Social computing

CS4784: HCI Capstone
Virginia Tech
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Preview

- Updates to syllabus, schedule
- Discuss Grudin reading
- Social computing
  - Examples and characteristics
  - Motivation and participation
  - Social networks
  - Leadership and governance
  - Deviant behavior
- 30-second intros

What is social computing?

- Direct social interaction through technology
- Indirect social interaction through technology
- Computing's effects on society

Examples of social computing

- Email
- Calendars
- Text messages
- Forums
- Blogs
- Wikis
- Crowdsourcing platforms
- Social networking sites
- Online education tools
- Project management tools

Characteristics of social software

- User-generated content
- Collaborative
- Democratic
- Bottom-up organization
- Open
- Free
- Rich user experience
- Software as a service

Motivations to contribute

- Sense of efficacy

- Reputation

- Anticipated reciprocity
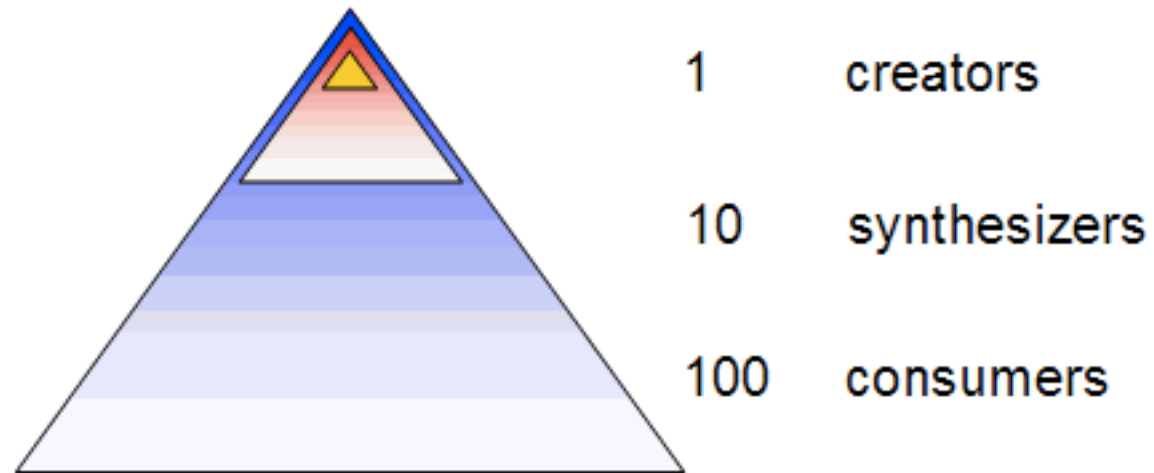
- Affinity to the group

- Learning

(Kollock 1999)

Non-contribution

- Are lurkers free-riders?
- What value might lurkers provide?

(Nonnecke and Preece 2000)

Horowitz's pyramid of participation


(Horowitz 2006)

Critical mass and network effects

- Critical mass
  - Minimum number of active contributors necessary to sustain participation and provide value
  - Catch-22
    - All social software needs a critical mass of users to be successful
    - Yet, few people want to join a site without a critical mass

- Network effects
  - The more people who join a social network/participate in social software, the more valuable it becomes

Social networks

- Not a new concept
- Milgram's small-world experiments (1967)
  - "Six degrees of separation"
- Granovetter: "The Strength of Weak Ties" (1973)
  - Strong vs. weak vs. absent ties

weak tie

strong tie

absent tie
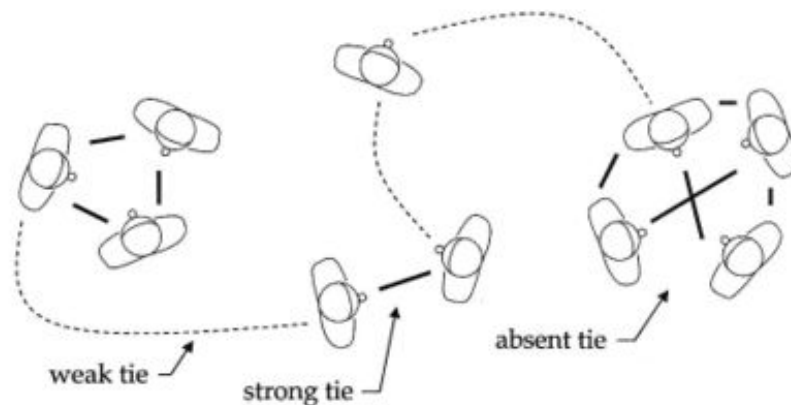
Online social networks

- Allow us to expand our social networks across time and distance
- Allow us to articulate our social networks digitally
  - What problems arise?
- Uni-directional vs. bi-directional networks
- "6 degrees" holds up online (Watts 2004)
- Weak ties more helpful for finding jobs on Facebook (Burke et al. 2013)

Social roles and leadership

- Roles can be formal or informal

- Examples
  - Formal: admin, moderator, regular user, unregistered, staff, volunteer
  - Informal: newbie, regular

- What formal roles do we provide and what process decides who occupies them?

Administrator	Protect/unprotect pages; Delete/undelete pages; Block/unblock users; Special revert tools
Bureaucrat	Make administrators; Rename users; Make other bureaucrats
Steward	Change all user access levels on all Wikimedia projects
Oversight	Hide page revisions from all other user types
Checkuser	View user IP addresses
Developer	Access to MediaWiki software and Foundation servers (various sublevels)

Access level in Wikipedia
(Forte & Bruckman 2008)

11

Governance

- How are site-wide decisions made?
  - "Benevolent dictator" vs. democracy
- What permissions and privileges to we provide for each role?
- How much activity in our software should be controlled by social vs. technical constraints?
  - The "Wikipedia" principle
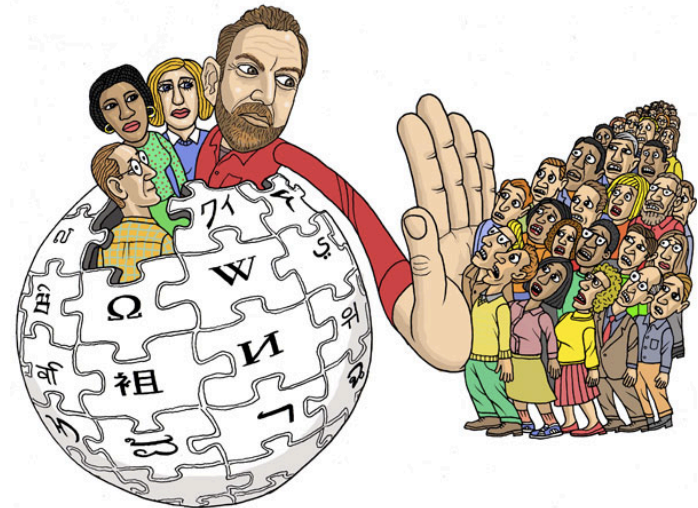
"Wisdom of the Chaperones" (Wilson 2008)

Deviant behavior

- How can users "misbehave"?
  - How do they know what's considered appropriate?
- What mechanisms are available for dealing with deviant behavior?
- Automated approaches
  - Permissions, logging, undo
  - Filters, detectors, bots
- Human approaches
  - Top-down: paid or volunteer moderators
  - Bottom-up: "report this user"
- What are the tradeoffs?

Social computing failures

- In the workplace (Grudin 1988)
  - Disparity between who does the work and who gets the benefit
  - Differences between needs of decision-makers (managers) and needs of software users
  - Hard to evaluate social software

- Outside the workplace
  - Can't build a critical mass
  - Conflicts among users
  - Failure to evolve

Next class

- Creative computing
- Start browsing project ideas on blog
- Read Shneiderman and Stanford readings