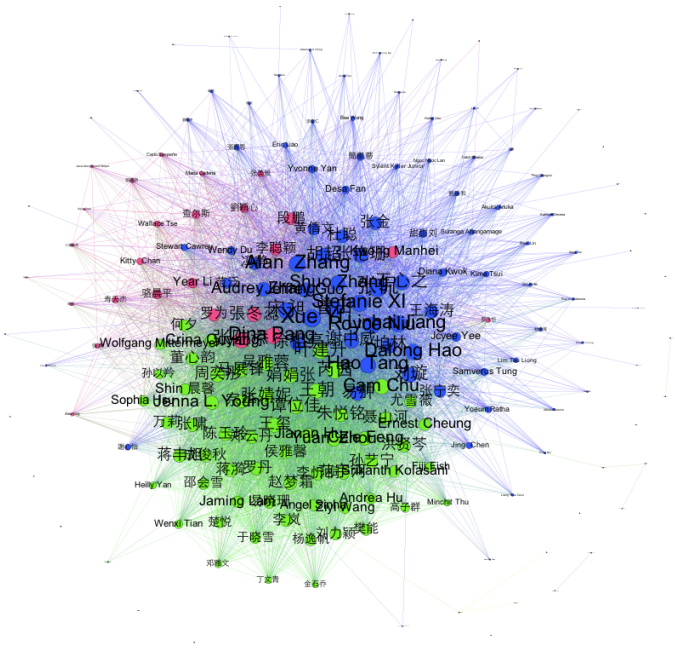


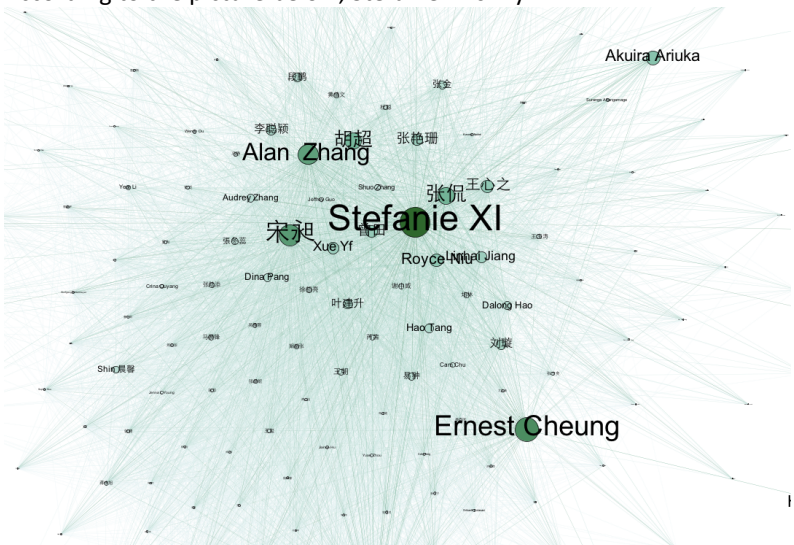
Here's a quick key to understand the graph:

- Circle = Node = Facebook friend
- Line = Edge = Facebook connection (friendship)
- Node size = Betweeness centrality
- Node color = chosen colors used to represent the clusters based on their modularity class.
- Using the Fruchterman Reingold layout to simulate the graph as a system of mass particles. The nodes are the mass particles and the edges are springs between the particles.
- Using undirected type, because friend is Bidirectional.

I decide to use Gephi to do this assignment, because Gephi is open-source and free, and it can interact with the representation, as well as manipulate the structures, shapes and colors to reveal hidden properties. What's more, it can run on the Mac OS X.
Moreover, Data can be grab through the Netvizz Facebook app easily, which can be used in Gephi without preprocess, making me able to focus on data visualization.

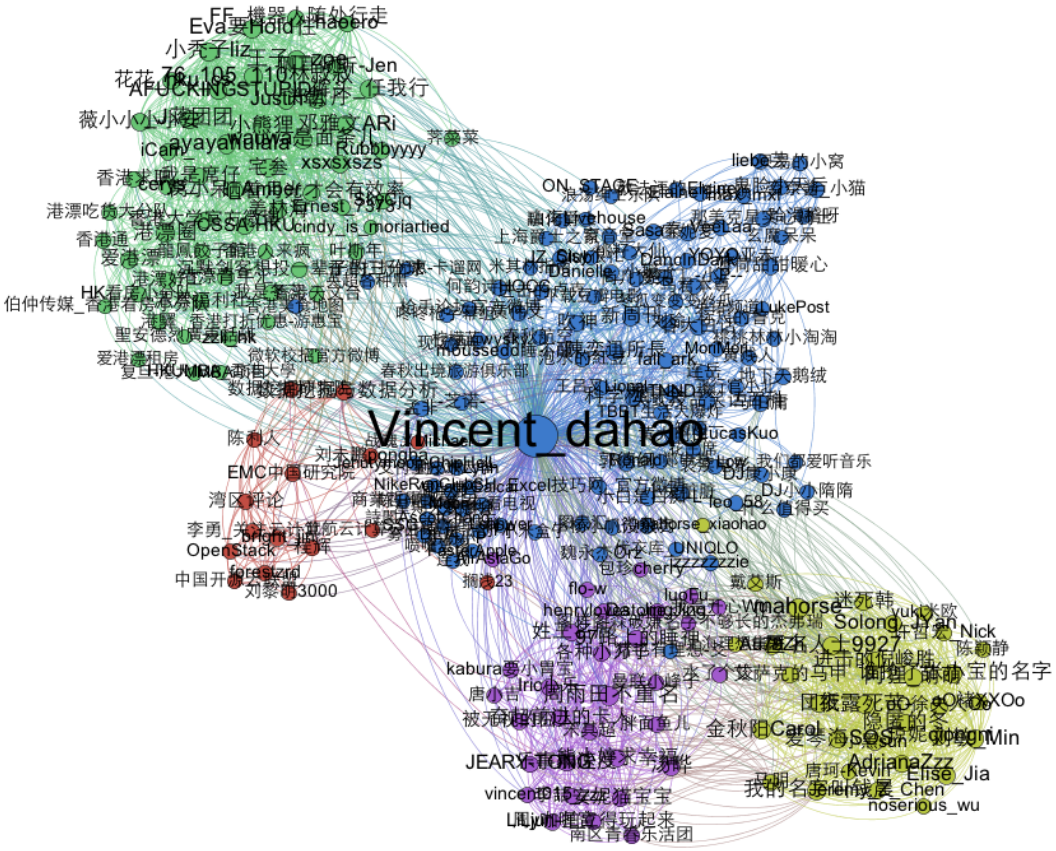
"Betweenness Centrality" is used to calculate who matters most in the network. Because the result is quite notable and it can be proved that someone has already connected other groups because they have been used Facebook for a long time. On the other hand, using "closeness centrality" is not a good idea because the almost everyone add others as friends. As the result, the distance is quite close.

According to the picture below, Stefanie xi is my MVP.



Actually, I don't agree with the "modularity class". I have just used Facebook and the friends of mine almost from HKU, there should be only one big group that Fruchterman-Reingold layout has proved. But the "modularity class" split them to 3 groups. I think maybe some metric or value isn't enough to distinguish that.

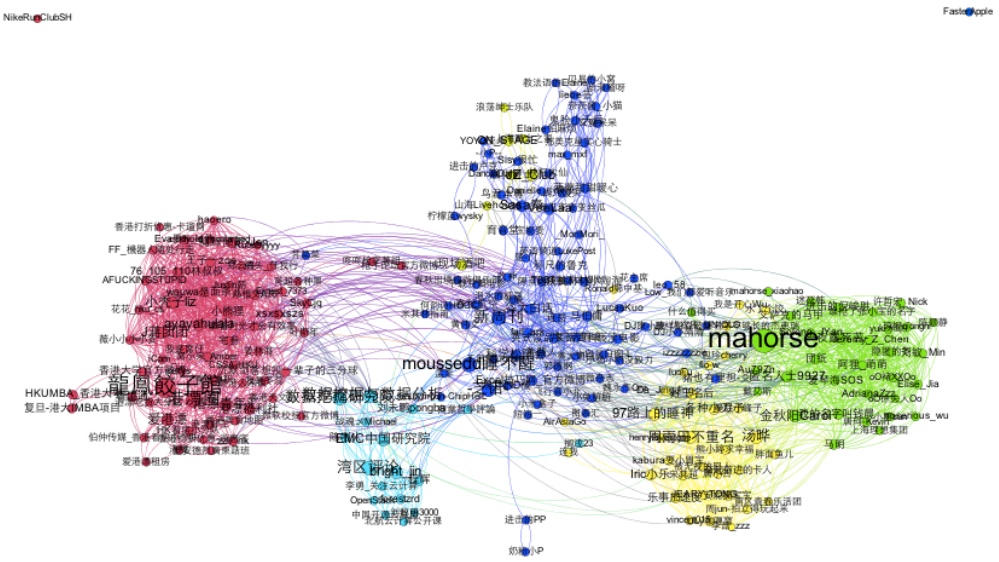
Annex A:



The result is not satisfactory enough, so I grub the data of my friendship in Sina Weibo, which is the most influential in Mainland China, to make comparison.
Besides, since I have been registered for 5 years, the data could be more complete and beautiful.

It can be seen that the node “Vincent_dahao” is so notable that other information would has less readability, because this node represent me, obviously.

Annex B:



So I delete the node of mine and redraw the picture.
Here's a quick key to understand the graph:

- Circle = Node = Weibo friend
- Line = Edge = Weibo connection (friendship)
- Node size = Betweeness centrality
- Node color = chosen colors used to represent the clusters based on their modularity class.
- Using the ForceAtlas layout, it is made to spatialize Small-Scale networks. It is focused on useful real data with a good readability even if it is slow.
- Using Clockwise Rotate to make the image more readable.
- Using directed, because follower means it can be a stranger.

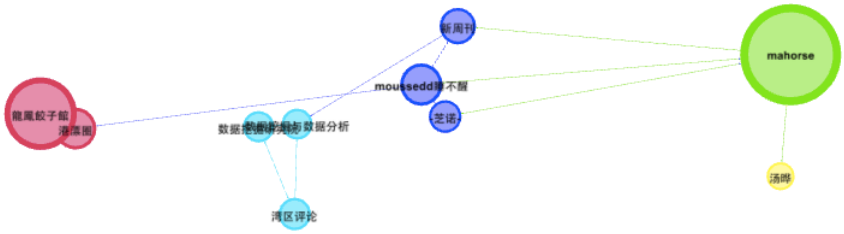
As the picture shows, there are five groups.
Red: my HKU friends
Cyan: some famous geeks in Weibo
Yellow & Green: my previous company colleagues
Blue: other friends, marketing accounts, and public accounts

For Group of Yellow & Green, I used to work in two different departments, and the two parts generally don't know each other.
For Group of Blue, some friends have no connect with other groups but they are following the marketing accounts.

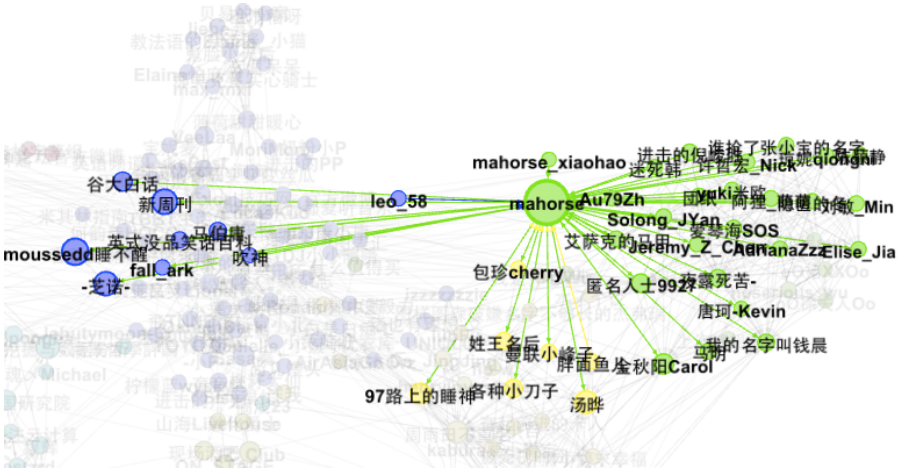
And the rest of my friends scatter around the big circle.

Annex C:

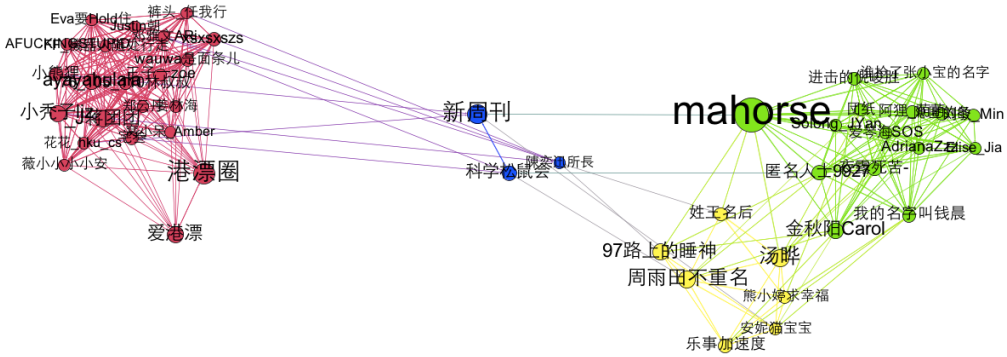
To find my important friends easily, I expand the size of node and set the filter of range of betweeness centrally and cut the small ones and get the picture below.



Here is the detail of mahorse.



In the graph, mahorse widely connected with my colleagues. It's quite true because in the real life he is the most influential one in my network.



I also tried to set the filter "Degree range" to 30+, then cyan group disappeared and blue group just remain 3 nodes, which means that the connection between each group is weak and particular in cyan group some nodes are quite infamous to public (here public means in my friends).

And I also noticed the 3 blue nodes. It means these three public accounts are popular in my friends.