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ICOM5017 – Database Systems
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Phase 1: Report

The E-R Model presents the schema for the Disaster Relief App. The base of the app is the User Table, which is the general table of the information about the users of the app. The information includes their full name, email, password, phone, region in which he/she lives, age and a user id. The User Table specializes into three tables, which are Administrator, Seller or Buyer.

The Administrator Table only holds the id of each user that is an administrator and it doesn't have any additional relationship because its purpose hasn't been completely clarified yet.

The Resource Table holds the information of the resources that may be exchanged in the app. This information includes a resource id, the category of the resource and the name of the resource. (Ex. Category = Water, Name = Nikini 16oz Bottle) The Resource Table has a relationship with the following three tables: Announcement, Request and Transaction.

The Seller Table represents the sellers and it only holds the id of each one. This table has relationships with the Transaction, BankAccount, and Announcement Tables.

The BankAccount Table holds the information of the seller's bank account where the money he/she earns will be accredited. The information includes an id for the bank account, the routing number, the account number and the bank name. This table is denominated as a weak entity with total participation in its relationship to the Seller Table because without an owner, the information for the account shouldn't exist.

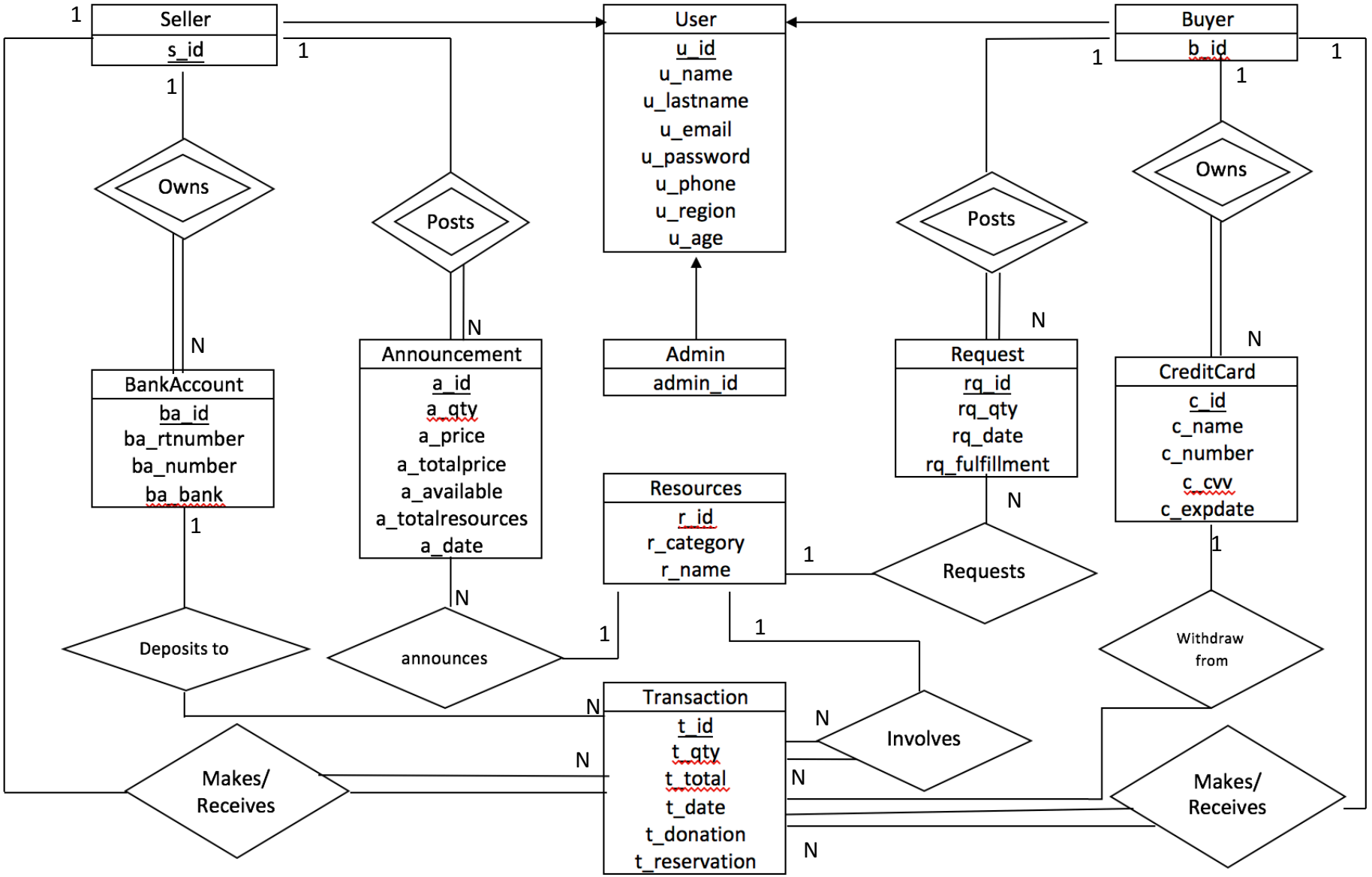
The Announcement Table holds the information of a seller's resource announcement. This information includes the id of the announcement, the quantity of the resource the seller is announcing, the price for each item, the total price of the available resources, the quantity of the available resources, the initial quantity of the resource and the announcement's date. This table has a relationship to the Resource Table to link the announcement with the announced resource and its information. Also, this table is a weak entity with total participation in its relationship with the Seller Table because an announcement can't be created without an author.

The Buyer Table represents the buyers and it only holds the id of each one, just like the Sellers Table. This table has relationships with the Transaction, CreditCard, and Requests Tables.

The CreditCard Table holds the information of the buyer's credit card where the money he/she spends will be deducted. The information includes an id for the credit card, the name in the card, the card number, the card's CVV, and the card's expiration date. This table is denominated as a weak entity with total participation in its relationship to the Buyer Table because without an owner, the information for the credit card shouldn't exist.

The Request Table holds the information of a buyer's resource request. This information includes the id of the request, the quantity of the resource the buyer is requesting, the request's date, and a Boolean to determine if it has been fulfilled yet. This table has a relationship to the Resource Table to link the request with the needed resource and its information. Also, this table is a weak entity with total participation in its relationship with the Buyer Table because a request can't be created without an author.

The Transaction Table holds the information of every transaction made within the app. The information includes the transaction id, the quantity of the resource, the total price, the date of the transaction and two Booleans to determine if the transaction is a donation, a purchase or a reservation. This table has three relationships in which it has total participation and they are to link the transaction with its seller (or donor), buyer and the resource to be provided and each's information.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