CS251: Software Engineering I 2014-2015

Project Title : Social Network

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Problem Statement

Social media sites have changed the way we interact with each other. Sites like Facebook, Twitter, LinkedIn, Vine and more make it simple to stay connected in people's lives. You can easily catch up with friends with their statuses, photos and videos they post. And social media is not just important for your personal life, it is also a great tool for businesses or anyone trying to develop their professional network or look for a job.

In this project, we are going to implement our own API for our social network

Purpose of the Project

The purpose of this project is to develop back-end API for social network. Something like Facebook API.

One of Facebook tools is graph API explorer (https://developers.facebook.com/tools/explorer/). In graph API you can use some functions to perform specific actions or get information about any component in Facebook, for example you can get any user profile picture by this call (https://graph.facebook.com/[USER_ID]/picture)

You should develop back-end API that is able to manage interactions between users, create and manage groups and pages, manage different type of posts and retrieve current posts in specific hashtag and sort these posts according to the most important post

Main Components

Users

With this component you should be able to create and manage different type of users (for example: normal user, premium user which has advanced features, …) and maintain some important attributes for each user (e.g. name, email, gender, profile picture, …)

Groups

With this component you should be able to create and manage different types of groups (for example: public group, private groups, …) each group is managed by set of users (including user creates the group).

Pages

Users may need to create fan page for specific entity or product. It's the same idea as Facebook pages. With this component you should be able to create and manage user pages and maintain some important attributes (e.g. number of users like specific page)

Posts

Facebook Post

Users may want to share their status in social network by writing **posts**, Posts is one of the building blocks of social media content, Post (in our social network) defined as text content written by specific user, any other **friend user** can "**like**" this text content or **share** it on his/her personal page. User can write post in his/her

personal page or in joined groups. If user owns a page, user can write a post in his/her page.

With this component you should be able to create and manage different types of posts (user post, page post, post written by premium users, …). Also you should maintain some important attributes for post (number of likes, number of shares)

Hashtag

Users use hashtags to categorize the content of specific post, if user wants to write a post about "education", user may put the word #education (# the symbol of hashtag) in the post to categorize this post as education post. If another user wants to read some posts about education, so user may request all posts contains #education phrase.

With this component you should be able to manage all hashtags, get all posts contains specific hashtag and sort these posts according to post importance (for examples, posts written by sponsored users should be more important than posts written by normal users)

Messages

User can send message to another user(s) in his/her friends list.

Using this component, you should be able to create message from user to any other user(s), or get messages between 2 users, or get messages in specific message group (which contains more than 2 users)

Note: You should think that your API might be used in developing many social networks, so think about this project to be more extendable and reused in many other projects.