CS 8803 Social Computing: Background

Munmun De Choudhury
munmund@gatech.edu
Week 1 | August 20, 2014
Resources

- Office hours: 11am – 12 noon Thursday, or by appointment
- Location: TSRB 236

- Teaching Assistant: Joe Gonzales
- Office hours: by appointment
- Location: TSRB 338A
- Email: jgonzales8@gatech.edu

- Class website (including readings): http://www.munmund.net/CS8803.html

- Piazza: piazza.com/gatech/fall2014/cs8803specialtopics
Using Piazza
Term Project Teams

- Start discussing with your classmates about potential team formation
- Team member information due: September 8
  - Email me and the TA about team name and members
- Team project proposal due: September 15
  - Use the time until September 15 to come to me and discuss project ideas
  - I’ll suggest some sample projects in the class on September 8
  - Once you are final, email me and TA and the project proposal (2-3 sentences)
Defining “Social Computing”
What attracts people most is other people.
—William Whyte
Dominion Telegraph Co.

AGENTS FOR

THE BELL TELEPHONE.
In fact, social computing is not new!

- Clairaut 1758: computed Halley’s comet orbit by dividing the numeric computations across three astronomers
- Maskelyne 1760: astronomical almanac with moon positions (for navigation). Two people did the calculations and one verified
- De Prony 1794: hired hairdressers to create logarithmic and trigonometric tables
- 1938: Math Tables Project - employed out-of-work clerks
Social computing on the web: in the late 1990’s and early 2000’s when digital systems became capable of doing more than simply serving as platforms for sharing online content and conversation
IRCs and forums were early “social”

- IRC – Internet Relay Chat, very early rudimentary application layer protocol that supported text based message exchange
  - Allow file sharing
  - Private and multi-way group chat (latter also known as channels)
IRCs and forums were early “social”

- Forums – message boards or an online discussion site where people can hold conversations in the form of posted messages
  - Mostly one-to-many sharing of content; threaded response structure
  - Messages are often longer than one line of text, and are typically temporarily archived
  - Presence of a “moderator”
The advent of modern social computing came when digital systems began to process user-generated content and make use of it for their own purposes – which often involved producing new functionality and value for their users.
An early example...

The Girl with the Dragon Tattoo

2,580 Reviews

5 star: (1,083)
4 star: (630)
3 star: (300)
2 star: (231)
1 star: (336)

Average Customer Review

Share your thoughts with other customers

Search Customer Reviews

Only search this product's reviews

The most helpful favorable review

1,967 of 2,108 people found the following review helpful:

🌟🌟🌟🌟 This Swedish bestseller deserves to be a blockbuster here too.

A 24-year-old computer hacker sporting an assortment of tattoos and body piercings.

The most helpful critical review

590 of 711 people found the following review helpful:

🌟🌟🌟LESS THAN I EXPECTED BUT STILL INTERESTING

Henrik Vanger, an elderly Swedish industrialist, has long been receiving the...
An early example...
Where do I find social computing today?

- Places on the web where individuals and groups create and exchange content and engage in person-to-person conversations.
  - blogs and microblogs, forums and message boards, social networks, wikis, virtual worlds, social bookmarking, tagging and news, digital storytelling and scrapbooking, and data, content, image and video sharing, podcast portals, and collective intelligence.

- Facebook, LinkedIn, Twitter, YouTube, Pinterest, Instagram, Snapchat, MySpace, Flickr, WordPress, Blogger, LiveJournal, Wikipedia, Second Life, Reddit, Tumblr
Timeline of Social Computing Platforms

1971 - The first email was delivered.
1979 – Usenet was an early bulletin board that connected Duke University and UNC.
1989 – British engineer Tim Berners-Lee began work on what was to become the World Wide Web.
1997 – SixDegrees.com, AOL, blogging, Blackboard
2002 – Friendster
2003 – MySpace, LinkedIn
2004 – Facebook, YouTube
2006 – Twitter
....
Purposes of social computing systems

- Social interaction
  - Twitter, Instagram, blogs, LinkedIn, Google+
- Maintaining friendships/contacts
  - Facebook, Instagram, Twitter, LinkedIn, Google+
- Social curation
  - Reddit, Pinterest, blogs, Twitter, Flickr, YouTube, Google+
- Content sharing
  - Reddit, Instagram, Twitter, Facebook, Tumblr, Pinterest, blogs, Flickr, YouTube
- Q&A, recommendations
  - Twitter, Facebook

General goal: Better decision making
- new ways to tap into the collective wisdom of the people in our social groups
Purposes of social computing systems

• Ubiquity of social computing systems
  • Recent advances in smartphone and tablet technologies, access to tailored, social information anytime, anywhere

• Serve as a “backchannel” to real events
  • People at real-world meetings tapping into an electronic swirl of commentary and interpretation by other participants – the “back channel” [2005]

• Geo-temporal breadcrumbs in the physical world
  • Serendipitous information discovery; smart gadgets for everyday tasks
How to make social computing work?

» Keep people engaged
Two central tenets of social computing
People

- Motivating participation
- Maintain existing connections
- Suggest new connections
- Derive utility from connections
- Manage diversity of connections
- Efficient communication modes
- Manage privacy, identity
- Cohorts, communities, groups
Two central tenets of social computing

Just helping you pick out some clothes!
Content

- Constantly streaming source of information
- Noise and quality
- Credibility
- Relevance/significance
- Serendipity/freshness
- Summarization/aggregation
- Spam
- Troll, malicious behavior
Looking at some examples through these tenets (Yelp)
Looking at some examples through these tenets (Wikipedia)
Looking at some examples through these tenets (Facebook)
Looking at some examples through these tenets (reddit)
Social computing refers to systems that support the gathering, processing and dissemination of content that is distributed across social collectives. Furthermore, the content in question is not independent of people, but rather is significant *precisely* because it linked to people, who are in turn associated with other people.
Class reading: Tech Review article on “Social Machines”
An overview of the article

• Remember it was written in 2005!
• Many interesting ideas and prototype systems covered, which are realities we take for granted today:
  • Smartphones and other handheld devices
  • Personalization of web content
  • Collaborative filtering e.g., Amazon
  • Podcasts, sharing of multimedia in social environments
  • User generated content and self-publishing
  • Social networking sites and “six degrees of separation”
  • “social services” that collect and redistribute the knowledge of large communities of people
  • That social networks are not just “made up of people”, but people are connected to each other via shared objects, interests etc.
  • Mobile software sensitive to changing locations
  • Shared calendars, activity synchronization with friends and colleagues
How has social computing led to “continuous computing”? 
An obvious challenge of such “continuous computing” – information overload – two examples of SC systems where you experience this
Article mentions SC systems “adapt more readily to our locations, our preferences, and our schedules” – is this always a good thing?
Weiser (PARC) proposed the idea of “ubiquitous computing”—how has SC systems been able to realize that?
The article also talks about extracting patterns of activities and predicting what to recommend based on future activity.

What opportunity do you see there?
What problem do you see there?
Next class

- Responses to assigned readings will be graded!
- Your response should focus on the following:
  - What is the main contribution?
  - Is it important? Why or why not?
  - What assumptions are being made?
  - What applications could arise?
  - How can it be extended?
  - What was unclear?
  - Did you find the paper interesting?

- Responses should be on Piazza by 11:59pm on Sunday