**UTA Marketplace**

**Domain: Retail**

**Business Description:**

The UTA Marketplace is an online platform for students to purchase and sell new or used products. Users with membership qualify as sellers and buyers do not need membership. When interested buyers see a product listed for sale on the marketplace at a given price, they can get in touch with the seller to negotiate a price. Once that is done, they choose a time and place to meet up and finalize the transaction. UTA Marketplace makes money by providing different membership tiers for sellers to list products for sale.

**Conditions**:

* We assume that after every negotiation, the potential buyer fills a review form related to the product and seller.
* We assume that after every successful transaction, the seller updates the listing correctly with the seller ID and sold date.
* We assume sellers with active membership will only buy another membership after the current one ends.

**Major Participants:**

* Admin
  + Maintain the marketplace website
* Users (Buyer + Seller)
  + A single user account can be both for buyer and seller. Anyone can register and buy items on the marketplace. However, they need to pay for a membership to list their items for sale as sellers.

**Business Goals:**

1. Analyzing the data collected to find the most bought product category and at what time of the year. We will use this information to give sellers a better idea of which category of product has the highest chance of getting sold in less time.  For instance, furniture and electronics would be the most sought-after category at the beginning of a new semester. So, we can use this information to give suggestions to buyers as well.
2. Identifying the most bought combination of products on the same day to provide suggestions in future.
3. Finding the average cost of products bought in order to understand the purchasing power of the buyers. We will use this information to give relevant suggestions, which fits the budget of the buyer.
4. Identifying the months that have the highest number of sales. This will help in rolling out promotions in those months.
5. Ratings would help in providing a better understanding of the reputation a seller holds.
6. Identifying the most bought membership by sellers, this will help in rolling out promotions for those memberships.
7. Identifying the months which had the highest number of new registrations. This will help in giving discounts on memberships.
8. Identifying the users who have bought the most number of items on the marketplace in a quarter. We will use this information to reward those users.
9. Ratio of male to female for products sold in each category. We can promote gender related listings for men and women similar to targeted ads.
10. Identify the average time needed to sell a product in all product categories. This can give an estimate on how soon the seller can sell his or her product.

**Data Requirements:**

**Account**

* Personal information: Name (first name, last name)
* Contact information: Email, phone number
* Account information: Username, password

An account can either be an admin or a user.

**Admins**

* Personal information: SSN, address
* Salary

Admins maintain the website and do not interact with other participants.

**User**

* Personal information: Gender.
* User information: User ID and registration date.

A user can be both a seller and a buyer. Once the user pays for a membership, the account enables him or her to list items up for sale. The maximum number of items listed for sale is limited by the membership tier. Every seller has an average seller rating. Every buyer has an average buyer rating. A seller also has a unique Membership ID.

**Membership type:**

* Membership tier
* Membership duration
* Max number of listings
* Price

For example:

1. First tier allows 3 items for sale and it lasts 1 month. Costs $5 USD.
2. Second tier allows 9 items for sale and it lasts 3 months. Costs $ 10 USD.
3. Third tier allows 30 items for sale and it lasts 6 months. Costs $20 USD.

**Membership**

* Unique Membership ID
* Membership tier
* Membership end date
* User ID

Each time any user buys a membership, the system creates a new unique membership ID with the required information of the designated user. We keep track of the membership end date when a user buys a membership.

**Review**

* Review ID
* Information of the listing on which review is given: Listing ID
* Reviewer ID
* Reviewee ID
* Rating the reviewee out of 5
* Detailed review in text
* Information regarding whether the transaction was a success or a failure

A buyer can give a review for the seller after they negotiate on the platform and vice versa. Note that the transaction does not have to go through successfully in order for a review to be given by either the seller or buyer. The rating will be used to calculate the average rating for the reviewee as a seller or buyer.

**Listing**

* Product information: Name, Listing ID, Product Category ID, Description, Price, Photos
* Participants information: Seller ID, Buyer ID
* Listing information: Listing posted date, sold date

A listing can only be created, modified, and deleted by the seller. Once the buyer and seller have met up and conduct the transaction, the seller will set the buyer ID and sold date in the listing, which closes the listing.

**Product Category**

* Category name
* Category ID