DATABASE DESIGN

INTRODUCTION

Database is simply collection of information or data. The first step in assigning a database application is to understand what data is to be stored in the database, what application must be built on it and what operations are frequent and subject to perform requirements.

A database design is an inherent collection of data with some inherent meanings, design, built and populated with data for a specific purpose. The following guide lines are being followed during the database design:

* Description names for the tables, columns, indexes.
* Singular names for tables and columns.
* Proper data type for each column.

The advantages of database are:

* Reduced data redundancy.
* Reduced updating errors and increased consistency.
* Grater data integrity and independence from application programs.
* Improved data access to users through use of host and query languages.
* Improved data security.
* Reduced data entry , storage and retrieval costs
* Facilitated development of new applications program.

DATABASE TABLES:

The database of Auctioning System is organized into following tables:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Admin\_login | Bid | Bid\_payment | Category | Comment |
| Feedback | Hostproduct | Mail\_us | Newsreq | Notification |
| Package | Payment | Product | Query | Replyquery |
| Subcategory | Subscription | User | Winnerlist |

Table: Admin

|  |  |
| --- | --- |
| Username | Password |

Table: User

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| User\_id | Fullname | Address | Contact | User\_type |
| Gender | Email | Password | Photo |

Table: Category

|  |  |
| --- | --- |
| Cid | Cname |

Table: Sub-Category

|  |  |  |
| --- | --- | --- |
| Subcid | Cid | Subcategory |

Table: Product

|  |  |  |  |
| --- | --- | --- | --- |
| Prid | ProductName | Cid | Subcid |
| Desc | Image | User\_id | Min\_range |

Table: Feedback

|  |  |  |
| --- | --- | --- |
| Fid | User\_id | Fcontent |
| Fdate | Fcategory |

Table: Package

|  |  |  |  |
| --- | --- | --- | --- |
| Pid | Ptitle | Pamt | Pvalidity |

Table: Subscription

|  |  |  |
| --- | --- | --- |
| Subcid | Pid | Uid |
| Subdate | Enddate |

Table: Query

|  |  |  |  |
| --- | --- | --- | --- |
| Qid | User\_id | Qcontent | Qdatetime |

Table: Reply-query

|  |  |  |  |
| --- | --- | --- | --- |
| Rqid | Qid | Reply | Rdatetime |

Table: News request

|  |  |  |  |
| --- | --- | --- | --- |
| Nrid | Uid | Title | Username |
| Productname | Desc | Postonbefore | Req-sent |
| Image | Status |

Table: Mail\_Us

|  |  |  |
| --- | --- | --- |
| Mail\_id | Name | Email |
| Contact | Message | Date |

Table: Winner

|  |  |  |  |
| --- | --- | --- | --- |
| Wid\_id | uid | Bid\_id | Prod\_id |
| win\_amt | datetime | Status |

Table: Bid

|  |  |  |  |
| --- | --- | --- | --- |
| Bid\_id | uid | Reqid | sellerid |
| Prod\_id | biddate | Bidamt | status |

Table: bid\_payment

|  |  |  |
| --- | --- | --- |
| Payid | uid | Bid\_id |
| Amount | paiddate | Status |

Table: comment

|  |  |  |
| --- | --- | --- |
| Com\_id | uid | Sellerid |
| comment | datetime | Status |

Table: hostproduct

|  |  |  |  |
| --- | --- | --- | --- |
| reqid | uid | Prid | hoston |
| tilldate | reqdate | Status |

Table: notification

|  |  |  |  |
| --- | --- | --- | --- |
| nid | User\_id | Sellerid | Bid\_id |
| notification | date | Status |

Table: payment

|  |  |  |  |
| --- | --- | --- | --- |
| payid | Uid | Cvv | Card\_no |
| hname | Exp\_month | Exp\_year |

**Database columns**:

The database tables divided into following columns:

Table Name: admin\_login

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Column name** | **Index** | **Data type** | **Size** | **Description** |
| user\_name | Not null | Varchar | 30 | Admin name |
| Password | Not null | Varchar | 30 | Admin Password |

Table Name: User

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Column name** | **Index** | **Data type** | **Size** | **Description** |
| user\_id | Primary key | Int | 11 | User id |
| fullname | Not null | Varchar | 40 | User name |
| address | Not null | Varchar | 100 | Address of the user |
| contact | Not null | bigint | 20 | User Contact number |
| User\_type | Not null | Varchar | 40 | User type either Buyer or Seller |
| email | Not null | Varchar | 40 | User email\_id |
| gender | Not null | Varchar | 10 | User gender |
| password | Not null | Varchar | 20 | User password |
| photo | Not null | Varchar | 100 | Photo of the user |

Table Name: Category

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Column name** | **Index** | **Data type** | **Size** | **Description** |
| cid | Primary Key | int | 11 | Category id |
| cname | Not null | Varchar | 40 | Category Name |

Table Name: Sub-category

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Column name** | **Index** | **Data type** | **Size** | **Description** |
| subcid | Primary Key | int | 11 | Sub-category id |
| cid | Not null | int | 11 | Category id |
| subcategory | Not null | Varchar | 40 | Sub category name |

Table Name: Product

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Column name** | **Index** | **Data type** | **Size** | **Description** |
| user\_id | Primary key | Int | 11 | User id |
| pro\_id | Not null | Varchar | 40 | Product id |
| productname | Not null | Varchar | 100 | Product name |
| subcid | Not null | bigint | 20 | Sub category of the product |
| photo | Not null | Varchar | 40 | Image of the product |
| desc | Not null | Varchar | 40 | Product description |
| Min\_range | Not null | Varchar | 10 | Minimum range of the product |

Table Name: Feedback

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Column name** | **Index** | **Data type** | **Size** | **Description** |
| fid | Primary Key | int | 11 | Feedback id |
| User\_id | Not null | int | 11 | User id |
| fcontent | Not null | longtext |  | Feedback content |
| fdate | Not null | date |  | Date of submission |
| fcategory | Not null | Varchar | 40 | Feedback ratigs |

Table Name: Subscription

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Column name** | **Index** | **Data type** | **Size** | **Description** |
| subcid | Primary Key | int | 11 | Feedback id |
| p\_id | Foreign Key | int | 11 | User id |
| u\_id | Foreign Key | int | 11 | Feedback content |
| subdate | Not null | date |  | Subscription issued date |
| enddate | Not null | date |  | End date of subscription |

Table Name: Query

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Column name** | **Index** | **Data type** | **Size** | **Description** |
| qid | Primary Key | int | 11 | Query id |
| user\_id | Not null | Int | 11 | User id |
| qcontent | Not null | Longtext |  | Query content |
| qdatetime | Not null | datetime |  | Query issued date |

Table Name: replyquery

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Column name** | **Index** | **Data type** | **Size** | **Description** |
| rqid | Primary Key | int | 11 | Reply query id |
| qid | Not null | Int | 11 | Query id |
| Reply | Not null | Longtext |  | Reply content |
| rdatetime | Not null | datetime |  | Reply issued date |

Table Name: newsreq

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Column name** | **Index** | **Data type** | **Size** | **Description** |
| nr\_id | Primary key | Int | 11 | News request id |
| u\_id | Foreign key | Int | 11 | User id |
| title | Not null | Varchar | 30 | Title of the news |
| username | Not null | Varchar | 30 | User name |
| productname | Not null | Varchar | 30 | Name of the product |
| desc | Not null | longtext |  | News description |
| postonbefore | Not null | date |  |  |
| req\_sent | Not null | date |  | News posted on |
| image | Not null | Varchar | 150 | Image of the product |
| status | Not null | Varchar | 30 | Weather ON or OFF |

Table Name: mail\_us

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Column name** | **Index** | **Data type** | **Size** | **Description** |
| mail\_id | Primary Key | int | 11 | Mail id |
| name | Not null | Varchar | 30 | User name |
| email | Not null | Varchar | 30 | Email id of the user |
| contact | Not null | Bigint | 20 | Contact number of the user |
| message | Not null | longtext |  | Message to be sent |
| date | Not null | Date |  | Date of submission |

Table Name: winnerlist

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Column name** | **Index** | **Data type** | **Size** | **Description** |
| win\_id | Primary Key | int | 11 | Winners id |
| uid | Foreign Key | Int | 11 | User id |
| prod\_id | Foreign Key | Int | 11 | Product id |
| bid\_id | Foreign Key | int | 11 | Bid id |
| win\_amt | Not null | double |  | Winning amount |
| datetime | Not null | Datetime |  | Date of winning bid |
| status | Not null | Varchar | 20 | Status for bid |

Table Name: bid

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Column name** | **Index** | **Data type** | **Size** | **Description** |
| Bid\_id | Primary Key | int | 11 | Bid id |
| uid | Foreign Key | Int | 11 | User id |
| reqid | Foreign Key | Int | 11 | Host request id |
| sellerid | Foreign Key | int | 11 | Seller id |
| prod\_id | Foreign Key | int | 11 | Product id |
| biddate | Not null | Datetime |  | Date of bidding the product |
| bidamt | Not null | double |  | Bid amount |
| status | Not null | Varchar | 20 | Bid status |

Table Name: bid\_payment

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Column name** | **Index** | **Data type** | **Size** | **Description** |
| Payid | Primary Key | int | 11 | Pay id |
| Uid | Foreign Key | Int | 11 | User id |
| Bid\_id | Foreign Key | Int | 11 | Bid id |
| Amount | Not null | double |  | Amount to be paid |
| paiddate | Not null | date |  | Date of payment |
| Status | Not null | varchar | 20 | Payment status |

Table Name: comment

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Column name** | **Index** | **Data type** | **Size** | **Description** |
| Com\_id | Primary Key | int | 11 | comment id |
| Uid | Foreign Key | Int | 11 | User id |
| sellerid | Foreign Key | Int | 11 | seller id |
| comment | Not null | Longtext |  | comment |
| datetime | Not null | Datetime |  | Date of commenting |
| Status | Not null | varchar | 30 | Commnet status |

Table Name: hostproduct

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Column name** | **Index** | **Data type** | **Size** | **Description** |
| reqid | Primary Key | int | 11 | Host request id |
| Uid | Foreign Key | Int | 11 | User id |
| prid | Foreign Key | Int | 11 | product id |
| hoston | Not null | Datetime |  | Product host date |
| tilldate | Not null | Datetime |  | Host till date |
| reqdate | Not null | datetime |  | Host requested date |
| Status | Not null | varchar | 20 | host status |

Table Name: notification

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Column name** | **Index** | **Data type** | **Size** | **Description** |
| nid | Primary Key | int | 11 | Notification id |
| User\_id | Foreign Key | Int | 11 | User id |
| Sellerid | Foreign Key | Int | 11 | Seller id |
| Bid\_id | Foreign Key | int | 11 | Bid id |
| notification | Not null | varchar | 100 | Notification content |
| date | Not null | date |  | Notification date |
| Status | Not null | varchar | 20 | Notification status |

Table Name: payment

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Column name** | **Index** | **Data type** | **Size** | **Description** |
| payid | Primary Key | int | 11 | payment id |
| Uid | Foreign Key | Int | 11 | User id |
| cvv | Not null | Int | 33 | Card cvv number |
| Card\_no | Not null | bigint | 20 | Card number |
| hname | Not null | varchar | 20 | Holder name |
| Exp\_month | Not null | varchar | 20 | Expiry month |
| Exp\_year | Not null | varchar | 20 | Expiry year |

Entity Relationship-Diagram:

The basic object that the E-R model represents is an entity which is a “thing in real world with an independent existence. An entity may be an object with a physical existence (person, car, house etc.) Or it may be an object with a conceptual existence (company, job, university, course etc.). Each entity has attributes particular properties that describes it. Further each entity will have a value for each of its attributes. Each key attributes has its name underlined.

Whenever an attribute of one entity type refers to another entity some relationship exist. The degree of relationship type is the number of participating entity types. The cardinality ratio for binary relationship specifies a number of relationship existences that an entity can participate in.

Hence we include that an E-R Diagram represents the relationship between the entities.

ENTITY: It may be an object with physical existence or conceptual existence.

Entity name

ATTRIBUTE: The properties of entity can be described as an attribute.

RELATIONSHIP: Whenever an attribute of one entity type refers to another entity type, some relationship exists.

Relationn

MULTIVALUED ATTRIBUTE: Attributes that have different number of values for a particular attribute.

Multivalued attribute

WEAK ENTITY TYPE: Entity that has no key attribute of their own are called weak entity types.

Weak entity

CARDINALITY RATIO: It specifies the maximum number of relationship instances that an entity can participate in. There are 4 cardinality ratios:

* 1:1
* 1:N
* N:1
* M:N

ER-DIAGRAM:

ADMIN

manages

SELLER

PACKAGE

Subscribes

Hosts

Requests

Approves

Defines

Adds

uname

pwd

uid

uname

contact

email

pwd

Includes

SUBSCRIPTION

sub\_id

pid

uid

subdate

enddate

pid

pamt

pvalidity

ptitle

CATEGORY

has

SUB-CATEGORY

PRODUCT

Involves

cid

cname

cid

subcid

subcategory

pid

pro\_name

photo

desc

BUYER

views

bids

Has

BIDDING

Has

WINNER

wid

pid

date

wamt

bidid

biddate

status

NEWSREQ

uid

uname

desc

1

1

1

N

N

N

N

N

N

N

N

N

N

email

pwd

N

N

N

N

N

N

N

N

N

N

N

1