TECH SCOPE - AN ECOMMERCE APPLICATION

INTRODUCTION :

Tech Scope is an e-commerce web application that allows customers to buy products such as mobile phones and laptops. This project is divided into user and admin level. The users can create an account and login into their account and can place orders of their choice. The admin can look into the order details using the order id and can add new products to the database. Electronic commerce draws on such innovations as electronic funds transfer, supply chain management, Internet marketing, online exchange preparing, inventory frameworks, and computerized information assortment frameworks. To handle the data taking place in such innovations requires a database to store, analyze and process those data.

DATABASE :

The database consists of eight relations in which one relation acts as an intercept table. Each relation plays its own role by holding the customer details, product details etc. The details of the eight relations and its attributes are listed below.

CATEGORY:

c_type : It is used to uniquely determine the type of product available in the application. It is the primary key. The data type is varchar.

c_info : This attribute gives additional info/description about the products available. The data type is varchar.

PRODUCT :

p_id : This attribute uniquely identifies each product in the application. It is the primary key .The data type used is int. **p_name :** It stores the name of the product. The data type used is varchar. **price :** It holds the price of a particular product . The data type used is float. **availability :** Stores the amount of stock available for each product. It is int data type.

c_type : Used to determine what category the product belongs to. This refers to the c_type attribute of category relation.

MOBILE :

p-id : This attribute uniquely identifies the product which is a mobile phone and is the primary key and foreign key which refers to p_id of product relation.

p_category : This attribute determines what category(mobile/laptop) the product belongs to. It is a foreign key which references the c_type attribute of the category relation.

brand : Stores the name of the mobile brand. The data type used is varchar. **model_name :** This attribute stores the precise model name of the mobile. **display_size :** Stores the display size of a particular mobile phone. The data type used is float.

color : Stores the Color of a particular mobile phone. The data type used is varchar. **storage :** Stores the Storage Size of a particular mobile phone in GB. The data type used is float. **ram :** Stores the RAM Size of a particular mobile phone in GB. The data type used is float.

LAPTOP:

p-id : This attribute uniquely identifies the product which is a laptop and is the primary key and foreign key which refers to p_id of product relation.

p_category : This attribute determines what category(mobile/laptop) the product belongs to. It is a foreign key which references the c_type attribute of the category relation. **brand :** Stores the name of the laptop brand. The data type used is varchar. **model_no :** This attribute stores the precise model number of the laptop. **color :** Stores the Color of a particular laptop. The data type used is varchar. **ram :** Stores the RAM Size of a particular laptop in GB. The data type used is float. **storage :** Stores the Storage Size of a particular laptop in TB. The data type used is float. **display :** Stores the display size of a particular laptop in inches. The data type used is float.

USER_IDS: u_id : Holds the unique id associated with each user. It is the primary key. The data type is int. **fname :** Stores the users first name. **lname :** Stores the users last name. **email :** Stores the users email address. **user_name :** Stores the user name in which the user wishes to input. **address :** Stores the address of a particular user. **phone_no** : Stores the phone number of the user. **password :** Stores the password created by the user.

CART : quantity : It stores the quantity of the product when a user adds an item to the cart.

p_id : It holds the p_id of the selected product. It is the foreign key and references the p_id of product relation.

u_id : It holds the u_id of the user. It is the foreign key and references the u_id of user_ids relation.

ORDERS : order_date : It stores the date in which an item is ordered. The data type used is date. **quantity :** It stores the quantity of the product when a user checks out from the cart. **p_id :** It holds the p_id of the items ordered. It is the primary key and foreign key and references the p_id of product relation.

u_id : It holds the u_id of the user. It is the foreign key and references the u_id of user_ids relation.

o_id : This attribute holds the order id when an user checks out from the cart. The order is a primary key which pairs with the p_id.

ORDER_DETAILS:

This relation is the intercept table created to avoid the many-to-many relationship between the orders and products.

p_id : It holds the p_id of the items ordered.

o_id : This attribute holds the order id when an user checks out from the cart.

p_name : It stores the name of the product. **price :** It holds the price of a particular product . **c_type :** Used to determine what category the product belongs to. **order_date :** It stores the date in which an item is ordered.

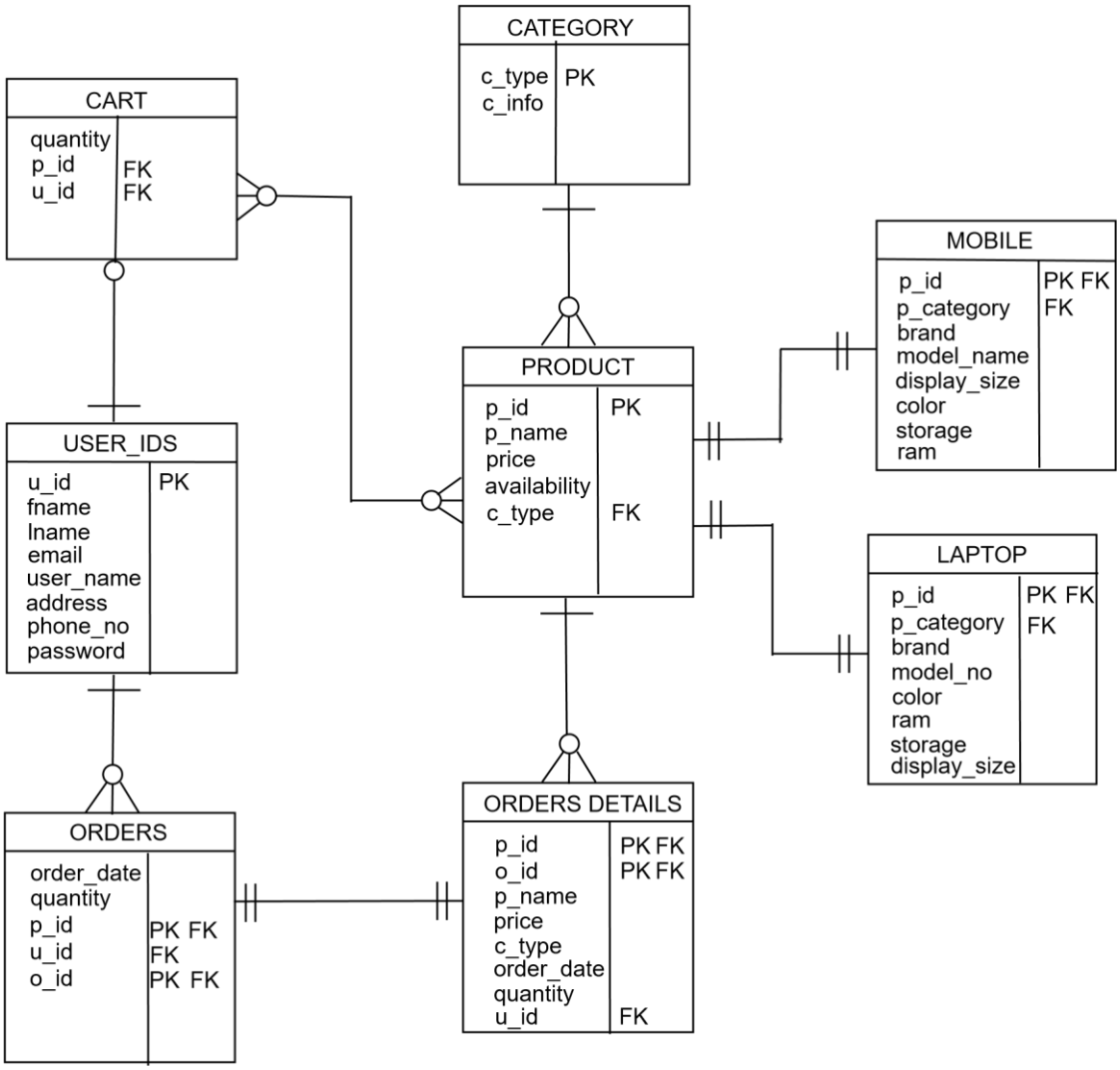
quantity : It stores the quantity of the product ordered.

u_id : It holds the u_id of the user.

FORMAL DESCRIPTION OF THE APPLICATION :

A new customer can sign up/register by providing details such as first name, last name, email, username, password. Whenever a New customer registers an account, the details of the users are stored in USER_IDS relation. An existing customer can login by providing his/her username and password which he/she created at the time of the registration. After logging in, the user is directed to the products page, where they can select the product category they want to. It is given as Laptop and Mobile in which data is retrieved from the CATEGORY relation. When a user selects Laptop/Mobile, they will be redirected to a list of products which contains laptop and mobile. Those lists are retrieved from MOBILE and LAPTOP relations. The user can add the products to the cart. Every time, whenever a user adds an item to the cart, the CART relation is updated. From the Cart page, the user can delete the items from the cart if not required. When checking out, the page shows the Final Checklist and the total cost of the products in the cart. The user can give their credentials and press submit to place the order. Once the order is placed, the items in the cart will be deleted and the availability of the product will be reduced and the details are sent to ORDERS relation. There is a separate admin page, it requires password and username for admin. In that page, an admin can look for the order details using o_id. The details are fetched from the ORDER_DETAILS relation. And the admin can add a new product to the database by providing appropriate details. A new product will be added to PRODUCT relation whenever the previous step is completed.

ER DIAGRAM


CATEGORY
c_type PK
c_info
CART
quantity
p_id FK
u_id FK
MOBILE
p_id PK FK
p_category FK
brand
model_name
display_size
color
storage
ram
PRODUCT
p_id PK
p_name
price
availability
c_type FK
USER_IDS
u_id PK
fname
lname
email
user_name
address
phone_no
password
LAPTOP
p_id PK FK
p_category FK
brand
model_no
color
ram
storage
display_size
ORDERS
order_date
quantity
p_id PK FK
u_id FK
o_id PK FK
ORDERS DETAILS
p_id PK FK
o_id PK FK
p_name
price
c_type
order_date
quantity
u_id FK