Understanding Group Event Scheduling via the OutWithFriendz Mobile App

Jason Shuo Zhang
University of Colorado Boulder
http://jasondarkblue.com/

Joint work with Khaled Alanezi, Mike Gartrell, Richard Han, Qin Lv, and Shivakant Mishra
Group event planning is stressful

Event coordinator is the fifth most stressful job, right behind well-known tough ones, such as firefighters and soldiers.
@careercast
Limitations of existing services

Hosts decide event date and location, participants have no say.

No meeting location polls, and participants cannot suggest new ones.
Understand the process of group event scheduling
OutWithFriendz mobile application
OutWithFriendz mobile application

Jason Zhang says: hello, when and where shall we meet?

John Allen says: I can meet after 5pm.

How about Texas Roadhouse this time?

Invitation Title:

Friday dinner

Time Voting:

Fri, 05-20-2016 18:00 0
Fri, 05-13-2016 18:30 final! 2
Fri, 05-13-2016 17:30 1

Place Voting:

Golden Sun Chinese 0
Asian Seafood Market final! 1

Participants:
Deployed on mobile app platforms

1. Data transmission
2. Push notifications
3. Location search

Google Map API
Google Cloud Messaging Server
OutWithFriendz Data Collection Server

iOS
Android
Data Collection

Events: 246
Users: 432
States: 34
Cities: 81
User Demographics
Factors influencing group decisions

• User mobility
• Host preference
• Voting process
Impact of the user mobility

**Table**: The correlation of user mobility and voting availability.

<table>
<thead>
<tr>
<th></th>
<th>Corr</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>User mobility</td>
<td>Date availability</td>
<td>0.276</td>
</tr>
<tr>
<td>User mobility</td>
<td>Location availability</td>
<td>0.281</td>
</tr>
</tbody>
</table>

**Observation 1**: Users with higher mobility exhibit higher availability when scheduling social events.
Possible explanations

• The users who travel long distances may travel by car, easy to reach locations far away.

• The users who have higher mobility are more likely to be active event attendees.
Impact of the host preference

Table: The probability of a final event option is voted by the host vs. participant.

<table>
<thead>
<tr>
<th>Final event date</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host</td>
<td>0.71</td>
</tr>
<tr>
<td>Member</td>
<td>0.36</td>
</tr>
<tr>
<td>Final event location</td>
<td></td>
</tr>
<tr>
<td>Host</td>
<td>0.72</td>
</tr>
<tr>
<td>Member</td>
<td>0.34</td>
</tr>
</tbody>
</table>

Observation 2: The final meeting option is more likely to be voted by the host than a random participant.
Impact of host preference

Table: The correlation between whether host comply with voting result and the event attendance rate.

<table>
<thead>
<tr>
<th>Correlation</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>The host comply with the date voting result and the event attendance rate</td>
<td>0.47</td>
</tr>
<tr>
<td>The host comply with the location voting result and the event attendance rate</td>
<td>0.48</td>
</tr>
</tbody>
</table>

Observation 4: The host choose not to use the consensus result would a have negative influence on the event attendance rate.
Impact of the voting process

Figure: The relationship between the average availability and the voter position.

Observation 3: Early voters tend to vote for a wide variety of options, while later voters are more likely to report limited availability.
Possible explanations

• Later voters are busier, with smaller time windows

• Open polls and late votes may not be able to change the winner

• Later voters are being “nice,” only vote for mutually agreeable options to save hosts’ life.
Big picture, future work and questions

First attempt to understand group event scheduling

Towards more effective group event planning

Thank you!

Jason Zhang, jasonzhang@colorado.edu
http://jasondarkblue.com/