

Facoltà

di scienze della

comunicazione

MSc in Communication Sciences 2011-12 Program in Technologies for Human Communication

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Internet Technology

09 – Web 2.0 (part 2)

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Social Systems

Results of an attempt to classify existing social systems:

- not trivial!
- many technologies are used for purposes which are different than the ones they had been built for
- Some possible reasons:
 - **availability**: a particular system is the only one available for a community;
 - Iocality: systems are places where people gather, and people might choose to use the "wrong" system because they do not want to move to another one;
 - imitation: as other similar communities had success using a particular system, new similar groups might tend to use the same one;
 - **practice**: a community —not necessarily an online one—might already share some practices that are independent from the newly adopted system and try to shape it according to them.



(Categories of) Social Systems

- Creating and publishing
- Communicating
- Sharing
- Recommending
 - Coordinating
- Networking
- Playing



Creating and Publishing

Blogs

- Some subcategories: photo/sketchblogs, vlogs, mp3 blogs
- Might have one or more writers, plus comments by users
- Data format standardized with RSS
- Browseable archive organized by time (months) + categories (tags)

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Creating and Publishing

Wikis

- Main characteristics: editing via browser, simplified Wiki syntax, strong linking with CamelCase, unrestricted access, versioning (to balance their openness)
- Used for different purposes such as encyclopedias, software documentation, collaborative publishing

Collaborative editors

- Asynchronous (revision control systems, i.e. SVN, CVS)
 - Checkout, edit, commit changes
 - (semi) automatic management of concurrent edits (works well with many independent files)
- Synchronous (aka "collaborative real-time editors")
 - Shared view of the same document
 - Changes are seen by all the participants in realtime
 - Examples: Abiword, Gobby, Google Docs



Email

- Individual messages, text messages through SMS gateways, Web browsing, file sharing, many-to-many and one-to-many communication via mailing lists and newsletters
- Sometimes used as a "push" medium

Web Forums

- Main feature: exchanged messages remain available online for others to read
- Mostly centralized, even if projects for p2p forums exist
- Closed ones become part of the "deep Web"
- Often used as a high-quality, community-driven backbone for many p2p systems

Chat

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IRC, Web based, IM

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- IM born for one-to-one communication (you see when your friends are online), then allowed group chat too
- IRC as a file sharing medium thanks to the presence of bots (see previous classes)
- Microblogging (i.e. Twitter, Jaiku, identi.ca "status updates")
 - Is it "just" a publishing system or one mostly used for communication?
 - Limits on text size (typically 140 chars)
 - Strongly relies on links for sharing multimedia resources (i.e. images or videos) => related with short url services
 - Posts can contain hashtags, which are used for many different purposes (what happens when they also become machine tags?)



About URL shortening

- URL shorteners have become ubiquitous... but is that a good thing?
- Some issues:
 - Stability (if the service goes down, traffic could be blocked)
 - Obfuscation (you don't really know where you are connecting to)
 - Performance (you connect to one more URL)
 - Privacy (some services hand out cookies to their users)



Sharing

To keep the definition as general as possible, sharing systems allow to share *resources*:

- def.: "anything that can have a URI"
 - Files of any kind (*file sharing*)
 - URLs themselves (*social bookmarking*)

Sharing systems roughly follow one of the following models:

- The "good (?) old" client-server model
- Peer-to-peer model
- The "modern" client-server model



Sharing

The "good old" client-server model

- Relatively few Internet users who have a chance to upload their data on a server can make their files available to others via HTTP or FTP (and also choose who can access them)
- Information is scattered among many different servers: need to use search engines or directories to find what is needed



Peer-to-peer model

- Users are, at the same time, resource providers and downloaders
- Two different architectures:
 - Unstructured
 - Distributed (i.e. Freenet)
 - Hybrid (i.e. Gnutella, eDonkey)
 - Structured
 - i.e. Kademlia, BitTorrent
 - Typically relying on the concept of *distributed hash* table
- How to deal with incentives?
 - Sharing by default
 - UL/DL Ratio systems (constraining ones usually developed by external communities)



The "modern" client-server model

- Differently from most of p2p networks, these systems mainly deal with user-generated material (which does not mean "original" or "non-copyrighted"...)
- Often specialize in one or few file types, allowing one to open them in the browser
- Do not strictly require users to share their files with anyone (but most of the times they want to do it anyway)
- Fewer servers become central places for the activity of sharing specific file types
 - Advantages: servers can aggregate contributions in many different ways and provide value from this process (i.e. recommendations, related, etc.)
 - Disadvantages: what happens when the server disappears?
- Examples: YouTube (videos), Flickr (images), Bibsonomy (bibliographies), Scribd (docs), Slideshare (slides)



Sharing

Social Bookmarking Systems

- They allow users to save URLs together with related *metadata*. Bookmarks can be made available to others (default) or kept private
- File-specific bookmarking systems:
 - News (Digg, Twine)
 - Mp3 files (Webjay)

Bookmarks are categorized with tags

- From personomy to folksonomy (broad and narrow)
- Like *desire lines* on a landscape
- Pros: current, inclusive, democratic
- Cons: synonyms, homonyms, basic level variations, lack of precision+recall, lack of hierarchy, system dependent



- Recommendations are one of the easiest examples of information *inferred* within a social system
- This is done starting from data that has been provided by the user *explicitly* (i.e. Digg) or *implicitly* (i.e. Last.FM)
 - Recommendations can be applied to any system, but can also become systems on their own, such as in *social libraries*
- Item-specific review websites:
 - Places (Yelp)
 - Products (Epinions)
 - Any URI (Revyu)



Different social systems which allow group of users to share information about their common activities

- Data about the group itself
- The object of their activity (i.e. a program or a document)
- Communication inside the group
- Time management
- Main families:
 - Electronic calendars (i.e. Outlook, Google calendar)
 - Project management systems (i.e. SourceForge, Savane)
 - Online spreadsheets (i.e. Google Spreadsheet)
 - Workflow management systems
 - Knowledge management systems

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Def. Social Network (Boyd, Ellison): Web-based services that allow individuals to

- construct a public or semipublic profile within a bounded system
- articulate a list of other users with whom they share a connection
- view and traverse their list of connections and those made by others within the system
- Different networks with different purposes
 - i.e. MySpace for music, LinkedIn for work, Facebook for real-life friends
- More modern approach: object-centered sociality, according to Jyri Engeström, where social networks consist of people who are connected by a shared object
 - Find the shared object in Flickr, delicious, and Upcoming... and think about Facebook applications!
 - Naymz provides a network similar to LinkedIn, but centers on reputation and references

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Networking

(Boyd, Ellison)









- From MUD (Multi-User-Dungeon) to MMORPG (Massively Multiplayer Online Role-Playing Game)
 - chance to interact and communicate with others
 - persistent virtual worlds (that evolve even when players are not connected)
 - Second Life as a special case, as it introduced *money* into a virtual world



References

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