Fashion Auction Online

Chunxi Ding, McCourt Hu, Amy Xiong, Ben Yang, Lin Zuo

Application Description

Our web application is designed for Duke students to buy and sell used clothes. While the current second-hand clothes trading at Duke is organized on the "Duke Fashion Exchange" Facebook page, which involves a Facebook post by the seller, comments from potential buyers and many price negotiations over Messenger between sellers and buyers, we propose a web-based solution that will make the entire process more user-friendly and efficient for both buyers and sellers.
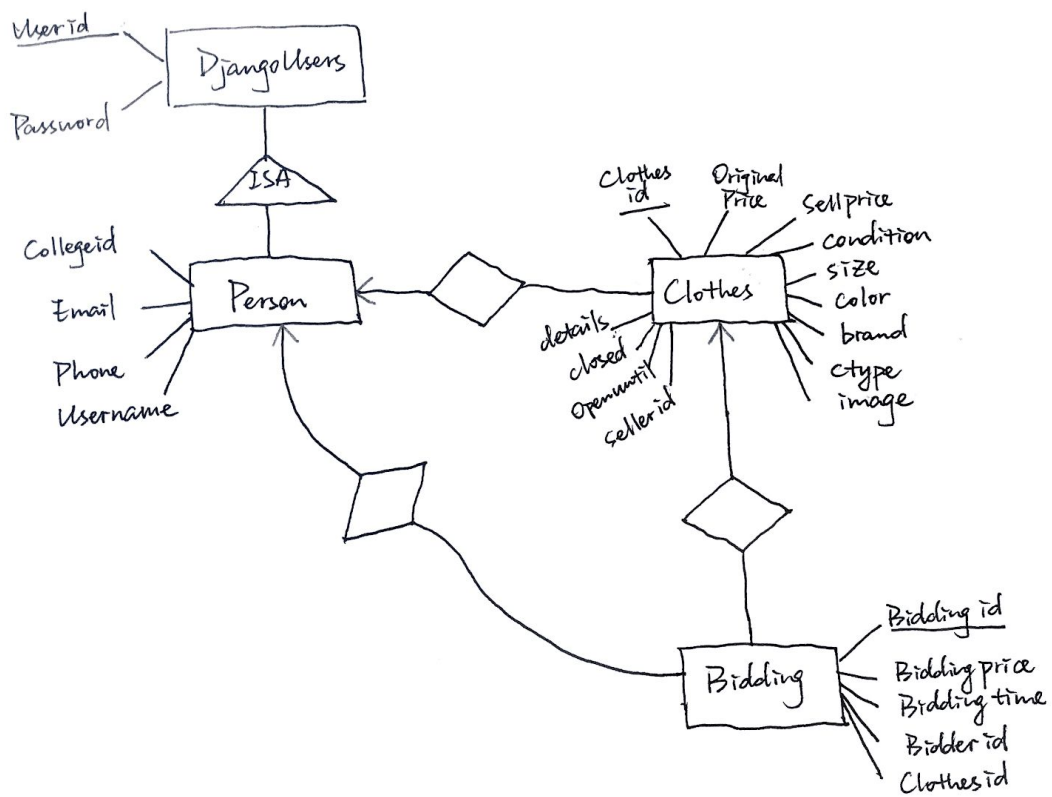
In order to maximize the potential sales for sellers and minimize the time that buyers spend on bargaining with sellers, we designed our online platform by adopting the idea of an auction. The process goes as follows: To be able to sell or buy clothes, students must register for an account and login. Once a seller posts a clothes item online, this item has an open-for-bidding time frame of 7 days, within which any buyer who is interested in the item can bid a higher price than the selling price, or the last highest bid. If no one bids for the item during the time period, the item will expire automatically. After the user bids an item of interest, if someone else bids the same item with a higher price, the user will receive an email notification and can bid an even higher price if he or she wants.

In addition to functions described above, our web application provides other beneficial and user-friendly features for both sellers and users: to begin with, every visitor to our webpage can view clothes details, and conveniently filter items to display according to customized criteria. Every registered user also has access to his own profile page, which clearly lists clothes items he has put for sale and bidded. Besides, sellers only need to fill out a simple form to post a clothes item, which is particularly useful for those who have multiple items to sell. Our website strives to help collect all possible choices in a more user-friendly way for buyers to identify their desired clothes items, and streamline the trading process for sellers to earn more and trade more efficiently.

Platform Description

We developed the website by using Django framework and used SQLite Database as the database. For the main app, we used python, HTML and CSS as languages.

E/R Diagram

DjangoUsers entity with attributes: Userid (underlined), Password

ISA triangle connecting DjangoUsers to Person

Person entity with attributes: Collegeid, Email, Phone, Username

Clothes entity with attributes: Clothes id (underlined), Original Price, Sellprice, condition, size, color, brand, ctype, image, details, closed, Openuntil, Sellerid

Bidding entity with attributes: Bidding id (underlined), Bidding price, Bidding time, Bidder id, Clothesid

Relationships (diamonds) connecting Person–Clothes, Person–Bidding, and Clothes–Bidding

Data Tables - Descriptions and Assumptions
In our database, there are four entities, including DjangoUsers, Person, Clothes and Bidding. Below is a detailed description of all four data tables, including their key (underlined attributes), attributes and relevant explanations.

DjangoUsers
Attributes: *Userid*, Password
Explanation:
- This model comes with the authentication system of Django.

Person
Attributes: *Userid*, Username, Collegeid, Email, Phone
Explanation:
- This model inherits primary key from DjangoUsers model. We used entity-in-all-superclasses approach for translation.
- Collegeid means student ID.

Clothes
Attributes: *Clothesid*, Originalprice, Sellprice, Sellerid, Condition, Size, Color, Brand, Ctype, Image, Details, Openuntil, Closed
Explanation:
- Originalprice is the original price of the clothes when the seller bought it.
- Sellprice refers to the lowest price that the seller is willing to sell the clothes at.
- Sellerid is used to record the seller info.
- Possible choices for Condition are "new", "good", "wearable", "broken" and "bad". We assume that this is the best way to categorize the quality of used items by going through past posts on Duke Fashion Exchange Facebook page.
- Possible choices for Size are "small", "medium", "large", "X-large" and "XX-large". We assumed that this standard is the most applicable. If the user wants to add more explanations about the size, they can write that in Details.
- Ctype refers to the type of clothes, such as pants, top, etc.
- Image is an image field to store the picture uploaded by the user. Currently, we only allow the user to upload one image per item.
- Details is a field for seller to add more descriptions if he or she wants.
- Openuntil is used to record the date and time that the auction for a clothes closes. The value is defined as seven days after the clothes item is submitted.
- Closed is a boolean variable to indicate whether this item is expired. It is set to be 'false' when the clothes item is created, but after the item time stays on the website for a week, it will be set to 'true' to indicate that the auction for this clothes item is closed.

Bidding
Attributes: *Biddingid*, Biddingprice, Biddingtime, Bidderid, Clothesid
Explanation:
- This model is used to record all bidding histories.

- Biddingprice has to be higher than the Sellprice set by the user. For the same clothes item, the new Biddingprice has to be higher than the previous Biddingprice.
- For each bidder and for each clothes item that he or she bids, we record the timestamp and the exact price. If the same user bids more than once, we update Biddingprice and Biddingtime and only record the latest bidding record in the database.
- Bidderid is used to record the user info.