Week 5:
Newsgroups: the internet’s bulletin boards

Johan Bollen
Old Dominion University
Department of Computer Science

jbollen@cs.odu.edu
http://www.cs.odu.edu/~jbollen
Newsgroups

Mailing lists are relatively private discussion and announcement groups. We want public forums (fora?)!

1. Mailing lists
   (a) E-mail based
   (b) for your eyes only model
   (c) Possibly moderated
   (d) Subscription based
   (e) Duplication: same topic, many list

2. Newsgroups
   (a) Uses e-mail but constructs bulletin board like infrastructure
   (b) Focus on specific topic: one newsgroup, one topic
   (c) Public by definition, but can be moderated
   (d) Also subscription based but different definition
   (e) Sense of community is less exclusive
Newsgroups: quick overview

1. Definition
   (a) Public discussion forum on specific topic
   (b) Groundrules and principles written down in FAQ by founders
   (c) Open to all: anyone can e-mail message
   (d) Subscription simply means monitoring and participation
       i. post new messages
       ii. reply to existing messages
       iii. Concept of thread
   (e) Essentially a public inbox on a specific topic
   (f) System comprised of collection of newsclients and newsservers

2. USENET: Huge system for information exchange
   (a) Thousands of newsgroups, content communicated from newsserver to newsserver
   (b) USENET: collection of servers, Network News Transport Protocol NNTP (Port 119)
   (c) Ultimate internet democracy ran amok
Some history

System dates back to early 1970s

1. BBS systems
   (a) Dialup systems
   (b) Exchange of messages via intermediaries that distribute
   (c) Hub computers distribute

2. Role of BITNET
   (a) Many mailing lists originated here
   (b) focus on universities and thus academic subjects

3. Newsgroups
   (a) First newsgroups: Bulletin board system between Duke Univ and UNC@Chapel Hill
   (b) Information sharing between two schools
   (c) Open system: software distributed and applied at other locations
Newsreaders

1. Essentially news clients

2. Similar to e-mail clients but to read newsgroups
   (a) Select newsgroup
   (b) Retrieve messages from newsservers
   (c) Organize messages according to “subject”
      i. Threads: same subject
      ii. Replies to replies

3. Use e-mail to send message to newsgroups

4. Usually combined with e-mail client

5. Newsgroup clients
   (a) Outlook express
   (b) Netscape communicator
   (c) Pine
   (d) Other UNIX tools: rn and slrn
Newsclients: Netscape

http://www.cs.odu.edu/~jbollen/newsserver.png
http://www.cs.odu.edu/~jbollen/newsmessage.png
http://www.cs.odu.edu/~jbollen/newsgroups.png
Newsgroups: usage and good practices

1. Newsgroup etiquette
   (a) Tell newsgroup client which group to subscribe to
   (b) Read FAQ and observe messages and style of interaction
   (c) Before you post message
      i. Newsgroup are public spaces: keep them clean
      ii. Don’t crosspost
      iii. Respect email etiquette
      iv. You rely on other participants, be polite and humble
      v. Keep message in thread

2. Attachments
   (a) Blech!
   (b) Bad practice
      i. Except where explicitly required
      ii. Takes up lots of space

3. No flaming, no trolling, do not mention the war!

October 2, 2003
Newsgroups: subjects

Subject Hierarchy: mainstream vs. Alternative

1. News: Usenet newsgroups
2. Rec: hobby and recreational groups
3. Comp: computer-related groups
4. Sci: scientific research groups
5. Soc: social issue groups
6. Talk: groups discussing controversial topics
7. Humanities: discussions of the arts
8. Misc: a hodgepodge of other types of groups
9. Alt: a complete free for all

Sub-subjects:

1. soc.cul.belgium
2. comp.sci.unix

Introduction of new groups:

1. Public voting process
2. Public discussion
3. Except for alt

http://www.faqs.org/faqs/usenet/creating-newsgroups/part1/
Newsgroup model

1. NNTP
   (a) Distributed model
   (b) Social network analysis?
   (c) Hierarchical distribution model

2. Not all messages are guaranteed to be on your news server
   (a) Local decisions to carry or not
   (b) delays
**NNTP**

**Figure 10.3**
An illustration of how news articles are propagated throughout the world.
NNTP

**FIGURE 10.4**
Fanning out news via way-stations. If each site fans out to 100 new and different sites, in only four levels of the distribution process a total of 101,010,100 new sites can be reached.
The World Wide Web

1. Focus on Dissemination
   (a) Access stored information
   (b) Client to server
   (c) Multimedia
   (d) Hypertext based

2. Linked information content
   (a) Content
   (b) Structure
   (c) Original idea: hypertext
Hypertext

1. Hypertext: systems for non-linear text
   (a) Shift from “traditional”, “linear” texts and media
   (b) User determines own sequence, experience
       i. Personalization
       ii. Interactive

2. Central Concept:
   (a) Network of documents
   (b) Document or document subcomponents link to other documents or its subcomponents
   (c) Author refers reader to related material
   (d) Reader can select links and determine own path
Vision of hypertext
Technology makes the difference

1. Hypertext is nothing new: existing document networks:
   (a) Citation graphs
   (b) Reviews and annotated libraries

2. What makes hypertext different?
   (a) Technology: digital storage, allows fast and convenient addition and incorporation of new knowledge
   (b) User experience of seamless transitions
   (c) Mimics associative and automated style of human information
   (d) Integration: links have become integral component of communication

The Memex: mother of all hypertext

1. V. Bush (1945): “As we may think”
2. Augmentation of human intellect through personal, adaptive hypertext device
Early developments

1. Early developments: focus on technology
2. Focus on augmentation of human information processing
3. Strong ties to innovations in Human Computer Interaction

Douglas Engelbart (Bootstrap institute):

1. Probably first implementation of functional hypertext systems (1968):
   On-Line System (NLS)
2. Collaboration (AUGMENT), Video Conferencing
3. Computer Mouse!
4. Hypertext (Adaptive!), many different formats, change of representation, organization of ideas

ZOG (1972), KMS (1981):

1. Pure hypertext system for organizing organizational data
2. Two screens: user edit text, insert hyperlinks and construct annotations
3. Simplicity of interface

Intermedia System (1986):

1. Education purposes, Apple MacOS
2. Hypertext toolkit for variation of formats
3. Bi-directional links, stored separate from text for maintainability
Early developments, cont’d...

**Guide (1987):**
1. First commercially available hypertext systes for PC and Apple
2. Integration of text, images and video
3. Hyperlinks: variety of in-text button
4. Absence of distinction between authors and readers

**HyperCard (1988):**
1. Closed hypertext system
2. Page: object containing text, GUI
3. Tool to develop interactive applications

**Xanadu (1965):**
1. Term Hypertext: Ted Nelson (1965)
2. Xanadu project: issues of ownership, copyright, version control, link verification, re-use

http://www.sfc.keio.ac.jp/~ted/
XUsurvey/xuDation.html
Hypertext: a generalization
Why the WWW operates as a hypertext system

1. Separation of storage (HTTP server) and retrieval (client)
2. Hyperlinks point to local and non-local resources using URLs
3. Client translates retrieved pages to hypertext
4. Decentralized paradigm offer user illusion of hypertext system