Network Analysis
of MEET-UP Members
in Nashville

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Why Meet-Up?

Data Overview

- From Kaggle
- Nodes: 1,000
- Edges: 1,176,187

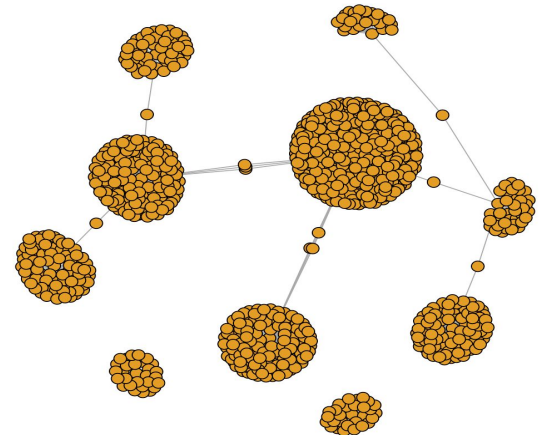| member1	member2	weight
149975872	197066151	1
182962677	217054330	1
172136492	14607883	1
209243381	199981939	1
203788382	191186119	1
109854202	191776415	1

Techniques Used

- *In-degree and out-degree centrality*
- *Closeness and betweenness centrality*
- *Eigenvector centrality*
- *Correlation plot*
- *Shortest path, reachability, reciprocity, transitivity and coreness*
- *Linear regression*
- *others...*

Main Findings

- There do exist a "social gap" between members of Meet-Up in Nashville.
- Most of the social network resources are possessed by a few people.
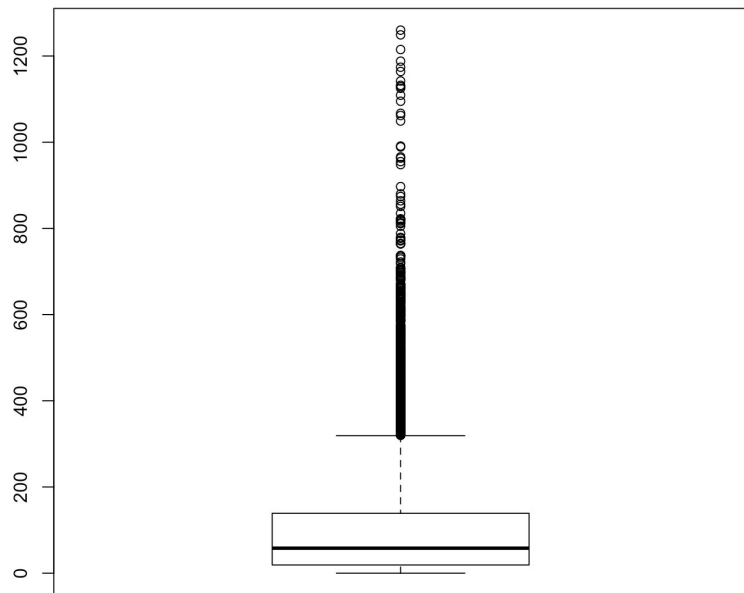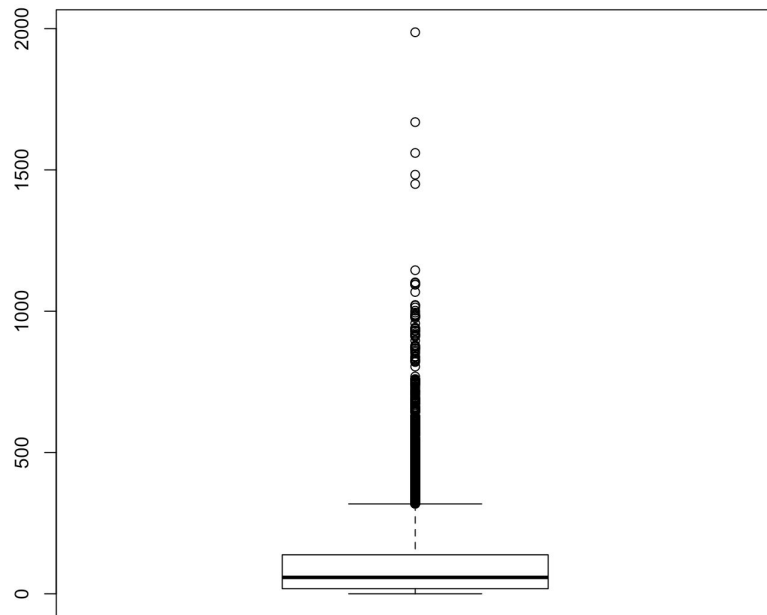- The majority of the members are rather "lonely".

Data Analysis

Degree centrality

distribution of deg_in

distribution of deg_out

```
> summary(deg_in)
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
    0.0    19.0    58.0   103.4   139.0  1260.0
```
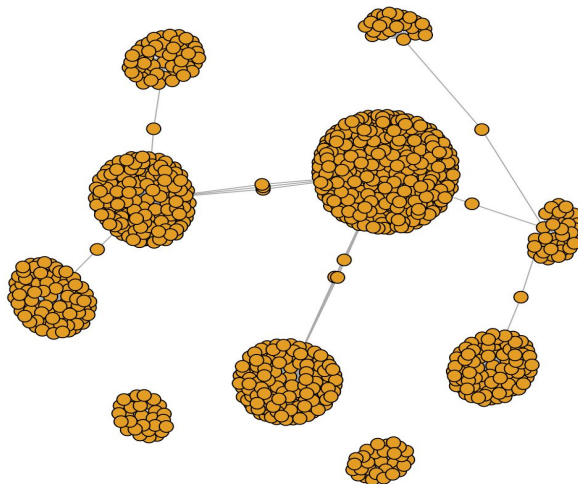
```
> summary(deg_out)
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
    0.0    18.0    58.0   103.4   138.0  1987.0
```

Who is the most popular on Meet-up?

Order by multiple variables:

	V.full..name	deg_in	deg_out	closeness_in	closeness_out	between_net	eigenv_net_vector
48232882	48232882	1260	60	6.601817e-08	7.902813e-09	6.477828e+04	7.282413e-01

id: 48232882   Name: Will Ward   City: Nashville   State:TN   Lat: 36.16   Lon:-86.79
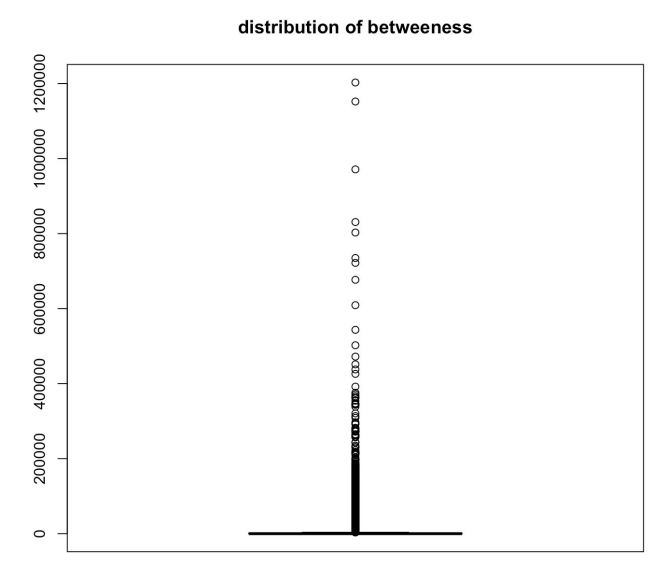
Betweenness Centrality————————Bridge

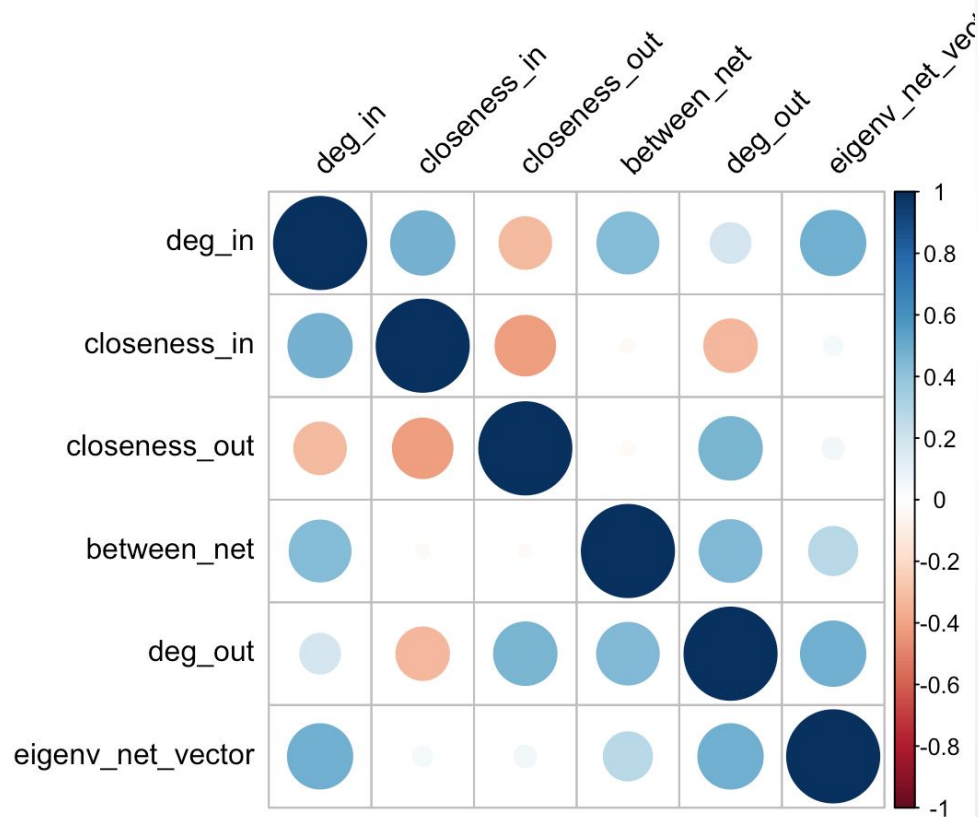**Order by betweeness centrality:**

	V.full..name	deg_in	deg_out	closeness_in	closeness_out	between_net	eigenv_net_vector
8539046	8539046	1142	769	1.671750e-08	1.228871e-08	1.202802e+06	2.119712e-01
3949436	3949436	729	648	1.497268e-08	1.344596e-08	1.152128e+06	8.636129e-02
197928971	197928971	526	1094	1.044044e-08	2.123890e-08	9.711832e+05	2.442119e-01
175300482	175300482	1164	392	2.416196e-08	9.803868e-09	8.308081e+05	3.136768e-01

distribution of betweeness

ID	Name	Hometown	City
8539046	Shalini	Missing	Nashville
3949436	Pablo	Santiago	Nashville
197928971	Ted	Missing	Franklin
175300482	Rav	Missing	Nashiville

Correlation

Reachability, Shortest Path and Reciprocity

Mean of Reachability_in: 0.002003004

Mean of Reachability_out: 0.002003004

SD of Reachability_in: 0.04471011

SD of Reachability_out: 0.04471011

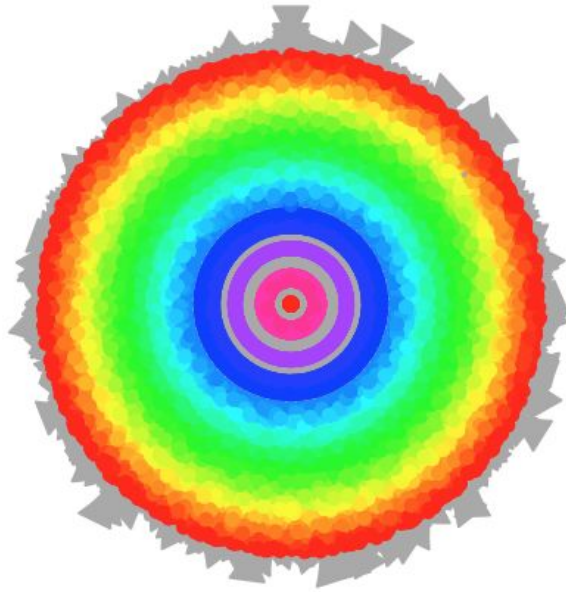mean of Shortest parth: 0.0053

Reciprocity: 0

Coreness

Conclusion

- There do exist a "social gap" between members, based on that the most people are not closely tied with many people out of their reach or even isolated
- There exists city-centered clusters, like Nashville
- A few of population are highly popular and possess most of the social network resources.

THANKS FOR LISTENGING!