Ain Shams University Faculty of Engineering

Data Structures and their Algorithms CSE323

Term Project Spring 2018 Dr. Islam El-Maddah

Social Networks

Project needed to code a social network system and be able to analyze frequent trends in it using C++/Java and other similar program languages

Main Tasks

1- Being able to create new user/group/post
2- Being able to save and load data in xml format or similar standard formats
3- Add one user to a group/ browse user posts and user friends and navigate within the network
4- Use and select suitable data structure to speed up data access as well as being able to update and change data
5- Analyze existing user data e.g: see who has more likes in one group, more liked posts etc
6- Use recursive algorithms/code to find trees and graph with the network

Extra tasks

1- Provide basic clustering algorithms, especially distance matrix between users depending on how they are close to each other and hence use this data to hierarchical cluster data (dendrogram/ R)
2- Visualize the data using R/matlab/excel like number of posts per group, active members, the network itself as clusters of users
3- Integrate some of the features specially analysis on any existing social network to be able to add front end/ back end to any existing applications or existing dummy benchmark data.

What to be delivered

1- Main analysis report (second week of April)
2- Use case rough idea about what will be developed and algorithms uses, good features that can be added in the student project (last week of May)
3- Final report containing: design, user guide/manual, sample of the running screens, possible (near)future work (last week of May)
4- Demo of the actual program the all students members attending the demo about 15(min) per group

Marking scheme

- All basic features receive done correctly (5 pts) added features receive (10 pts)
- Analysis report receives 10 pts
- Final report receives 10 pts
- Demo and discussion receive 10 pts
- Points will be mapped to marks as marks = Points / 3

P.S. Separate teams deliver separate works otherwise any cooperative work should be discussed and permitted in advance to avoid any mark deduction or even project canceling

Teams: 3 to 5 students (5are extreme and would except super work !)

Good luck!