Design Report

Group 13

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1 ER Model

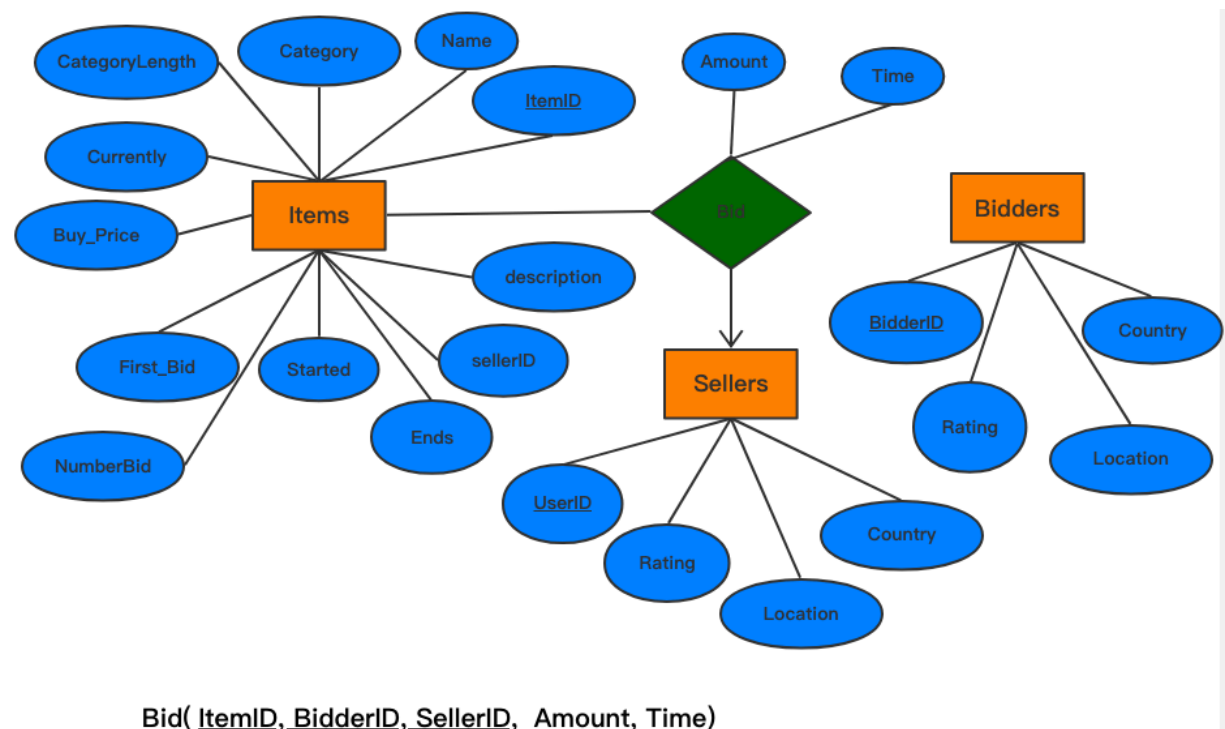ER Model is as below:

Fig 1 ER Model (Including three entity sets and a relationship)

2 Entity Set

Items

Index	Attribute	Type	Description
1	ItemID	INTEGER	[Primary Key] an identifier unique across all items
2	Name	VARCHAR(200)	A short item description used as the auction's

			title.
3	Category	VARCHAR(80)	A category to which the item belongs. An item may belong to multiple categories
4	CategoryLength	INTEGER	The number of categories that the product belongs to.
5	Currently	INTEGER	The current highest bid. This amount is always equal to the amount of the highest bid, or First_Bid if there are no bids.
6	Buy_Price	INTEGER	The price, chosen by the seller before the auction starts, at which a bidder can win the auction immediately. The seller may choose not to set such a price, in which case the element would be missing.
7	First_Bid	INTEGER	The minimum qualifying first-bid amount, as determined by the seller before the auction starts. It does not mean there is a bid at all.
8	NumberBid	INTEGER	Number of Bids/Bid elements, each corresponding to a bid for a particular item.
9	Started	VARCHAR(20)	Auction start time
10	Ends	VARCHAR(20)	Auction end time. If this is in the past with respect to the current system time, the auction is closed. If in the future, the auction is still open.
11	SellerID	VARCHAR(50)	unique id for a seller across all sellers
12	Description	VARCHAR(1000)	the item's full description

Sellers

Index	Attribute	Type	Description
1	UserID	VARCHAR(50)	[Primary Key] unique id for a user across all users (a user can be either bidder or seller)
2	Rating	INTEGER	user's rating

Index	Attribute	Type	Description
3	Location	VARCHAR(20)	Location of bidder
4	Country	VARCHAR(20)	Country of bidder

Bidders

Index	Attribute	Type	Description
1	UserID	VARCHAR(50)	[Primary Key] unique id for a user across all users (a user can be either bidder or seller)
2	Rating	INTEGER	user's rating
3	Location	VARCHAR(20)	Location of bidder
4	Country	VARCHAR(20)	Country of bidder

3 Relationship

Bid

Index	Attribute	Type	Description
1	ItemID	INTEGER	[Foreign Key] unique id for a user across all users (a user can be either bidder or seller)
2	BidderID	VARCHAR(50)	[Foreign Key] unique id for a bidder across all bidders
3	SellerID	VARCHAR(50)	[Foreign Key] unique id for a seller across all sellers
4	Amount	FLOAT	Amount of bid
5	Time	VARCHAR(20)	Time of bid