CS 403x – Using Proximity and Homophily to Connect Attendees in a Mobile Social Network

Speakers: Brittany Owens, Patrick Murphy, Anthony Gallo
Introduction

- Problem: it’s difficult to establish connections at conferences
  - Business cards
  - Interactions

- Importance?
  - Networking
  - Collaboration
Solution

- Find & Connect: app that connects people in the same conference
  - Faster exchange of information
  - Access to people with similar interests
  - Tracks what sessions you attend through RFID tags
Vision

● How is it useful?
  ● View persons virtual business card
  ● Access to info of people you didn’t meet personally
  ● Once you add your information anyone can add you as a contact

● No more printed business cards
  ● Saves time and money
Related Work

- Probability of friendship inversely proportional to geographical distance
- Bluetooth, RFID, GPS, and location data
  - used to predict friends based on movement behaviors

<table>
<thead>
<tr>
<th>Reason for adding friends/contacts</th>
<th>Survey</th>
<th>Find &amp; Connect</th>
<th>Rank (survey)</th>
<th>Rank (Find &amp; Connect)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Encountered before</td>
<td>59%</td>
<td>37%</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Common contacts</td>
<td>48%</td>
<td>12%</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Common research interests</td>
<td>24%</td>
<td>35%</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Common sessions attended</td>
<td>7%</td>
<td>24%</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Know each other in real life</td>
<td>69%</td>
<td>39%</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Know each other online</td>
<td>34%</td>
<td>9%</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Added each other as phone contact</td>
<td>21%</td>
<td>4%</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>
Methodology

- Homophily and Physical Proximity used to suggest contacts
  - Uses RFID tags
  - App is a website (Ubiquitous)
  - User can browse profiles and share information with other users
  - Can send messages after adding someone
Tradeoffs

- Assumption: all people going to same conference
- RFID badges are needed
  - GPS would be easier but not accurate enough
- UI did not allow for easy access to contact recommendations
Results

- Majority of people had 1-2 contacts
  - Less than expect
  - Too busy to look up profiles
  - Already exchanging business cards

Figure 8. Degree distribution in the contacts network.
Conclusion

● Not a good solution
  ● Was effective when people took the time to use it as intended

● Future Works:
  ● UI improvements
  ● Making actual app instead of website
  ● Use phone’s capabilities (NFC)