**System Design**

1. **Introduction :**

* **System Analysis :**

The system analysis approach emphasises a closed look on all parts of the system. The analyst must consider all the system elements, their inputs, outputs, control, feedback and the environment when the system is being constructed.

* **System Design :**

The goal of system design phase is to produce a model or representation of the system, which can be used to build the system. Here the emphasis is on translating the requirements of the system into design specification.

1. **Applicable Documents :**

The document used in system design is Software Requirement Specification Document.

1. **Functional Decomposition :**

The system can be decomposed into functional components as follows.

The Components are –

* All transactions are carried out online. Able to login, view balance, account statement and perform transaction.
* The management can add or update transaction details of SB, RD, TD, SSA account. The system calculates interest rates automatically.
* This site enables the customers to perform the basic transactions by sitting at their office or at homes through PC or laptop.
* Customer can view their account and transaction details through online by entering login id and password. Customer can view updated balance anytime.
* Post office management can add payment details of electricity bill payment, Telephone bill payment, money order, etc.
* Customer can track delivered and pending status of register letter and speed post letter by entering tracking Id.
* Customer can view insurance scheme details, paid amount and due date. Even they can download receipt of latest transaction.

1. **Program Description :**
   1. **Context Flow Diagram** :

Context flow diagram is a top level data flow diagram. It only contains one process node that generalises the function of the entire system in relationship to external entities. In context diagram the entire system is treated as a single process and all its inputs, outputs, sinks and sources are identified and shown.



* 1. **Data Flow Diagram** :

A data flow diagram is a graphical representation of the flow of data through an information system. A data flow diagram can also be used for the visualization of the data processing. It is common practice for a designer to draw a context level DFD. It shows the interaction between the system and the outside entities. This context level DFD, is then exploded to show more detail of the system being modelled.

A DFD represents flow of data through a system. Data flow diagrams are commonly used during problem analysis. It views a system as a function that performs the input into the desired output. A DFD shows movement of data through the different transformations or processes in the system.

Data Flow diagrams can be used to provide the end users with the physical idea of where the data they input ultimately has an effect upon the structure of whole system from order to dispatch to restock how any system is developed can be determined through data flow diagram. The appropriate register saved in database and maintained by appropriate authorities.

**Notations in the DFD :**

|  |  |
| --- | --- |
| **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 : Top Level DFD**

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**DFD Level-2** :

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**DFD Level-3** :



**DFD Level-4** :



**DFD Level-5** :



* 1. **Description Of Components :**

**4.3.1 Signup component** :

This deals with creating an account to the new Vendor. This component includes:

* Register.
* **Register :**
* **Input** : UserName, First\_name, Last\_name, Password etc.
* **Process Definition** : In this process new account will be created for vendors and added for data base.
* **Interfaces with other Functional components** : It has an interface with ‘**Login Component**’.
* **Output** : The inputs will be validated and added to data base .

Notification will be shown that record added.

**4.3.2. Login Component** :

This deals with giving privileges to the users to enter into the system. This component includes:

* + - * Authenticate.
      * Forgot password.
    - **Authenticate :**
* **Inputs** : The UserName and Password.
* **Process Definition :** The process is named as **“Authentication”.** The process checks the accepted user name and password for validation against the username and password already stored in the database**.**
* **Output :** If the user name and passwords are validthe successful login is done and a new screen with links to respective pages is displayed or else notification will be given on failure of authentication.
  + - **Forgot password :**
* **Inputs** : The UserName.
* **Process Definition :** The process is named as **“Forgot Password”.** The process checks the accepted user name for validation against the username already stored in the database**.**
* **Output :** The existing password of UserName is sent to respective E-mail ID.

**4.3.3. Product Master & Price master Component :**

In this Component for the user who has logged in they can enter the details of the products & price to the data base. This component includes:

This component includes:

* Validate.
* Add.
* Update.
* Delete.
* Display.
* **Validate :**
* **Inputs :** The product\_id, product\_quantity, product\_category, discount applicable etc.
* **Process Definition :** The process is named as “**Validation**”. The process checks for the validation of all the inputs are proper for the system requirement.
* **Output :** If validation is correct it will be added to data base , or respective message will be displayed .
* **Add :**
* **Inputs :** The new Products to data base .
* **Process Definition :** The process is named as “**Addition**”. This adds one record at a time. The process is the sub process of **Validation** **:** The process takes the valid user name and adds the correct record to the database.
* **Output :** Adds new Products Details to data base.
* **Display :**
* **Inputs :** Product\_id
* **Process Definition :** The process is named as **“Display”**. This process is to view all the records in the database.
* **Output :** The product details of respective product\_id will be displayed.
* **Update :**
* **Inputs:** The product\_id, product\_quantity, product\_category, discount applicable etc.
* **Process Definition :** The process is named as “**Updation**”. This updates one record at a time**.** This process checks for validation of the input and updates the respective record in the database.
* **Output :** An updated customer record with all entries.
* **Delete :**
* **Inputs:** The product\_Id.
* **Process Definition :** The process is named as **“Deletion**”. This process checks for validation of the input and deletes the respective record from the database.
* **Output :** The deleted notification will be shown to the user.

**4.3.4. Selection Component :**

In this Component customer can select the product using the category.

* **Input**: Category, Sub\_category and User URL.
* **Process Definition**: In this process user can select products from categories.
* **Output**: Products of the particular categories will be displayed.

**4.3.5. Cart Component :**

In this component the products selected by customer will

be added to cart and removed from the cart .

Cart component includes ,

* Add.
* Remove.
* Buy.
* **Add :**
* **Input** : Products\_ID, UserName, quantity ordered.
* **Process Definition** : In this process the products selected by customer will be added to cart page and data base.
* **Output** : Notification will be shown after adding the product to the cart.
* **Remove :**
* **Input** : Products\_ID, UserName.
* **Process Definition** : In this process the products selected by customer will be removed from the cart page.
* **Output** : Notification will be shown after adding the product to the cart.
* **Buy :**
* **Input** : Customer name, Shipping Address, Billing Address, Email-Id.
* **Process Definition** : In this process the products selected by customer and customer details will be taken and total amount will be calculated.
* **Output** : An Email will be sent to Customer Email-ID, the details of products Purchased will be displayed on screen.

**4.3.6. Reporting Component**:

In this Component reports will be generated. Whenever a item is sold, or customer orders a product. This component includes:

* + - * Order Report.
      * Delivered Report.
* **Order Report :**
* **Input** : UserName, Product ID, Order Date.
* **Process Definition** : In this process the Vendor can select the order details by selecting Product ID and Order date.
* **Output** : Displays the details of the products purchased in waiting status.
* **Delivered Report :**
* **Input** : UserName, Product ID, Order date.
* **Process Definition** : In this process the Vendor can select the order details by selecting Product ID and Order date.
* **Output** : Displays the details of the products purchased in Delivered status.

**4.3.7. House Keeping Component :**

It will allow the vendor to take the back up of the Delivered reports of Reporting Module. This component includes:

* + - * Back up.
      * Display
* **Back up :**
* **Input** : UserName, Order date.
* **Process definition** : In this Component, data will be backed up by the Vendor, and will be stored as Archive.
* **Output** : Notification to user that Backup Created and displayed is Archive Section
* **Display :**
* **Input** : UserName, Archive date.
* **Process definition** : In this Component, data backed upped by the Vendor, and will be Displayed according to archive date.
* **Output** : The Delivered Order Details will be displayed of the particular archive date.