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PROJECT

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PROJECT TITLE: FOOD DELIVERY SYSTEM

As our project was to make a food delivery system we tried to make a database (ERD & Normalization) in Project.

ERD:

ERD stands for Entity Relationship Diagram is a type of flowchart that illustrates how “entities” such as people, objects or concepts relate to each other within a system. ER Diagrams are most often used to design or debug relational databases in the fields of software engineering, business information systems, education and research.

they use a defined set of symbols such as rectangles, diamonds, ovals and connecting lines to depict the interconnectedness of entities, relationships and their attributes. They mirror grammatical structure, with entities as nouns and relationships as verbs.

Entity:

 definable thing—such as a person, object, concept or event—that can have data stored about it. Think of entities as nouns. Examples: a customer, student, car or product. Typically shown as a rectangle.

Entity

Types of entities:

There are three types of entities.

1. Strong Entities
2. Weak Entities
3. Associative Entities

Associative

Entities

Weak Entity

Strong Entity

Attributes

A property or characteristics of an entity.

There are different types of attributes listed below:

Cardinality:

Defines the numerical attributes of the relationship between two entities or entity sets. The three main cardinal relationships are one-to-one, one-to-many, and many-many.

* one to one relationship
* many to one relationship
* many to one relationship
* many to many relationship

Normalisation:

**Normalization** is a database design technique that reduces data redundancy and eliminates undesirable characteristics like Insertion, Update and Deletion Anomalies. Normalization rules divides larger tables into smaller tables and links them using relationships. The purpose of Normalisation in SQL is to eliminate redundant (repetitive) data and ensure data is stored logically.

1. 1NF FORM:

* Removal of repeating groups (multi-valued attributes) so that there is a single value at the intersection of each row and column
* A table is said to be in 1NF if there are no repeating groups

1. 2NF FORM:

The relation must be in 1NF AND any of the following Conditions exists:

* The primary key consists of only 1 attribute (column)
* No non-key attributes exist
* all of the non-key attributes are components of the primary key)
* Every non-key attribute is functionally dependant upon the full set of primary key (composite key) attributes

1. 3NF form:

the relation is already in 2NF, for 3NF

* No Transitive Relationships exist fixed pair.
* **A Transitive Relationship is a functional dependency between two (or more) *non-key* attributes**

ERD FOR OUR PROJECT.

We will create the process of making the entity relationship diagram of Online Food Ordering system.

As we have discussed the shapes already used in entity relationship model.

We will follow the 3 basic rules of creating ER Diagram:

1. Identify all entities.
2. Identify the relationship between entities
3. Add meaningful attributes to our entities.

Step 1:

In the online food ordering system we have the following entities:

* User
* Site information
* Payment
* Order
* Order Details
* Customer
* Rating
* Menu
* Menu Type

Our design of online ordering system will consist of total of 9 entities. The specified entities will be our database Tables in the design and implementation of Online Food Ordering database schema.

WE will now draw the entities of the Online Food delivery system specified above it and will be represented by a rectangle shape.

The image below is the entities identified in the scope of Online Food Ordering system.

Rating

Menu

Menu Type

Payment

Customer

Order Details

Site Information

User

Order

STEP- 2:

After we have specified our entities. It is time now to connect or establish a relationship among the entities.

belong

has

1

1

1

M

Menu Type

Menu

Rating

1

1

M

User

1

1

process

has

ratee

Payment

1

M

process

update

1

1

1

has

Order Details

Customer

1

M

Site Information

1

1

M

Order

has

place

M

* The users manage/update the site information (1 to 1 relationship).
* The user processes the orders of the customers (1 to many relationship).
* The user processes the payment of the customers (1 to many relationship).
* The customer places their orders (1 to many relationship).
* Order information can contain 1 or more items (1 to many relationship).
* An order detail contains 1 or more menu (1 to many relationship).
* The order information will be linked to the payment module (1 to 1 relationship).
* The customer gives their rating on a menu (1 to 1 relationship).
* A menu has multiple ratings from the customers (1 to many relationship).
* A menu belongs to a specific menu type (1 to 1 relationship).

Step-3:

The last part of the ERD is to add attributes to our entities.

belong

has

Menu

1

1

1

M

Menu Type

Rating

\

1

M

1

User

has

Order Details

1

process

1

update

process

Payment

ratee

Customer

M

1

1

1

has

1

Site Information

1

1

M

has

place

Order

1

M

M

Normalisation & Table Form:

User Entity Table:

|  |
| --- |
| u-Id (primary key) |
| Full name |
| contact |
| Email address |
| Username |
| password |

Site information Entity Table

|  |
| --- |
| Id (primary key) |
| Name |
| Description |
| Contact info |
| Address |
| u-id (foreign key from user table) |
| Last Update |

Payment Entity Table

|  |
| --- |
| p-Id (primary key) |
| O-id (foreign key from order table) |
| Amount |
| Paid By |
| Date |
| u-id (foreign key) |

Order Entity Table

|  |
| --- |
| o-Id (primary key) |
| C-id (foreign key from customer table) |
| Order date |
| Total Amount |
| Order Status |
| u-id (foreign key from user Table) |

Order Details Entity Table:

|  |
| --- |
| od-Id (primary key) |
| o-id (foreign key from order table) |
| M-Id (foreign key from menu table) |
| Amount |
| No of Servings |
| Total Amount |

Customer Entity Table:

|  |
| --- |
| c-Id (primary key) |
| First name |
| Last Name |
| Email |
| Phone Number |
| username |
| password |

Rating Entity:

|  |
| --- |
| r-Id (primary key) |
| Menu-id (foreign key from Menu table) |
| Score |
| Remarks |
| Date Recorded |
| c-id (foreign key from customer id) |

Menu Entity Table:

|  |
| --- |
| M-Id (primary key) |
| Name |
| Price |
| MT-id (foreign key from Menu type Table) |
| image |
| Ingredients |
| Status |

Menu Type Entity Table:

|  |
| --- |
| MT-Id (primary key) |
| Type Name |
| Description |

The End