# 4.3 DATABASE DESIGN

**4.3.1 Normalization**

Designing a database is a complex task and the normalization theory is a useful aid in this design process. The process of normalization is concerned with transformation of conceptual schema into computer representation form.

A bad database design may lead to certain undesirable situations such as,

* Repetition of information
* Inability to represent certain information
* Loss of information

To minimize these anomalies, normalization may be used. If the database is in a normalized form, the data can be restructured and can maintain it easily. This is important that the databases using that we are using may free from data redundancy and inconsistency. For this need we maintain the tables in a normalized manner.

# First Normal Form

A relation is in first Normal Form (1NF), if and only if all its attributes are based on single domain. The objective of normalizing a table is in to remove its repeating groups and ensure that all entries of the resulting table have at most single value.

# Second Normal Form

A table is said to be in second Normal Form (2NF), when it is in 1 NF and every attribute in the record is functionally dependent upon the whole key, and not just a part of the key.

# Third Normal Form

A table is in third Normal Form (3NF), when it is in 2NF and every non-key attribute is functionally dependent on just the primary key**.**

# TABLE DESIGN

**Table Number:** 1

**Table Name:** tbl\_Login

**Table Description:** Login details

|  |  |  |  |
| --- | --- | --- | --- |
| **FIELD** | **DATA TYPE** | **CONSTRAINT** | **DESCRIPTION** |
| Username | Int(15) | Primary Key | User Login Email |
| Password | Varchar(8) | Not Null | User Password |
| User\_Type | Varchar(10) | Not Null | Type of User |
| Status | Tinyint(1) | Not Null | Active/Inactive |

# Table Number: 2

**Table Name:** tbl\_Staff

**Table Description:** Staff details

|  |  |  |  |
| --- | --- | --- | --- |
| **FIELD** | **DATA TYPE** | **CONSTRAINT** | **DESCRIPTION** |
| Staff\_id | Int(11) | Primary Key | Staff ID |
| Email | Varchar(15) | Foreign Key | Staff Login Email |
| Password | Varchar(10) | Not Null | Staff Password |
| Firstname | Varchar(10) | Not Null | Staff First Name |
| Lastname | Varchar(10) | Not Null | Staff Last Name |
| Phone\_number | Varchar(10) | Not Null | Staff Phone Number |
| House\_name | Varchar(12) | Not Null | Staff House Name |
| State | Varchar(12) | Not Null | Staff State |
| District | Varchar(12) | Not Null | Staff District |
| Pincode | Varchar(7) | Not Null | Staff Pincode |
| Date | Date | Not Null | Staff Join Date |
| Status | Tinyint(1) | Not Null | Active/Inactive |

# Table Number: 3

**Table Name:** tbl\_Customer

**Table Description:** Customer Details

|  |  |  |  |
| --- | --- | --- | --- |
| **FIELD** | **DATA TYPE** | **CONSTRAINT** | **DESCRIPTION** |
| Cus\_id | Int(11) | Primary Key | Customer ID |
| Firstname | Varchar(15) | Foreign Key | Customer First Name |
| Lastname | Varchar(10) | Not Null | Customer Last Name |
| Phone\_number | Varchar(10) | Not Null | Customer Phone Number |
| Email | Varchar(10) | Not Null | Customer Email |
| House\_name | Varchar(10) | Not Null | Customer House Name |
| State | Varchar(12) | Not Null | Customer State |
| District | Varchar(12) | Not Null | Customer District |
| Pincode | Varchar(7) | Not Null | Customer Pincode |
| Username | Varchar(15) | Not Null | Customer User Name |
| Password | Varchar(8) | Not Null | Customer Password |
| Status | Tinyint(1) | Not Null | Active/Inactive |

# Table Number: 3

**Table Name**: tbl\_category

**Table Description**: Category Details

|  |  |  |  |
| --- | --- | --- | --- |
| **FIELD** | **DATA TYPE** | **CONSTRAINT** | **DESCRIPTION** |
| cat\_id | Int(11) | Primary Key | Category ID |
| Name | Varchar(15) | Not Null | Category Name |
| Description | Text | Not Null | Category Description |

# Table Number: 4

**Table Name:** tbl\_item

**Table Description:** ItemDetails

|  |  |  |  |
| --- | --- | --- | --- |
| **FIELD** | **DATA TYPE** | **CONSTRAINT** | **DESCRIPTION** |
| item\_id | Int(11) | Primary Key | Item ID |
| cat\_id | Int(11) | Foreign Key | Category ID |
| Name | Varchar(15) | Not Null | Name of Food Item |
| Description | Text | Not Null | Name of Food  Item |
| Image | Tinytext | Not Null | Item Image |
| Price | Varchar(5) | Not Null | Price of Each Item |
| Status | Tinyint(1) | Not Null | Active/Inactive |

# Table Number: 5

**Table Name:** tbl\_event

**Table Description:** Event Details

|  |  |  |  |
| --- | --- | --- | --- |
| **FIELD** | **DATA TYPE** | **CONSTRAINT** | **DESCRIPTION** |
| event\_id | Int(11) | Primary Key | Event ID |
| Name | Varchar(15) | Not Null | Event Name |
| Description | Text | Not Null | Event Description |

# Table Number: 6

**Table Name:** tbl\_cart\_master

**Table Description:** Cart Master Details

|  |  |  |  |
| --- | --- | --- | --- |
| **FIELD** | **DATA TYPE** | **CONSTRAINT** | **DESCRIPTION** |
| cartM\_id | Int(11) | Primary Key | Cart Master ID |
| cust\_id | Int(11) | Foreign Key | Customer ID |
| event\_id | Int(11) | Foreign Key | Event ID |
| Total\_price | Int(10) | Not Null | Total Amount |
| Status | Tinyint | Not Null | Cart status |