HamsterSTER
An Analysis of an Online Hamster Network

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Network Background

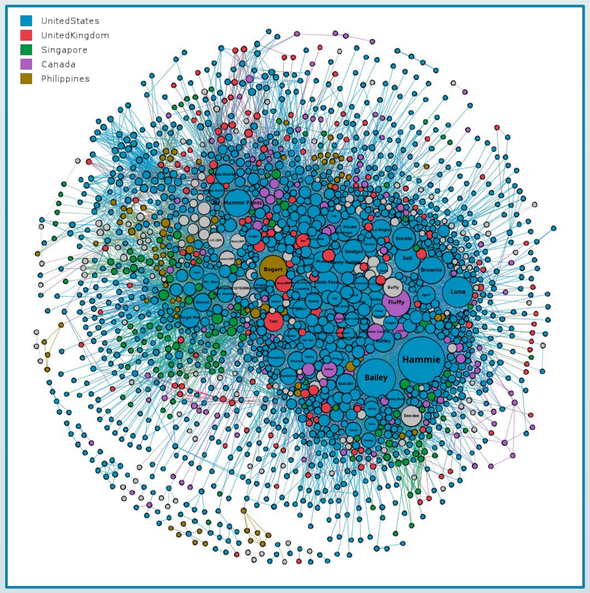
HamsterSTER was one of several online pet social networks that took inspiration from FriendSTER. Hamster owners can create accounts for their hamsters and allow them to befriend other hamsters around the world. As of today, the website no longer exists and the domain continues to be bought out.

Network Information

Network Type: Undirected
Network Size: 1858
Network Edges: 12534
Nodes represent: Hamster
Edges represent: Friendship

Node Attributes
ID, Name, Gender, Birthday, Join Date, Age, Species, Hometown, Color, Favorite Toy, Favorite Activity, Favorite Food

Full Network Visualization



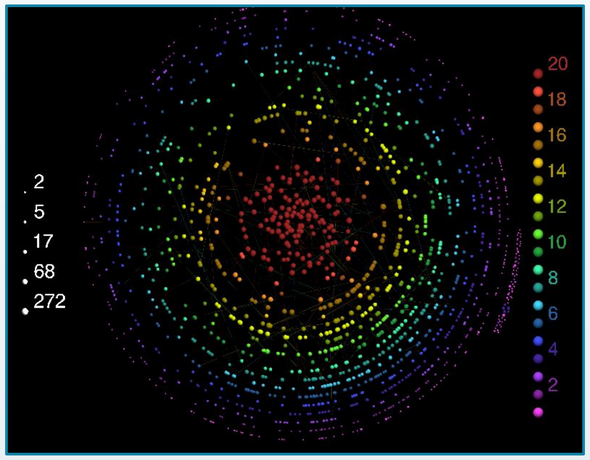
Research Questions

- Do any of the hamsters registered with HamsterSTER exhibit cliquey behavior?
- Is there a possible friendship influence if the hamsters are from the same hometown?
- If there is an influence, could two hamsters joining the network on the same day have a similar effect?
- By analyzing these two influences, can we predict if a subset of hamsters belong to the same user?

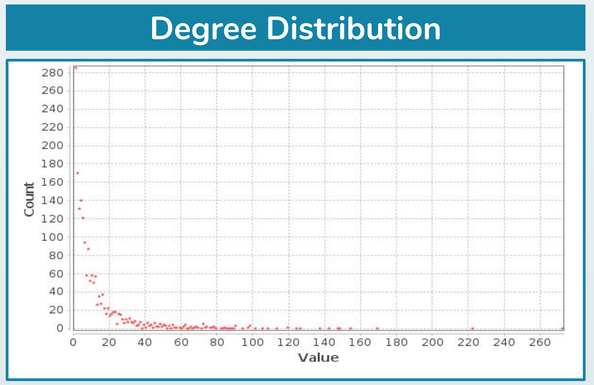
Network Statistics

Density	0.007
Diameter	14
Transitivity	0.09
Components	23
Total Triangles	16,750
Avg. Degree	13.492
Avg. Clustering Coef.	0.167
Gender	967 Female | 889 Male
Total Dead Hamsters	1450
Total Dead Gerbils	73
Top Favorite Toy	Hamster Wheel
Top Favorite Activity	Hamster Wheel
Top Favorite Food	Sunflower Seeds

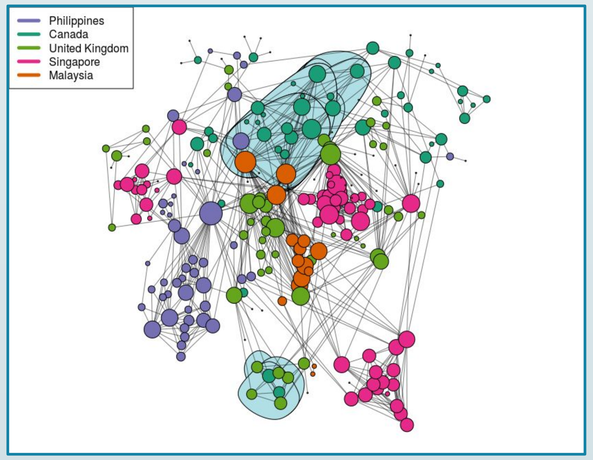
K-Coreness



Degree Distribution



Hubs & Cliques



ERGM Models

ERGM Model 1

Monte Carlo MLE Results:
Edges log-odds: -4.939764
Nodematch.home log-odds: 1.570407

Probability of edge forming from same hometown: 3.32%

ERGM Model 2

Monte Carlo MLE Results:
Edges log-odds: -5.35947
Nodematch.home log-odds: 1.28162
Nodematch.join log-odds: 1.27138

Probability of edge forming from same hometown and join date: 5.69%

Conclusions

1) There are instances of cliquey hamster behavior that we identified with a light-blue field in the Hubs & Cliques graph.
2) Based off of ERGM Model 1, a 3.32% probability shows that it is unlikely that hamsters will befriend each other from the same hometown.
3) Based off of ERGM Model 2, a 5.69% probability shows that is is also unlikely that hamsters will befriend each other from the same hometown and join date.
4) Since the influences above are unlikely, we can safely say that we cannot predict if a subset of hamsters belong to the same user.