University of British Columbia, Vancouver
Department of Computer Science

CPSC 304 Project Cover Page

Milestone #: 1

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Group Number: 82

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By typing our names and student numbers in the above table, we certify that the work in the attached assignment was performed solely by those whose names and student IDs are included above. (In the case of Project Milestone 0, the main purpose of this page is for you to let us know your e-mail address, and then let us assign you to a TA for your project supervisor.)

In addition, we indicate that we are fully aware of the rules and consequences of plagiarism, as set forth by the Department of Computer Science and the University of British Columbia.

Application Domain

The domain of our application is a social media site for bidding & fundraising. Users can create auctions and fundraisers, or bid / donate to them. We aim to make a program that is intuitive to any social media user. We believe this domain will make for an interesting project that satisfies the outlined criteria and is distinct from previous projects in this course.

Aspects Modeled by Database

The main idea of our project is to create an app that combines the essential features found in social media platforms and bidding/fundraising sites. Aspects include posting, commenting, private chatting, group communities, buying/auctioning items, and donations. For instance, a person can sign up for an account on this site and set up a profile with a short biography and profile picture, like we see in typical social media sites. They can either start an auction or a fundraiser in a community of people. In the case of an auction, other users in that community can see the auction post and place bids for the item. After a certain amount of time, the auction is closed and the winning bid is accepted and withdrawn from the buyer's account. For fundraisers, each donation happens instantly and the database will be the ledger keeping track of the donation history. If a user wants to talk to another user, they can message them privately. A new chat is created between them and they can add additional users to the chat as chats are not limited to 2 users.

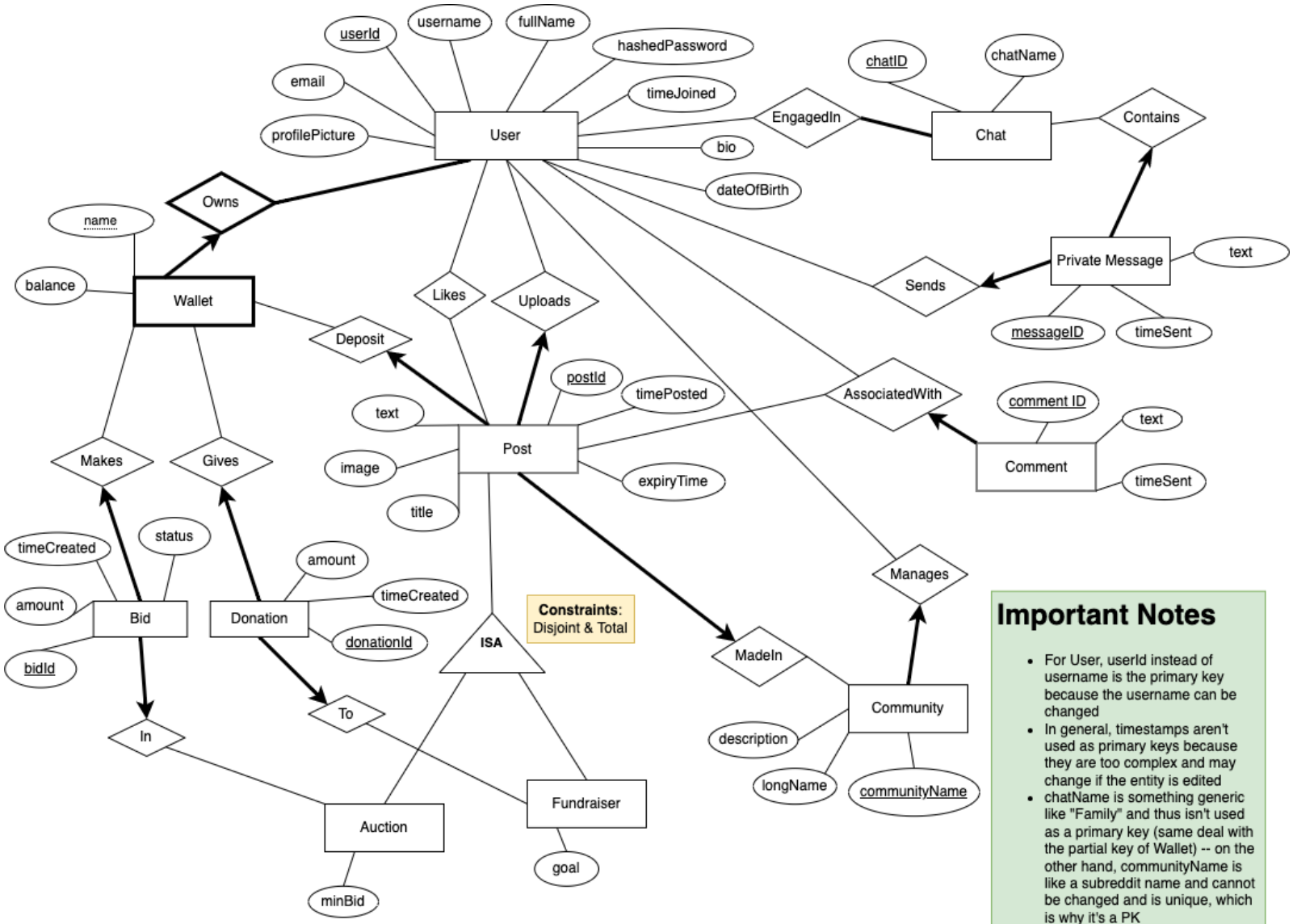
Database Specifications

A User instance represents a user of this application and new users that sign up for this platform will have their profile information (including email, date of birth, and bio) stored in the database as attributes. A Post must either be an Auction or a Fundraiser. Users can Upload or Like a Post, Engage in a Chat, or Write a Comment on a Post. A User can also Own many Wallets and they can place multiple Bids in an Auction or make multiple Donations to a Fundraiser. Additionally, Posts are Made in a Community (which consist of a collection of posts), and Communities are Managed by users. Every Post is also connected to a Wallet of the User who posted it, which the money received from the Auction/Fundraiser will be deposited into once it is over.

Description of the Application Platform

For the creation of our database, we plan to use PostgreSQL as our database management system which provides extensive support for SQL queries as well as their own procedural language which allows for the creation of functions to help with proper database management. We plan to use a combination of Node.js and Express.js for the server and TypeScriptwith React and Chakra UI for the frontend. We will also use GitHub as the project's version control platform.

Project ER Diagram



Important Notes

- For User, userId instead of username is the primary key because the username can be changed
- In general, timestamps aren't used as primary keys because they are too complex and may change if the entity is edited
- chatName is something generic like "Family" and thus isn't used as a primary key (same deal with the partial key of Wallet) -- on the other hand, communityName is like a subreddit name and cannot be changed and is unique, which is why it's a PK
- Status attribute of Bid can hold the values of NULL (ignore), HIGHEST, or PAID