DFD Specification Document

Project Title: ChatU

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Selected Application Choice: Twitter

CSCI3100
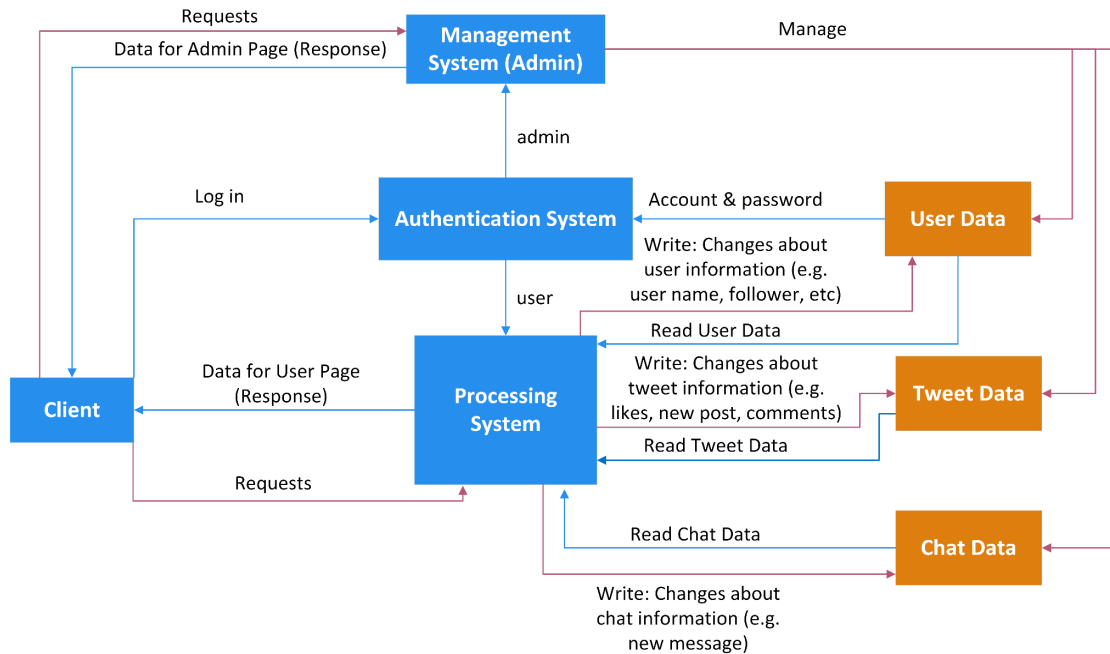Department of Computer Science and Engineering
The Chinese University of Hong Kong

HTTPS URL of our GitHub Repository:
https://github.com/Gavin-OP/CSCI3100-ChatU.git

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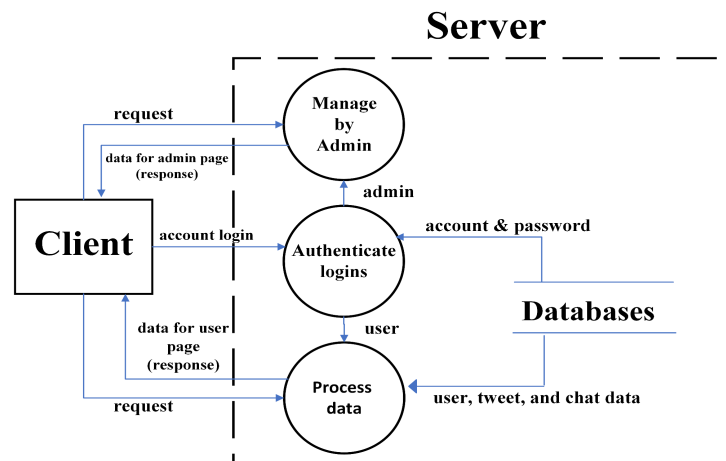
1. High-Level Context Diagram

2. Feature Diagrams
2.1. Client-Server Architecture
2.1.1. Description
The whole application has two main parts, namely the client and the server. When the user requests for a feature at the client, the client will send it to the server for request processing and data retrieving, so that the requested feature can be performed or the requested data can be returned to the client by the server.
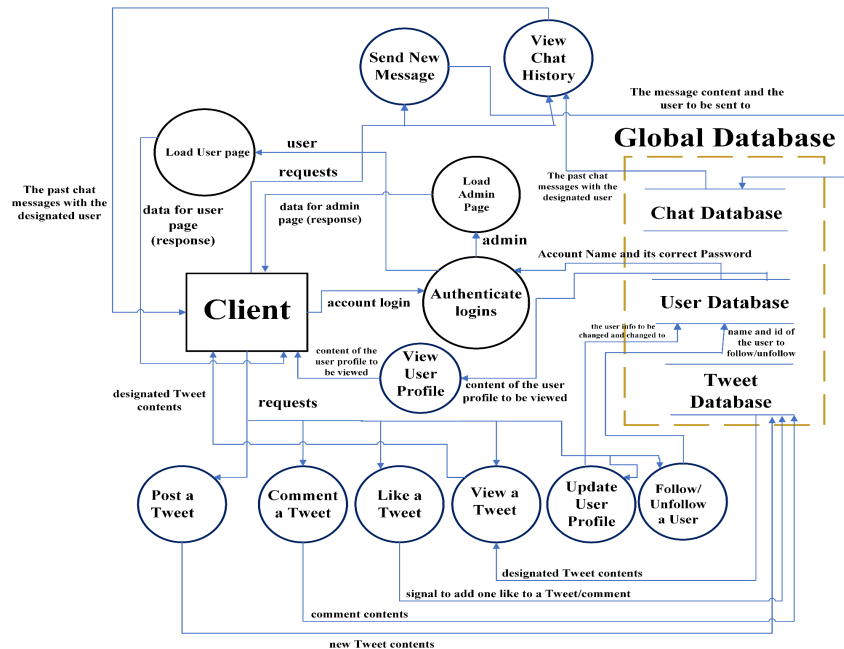### 2.1.2. DFD

2.2. Global Database

2.2.1. Description

The application is connected with a database from where users and/or Admins can obtain information such as user profiles, contents, number of likes, and comments of tweets, while they can also write to the database to update these information.
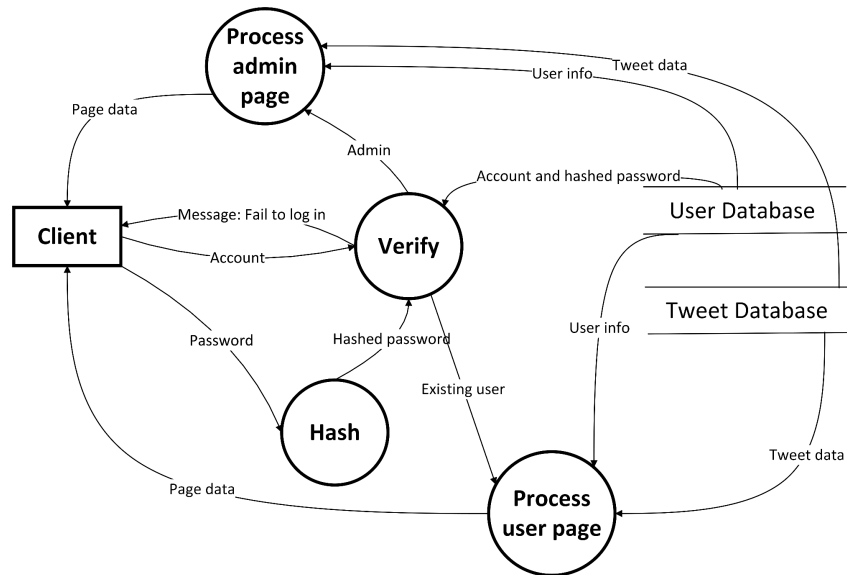
2.2.2. DFD

2.3. Login System

2.3.1. Description

The login system is common to admin and normal users. The user will enter the account and password and post it to the server, and the server will verify and authenticate the user information and send back the corresponding page data.
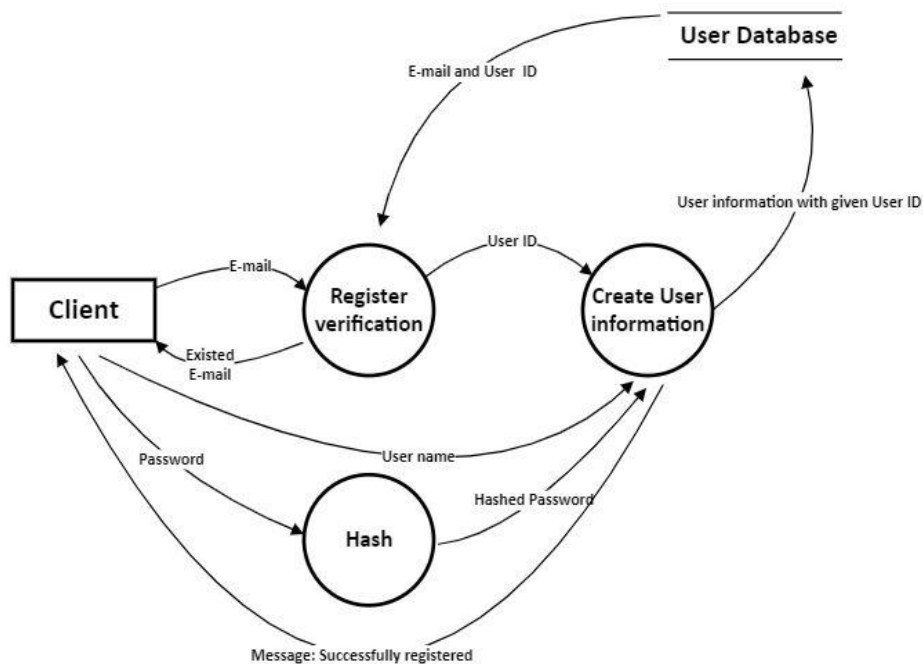
2.3.2. DFD of Login

2.4. Sign-up system

    2.4.1. Description

        Sign-up system processes the request for registering a new account. In our program we will verify the sign-up email and each email can only create one account with a unique user ID. (User name can be duplicated)
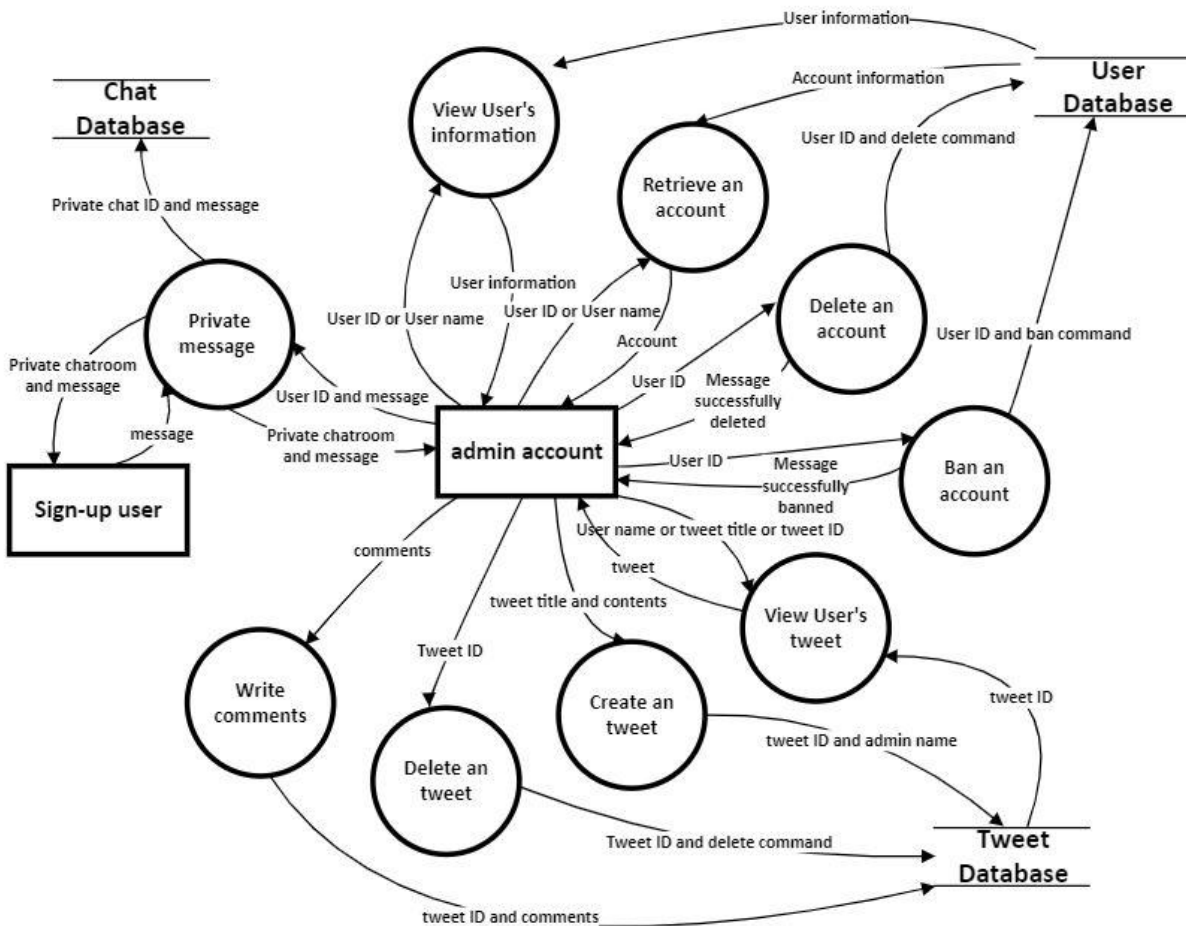
    2.4.2. DFD of Sign-up system

2.5. Admin Operations

    2.5.1. Description

Admin account allows the admin user to view all ordinary users' information and tweets, to retrieve and delete an account, to view, create, delete and comment a tweet, or to ban an account from publishing tweets, and to send private messaging.

2.5.2. DFD of Admin Operations

2.6. Search for users
2.6.1. Description
Our program supports using User ID and User name to search a sign-up user and search result will be the user's personal page.
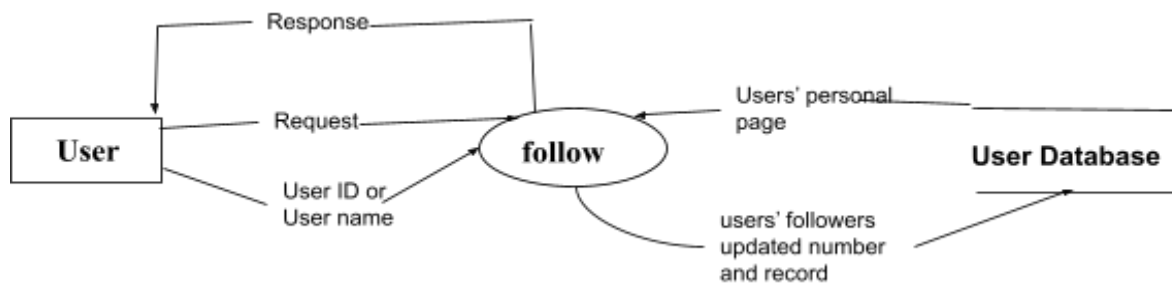### 2.6.2. DFD of Searching for users

2.7. Follow other users
   2.7.1. Description
        Our application supports logged-in users to follow other users. The following and being followed result will update on the user's personal page respectively.
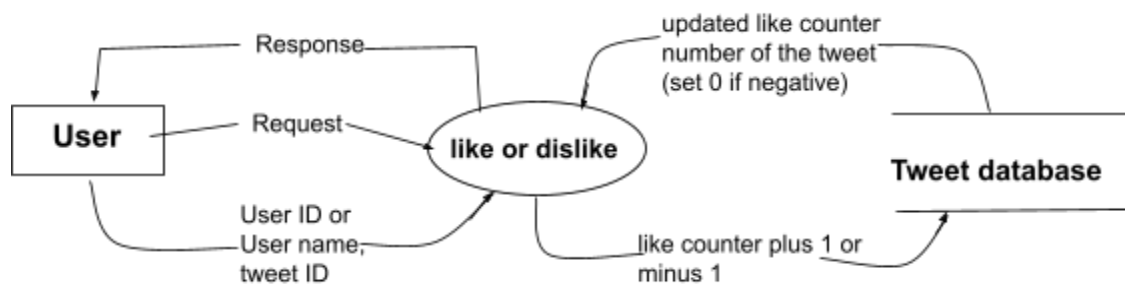   2.7.2. DFD of following other users

2.8. Like or dislike a tweet
   2.8.1. Description
        Our application supports logged-in users to click like or dislike buttons of a tweet. The like counter number which is like minus dislike will reflect on the tweet.
   2.8.2. DFD of liking or disliking a tweet
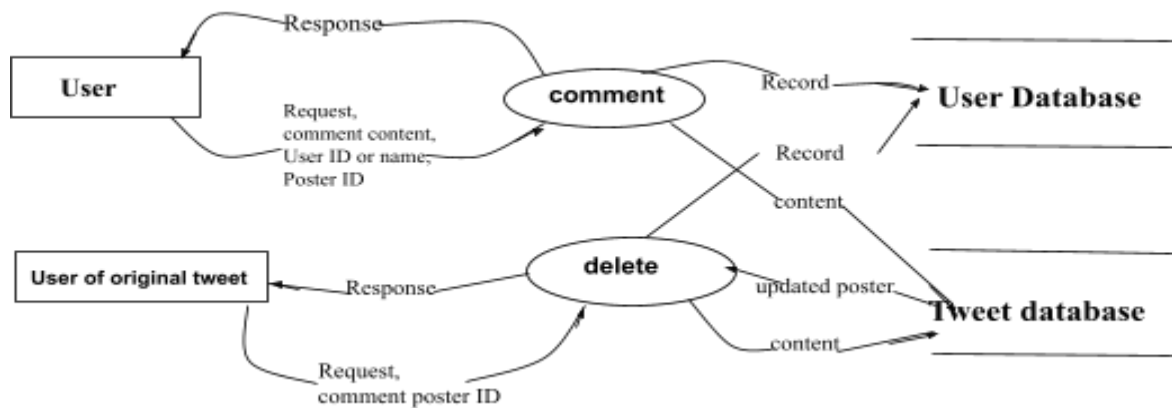

2.9. Comment a tweet
   2.9.1. Description
        Our application supports making a comment on a tweet. A comment will show commentator's information, date and sub-comment if any. Also, we support the user of this original tweet to delete comments if he/she wants.
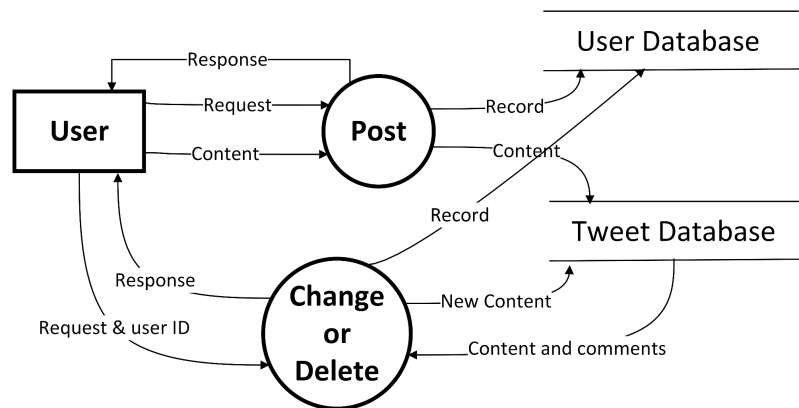   2.9.2. DFD of commenting a tweet

2.10. Post tweet

2.10.1. Description

When a user posts a new tweet, our program saves the content to the database and records the tweet in the user database. Also, we support users to delete tweets or comments under tweets.

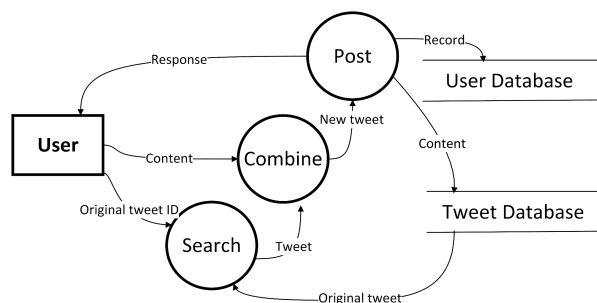### 2.10.2. DFD of posting and deleting tweet

2.11. Re-tweet

2.11.1. Description

When a user retweets, we use the user's selected tweet ID to find the original tweet in the database and combine it with the entered tweet content to send a new tweet, and the same content information is recorded in the database
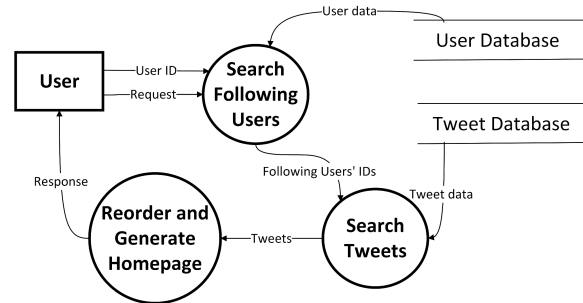
2.11.2. DFD of the Re-tweeting

2.12.   Show following user tweets
    2.12.1.   Description
        For logged-in users, we look for their followers in the database based on the user ID, then search the tweets from those following users, reorder and process them into a webpage and send it back to the user (client) side.
    2.12.2.   DFD of the showing following user tweets
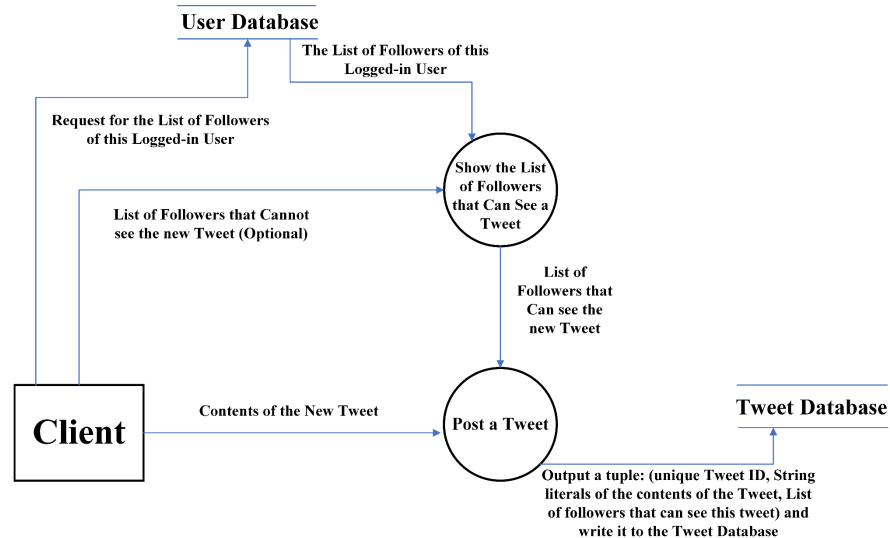

2.13.   Privacy and Visibility Control
    2.13.1.   Description
        When writing a new Tweet to publish, the application offers the user an option to select a subset of his/her followers that cannot see the new post, a privacy-protecting and visibility-controlling feature.
    2.13.2.   DFD
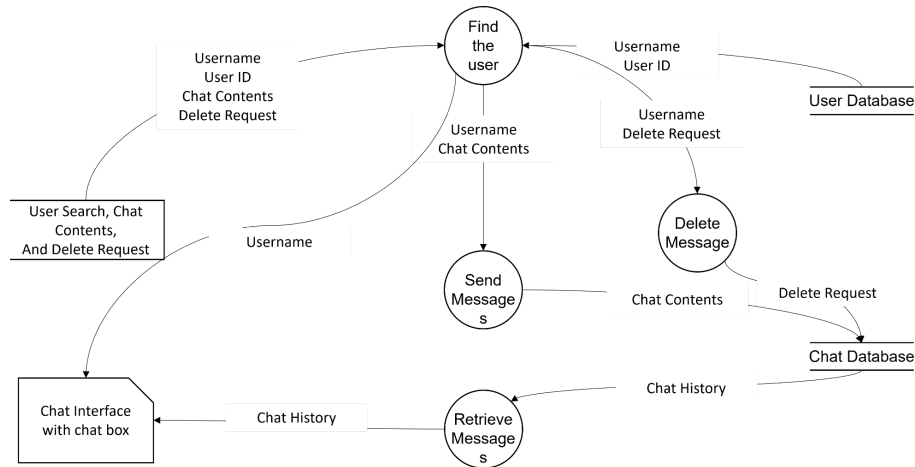

2.14.   Private Chat
    2.14.1.   Description
        A user can start an online chat with another user, during which private messages can be sent or deleted between the two users with all chat history displaying.
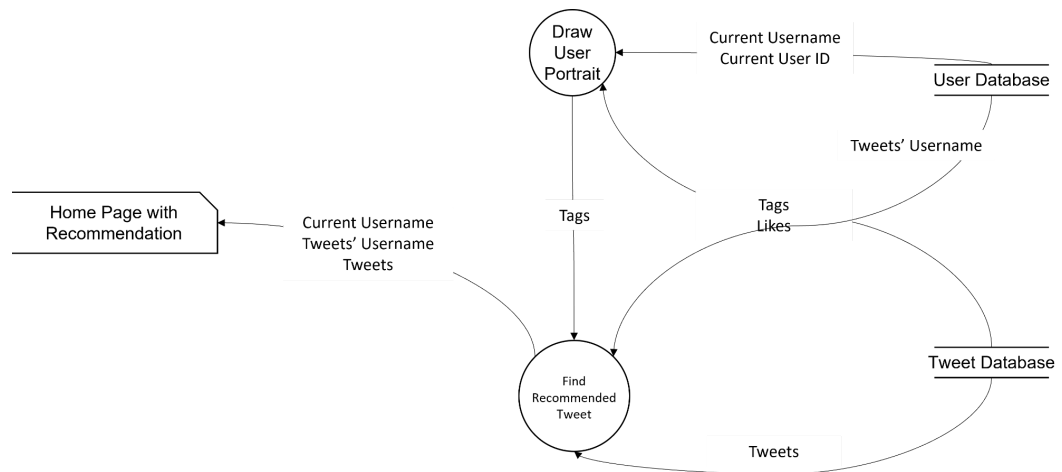   2.14.2.   DFD

2.15. Tweet Recommendation

2.15.1. Description

According to login user's used tags and likes, summarize keywords to draw the user portrait. Find the tweets posted by his/her unfollowed user according to keywords, and display the tweets on the home page.

2.15.2. DFD

2.16. User Recommendation

2.16.1. Description

Randomly select several accounts that the user does not follow. There are three ways to recommend. Firstly, recommend users with similar interests. Secondly, recommend users that have the greatest amount of followers. Thirdly, recommend the users who are following their following users. A list of selected accounts will be displayed as the recommended accounts after rearranging the recommendation order.

2.16.2. DFD

User interests

User data

Search by Interests

User Database

User data

Search by Number of Followers

Users with similar interests

User

Recommendation of user

Rearrange

Popular users

User data

Following users

Search Following Users

Following users of following users