**4.1 INTRODUCTION:**

Design is processes through which requirements are translated into a representation of the software. The purpose of the designing phase is to plan a solution for the problem specified by the requirements document i.e. the requirements are translated into software. The design activity often results in three separate outputs:

1. Architecture Design
2. High Level Design
3. Detailed Design

System Design is a solution a “How to” approach to the creation of a new system. The importance phase is composed of several steps. It provides the understanding of procedural details necessary for system recommended in the feasibility study. Emphasis is on translating the performance requirements into design specifications.

**4.2 Methodology/objective**

The main objectives of the design are:

1. Practically
2. Efficiency
3. Flexibility
4. Completeness
5. Security
6. Verifiable
7. Traceability

**4.3 System Context Diagram**

The System Context Diagram or Context Flow Diagram (CFD) describes the external entities acting on the system. The environment in which the system is used is depicted in the figure.

**CFD LEVEL 0:**

**Seller**

View Customer Purchase,

Billing Report,

Seller payment Report

Register, login,

Product, Stock,

Manage Billing

Register, Login, Order, Purchase, Feedback, Payment

Managing User Account, Category, Product

**CoolLens**

**Admin**

**Customer**

View Product, Billing

View Reports, Feedback

**4.4 Data Flow Diagram**

A Data Flow Diagram (DFD) is a graphical representation of the “flow” of the data through an information System. A DFD also can be used for the visualization of data processing. It is common practice for designer to draw a context level DFD first which shows the interaction between the system and outside entities. This context-level DFD is then “exploded” to show more detail of the system being modelled.

**4.5 Rules for Constructing DFD**

* Process should be named for easy understanding.
* The direction of flow, top to bottom and from left to right should be specified.
* The direction of flow should not allow any kind of loops.

The DFD uses four symbols, and explained below:

|  |  |
| --- | --- |
| ***Symbol*** | ***Description*** |
|  | The circle or bubble represents a process. A process is named, and each process is represented by a named circle. |
|  | The source or sink is represented as a rectangular box. The source or sink is the net originator or the consumer of the data that flows in the system. |
|  | The arrow represents the flow of data through the system. The labeled arrows enter or leave the bubbles |
|  | The database is represented with the open box symbol |

**DFD LEVEL 1:**

Main\_userdetail

Store and Retrieve

Django\_admin

login

Confirmation

Sale\_details

2.0

Manage item

Manage

2.0

Manage

Category

Sale\_Product

Confirmation

Add New Item

3.0

Seller

Store Data

Sale\_Productct

Confirmation

Product

Search Item

4.0

Search Item

Sale\_Productct

Customer

Confirmation

Search Item

Store Data

Add

5.0

Sale\_Product

Confirmation

Add To Cart

Store Data

Give Order

6.0

Sale Order

Confirmation

Order

Pay For Purchase

7.0

Store Data

Sale\_Order

Confirmation

**DFD LEVEL 2(2.0): Admin**

Check For Login

Request For Login

Insert Data

Insert Data

Reply

Reply

Response

Add/Edit

Response

Add/Edit

Sale\_Category

Django\_admin log

Sale\_Product

Product

Manage

Reply

Success

Admin

**DFD LEVEL**-**2(4.0): CUSTOMER**

Item details

4.0

Sale\_Product

4.1

Customer

Confirmation

Customer details

Main\_user detail QA

Registration

Confirmation

Login id, password

4.2

Confirmation

Login

Item details

Seller\_Product

4.3

Purchase Item Item

4.4

Order details

Seller\_Order

Make a Order

Payment details

4.5

Seller\_Order

Make a Payment

**DFD LEVEL-2(4.2): CUSTOMER**

customer QA

Main\_userdetail QA

Update password

4.2.2

Request for view

View account

Main\_userdetail QA

4.2.1

Check detail

Customer

Response

Request for login

**DFD LEVEL-2(5.0): CUSTOMER**

Seller\_Order

Seller\_Order

View order

Request for view

Add to cart

5.2

Sale\_Product

View item

5.1

Main\_userdetail

Check detail

Response

Request to login

Customer

Login

Update cart

5.3

Confirm order

**DFD LEVEL-2(3.0): SELLER**

View order

Manage order

3.2

3.1

Sale\_Product

Check for login

Add/edit

Manage Product

Seller\_detail

Request to login

Seller

Response

Seller\_Order

**DFD LEVEL-2(3.2): SELLER**

Dispatch order

Seller\_Order

Request for cancel

Request for view

Check detail

Seller

Seller\_Order

Dispatch order

Confirm or cancel order

3.2.3

3.2.2

Seller\_Order

View order

3.2.1

3.2

Seller\_detail

Response

Request to login