CSE 305, Principles of Database Systems

Assignment 2

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Description

We translated the original proposal into mysql tables, with each object and relation corresponding to a table and each attribute corresponding the an attribute in the table.

The following are checks that we added by table:

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address: check that the length of the zipcode >= 5
    check that the street number is a positive int.
All U.S. zipcodes are at least five characters long and there are no
negative or zero street numbers.

cart: check that the price is a positive number.
We are not going to allow negative prices, so aggregate prices cannot be negative.

person: check that the first name and last name aren't the empty strings
    check that the password isn't the empty string and that the length is
    greater than 5.  We need the user's full first and last name, and so we
    will not accept the
empty string for either.  For security reasons, that password cannot be the
empty string or have a length less than or equal to five.

category: check that the name and description aren't the empty string.
The categories must have a name and a description.

item: check that the name isn't the empty string
    check that the price is a positive number and that the quantity isn't a
    negative number.  The item must have a name. Since prices cannot be
    negative, it must also have a non-negative price.
Since the user cannot buy something we don't have, the quantity cannot be
less than zero.

review: check that the rating is between 1 and 5, inclusive
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    check that the description isn't the empty string.
The rating will be between a one and a five, inclusive, and there must be
some reason given for the rating.
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Additionally, we checked to make sure that none of the fields were NULL. Although most MySQL tables not check this constraint on every single attribute, we thought that our tables were concise enough that we should do so. For example, in the 'item' tables, we have the following fields: id, name, description, price, seller_id, quantity, and category_id. Removing primary and foreign keys, we are left with name, description, price, and quantity. None of these attributes should be NULL (with the exception of possibly the description, but we thought that all items should definitely have a description). Doing a similar analysis, we came to a similar conclusion for all of our tables.