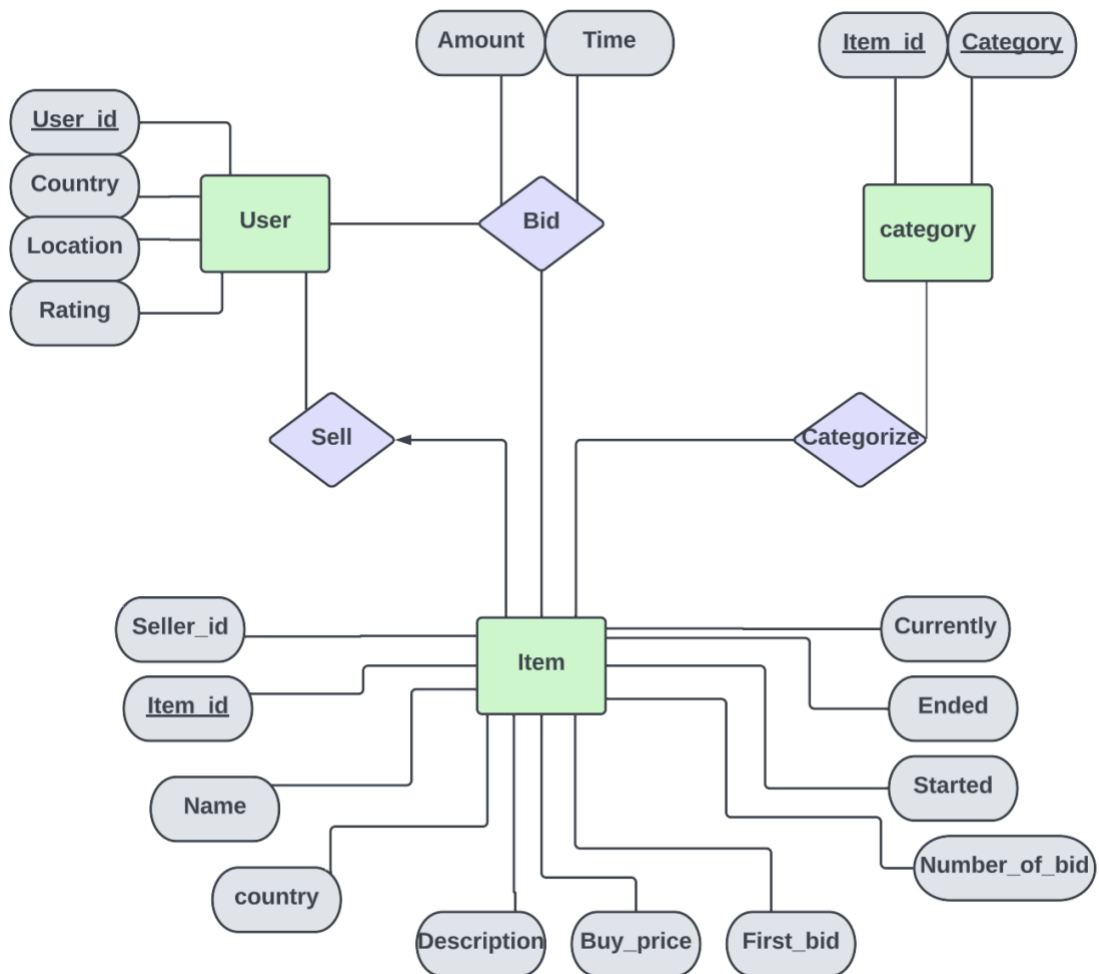**Group 20:** Yizheng Shi, Hongying Li, Ali Asgar Sabir

ER Diagram

Relational Model

*Underline means primary key.

Item (<u>Item_id</u>, Name, Buy_price, Currently, First_bid, Number_of_Bid, Country, Started, Ended, Seller_id, Description)

User (<u>User_id</u>, Rating, Location, Country)

Bid (<u>Item_id</u>, <u>Bidder_id</u>, <u>Time</u>, Amount)

Categorization (<u>Item_id</u>, <u>Category</u>)

Relational Schema

CREATE TABLE Category(
Item_id INT,
Category CHAR(256),
PRIMARY KEY (Item_id, Category_name)
FOREIGN KEY (Item_id) REFERENCES Item
);

CREATE TABLE Item (
Item_id INT PRIMARY KEY,
Name CHAR(256),
Currently FLOAT,
Buy_price FLOAT,
First_bid FLOAT,
Number_of_Bid INT,
Started DATETIME,
Ended DATETIME,
Description CHAR(1000),
Seller_id CHAR(256),
FOREIGN KEY (Seller_id) REFERENCES User
);

```
CREATE TABLE Bid (
Item_id INT,
Bidder_id CHAR(256),
Time DATETIME,
Amount FLOAT,
PRIMARY KEY(Item_id, Bidder_id, Amount),
FOREIGN KEY (Item_id) REFERENCES Item,
FOREIGN KEY (Bidder_id) REFERENCES User
);

CREATE TABLE User (
User_id CHAR(256) PRIMARY KEY,
Rating INT,
Location CHAR(256),
Country CHAR(256),
);
```