LionAuction Final Relational Schema

Users(email, password)

- All the users in the system and their passwords.

Helpdesk(email, position)

- All the helpdesk staffs and their positions.

Requests(request_id, sender_email, helpdesk_staff_email, request_type, request_desc, request_status)

- Users send requests to the team of helpdesk staffs, initially assigned to a psuedo staff helpdeskteam@lsu.edu.
- A helpdesk_staff_email different from helpdeskteam@lsu.edu indicates the staff working on the request.
- Request_type indicates the types of requests, e.g., ChangeID, AddCategory, MarketAnalysis, etc.
- Request_desc describes the requests.
- Request_status indicates whether a request is completed or not. (0: incomplete; 1: completed)

Bidders(email, first_name, last_name, gender, age, home_address_id, major)

- Bidders is a subset of the Users.

Credit_Cards(credit_card_num, card type, expire_month, expire_year, security_code, Owner_email)

- Credit cards stored in the system.
- A credit card is owned by one bidder only.
- An owner (bidder) may have one or multiple credit cards stored in the system.

Address(address_ID, zipcode, street_num, street_name)

- The home_address_id in Bidders table and the business_address_id in Local_Vendors table store address_ID existing in this Address table (i.e., foreign key).

Zipcode_Info(zipcode, city, state)

- This table stores the city and state of a zipcode area.

Sellers(email, bank_routing_number, bank_account_number, balance)

- Sellers consist of a subset of bidders and all local vendors.

Local_Vendors(Email, Business_Name, Business_Address_ID, Customer_Service_Phone_Number)

- Local_vendors is a subclass of Sellers, i.e., all local vendors are sellers.

Categories(parent_category, category_name)

- This table stores the links between a category and its parent category in the category hierarchy.
- A category has only one parent category, but its parent category may have multiple children.

Auction_Listings(Seller_Email, Listing_ID, Category, Auction_Title, Product_Name, Product_Description, Quantity, Reserve_Price, Max_bids, Status)

- An Auction_Listing (also referred to as Product_Listing in the project description) records useful information about the auction of a listed product).
- Each seller has her/his own counter of Listing_ID, i.e., Listing_ID needs to be unique under the same seller. Therefore, Seller_Email and Listing_ID in combination serve as the primary key.
- Auction_Title, Product_Name and Product Description are information about the product listed for auction. You may use them as appropriate in your display of auction information.
- A reserve price is a minimum price that a seller would be willing to accept from a buyer. If the reserve price is not met, the seller is not required to sell the item, even to the highest bidder.
- For ease of demonstration, we use the number of biddings (instead of a stop bidding time) to specify the end of an auction. Max_bids is the maximum number of bids for an auction. The auction ends when Max_bids is reached.
- An auction_listing has the status “active” (i.e., 1) by default. When a seller wants to take off an auction_listing from the market, the status of the auction_listing is changed to “inactive” (i.e., 0). After a product_listing is sold, the status is “sold” (i.e., 2).

Bids(Bid_ID, Seller_Email, Listing_ID, Bidder_email, Bid_price)

- Each bid has a unique Bid_ID generated by the system during bidding.
- The price of a new bid needs to be at least $1 higher than all previous bids

Transactions(Transaction_ID, Seller_Email, Listing_ID, Buyer_Email, Date, Payment)

- The Transactions table records the payment after a successful bidding.
- Transaction_ID uniquely identifies the transaction.
- The auction listings in the Transactions table, identified by (Seller_Email,

Listing_ID), are a subset of those in the Auction_Listings table.

Rating(Bidder_Email, Seller_Email, Date, Rating, Rating_Desc)

- The Rating table contains historic rating information collected from other sources. It covers more than what's maintained in the transaction table.
- A bidder needs to bid successfully for (and buy) a product listing from a seller in order to rate the seller.
- A bidder can only rate the seller once on a given date.