Roleplaying gamification to encourage social interactions at parties

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Abstract
We discuss our ongoing work in using game techniques to encourage positive social interactions at parties. We relate our observations of party interaction behavior among guests and discuss game design considerations.

Keywords
Social interaction, social behavior, gamification, parties

ACM Classification Keywords
H5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

Introduction
With the popularity of smartphones and other mobile devices, social computing and gaming are now no longer situated in cyberspace alone, but also in real physical space. As we are beginning to see with Foursquare[1] and other location-based applications, relationships among *people*, *places* and *events* in real physical space can now be abstracted and augmented in-situ with computing interaction designs.

In this paper, we examine *events* in particular and discuss our ongoing work in developing our approach

[1] http://foursquare.com/

towards monitoring and encouraging positive social interactions in a small party setting. Inspired by online role-playing games (RPGs) and their character classes, we take a gamification approach to encourage party guests to take on different social behavioral roles.

Party Observations

The primary author holds a small monthly business and social networking wine party in Daejeon, South Korea called After Work Elite (AWE)[2]. The first two events were held in December 2010 and in January 2011, respectively. About 30 guests attended both parties with a fairly even balance among genders. Each party was held for about 5 hours. From direct observation and informal discussions with guests, we noted the following on guest interactions and behavior.

Guests mostly came in small groups of 1 to 3 persons. At the December party, there was a large group of 5 women who came together. Initially, this large group chatted mostly among themselves at one end of the space while the other guests actively mingled with each other near the wine and hors d'oeuvres, some getting involved in deep conversations with new acquaintances. Eventually, a couple of brave men introduced themselves to the group of women, effectively bridging the social islands. At the January party, there was also a couple who spent most of their time together, using the party as a kind of date.

Conversations were mostly held in small groups of 2 or 3 (this is consistent with psycho-acoustical findings which suggest there is an upper limit of about 4 in conversational groups [3]). At the December party, there was one guest who was good at beginning interactions, but not at sustaining them. Another guest who came alone, although she was usually in a conversation, did not appear to initiate any interactions. She later reported she felt like she did not fit in with the other guests.

figure 1. Guests interacting at the January 2011 party

We observed that there are indeed different kinds of behavior types and offer some tentative example categories. There is the *hit-and-runner* like the guest who was good only at starting conversations, the *in-crowders* like the groups who stayed together, and the *passive listener* like the guest who did not initiate conversations. Some of the more positive behaviors include the *deep talker,* who gets involved in interesting lengthy discussions, the *matchmaker* who introduces guests to each other (as the primary author did as party host) and the *explorers* like the men who opened up the group of women to interaction with the rest of the party. We also note that pre-existing relationships among guests and group size may have

[2] http://afterworkelite.com/

an influence on subsequent party behavior (e.g. the large group of friends and the couple).

We are currently collecting video and sensor data from our ongoing monthly parties in order to better define and refine these tentative behavior categorizations

Game Design

We have observed that some guests are outgoing and talk to many different people or have involved conversations and some are less so and chat mostly with their own group. From a party organizer's perspective, the former behaviors are more beneficial; the more positive social ties that are made among the guests, the more likely guests are to return and the party to thrive as a recurring event. From a guest's perspective, these positive behaviors can also help create a friendly, fun mood that can lead to greater enjoyment of the party. Thus, a party organizer would like to reward such positive social behavior in those who already behave in that manner and encourage such behavior for other guests. However, any persuasive game elements that are introduced should not disturb or take attention away from the original social interactions themselves. In our approach, we plan to simply track interaction histories during a party and use the data as game stats.

We can then provide a reward system of points as incentive to take on different specialized behavior roles much like where players take on different roles such as a fighter or healer in an online fantasy RPG like World of Warcraft [5]. These roles may include the *matchmaker*, the *deep talker* and the *explorer* roles mentioned above. AWE guests can form RPG-like parties or cliques of up to 5 people including at least one of each of these roles. The clique who has collectively accumulated the most points over the course of the party would then be declared the winning clique of that AWE party. They could receive prizes such as merchandise provided by party sponsors, providing incentives to enact the roles during the party.

A clique's *matchmaker* role might be taken by someone who already knows many party members and can act as a bridge between cliques, introducing guests in other cliques to the deep talker. An *explorer* in the clique could be a kind of advanced *matchmaker*, engaging stranger cliques in conversation and introducing them to his own clique. A *deep talker*'s goal would be to discover common interests in deep conversation to connect with another guest. Experience points could be gained by clique members by successfully performing their roles as determined respectively by introducing guests to each other or engaging in lengthy conversations. Gaining experience points would allow guests to earn badges and level up. Limiting the roles taken to such positive social interactional behaviors could lead to more successful parties by encouraging behaviors beneficial for the party and discouraging behaviors that are not. Offering discounts or VIP status to high-level guests could also encourage guests to attend the party regularly, contributing to its long-term livelihood.

Interaction Detection

In order to support our game designs, we need to be able to effectively detect social interactions among party guests. An interaction detection approach that could be implemented on off-the-shelf smartphones without additional sensors would be attractive for our party scenario. It would be convenient for our party

guests who are already used to carrying cellphones if not smartphones.

In exploratory research in our research group, we adapted conversation detection techniques similar to those described in [4] as an interaction detection approach implemented on Android smartphones. In a 2-week preliminary experiment with 7 participants, we were able to group members of our research lab by the projects they collaborated on together by noting the frequency and length of conversational interactions. However, two lab members who had their desks close to each other in the same room were incorrectly identified as belonging to the same project group. In our party scenario, where many people in several different conversation groups may be conversing in very close proximity to each other, we would likely have many such false positives among interacting dyads. For similar reasons, proximity-based approaches [1], most of which have resolutions of greater than 1 meter, would also result in many false positives in a dense party crowd.

Choudhry and Pentland [2] have shown that face-to-face interactions can be determined using an infrared sensor (IR) based-technique. We are currently performing experiments with custom sensors badges using a similar approach based on signal strength rather than IR. Many events use badges or wrist bands to identify guests, and our early results suggest that it is not inconvenient or unfamiliar for our guests. Such a non-sound based approach additionally has the advantage that it could be used for parties even in very loud environments like a dance club.

Conclusion

We have discussed some of our ongoing work in developing our approach for using game techniques to encourage positive social interactions at small networking parties such as AWE. We envision that converging gaming, social and mobile technologies are enabling such applications that are able to augment real world situations with layers of greater cultural abstraction (i.e. game interactions layered over party interactions) and greater awareness of and intentionality in real world actions (i.e. being aware of one's game role at the party rather than defaulting to largely unconscious ingrained social behavior roles and patterns).

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