What, When and Where
The real-world activities that contribute to online social networking posts

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An Introduction

I now pronounce you husband and wife! You may update your Facebook status!
An Introduction

1.11 billion monthly active users
751 million mobile users

newsroom.fb.com (March 2013)
An Introduction

1.11 billion monthly active users
751 million mobile users

newsroom.fb.com (March 2013)

200 million active users
400 million tweets/day

blog.twitter.com (March 2013)
Motivations / Questions

• How are our online-lives representative of our real-world lives?

• A better understanding of the relationship between online activities and non-online activities is need.
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• What are some of the motivations for broadcasting real-world activities online?

• What effect does publicly announcing your activities have on your social relationships?
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• A better understanding of the relationship between online activities and non-online activities is need.

• What are some of the motivations for broadcasting real-world activities online?

• What effect does publically announcing your activities have on your social relationships?

• This paper presents a feasibility study that explores the types, locations and time frames of real-world activities and the likelihood that these activities are reported on an online social network.
Related Work

Activity Categorization
• Szalai, A. (1972). The use of time: daily activities of urban and suburban populations in twelve countries. The use of time: daily activities of urban and suburban populations in twelve countries.

Online Social Networking

Activity Prediction
• Backstrom, L., Sun, E., & Marlow, C. (2010). Find me if you can: improving geographical prediction with social and spatial proximity. WWW 2010, 61-70
Methods

- 30 Participants
- Snowball sampling approach
- 50/50 gender split
- Age 20 – 45 (mean 28.6)
- Require that each participant have a history of posting at least once a day for two weeks prior to study
Methods

- Participation over a continuous three week period
- Two tasks:
  1. Record activities on online activity diary
     - Date
     - Location
     - Activity
     - Start Time & End Time (nearest hour)
Methods

• Participation over a continuous three week period
• Two tasks:

1. Record activities on online activity diary
   • Date
   • Location
   • Activity
   • Start Time & End Time (nearest hour)

2. Install Facebook “Activity” application
   • Access profile information
   • Access posts on participant’s own wall
Activity Diary

- 3,198 Activities recorded for 28 participants
- Activities were classified by
  - *Type* of Activity (What)
  - *Location* of Activity (Where)
- Categorized through manual processing
  - Three researchers independently classified each activity.
Activity Diary

- 3,198 Activities recorded for 28 participants
- Activities were classified by
  - Type of Activity (What)
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Facebook Posts

- “Contribution of digital content to a user’s social ‘wall’.”
- 352 posts recorded from 28 participants
- Restricted focus to textual input
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Facebook Posts
• “Contribution of digital content to a user’s social ‘wall’.”
• 352 posts recorded from 28 participants
• Restricted focus to textual input

75 Diary activities matched to one or more Facebook Posts.
### Activity Type

#### “What”

<table>
<thead>
<tr>
<th>Category</th>
<th>Example activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eating</td>
<td>Eating Dinner @ Home</td>
</tr>
<tr>
<td></td>
<td>Yumm… Coffee @ Starbucks</td>
</tr>
<tr>
<td>Drinking (non-alcoholic beverages)</td>
<td>Drinking beer @ O’Hares</td>
</tr>
<tr>
<td>Drinking (alcoholic beverages)</td>
<td>Bike Ride @ SB Bike Path</td>
</tr>
<tr>
<td>Fitness / Active</td>
<td>Watching Football @ Buddy’s house</td>
</tr>
<tr>
<td>Watch TV / Play Video</td>
<td>Bus to work</td>
</tr>
<tr>
<td>Game / Surf the Web</td>
<td>Catching my flight to Toronto</td>
</tr>
<tr>
<td>Local Transportation</td>
<td>@ YVR Airport</td>
</tr>
<tr>
<td>Distance Transportation</td>
<td></td>
</tr>
<tr>
<td>Shopping</td>
<td>Christmas shopping @ Brentwood mall</td>
</tr>
<tr>
<td>Errands</td>
<td>Dentist Appointment</td>
</tr>
<tr>
<td>School</td>
<td>Classes, working @ UCSB</td>
</tr>
<tr>
<td>Work</td>
<td>Sound Design @ Work</td>
</tr>
<tr>
<td>Self Maintenance</td>
<td>Shower @ Home</td>
</tr>
<tr>
<td>Sporting Event</td>
<td>Go Canucks @ Rogers Arena</td>
</tr>
<tr>
<td>Cultural Entertainment</td>
<td>Sounds of Vienna Concert @ Kursalon, Vienna</td>
</tr>
<tr>
<td>(Concert, Museum, Play, etc.)</td>
<td></td>
</tr>
<tr>
<td>Movie Theater</td>
<td>Mission Impossible @ South</td>
</tr>
<tr>
<td>Vacation</td>
<td>Edmonton Theaters</td>
</tr>
<tr>
<td>Party / BBQ</td>
<td>Relaxing Vaca @ Victoria</td>
</tr>
<tr>
<td>Other</td>
<td>Christmas Party @ Work</td>
</tr>
<tr>
<td></td>
<td>Visiting @ Friend’s house</td>
</tr>
</tbody>
</table>
## Methods

### Activity Categorization

#### Activity Location

<table>
<thead>
<tr>
<th>Category</th>
<th>Example activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home</td>
<td>Dinner with Family @ Home</td>
</tr>
<tr>
<td>Work/School</td>
<td>Working @ Westjist campus, Calgary</td>
</tr>
<tr>
<td>Transportation/Trip</td>
<td>Bus Home @ Waterfront Station</td>
</tr>
<tr>
<td>Other</td>
<td>Grocery Shopping @ West 4th &amp; Vine</td>
</tr>
</tbody>
</table>
### WHAT

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
<th>FB Post</th>
<th>Percentage reported on FB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distance Travel</td>
<td>60</td>
<td>11</td>
<td>18.33</td>
</tr>
<tr>
<td>Vacation</td>
<td>30</td>
<td>3</td>
<td>10.00</td>
</tr>
<tr>
<td>Cultural</td>
<td>41</td>
<td>3</td>
<td>7.32</td>
</tr>
<tr>
<td>Entertainment (Concerts, Museum, Theater, Sporting Events)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drinking alcohol</td>
<td>96</td>
<td>5</td>
<td>5.21</td>
</tr>
<tr>
<td>Party / BBQ</td>
<td>70</td>
<td>2</td>
<td>2.86</td>
</tr>
<tr>
<td>Fitness</td>
<td>161</td>
<td>4</td>
<td>2.48</td>
</tr>
<tr>
<td>Shopping &amp; Errands</td>
<td>453</td>
<td>9</td>
<td>1.99</td>
</tr>
<tr>
<td>Sleeping, watching TV, video games, browsing internet, self maintenance</td>
<td>969</td>
<td>17</td>
<td>1.75</td>
</tr>
<tr>
<td>Eating &amp; Drinking (non-alcohol)</td>
<td>1017</td>
<td>17</td>
<td>1.67</td>
</tr>
<tr>
<td>Local Travel</td>
<td>240</td>
<td>4</td>
<td>1.67</td>
</tr>
<tr>
<td>School &amp; Work</td>
<td>851</td>
<td>14</td>
<td>1.65</td>
</tr>
</tbody>
</table>

### WHERE

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
<th>FB Post</th>
<th>Percentage reported on FB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation/Trip</td>
<td>298</td>
<td>14</td>
<td>4.70</td>
</tr>
<tr>
<td>Other</td>
<td>1235</td>
<td>38</td>
<td>3.08</td>
</tr>
<tr>
<td>Home</td>
<td>1022</td>
<td>16</td>
<td>1.57</td>
</tr>
<tr>
<td>Work/School</td>
<td>642</td>
<td>7</td>
<td>1.09</td>
</tr>
</tbody>
</table>
WHEN

- 75 Diary activities were matched to one or more Facebook posts
- 86 Facebook posts were matched to Diary activities
  - Participants occasionally posted more than once regarding a specific activity.
  - How close to an activity does a post occur in relation to the start of an activity?
WHEN

- 75 Diary activities were matched to one or more Facebook posts
- 86 Facebook posts were matched to Diary activities
  - Participants occasionally posted more than once regarding a specific activity.
  - How close to an activity does a post occur in relation to the start of an activity?
    - On average a post occurs 9.3 hours before the start of an activity.
“What”

- *Distance Travel* and *Vacation* show the highest percentage of posts related to “real-world” activities.
- *Drinking Alcohol* and *Cultural Entertainment* showed lower percentages.
- More mundane activities such as *Sleeping*, *Watching TV*, etc. were the least influential.
“What”

• *Distance Travel and Vacation show the highest percentage of posts related to “real-world” activities.*

• *Drinking Alcohol and Cultural Entertainment showed lower percentages.*

• More mundane activities such as *Sleeping, Watching TV, etc.* were the least influential.

• Activities that demonstrated the highest influence on Facebook posts were related to events that occur less frequently than other activity types.

• Possible perceived increase in social value from travel and vacation?
“Where”

- Locations categorized as *Transportation* or *Other* (Not Home or Work) displayed the highest percentage of influence on posts.
- This follows the results of “What” in that activities that occur outside the home or work place are deemed more influential.
“Where”

- Locations categorized as *Transportation* or *Other* (Not Home or Work) displayed the highest percentage of influence on posts.
- This follows the results of “What” in that activities that occur outside the home or work place are deemed more influential.
- Fits with preconceived notion that activities done at Home or Work are not as “socially interesting” as those completed at other locations.
“When”

• On average, posts occurred 9.31 hours before the start of an activity.
• A total of 79% of posts were published before the activity started.
• 91% of posts are within 24 hours of the start of an activity (prior or post).
“When”

- On average, posts occurred 9.31 hours before the start of an activity.
- A total of 79% of posts were published before the activity started.
- 91% of posts are within 24 hours of the start of an activity (prior or post).
- These results suggest that access to one’s online social network may offer insight into future real-world activities.
Lessons Learned

- Number of participants is small
- Number of *Facebook posts* made by the participants is small
- The first step in expanding this to a full study is to increase this number (e.g., 300).
- An increase sample size would allow for evaluation of variable correlation and more robust statistical models (e.g., Binary Choice Model).
Lessons Learned

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- Number of *Facebook posts* made by the participants is small
- The first step in expanding this to a full study is to increase this number (e.g., 300).
- An increase sample size would allow for evaluation of variable correlation and more robust statistical models (e.g., Binary Choice Model).
- Mobile Phone tracking application to replace Self-reported Activity Diary.
- Strongly typed category choices for activities and locations.
- Increased breadth of social networks (in addition to Facebook).
• This work presents methods and results of an *exploratory study* investigating the relationship between daily activity schedules and online social networking posts.

• The methods presented show that it is possible to conduct a study that compares the real and online world.
Conclusions

• This work presents methods and results of an exploratory study investigating the relationship between daily activity schedules and online social networking posts.

• The methods presented show that it is possible to conduct a study that compares the real and online world.

• Preliminary results indicate that activities that occur with less frequency are more likely to contribute to online action than more routine activities.

• While part of a much larger research agenda, these results are encouraging.
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Image References: http://goo.gl/qYQxo