

Logical Design

Entity

User

- Buyer(**user_ID**, email, password)
- Seller(**user_ID**, email, password)

user_ID	INT(6) UNSIGNED AUTO_INCREMENT PRIMARY KEY
email	VARCHAR(60) NOT NULL
password	VARCHAR(60) NOT NULL password_hash(\$password, PASSWORD_DEFAULT)

Item(**item_ID**, description, seller_ID, category_ID, starting_price, reserve_price, end_date)

item_ID	INT(6) UNSIGNED AUTO_INCREMENT PRIMARY KEY
description	VARCHAR(60)
seller_ID	FOREIGN KEY REFERENCES Seller(user_ID)
category_ID	FOREIGN KEY REFERENCES Category(category_ID)
starting_price	DECIMAL(10,2) NOT NULL
reserve_price	DECIMAL(10,2) NOT NULL
end_date	TIMESTAMP NOT NULL

Bid(**bid_ID**, bid_time, user_ID, item_ID, bid_price)

bid_ID	INT(6) UNSIGNED AUTO_INCREMENT PRIMARY KEY
bid_time	TIMESTAMP NOT NULL
buyer_ID	FOREIGN KEY REFERENCES Buyer(user_ID)
item_ID	FOREIGN KEY REFERENCES Item(item_ID)
bid_price	DECIMAL(10,2) NOT NULL

Watch(**watch_ID**, user_ID, item_ID)

watch_ID	INT(6) UNSIGNED AUTO_INCREMENT PRIMARY KEY
buyer_ID	FOREIGN KEY REFERENCES Buyer(user_ID)
item_ID	FOREIGN KEY REFERENCES Item(item_ID)

Category(**category_ID**, name)

category_ID	INT(6) UNSIGNED AUTO_INCREMENT PRIMARY KEY
name	VARCHAR(20)

Extra Function:

Comment (**item_ID**, comment)

item_ID	PRIMARY KEY FOREIGN KEY REFERENCES Item(item_id)
comment	VARCHAR(200)

Relation

Create_Bid (**Buyer.user_ID**, **Item.item_ID**, **Bid.bid_ID**) 1:1:0...1

Create_Auction (**Seller.user_ID**, **Item.item_ID**) 1:*

Watch (**Buyer.user_ID**, **Item.item_ID**) *:*

Has (**Category.category_ID**, **Item.item_ID**) 1:*

Extra Function:

Make_Comment(**Buyer.user_ID**, **Item.item_ID**, **Comment.item_ID**) 1:1:0...1