computational social media

lecture 02: friending

part 2

daniel gatica-perez

01.03.2019
announcements

- assignment #1 will be announced today
- reading assignments will be discussed today
- projects will be discussed today
this lecture (continues the previous one)

a human-centric review of research on facebook

  descriptive analysis of users
  user motivations
  user identity
  social interaction among users
  the real-name web: privacy & information disclosure
topic 2: motivations
why do people use facebook?
top motivations why people use facebook

desire to keep in touch with friends (Ellison et al. 2006) (Lampe et al. 2006)

engage in social grooming gossip & small talk (Tufekci, 2008) (Gosling, 2009)

develop social capital benefits from relationships (Ellison et al. 2007) (Burke et al. 2010)

reduce boredom & loneliness (Burke et al. 2010) (Lampe et al. 2010)

participate add content & join groups (Viswanath et al. 2009)

credit: sean macentee @ flickr (cc): http://www.flickr.com/photos/smemon/5684115572/
motivation #1: social grooming
Robin Dunbar (1998)

**gossip, small talk, people-curiosity**
human equivalent of social grooming in primates
language allowed people to live in larger groups (~150)

“essential to forging bonds, affirming relationships, displaying bonds, learning about hierarchies and alliances”

“a way to figure out where we all stand in relation to each other”

“means to improve one’s reputation and access to resources and solidarity”

how many people can anyone be friends with?

Dunbar’s number:

“The figure of 150 seems to represent the maximum number of individuals with whom we can have a genuinely social relationship, the kind of relationship that goes with knowing who they are and how they relate to us”

“It’s the number of people you would not feel embarrassed about joining uninvited for a drink if you happened to bump into them in a bar”

Intimates -> close personal friends -> friends -> acquaintances || -> || strangers

Cumulatively: 5 -> 15 -> 50 -> 150 (intimates+close friends+friends+acquaintances)

R. Dunbar, "Neocortex size as a constraint on group size in primates". *Journal of Human Evolution*, 22 (6), 1992
http://en.wikipedia.org/wiki/Dunbar%27s_number
D. Bennett, The Dunbar number, from the guru of social networks, Jan. 2013
assignment #1: who are your Facebook friends?

1. Watch the talk by Robin Dunbar at ICWSM 2012 (1 hour)
   http://videolectures.net/icwsm2012_dunbar_facebook/

2. Go to your Facebook page, then go to tab “All friends”.

3. Manually code the first 150 people, appearing in your list, exactly in the order in which they appear (left to right, top to bottom) according to this coding system:
   (1) intimate (e.g. partner, parents, best friend)
   (2) close personal friend
   (3) friend
   (4) acquaintance
   (5) stranger (people-you-don’t-really-know-but-somehow-got-in)

4. Respond to the following questions and write a summary (one-page max)
   - How many FB friends do you have in total
   - How many of your first 150 FB friends manually coded belong to each category?
   - How easy or difficult was it to categorize your FB friends?
   - Is your FB Dunbar’s number lower or higher than 150?
   - Add any thoughts inspired by the above exercise and Dunbar’s talk

5. If you are not on Facebook, talk to me right after the class
assignment #1: logistics and deadlines

1. HARD DEADLINE TO SUBMIT REPORT: Thu 07.03.2019, 5pm
   - send by email to:
     daniel.gatica-perez@epfl.ch
     skanda.muralidhar@epfl.ch
   - pdf format
   - late assignments will NOT be given any credit

2. Results will be discussed in class on Friday 08.03.2019
motivation #2: social capital
“the sum of the resources, actual or virtual, that accrue to an individual by virtue of possessing a durable network of more or less institutionalized relationships of mutual acquaintance and recognition” (Bordieu et al. 1992)

+ “benefits accumulated through relationships

+ allows a person to draw on resources from his/her networks
  + useful, non-redundant information
  + personal relationships

+ linked to positive social outcomes
  + psychological well-being
  + better public health
  + lower crime rates
  + commitment to community
  + capacity for collective action”


credit: aerust @ flickr (cc): http://www.flickr.com/photos/aerust/9615757642
types of social capital
(Putnam, 2000; Granovetter, 1973)

**strength of an interpersonal tie**
“a combination of the amount of time, the emotional intensity, the intimacy, and the reciprocal services that characterize the tie”

**bridging social capital**
weak ties: connections that can provide information but not emotional support

**bonding social capital**
strong ties: emotionally close relationships that can provide access to scarce resources: family and close friends

M.S. Granovetter, “The Strength of Weak Ties, American Journal of Sociology”, Vol. 78, No. 6, May 1973

credit: http://www.flickr.com/photos/hanspoldoja/5001818922 (cc)
does the internet increase social capital?  
(Nie, 2001; Bargh, 2004; Wellman, 2001)

<table>
<thead>
<tr>
<th>NO</th>
<th>YES</th>
</tr>
</thead>
<tbody>
<tr>
<td>- reduces face-to-face time with others</td>
<td>- enables new connections with similar interests and goals</td>
</tr>
<tr>
<td></td>
<td>- allows weak ties to form, giving rise to <strong>bridging</strong> social capital</td>
</tr>
<tr>
<td></td>
<td>- helps to keep and sustain dispersed networks</td>
</tr>
<tr>
<td></td>
<td>- facilitates community interaction &amp; involvement in collocated networks</td>
</tr>
</tbody>
</table>

# social capital and facebook “intensity”

(Ellison, 2007)

<table>
<thead>
<tr>
<th>Individual Items and Scale</th>
<th>Mean</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facebook Intensity$^1$ (Cronbach’s alpha = 0.83)</td>
<td>-0.08</td>
<td>0.79</td>
</tr>
<tr>
<td>#friends</td>
<td></td>
<td></td>
</tr>
<tr>
<td>About how many total Facebook friends do you have at MSU or elsewhere? 0 = 10 or less, 1 = 11–50, 2 = 51–100, 3 = 101–150, 4 = 151–200, 5 = 201–250, 6 = 251–300, 7 = 301–400, 8 = more than 400</td>
<td>4.39</td>
<td>2.12</td>
</tr>
<tr>
<td>In the past week, on average, approximately how many minutes per day have you spent on Facebook?</td>
<td>1.07</td>
<td>1.16</td>
</tr>
</tbody>
</table>

| time                       |       |       |
| Facebook is part of my everyday activity | 3.12  | 1.26  |
| I am proud to tell people I’m on Facebook | 3.24  | 0.89  |
| Facebook has become part of my daily routine | 2.96  | 1.32  |

| attitudes                  |       |       |
| I feel out of touch when I haven’t logged onto Facebook for a while | 2.29  | 1.20  |
| I feel I am part of the Facebook community | 3.30  | 1.01  |
| I would be sorry if Facebook shut down | 3.45  | 1.14  |

Notes: $^1$Individual items were first standardized before taking an average to create scale due to differing item scale ranges. $^2$Unless provided, response categories ranged from 1 = strongly disagree to 5 = strongly agree.
scales for bridging & bonding capital

**Bridging Social Capital Scale**

I feel I am part of the MSU community  
I am interested in what goes on at Michigan State University  
MSU is a good place to be  
I would be willing to contribute money to Michigan State University after graduation  
Interacting with people at MSU makes me want to try new things  
Interacting with people at MSU makes me feel like a part of a larger community  
I am willing to spend time to support general MSU activities  
At MSU, I come into contact with new people all the time  
Interacting with people at MSU reminds me that everyone in the world is connected

**Bonding Social Capital Scale**

There are several people at MSU I trust to solve my problems  
If I needed an emergency loan of $100, I know someone at MSU I can turn to  
There is someone at MSU I can turn to for advice about making very important decisions  
The people I interact with at MSU would be good job references for me  
I do not know people at MSU well enough to get them to do anything important (reversed)
results: bridging social capital

linear regression of bridging social capital scale, from FB manual intensity and other factors

\[ y = X\beta + \varepsilon, \]

**Table 6** Regressions predicting the amount of *bridging* social capital from demographic, attitudinal, and Facebook variables

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Model 1: Control Factors, Facebook Intensity, and Facebook X Self-Esteem Interaction</th>
<th>Model 2: Control Factors, Facebook Intensity, and Facebook X Satisfaction with MSU Life Interaction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Scaled Beta</td>
<td>p</td>
</tr>
<tr>
<td>Intercept</td>
<td>3.80</td>
<td>****</td>
</tr>
<tr>
<td>Gender: male</td>
<td>-0.02</td>
<td>*</td>
</tr>
<tr>
<td>Gender: female</td>
<td>0.02</td>
<td></td>
</tr>
<tr>
<td>Ethnicity: white</td>
<td>0.08</td>
<td>*</td>
</tr>
<tr>
<td>Ethnicity: nonwhite</td>
<td>-0.08</td>
<td>*</td>
</tr>
<tr>
<td>Income</td>
<td>0.04</td>
<td></td>
</tr>
<tr>
<td>Year in school</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>State residence: in-state</td>
<td>-0.05</td>
<td></td>
</tr>
<tr>
<td>State residence: out-of-state</td>
<td>0.05</td>
<td></td>
</tr>
<tr>
<td>Local residence: on campus</td>
<td>-0.04</td>
<td></td>
</tr>
<tr>
<td>Local residence: off campus</td>
<td>0.04</td>
<td></td>
</tr>
<tr>
<td>Fraternity/sorority member</td>
<td>-0.01</td>
<td></td>
</tr>
<tr>
<td>Not member of fraternity/sorority</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>Hours of Internet use per day</td>
<td>-0.03</td>
<td></td>
</tr>
<tr>
<td>Self-esteem</td>
<td>0.20</td>
<td>***</td>
</tr>
<tr>
<td>Satisfaction with life at MSU</td>
<td>0.66</td>
<td>****</td>
</tr>
<tr>
<td>Facebook (FB) intensity</td>
<td>0.34</td>
<td>****</td>
</tr>
<tr>
<td>Self-esteem by FB intensity (^4)</td>
<td>-0.35</td>
<td>**</td>
</tr>
<tr>
<td>Satisfaction by FB intensity</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

F = 18.83, ****
Adj. R\(^2\) = .44

F = 19.92, ****
Adj. R\(^2\) = .46

Notes: \(^1\)Nominal factors expanded to all levels. \(^2\)Continuous factors centered by mean, scaled by range/2. \(^3\) * p < .05, ** p < .01, *** p < .001, **** p < .0001. \(^4\)Only one interaction term was entered at a time in each regression.
results:
bonding
social
capital

linear regression of bonding social capital scale, from FB manual intensity and other factors

\[ y = X\beta + \epsilon, \]

limitations:
- only students of one campus
- only self-reports

<table>
<thead>
<tr>
<th>Independent Variables (^1)</th>
<th>Model 1: Control Factors, Facebook Intensity, and Facebook X Self-Esteem Interaction</th>
<th>Model 2: Control Factors, Facebook Intensity, and Facebook X Satisfaction with MSU Life Interaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scaled Beta</td>
<td>( p )</td>
<td>Scaled Beta</td>
</tr>
<tr>
<td>Intercept</td>
<td>3.73</td>
<td>( **** )</td>
</tr>
<tr>
<td>Gender: male</td>
<td>0.07</td>
<td>0.06</td>
</tr>
<tr>
<td>Gender: female</td>
<td>-0.07</td>
<td>-0.06</td>
</tr>
<tr>
<td>Ethnicity: white</td>
<td>0.17</td>
<td>( ** )</td>
</tr>
<tr>
<td>Ethnicity: nonwhite</td>
<td>-0.17</td>
<td>( ** )</td>
</tr>
<tr>
<td>Income</td>
<td>0.07</td>
<td>0.07</td>
</tr>
<tr>
<td>Year in school</td>
<td>0.23</td>
<td>( *** )</td>
</tr>
<tr>
<td>State residence: in-state</td>
<td>-0.09</td>
<td>-0.10</td>
</tr>
<tr>
<td>State residence: out-of-state</td>
<td>0.09</td>
<td>0.10</td>
</tr>
<tr>
<td>Local residence: on campus</td>
<td>0.13</td>
<td>( ** )</td>
</tr>
<tr>
<td>Local residence: off campus</td>
<td>-0.13</td>
<td>( ** )</td>
</tr>
<tr>
<td>Fraternity/sorority member</td>
<td>-0.07</td>
<td>-0.08</td>
</tr>
<tr>
<td>Not member of fraternity/sorority</td>
<td>0.07</td>
<td>0.08</td>
</tr>
<tr>
<td>Hours of Internet use per day</td>
<td>-0.01</td>
<td>0.01</td>
</tr>
<tr>
<td>Self-esteem</td>
<td>0.22</td>
<td>( ** )</td>
</tr>
<tr>
<td>Satisfaction with life at MSU</td>
<td>0.40</td>
<td>( *** )</td>
</tr>
<tr>
<td>Facebook (FB) intensity</td>
<td>0.37</td>
<td>( **** )</td>
</tr>
<tr>
<td>Self-esteem by FB intensity(^4)</td>
<td>-0.32</td>
<td>0.26</td>
</tr>
<tr>
<td>Satisfaction by FB intensity</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\( N = 269 \)

\( F = 7.60, \( **** \) \)

\( \text{Adj. } R^2 = .23 \)

\( F = 7.48, \( **** \) \)

\( \text{Adj. } R^2 = .22 \)

Notes: \(^1\)Nominal factors expanded to all levels. \(^2\)Continuous factors centered by mean, scaled by range/2. \(^3\) \( p < .05 \), \( ** p < .01 \), \( *** p < .001 \), \( **** p < .0001 \). \(^4\)Only one interaction term was entered at a time in each regression.
social capital in facebook: actual usage
(Burke et al. 2010)

N= 1193 Facebook English-speaking users (20 countries)

+ aggregated FB data for two months
+ similar surveys to (Ellison, 2007)
+ three dimensions
  + general engagement: general interaction with site
  + directed communication: interactions between target user and another friend
  + content consumption: degree of a user’s attention to the broadcasts shared by friends
features extracted from facebook activity logs: general engagement

<table>
<thead>
<tr>
<th>General site engagement</th>
<th>mean</th>
<th>std</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time on site (avg. hours per day)</td>
<td>1.68</td>
<td>1.78</td>
</tr>
<tr>
<td>Friend count</td>
<td>185.6</td>
<td>226.7</td>
</tr>
<tr>
<td><strong>Content produced</strong> (scale $\alpha=0.69$)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Status updates ($\alpha=.70$)</td>
<td>38.9</td>
<td>56.1</td>
</tr>
<tr>
<td>Notes written ($\alpha=.70$)</td>
<td>0.3</td>
<td>1.2</td>
</tr>
<tr>
<td>Photos posted ($\alpha=.63$)</td>
<td>3.6</td>
<td>6.4</td>
</tr>
<tr>
<td>Application stories posted ($\alpha=.65$)</td>
<td>34.9</td>
<td>66.2</td>
</tr>
<tr>
<td>Other items posted to own wall ($\alpha=.62$)</td>
<td>6.5</td>
<td>20.2</td>
</tr>
</tbody>
</table>

period: two months
features extracted from facebook activity logs: directed communication and content consumption

<table>
<thead>
<tr>
<th>Directed communication and content consumption</th>
<th>mean</th>
<th>std</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directed communication (scale $\alpha=.94$)</td>
<td>0.0</td>
<td>0.79</td>
</tr>
<tr>
<td>Friends who initiated communication with user ($\alpha=.91$)</td>
<td>35.2</td>
<td>38.0</td>
</tr>
<tr>
<td>Wall posts received ($\alpha=0.71$)</td>
<td>4.23</td>
<td>8.7</td>
</tr>
<tr>
<td>Messages received ($\alpha=.78$)</td>
<td>52.7</td>
<td>114.0</td>
</tr>
<tr>
<td>Comments received ($\alpha=.89$)</td>
<td>42.0</td>
<td>125.0</td>
</tr>
<tr>
<td>“Likes” received ($\alpha=0.84$)</td>
<td>26.8</td>
<td>45.4</td>
</tr>
<tr>
<td>Times tagged in photo ($\alpha=0.65$)</td>
<td>14.6</td>
<td>30.5</td>
</tr>
<tr>
<td>Friends user initiated communication with ($\alpha=.89$)</td>
<td>42.6</td>
<td>43.0</td>
</tr>
<tr>
<td>Wall posts written ($\alpha=.73$)</td>
<td>5.0</td>
<td>9.0</td>
</tr>
<tr>
<td>Messages written ($\alpha=.75$)</td>
<td>63.3</td>
<td>158.6</td>
</tr>
<tr>
<td>Comments written ($\alpha=.86$)</td>
<td>147.6</td>
<td>208.27</td>
</tr>
<tr>
<td>“Likes” given ($\alpha=.76$)</td>
<td>39.4</td>
<td>70.1</td>
</tr>
<tr>
<td>Times tagged friend in photo ($\alpha=.68$)</td>
<td>27.3</td>
<td>74.5</td>
</tr>
<tr>
<td>Content consumption (scale $\alpha=0.86$)</td>
<td>0.0</td>
<td>0.86</td>
</tr>
<tr>
<td>Friends whose feed stories user clicked on ($\alpha=.90$)</td>
<td>60.3</td>
<td>59.2</td>
</tr>
<tr>
<td>Distinct profiles viewed ($\alpha=.89$)</td>
<td>133.8</td>
<td>147.21</td>
</tr>
<tr>
<td>Distinct photos viewed ($\alpha=.77$)</td>
<td>3.9</td>
<td>9.48</td>
</tr>
<tr>
<td>Times reloaded news feed ($\alpha=.85$)</td>
<td>747.6</td>
<td>901.6</td>
</tr>
</tbody>
</table>
linear regression results

<table>
<thead>
<tr>
<th>Model 2</th>
<th>Bridging</th>
<th>Bonding</th>
<th>Loneliness</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td>Intercept</td>
<td>3.93 ***</td>
<td>3.84 ***</td>
<td>2.49 ***</td>
</tr>
<tr>
<td>Age</td>
<td>.00</td>
<td>-.01 **</td>
<td>.00</td>
</tr>
<tr>
<td>Male</td>
<td>-.02</td>
<td>-.10 *</td>
<td>.08 *</td>
</tr>
<tr>
<td>In relationship</td>
<td>-.11 **</td>
<td>-.05</td>
<td>-.09 *</td>
</tr>
<tr>
<td>Self-esteem</td>
<td>.23 ***</td>
<td>.30 ***</td>
<td>-.53 ***</td>
</tr>
<tr>
<td>Life satisfaction</td>
<td>.02</td>
<td>.10 ***</td>
<td>-.16 ***</td>
</tr>
<tr>
<td>Time on site (log2)</td>
<td>.00</td>
<td>.06</td>
<td>-.04</td>
</tr>
<tr>
<td>Friend count (log2)</td>
<td>.14 ***</td>
<td>.09 *</td>
<td>-.07 *</td>
</tr>
<tr>
<td>Content produced</td>
<td>.07</td>
<td>-.09</td>
<td>.04</td>
</tr>
<tr>
<td>Directed communication</td>
<td>.08</td>
<td>.11 *</td>
<td>-.11 *</td>
</tr>
<tr>
<td>Consumption</td>
<td>-.10 *</td>
<td>-.09</td>
<td>.15 ***</td>
</tr>
<tr>
<td>R²</td>
<td>.12</td>
<td>.19</td>
<td>.42</td>
</tr>
</tbody>
</table>

Table 3. Models including directed communication and consumption
in summary…

FB network size is weakly associated with increased bridging social capital (beta=0.14, p<.001)

FB consumption is weakly associated with increased loneliness (beta=0.15, p<.001)
strong links and weak links
in more depth

Materials of this part of the lecture are taken from:
how do people find jobs?

Granovetter interviewed people who had changed employers to understand how they discovered their new jobs

Job seekers gathered info helpful to their current jobs through personal contacts

These contacts were often acquaintances rather than close friends.

Why?

"Triadic closure: If two people in a social network have a friend in common, there is an increased likelihood that they will become friends themselves at some point in the future."

Figure 3.1: The formation of the edge between B and C illustrates the effects of triadic closure, since they have a common neighbor A.
why triadic closure?

1. **Opportunity to meet:** If A spends time with both B and C, there is a higher chance that they will get to know each other and become friends.

2. **Trust:** B and C being friends with A (and mutually aware of this) gives them a basis to trust each other (unlike a random pair of unconnected people.)

3. **Incentives:** A may want to bring B and C together, to avoid stress in these relationships.”
clustering coefficient

“Clustering coefficient $c(A)$:
+ probability that two randomly chosen friends of $A$ are friends with each other
+ fraction of pairs of $A$’s friends that are connected to each other by edges”

C-D: linked
B-C, B-D, B-E, C-E, D-E: not linked

C-D, B-C, D-E: linked
B-D, B-E, C-E: not linked

Figure 3.2: If we watch a network for a longer span of time, we can see multiple edges forming — some form through triadic closure while others (such as the $D$-$G$ edge) form even though the two endpoints have no neighbors in common.
bridges

“Bridge: an edge joining two nodes that, if deleted, would cause the nodes to lie in two different components”

Figure 3.3: The A-B edge is a bridge, meaning that its removal would place A and B in distinct connected components. Bridges provide nodes with access to parts of the network that are unreachable by other means.
local bridges

Bridges are rare in real social networks (giant components and small-world)

Local bridge: an edge whose nodes have no friends in common — if deleted, it would increase the distance to a value strictly more than two

Span of a local bridge: distance that endpoints would be from each other if the edge were deleted

\[ s(A,B) = 4 \]

Local bridges with large spans play similar role than bridges (but less extreme)

Figure 3.4: The \( A-B \) edge is a local bridge of span 4, since the removal of this edge would increase the distance between \( A \) and \( B \) to 4.
strength of a tie

Strong ties: Close friendships, greater interaction frequency
Weak ties: Acquaintances
strong triadic closure property (Granovetter)

“If node A has edges to B & C, then the B-C edge is especially likely to form if A’s edges to B & C are both strong ties”

“Node A violates Strong Triadic Closure Property if it has strong ties to two nodes B & C, and there is no B-C edge (either strong or weak tie)

Node A satisfies the Property if it does not violate it”

Figure 3.5: Each edge of the social network from Figure 3.4 is labeled here as either a *strong tie* (S) or a *weak tie* (W), to indicate the strength of the relationship. The labeling in the figure satisfies the Strong Triadic Closure Property at each node: if the node has strong ties to two neighbors, then these neighbors must have at least a weak tie between them.
putting all together: local bridges and weak ties

**local bridges**: global, structural notion

**weak/strong ties**: local, interpersonal notion
local bridges and weak ties (2)

“If node A satisfies the Strong Triadic Closure Property (STCP) and is involved in at least two strong ties, then any local bridge it is involved in must be a weak tie.

Assume A is involved in at least two strong ties (B & C).

Assume edge A-B is a local bridge.

Due to STCP, there must be at least a weak tie between B and C.

But then edge A-B cannot be a local bridge, because by definition A and B must have no friends in common.

This contradicts the initial premise (the existence of a local bridge that is a strong tie).

Figure 3.6: If a node satisfies Strong Triadic Closure and is involved in at least two strong ties, then any local bridge it is involved in must be a weak tie. The figure illustrates the reason why: if the A-B edge is a strong tie, then there must also be an edge between B and C, meaning that the A-B edge cannot be a local bridge.
local bridges and weak ties (3)

“assuming strong triadic closure and sufficient strong ties, **the local bridges in a network are necessarily weak ties**

connection between **local** property (tie strength) and **global** property (serving as a local bridge)

a way to think about how properties of **network links** relate to broader issues about **network structure**”

On real world data, the relation holds in approximate form
how do people find jobs? local bridges and weak ties

“This helps explaining why new jobs are often sparked by links with distant contacts

Weak ties connect to new sources of information and opportunities; their local bridge property is directly related to their weakness as social ties.

KEY: dual role as weak connections but also conduits to hard-to-reach parts of the network”
tie strength on facebook

*declared friendship:* friend is in target user list

*maintained relationship:* user followed info about friend (whether or not they communicated)

*one-way communication:* user sent messages to friend (whether or not reciprocated)

*mutual communication:* both users sent and received messages

Figure 3.8: Four different views of a Facebook user’s network neighborhood, showing the structure of links corresponding respectively to all declared friendships, maintained relationships, one-way communication, and reciprocal (i.e. mutual) communication [286].


http://overstated.net/2009/03/09/maintained-relationships-on-facebook

https://www.facebook.com/notes/facebook-data-science/maintained-relationships-on-facebook/55257228858/
Number of friends people really communicate with: 10-20

Number of friends followed even passively: under 50.

“Passive engagement”: keep up with friends by checking posts about them even if no communication occurs

“Passive network”: mid-point between strongest ties maintained by regular communication and weakest ties (e.g. past friends kept in FB list)

C. Marlow, L. Byron, T. Lento, I. Rosenn, ”Maintained relationships on Facebook”, 2009.
http://overstated.net/2009/03/09/maintained-relationships-on-facebook
https://www.facebook.com/notes/facebook-data-science/maintained-relationships-on-facebook/55257228858/
what to remember

descriptive analysis and network structure
  four degrees of separation (and shrinking)
  homophily

user motivations
  social grooming
  social capital

local bridges and weak ties
  weak ties connect to new sources of information
  conduits to hard-to-reach parts
reading session #1:
to be presented next week (08.03.2019)

M. Burke, L. Adamic, K. Marciniak
Families on Facebook
Proc. AAAI Conf. on Weblogs and Social Media (ICWSM), 2013
http://www.thoughtcrumbs.com/publications/burke_icwsm_2013_families_on_face
book.pdf

Presenter: To be announced in class
Discussant: To be announced in class
Scribe: To be announced in class
reading session logistics

role 1: presenter
read paper in depth & prepare slides: 15 minute presentation
points: (1) what problem is addressed? (2) what are the contributions? (3) what is the technical approach? (4) what are the main findings?

role 2: discussant
read paper in depth & prepare questions to guide discussion
points: (1) how to improve the technical work? (2) what implications do the ideas have in society and in computing? (3) are there any controversial issues? (4) what are the limitations?

role 3: scribe
take notes of the group discussion
write up summary of discussion (one page max)

role 4: everyone else
read paper to understand basic ideas
questions?

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