

# **AUCTION MANAGEMENT SYSTEM**

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## **Purpose**

The purpose of the Auction Management Database System is to provide a robust and efficient platform for managing online auctions. This system aims to facilitate the interaction between sellers and bidders, ensuring a transparent and secure bidding process. Key objectives and purposes of the project include:

**Facilitating Online Auctions:** The system enables users to create, manage, and participate in online auctions, making it convenient for both sellers and bidders to engage in the auction process.

**User Authentication:** Ensuring the security of user data and providing authentication mechanisms to safeguard user accounts and transactions.

**Auction Management:** Allowing sellers to create and manage auctions by specifying auction details, item information, and setting bid-related parameters.

**Bid Tracking:** Tracking and recording bids made by bidders for various items in different auctions, maintaining a transparent bidding history.

## **Description**

Certainly, here is a summary of each of the tables and their attributes:

### **Users Table:**

- User\_ID (Primary Key): This attribute is a unique identifier for each user in the system. It serves as the primary key for the Users Table, ensuring that each user has a distinct identifier.
- Username: The username is used for user authentication and login. It's a user's chosen name for accessing their account.
- Password: The password attribute stores the user's hashed password, ensuring the security of user accounts. Hashing makes it difficult for unauthorized parties to access the original password.
- Email: This attribute stores the user's email address, which is used for communication and account recovery.
- Role\_ID (Foreign Key): This is a foreign key that references the Roles Table, indicating the role of the user within the system, such as whether they are a seller or a bidder.

### **Roles Table:**

- Role\_ID (Primary Key): This attribute serves as a unique identifier for different user roles. It is the primary key of the Roles Table.
- Role\_Name: Role\_Name stores the name of each user role, helping to categorize users into roles like "seller" or "bidder."

### **Auctions Table:**

- Auction\_ID (Primary Key): It is a unique identifier for each auction, serving as the primary key for the Auctions Table.
- Seller\_ID (Foreign Key): This is a foreign key that refers to the user (seller) who created the auction. It establishes a relationship between auctions and their respective sellers.
- Auction\_Title: Auction\_Title represents the title or name of the auction.
- Start\_Date: Start\_Date indicates the date and time when the auction begins.
- End\_Date: End\_Date represents the date and time when the auction concludes.
- Status: Status indicates the current state of the auction, such as "Open," "Closed," or "Completed."

### **Bids Table:**

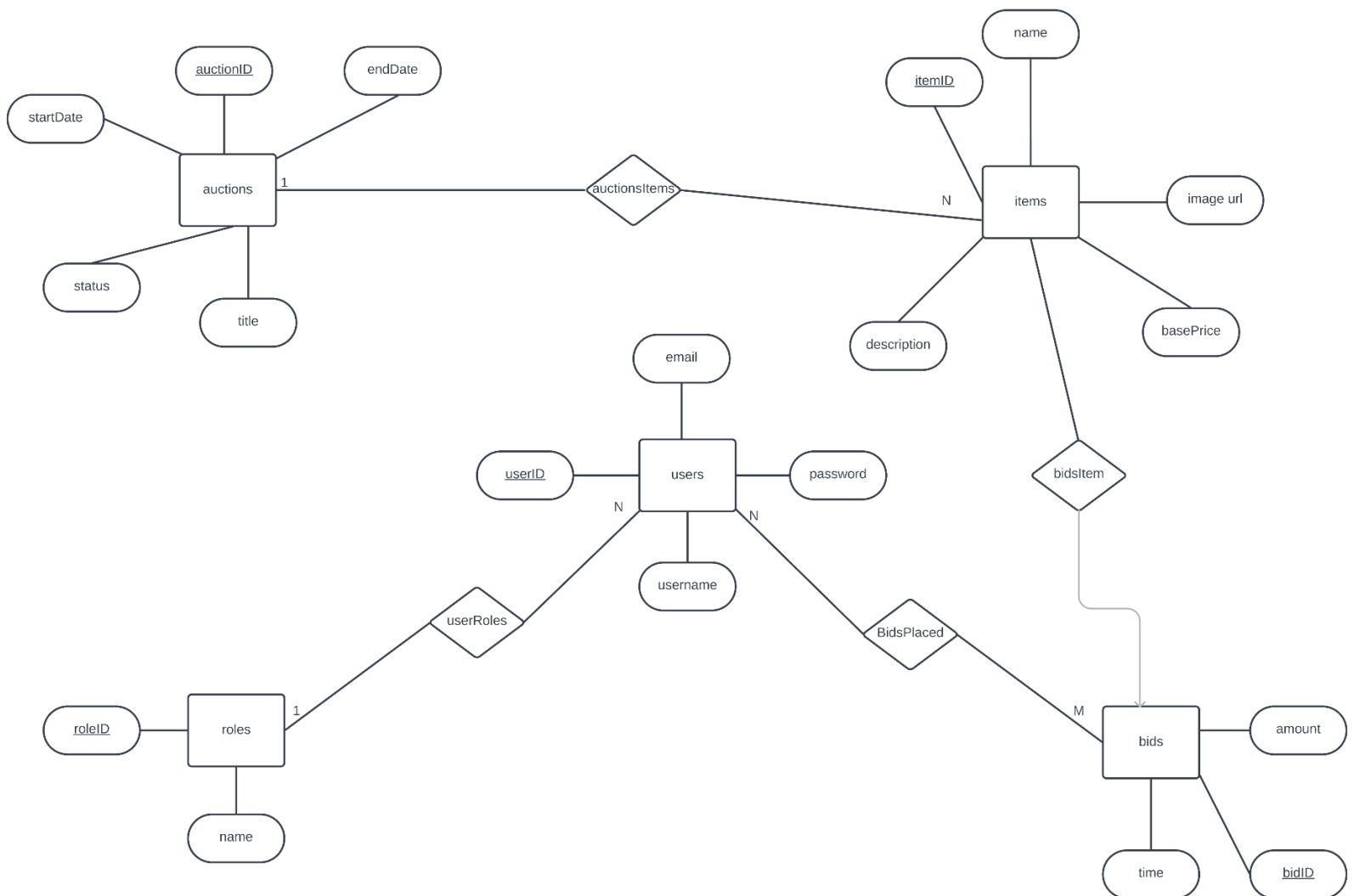
- Bid\_ID (Primary Key): This attribute is a unique identifier for each bid, serving as the primary key for the Bids Table.
- Auction\_ID (Foreign Key): It is a foreign key that references the auction where the bid was placed, linking each bid to a specific auction.
- Bidder\_ID (Foreign Key): Bidder\_ID is a foreign key referring to the user (bidder) who placed the bid, establishing a connection between bids and their respective bidders.
- Bid\_Amount: Bid\_Amount represents the amount of the bid placed by the bidder.
- Bid\_Date: Bid\_Date is the date and time when the bid was placed.

### **Items Table:**

- Item\_ID (Primary Key): This attribute serves as a unique identifier for each item listed in an auction, serving as the primary key for the Items Table.

- Auction\_ID (Foreign Key): It is a foreign key that refers to the auction where the item is listed, linking each item to a specific auction.
- Item\_Name: Item\_Name is the name or title of the item being auctioned.
- Item\_Description: Item\_Description provides a detailed description of the item.
- Starting\_Price: Starting\_Price represents the initial price set for the item.
- Image\_URL: Image\_URL is the URL or path to an image file associated with the item, allowing users to view the item visually.

## ER Diagram



# Relationship Schema

