CSCI 585 (Spring 2015)
HW1

Due date: Feb. 17th at 11:50 pm

Please do check class policies posted as a presentation on D2L-> contents -> overview.

Objective: Design a conceptual schema using the ER data model.

Draw an ER diagram that captures the following concepts implemented by a hypothetical social video-sharing app named MyTube++. Users can install this app on their devices and capture and share videos.

- *User Information:*

Each user is identified with a unique user id, assigned when the user registers a profile with the system. The profile requires a user to provide a unique username that is used in combination with a password to login to MyTube++. The user also provides a name, date of birth, gender, time zone, and contact information, which includes email, address, city, state and country.

YouTube+ keeps track of the date in which users have signed up with MyTube++ and the last date in which the users have accessed their profile. This information is shown under the user information panel in the user's profile page. Moreover, there will be a default profile picture assigned to each user in the profile page, which can be updated by the user. There is a settings tab, which will let the users change their profile, including their password or the level of privacy (who can see their personal information such as their emails, birthdate, etc. They may also deactivate or remove their accounts using the settings tab.

-- *Friend List Information*

Each registered user will have a "Friend List" panel in his/her main page, where the user can share videos with other friends registered in the site. There will be a search box above the Friend List panel where the users can look for a person that they would like to share videos with. If the user's friend name and specification is returned as a result, it means that they are already registered in the MyTube++ and the user can simply send a friendship request to them. Upon approval of the request, the two users will appear in their mutual Friend Lists. However, if the person is not a member of MyTube++, the users may select to send an invitation email to that person to join the website and their Friend List (if the latter decides to) and similar to any other user of the website, share videos if they are interested.
The users may also search for some certain videos by their title, language, location, date, artists, or type. Upon finding the results, they might ask to add the owners of some of these videos to their Friend List panel. The users might be able to see other users' lists of videos when they are public (see Chanel information below) and decide to add them as friends and send them an invitation in order to share music with them.

In addition, users may send messages to other registered users of MyTube++. A message may be sent to multiple users at the same time. Every message has a subject, body, creation

date and time. A sender can delete a message from his sent folder while a receiver can delete it from his inbox folder.

- *Channel information:*

Each user can have one or more channels. A channel has a name, creation date, and can include zero or more videos. A channel can be either public or private: videos on a public channel can be visited by everyone. When a channel is private, it can be visited by either some certain friends or groups (see 'Groupoing of Friends' below) or not visible at all. Moreover, the private channels of a person could be shared with others if and only if the users are in his/her "Friend List".

- *Video information:*

A video has a title, language, type (one from: music video, other, movie, documentary), list of artists, upload date, view count and an associated visit list which contains the list of the people who have downloaded the video and the time and date that each person has attempted to download the video. A video can be added to or deleted from a channel. The users may add the same video to multiple channels.
The users can recommend a video to their existing friends on MyTube++ or non-registered friends via an email and invitation to join the website. Furthermore, the users can leave comments on the videos that they have access to (i.e. videos belonging to themselves or shared with them by their friends), or they can choose them as their favorites. All videos marked as favorite by a user are automatically accessible through a separate channel called "Favorite".

- *Grouping of Friends:*

Users can search for friends and add them as friends. Once the friend request sent by say user1 is accepted by user2, the users will be added as one another's friend. Every user can create multiple groups of friends. Each group of friends can have a title, type (one from: close friends, family members, work colleagues, or other names hard coded by MyTube++), the number of people, the level of privacy and sharing the videos (e.g. the users might not want to share their family videos with work colleagues). A user can add/delete a friend to/from any of the groups s/he have created. A user's group may contain zero or more friends. In addition every friend can belong to zero or more of the user's groups. Users can delete any of their groups using the settings tab in the profile page.

Deliverables: A pdf file containing the ER diagram of the concepts supported by MyTube++. Your document should indicate all the features that can be represented in the model you use. E.g, primary keys, relationships, relationship cardinalities and degrees, total participations, attributes, etc. **You may make reasonable assumptions** if they are not specified in the specification but make sure to state them in your documentation.

Such assumptions should not contradict with the assignment description.

Frequently asked questions and answers:

- Do I have to use specific software to draw the diagram for the homework?

No. Feel free to use your pen and paper and submit a pdf of the screenshot of it. However, using software might ease your life for the next assignment where you have to provide (a to-be-specified subset of) the schema.

- Do I have to draw an ERD or an EER diagram?

Either one is fine as long as it is correct. However, using ER would be better as for Assignment II (schema), you will need to use ER.

- Do I have to write down the schema and any queries for this part?

No. For this assignment you only draw the ER diagram. Those would show up in the next assignment.

- Can I use Chen's model instead of Crow's feet?

Yes. Either one is fine.