INFO290 Social Computing Class Project

Project Title: Party Guest Recommender

Group

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Abstract

Getting the right people to commit first to your party can significantly reduce the time/effort spent on getting additional guests to sign up. But knowing who those first few people should be is difficult. In this project, we aim to develop a systematic methodology for identifying the 3 people among a party creator's social network that would be the ideal first 3 people to commit to a party.

Introduction and Background

People in their 20's and early 30's actively seek ways to cultivate friendships with new co-workers, classmates, and neighbors over shared social experiences. The problem is that it is hard to plan group events for a diffuse social network. There is no easy way for the planner to know confidently that enough people are interested in his/her idea for a giant house party, tailgate BBQ, or group camping trip. Also, great events can be costly, and it can be a burden for a young host to pay for a 20, 40, or even 80-person event, even if he/she has the vision and drive to make it happen.

Genevieve and Sarah are working on a web application, Rakoko.com, which is designed to make fun parties easier to create. Rakoko helps the party creator gauge his/her friends' level of interest in his/her idea before moving forward and planning the party. Rakoko also helps solve the payment problem for group parties – guests chip in funds via the app, so the host doesn't have to cover costs for everyone.

For this Social Computing project, we are interested in exploring more deeply the social factors that influence how a party gains popularity and guest sign-ups within the party creator's social network. (Please note that this project focuses on larger parties of 20 people or more, with fairly open invitation lists – for example, barbecues, house parties, tailgates. This project does not focus on small, intimate parties for close friends, such as dinner parties.)

Based on our research, we've learned that, commonly, people invited to a party like to wait for other people they know to sign up to attend before committing to attend themselves. This results in a chicken-and-egg problem for the first few people who sign up. However, once a party reaches a tipping point of a certain size/number of attendees, more people will readily sign up.

As a result, party creators often have to market their parties to early adopters – via email, direct Facebook message, etc. – to get a committed "base group" for the party. This process, however, can be haphazard, unsystematic, and inefficient.

For this project we are interested in developing a systematic way for any party creator to identify the key people in his/her social network that need to commit to the party, such that more people will sign-up quickly. We believe that there are certain people within each person's social network that will draw in more guests and bring the party to the tipping point faster. Our goal is to explore how we can systematically find those people while balancing other factors that contribute to a desirable party guest list (other factors mentioned below). If successful, this project may be integrated into the Rakoko website.

Proposed Solution

As part of this project, we will explore social graphs across networks (our own, our friends', and our classmates'). Potential data sources will be user social graphs from:

- Facebook (primary)
- Twitter (potential)
- LinkedIn (potential)

We will use graph theory measures of the individual (like clustering) to determine who are the best 2–4 people within his/her social network to be the first to sign up for his/her party. We will then use the weighted graphs based on social closeness to determine who each of those people will be able to influence to join the party.

We will define a "good party" as one in which maximizes several variables:

- Everyone at the party knows two other attendees well. Knowing someone well is measured by Facebook data, possibly interaction on Facebook quantified by a score.
- Commonalities between people who are not currently connected to one another: people at the party who have never met have lived in the same city, have similar interests, or have similar professions. Commonalities that are historic (e.g., hometown) may be weighted more strongly since they often provide fruitful conversation topics.
- Diversity in culture and profession is a positive factor.
- Potential additional measures of party graph density, group betweenness centrality, and the existence of cliques.

Using graph theory, relational information available through social networking sites, and secondary research, we will explore different ways to measure each of the above variables, as well as determine what weight should be given to each factor.

Based on the above objectives, we will then develop an algorithm to identify the key people who must commit first to a party, such that the largest numbers of attendees can be confirmed in the shortest amount of time with the smallest number of personal invitations required of the party creator, while also maximizing the quality of the party.

Summary

The advent of social networking tools like Facebook has made it easier than ever to send a mass broadcast invitation to an upcoming event, but it has also meant that invitees are bombarded with countless feeds and updates, so a single event invitation can get lost in the shuffle. Based on our own experience, our hypothesis is that most party planners will need to follow up mass invites with selected, targeted, and personal invitations to key people. These people will ideally be those whose commitment to attending will motivate other invitees to RSVP as well. We hope that the algorithm solution that we develop through this project will help identify the right people that those invitations need to go out to. As a result, we will be able to promote stress-free, fun, and engaging party experiences for party creators and attendees alike.

References

TBD