

Where are your friends?

Tobias Escher
DPhil, Oxford Internet Institute, UK

The geography of social networks

Introduction

It is a long-established finding in social science research that distance matters for social relations. Physical proximity means more ties to other people (Cummings et al 2006) as well as more interaction with them (Mok et al 2007). Many people have expected that the space-shrinking capabilities of Information and Communication Technologies would lead to „The Death of Distance“ (Cairncross 1997) so that for example friendships are not structured by place anymore (Beck 2002).

However, informed by recent survey research (Lenhart and Madden 2007) and the fact that social practices are considerably stable (Shklovski et al 2006) this doctoral thesis argues that **friendship networks still have a local focus, that is distance still matters.**



This research is utilizing the friendship networks on social network sites such as MySpace and Facebook to analyse the spatial distribution of social networks in the Internet age. Specifically this research has three objectives:

- map the *geography of friendship networks* (i.e. where do your friends live)
- establish *factors that shape this geography* (e.g. demographics) as well as
- determine *how this geography might influence social relations* (e.g. more or less contacts between geographically distant people)

Methodology

This research uses the profile information and associated friendship networks available on social network sites to obtain an important part of people's overall social networks. The relevance of these online friendship networks is based on findings indicating that most online friends are also offline friends (Lenhart and Madden 2007, Boyd 2006) as well as that for many (especially young) people online social networking is an important (daily) routine.

This project focuses on regular users of social network sites and uses Perl scripts to automatically download a random selection of profiles and their friendship networks. The data is stored in a MySQL database that allows for a quantitative analysis with the statistics package R. The data collected from the profiles will be supplemented with interviews. This will help to place the observed online networks into the context of the individual's overall social network and allow to assess the reliability of the online profile information.

How people interact with others has been of interest to social scientists for a long time but data collection has been difficult and expensive. What is more, self-reported network data has been shown to be unreliable. Social network sites now make a lot of information about social networking publicly accessible and it will be one of the challenges of an e-Social Science to collect and analyse this information that is often presented in a non-standardized way. This doctoral project aims to contribute to this methodological innovation.

Acknowledgements

I would like to thank my supervisors Ralph Schroeder and Helen Margets (both Oxford Internet Institute) for their helpful advice. Furthermore, I am greatly indebted to the PCP corporation for their generous scholarship as well as the e-Social Science conference 2007 for invitation to the Doctoral Colloquium and financial support. Last but not least, this research would not have been possible without great Free Software such as Perl, MySQL and Apache as well as freely available services like Google Maps.

Preliminary Results – Mapping Networks

The following figures summarize findings from a study containing a random sample of 61 active MySpace profiles together with their about 4000 friends. MySpace is one of the most popular social network sites with more than 100 million members that are mainly based in the United States.

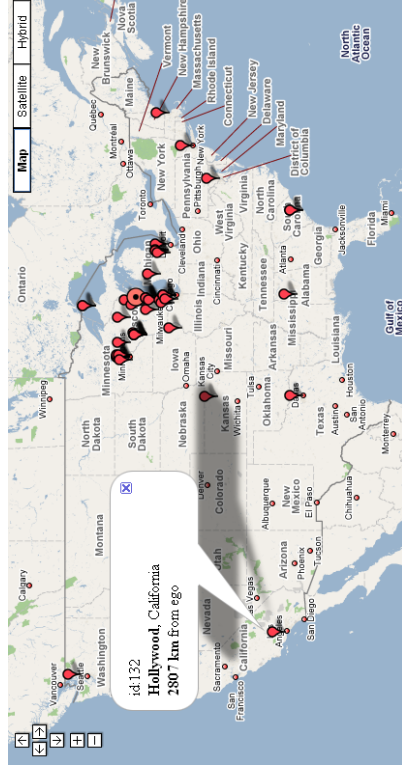


Figure 1: Google Map visualization of one individual's MySpace profile and associated friendship network. Ego (the profile owner) lives in Milwaukee (WI) and is symbolised by the dotted marker, friends are plotted as small markers. 77% of ego's friends (37 of 48) live within 500 km from ego.

Where do your MySpace friends live?

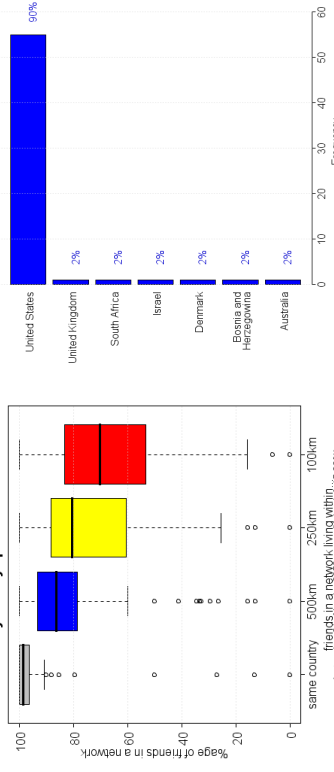


Figure 2: Analysis of where a profile owner's friends live. For most people the majority of friends are located in the same region (not further away than 500 km).

Further Results

It is not enough to map the spatial distribution of friendship networks on social network sites. Rather it is important to determine factors that shape this spatial distribution as well as to establish how the geography does influence friendship relations. For example, is it still true that we have more frequent communication with local friends? Figure 3 below shows this relationship.

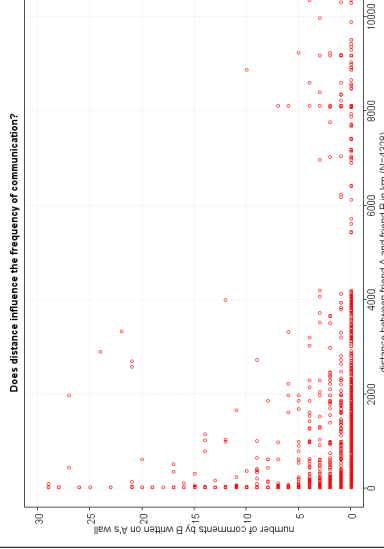


Figure 3: Number of comments a friend has left on the other's public wall in relation to distance they live apart. While there are many comments from local friends there is no correlation between comment count and distance. As in previous studies, if there is a relationship it is probably not linear.

Work in Progress

This ongoing doctoral research aims at determining more factors that relate to the geography of social networks. This will include analysing the influence of factors such as culture, demographics and context – for example network sites focused on socializing might have a stronger local focus than sites that focus on travelling or business.

The data obtained from the social network site MySpace will be contrasted with interviews of young people (the heaviest users of these relatively recent online tools) about how online social networking fits in with their wider friendship networks as well as with data from additional sources such as online role playing games and a survey of online dating. This data should allow to research inasmuch a shared place continues to dominate friendship relations even when enacted online as well as to what degree online social network sites such as MySpace can be a viable source of data for social scientists by offering reliable data on people's social networks.

Further Information

Further information can be found on my blog and personal website:

<http://people.oxi.ox.ac.uk/escher/> or via email to tobias.escher@oxi.ox.ac.uk

Mail address:

Oxford Internet Institute
1 St. Giles
Oxford OX1 3JS
United Kingdom
tel: +44 1865 287219
fax: +44 1865 287211

Literature

- Beck, U. (2002). "The Cosmopolitan Society and Its Enemies." *Theory Culture Society* 19(1-2): 17-44.
- Boyd, D. (2006). "Friends, friends, and top 8." *First Monday*, 11(12)
- Cummings, J. N., J. B. Lee, et al. (2006). Communication Technology and Friendship During the Transition from High School to College. In R. Kraut et al.: 185-200
- Kraut R.E., M. Brynain and S. Kiesler (2006). Computers, Phones, and the Internet. Oxford University Press
- Lenhart, A. and M. Madden (2007). Social Networking Websites and Teens: An Overview. Pew Internet Project
- Mok, D. and B. Wellman (2007). "Did distance matter before the internet?" *Social Networks* 29(3): 430-461
- Shklovski, I., S. Kiesler, et al. (2006). The Internet and Social Interaction: A Meta-analysis and Critique of Studies, 1995-2003. In R. Kraut et al.: 201-218