

Re-design of the interface for email messaging, retrieval and storage from a 'Social Computing' point of view

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Visual Communication

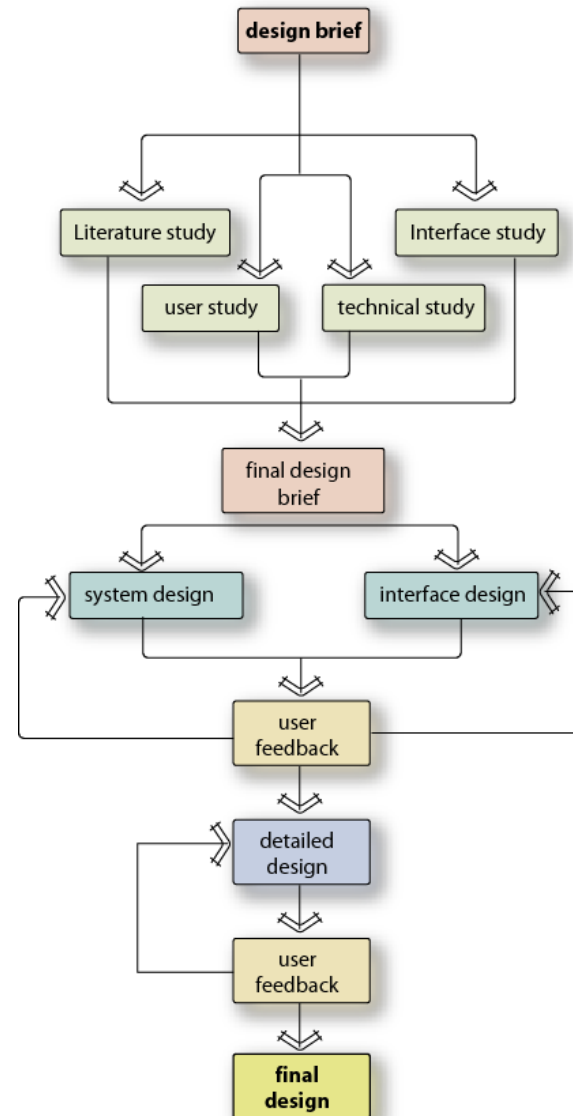
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Problem definition

Design an alternate email interface which would be user friendly, taking into consideration the social aspect of communication, the recent email trends and the technological advancements in electronic messaging.

Methodology



Study phase

Communication

Act of transferring, transmitting or exchanging thoughts or information.

Verbal communication

Language, symbolic sounds, music, cries laughter etc

Nonverbal communication

Gestures, signals, symbols, icons, proxemics etc

Study phase

Communication

Mass communication

Interpersonal communication

Interpersonal communication theories

Social penetration theory (Gerald Miller)

Communicator style (Robert Norton)

Study phase

Media choice theories

Media richness theory (Daft & Lengel)

Social influence models (Fulk, Schmitz & Steinfield)

Critical mass theory (Kraut, Cool, Rice, Fish)

Study phase

Communication modes compared

	Co-presence	Synchronicity	Audibility	Visibility	Sequential	Review ability	Revisability	Customizability
Face to face	●	●	●	●	●			●
Telephone		●	●		●			
Video conference		●	●	●	●			
Two way chat		●			●	●	●	●
Answering machine			●			●		
E-mail			●			●	●	●
Letter						●	●	●
Fax						●	●	●

Study phase

History of the email

- 1969
 - ARPA goes online
- 1970
 - Xerox PARC
- 1972
 - Email introduced by Ray Tomlinson
 - First email program by Larry Roberts
- 1982
 - Term Internet coined
- 1988
 - Eudora
- 1989
 - Lotus notes
- 1996
 - Microsoft
 - Free web based mail
- 1998
 - Microsoft buys Hotmail
- 2001
 - 9.8 billion emails/ day
- 2002
 - 544.2 million internet users

Study phase

Social commuting

Social networks

Social networks are formed when people interact with information and with each other.

Study phase

Mail filtering

Filtering is a method of defining rules for how to prioritize, sort and delete emails.

Date mining

Data mining is a process to discover patterns in data so that this knowledge can be applied to problem solving

Semantic analysis

history

Study phase

Semantic analysis

Sentence Length analysis

Stop Word Occurrence

Part of Speech Analysis

Search engines

Search engines categorize and rank pages on the web.

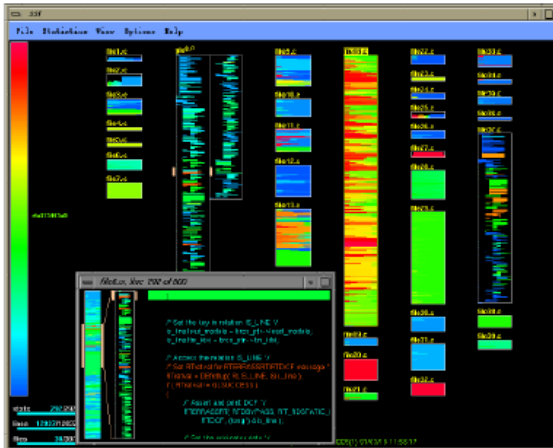
Google's PageRank system is based on link analysis

HTML Analysis

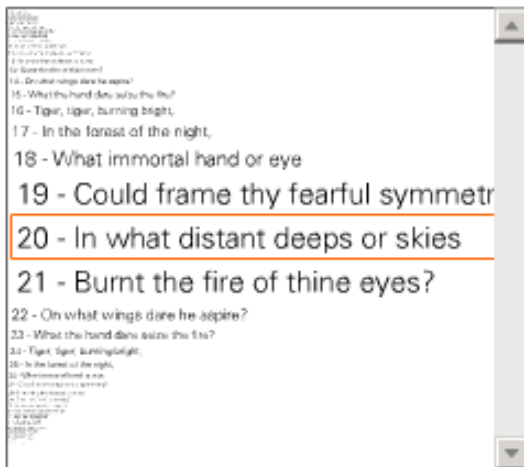
Study phase

Data visualization

Visualization is a process of transforming data, information or knowledge into visual form making use of human's natural visual capabilities.



Fisheye Menu #2



Fisheye menu

Study phase

Fisheye menu

This provides for an efficient mechanism to visualize long menus

Hyperbolic browser

It uses hyperbolic coordinates to visualize hierarchies.

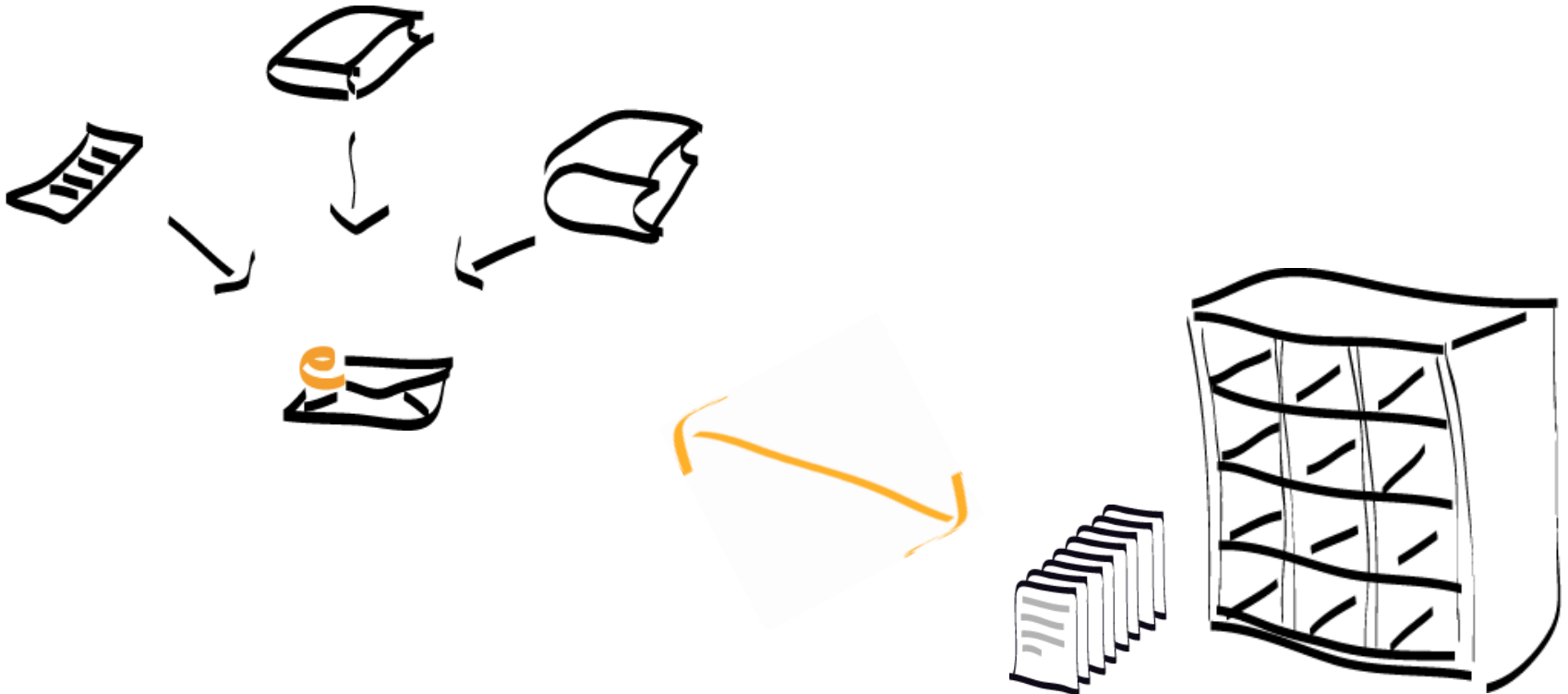
Study phase

Aspects of email

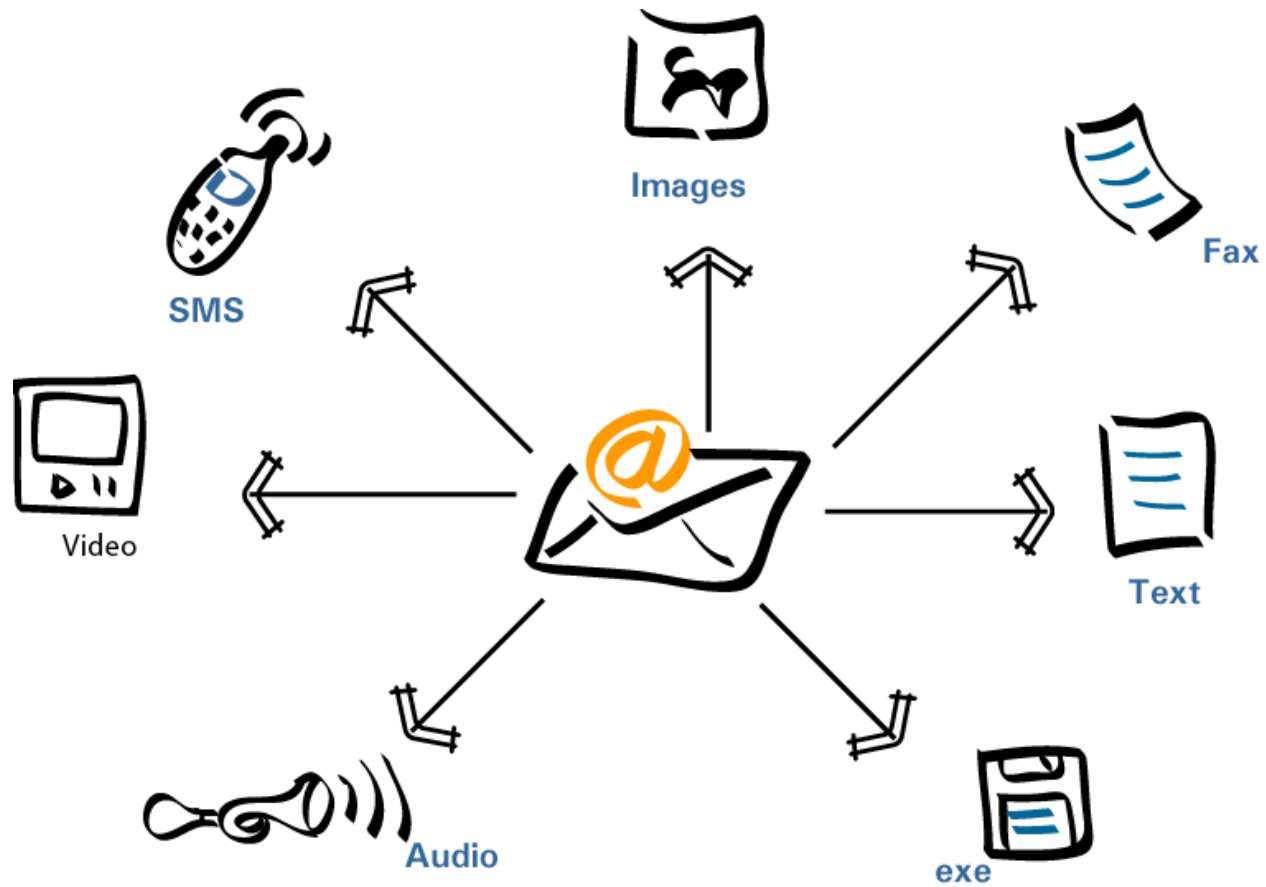
Pre message

Message

Storage and retrieval

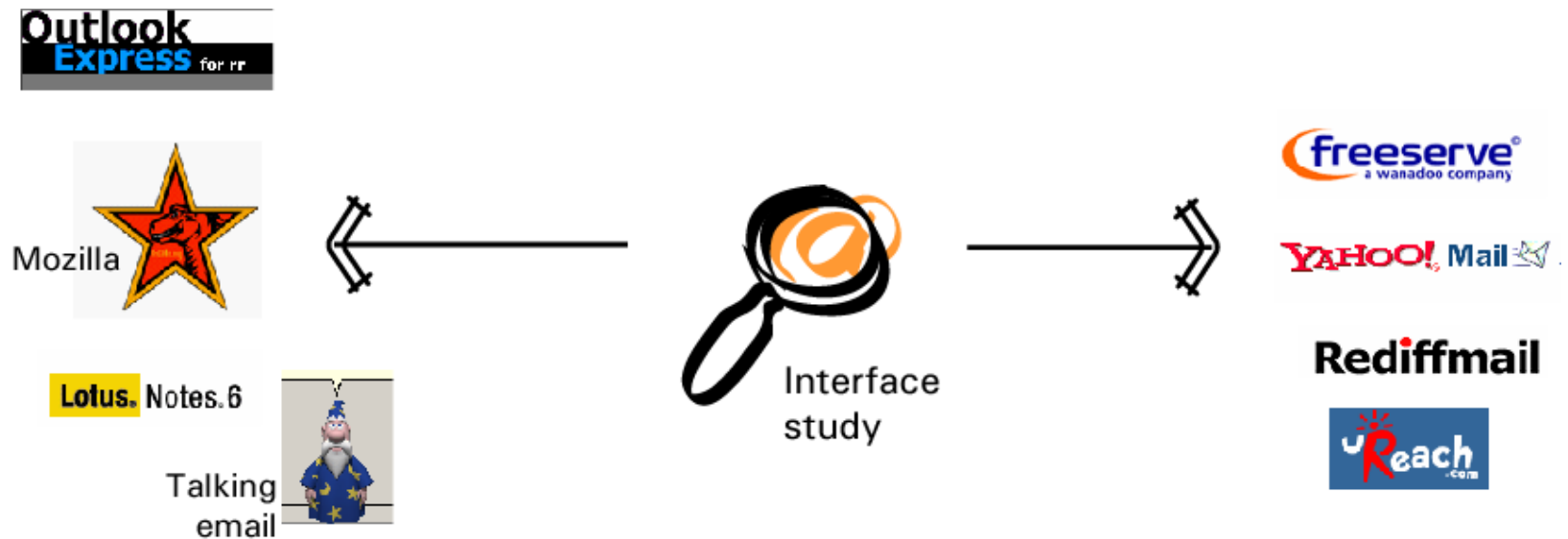


Study phase



Study phase

Email interface study



Study phase

Email interfaces

conclusions

Study phase

HCI aspects

notes



Study phase

Age group 18 to 30 years

Male and female

Educated, advanced user and above

Profile

Has a large friends list

Part of e-groups

Has a girl friend

In search of a job

Likes action and science fiction movies

Likes watching mtv

Has a personal computer

Interested in all sorts of electronic gadgets

Study phase

Inbox world



Study phase

Who's important



notes

Study phase

The need of the day

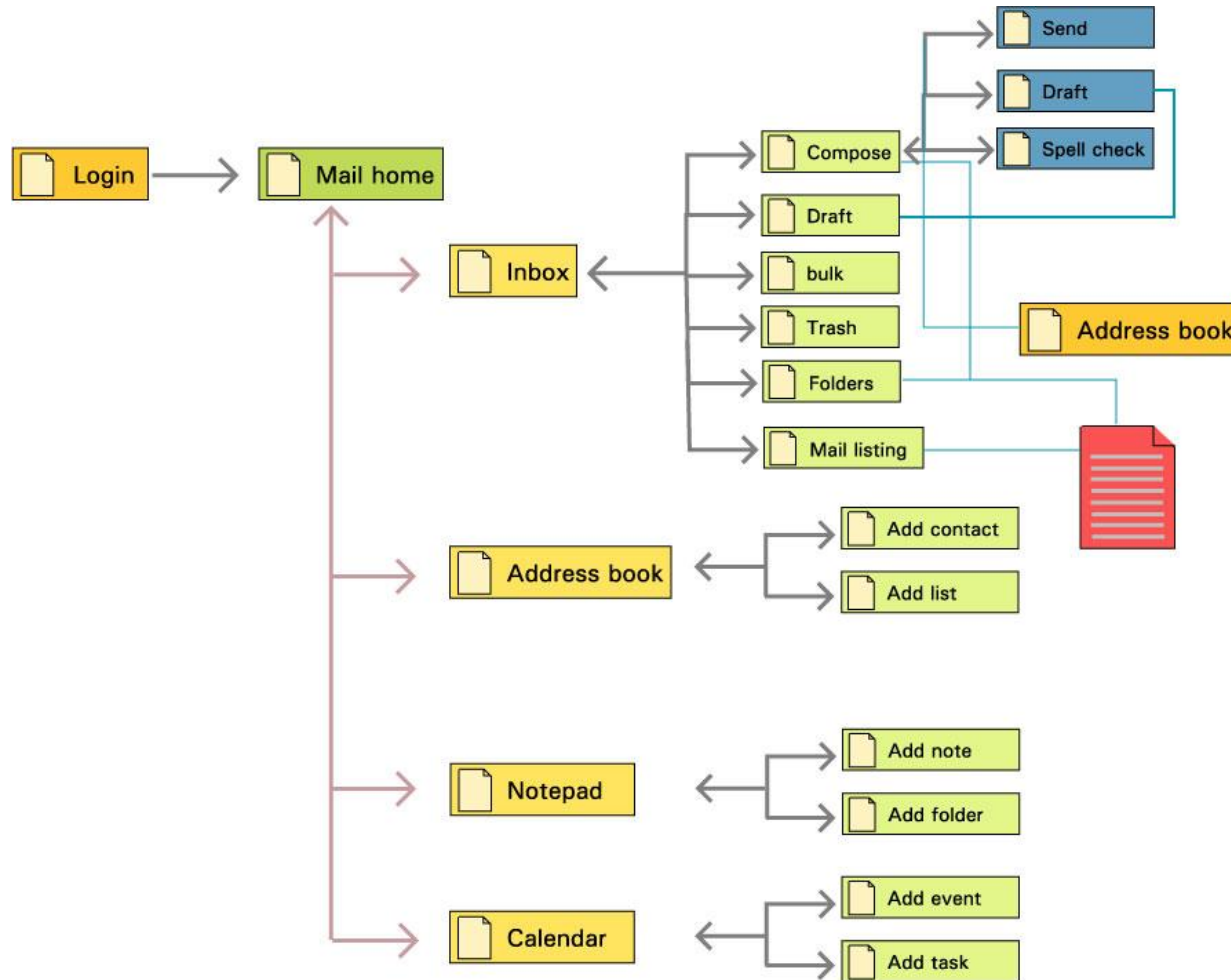


The intelligent system studies the user habits and builds a hierarchy, based on which the inbox is customized for each user. The more the user interacts with the system better would be the systems understanding (model) of the user.



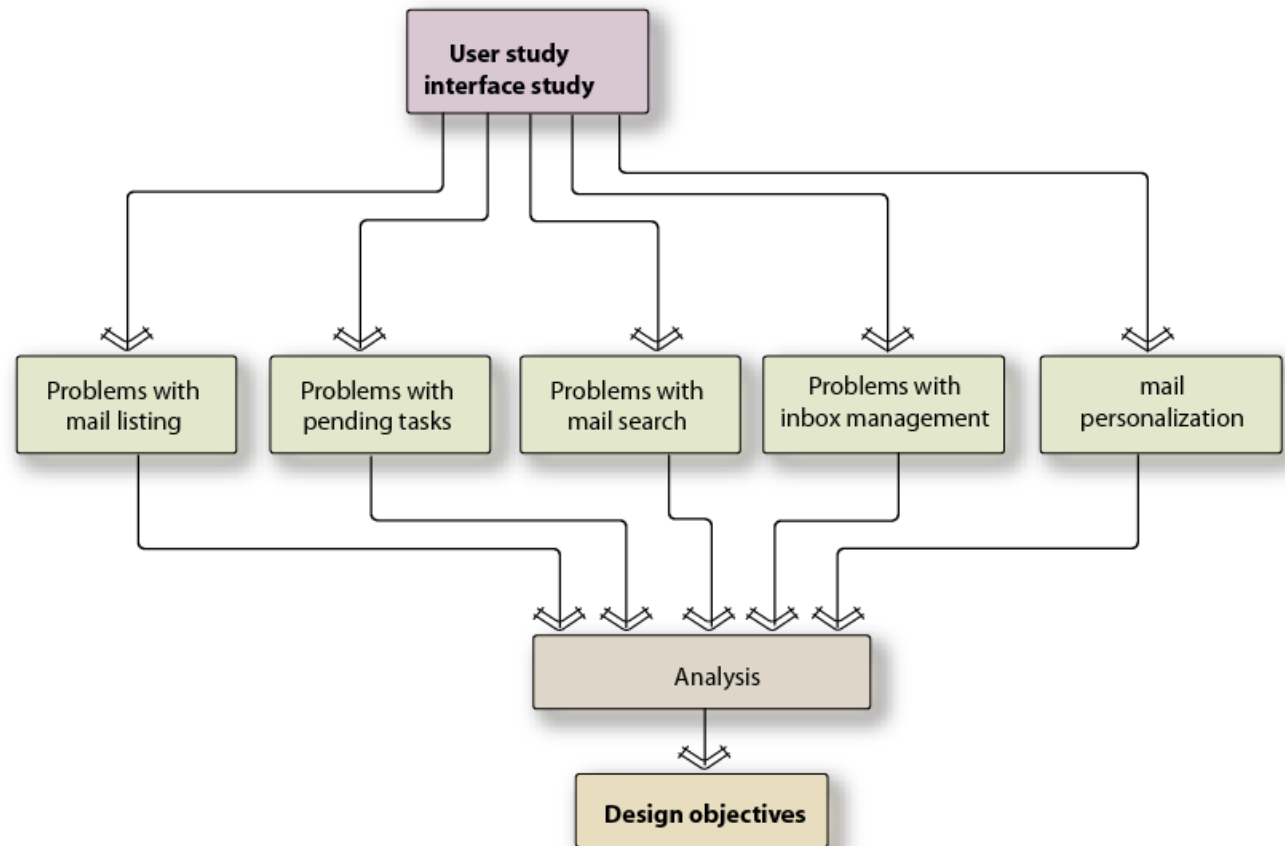
Study phase

Yahoo Email conceptual map



Study phase

User study



Study phase

Observations

- People used mail for personal archiving and task management
- Segmentation of mail based on category like personal and professional
- Older mails are deleted since inbox becomes crowded
- Emails were left in inbox as a means to remember email address
- Reply used more often than composing a new message and addressing it
- Address book is not fully utilized
- Users at times compose mails in word
- Spell check takes time (this justifies use of msword)
- Some mails are more important than others
- Mail search function was not much used

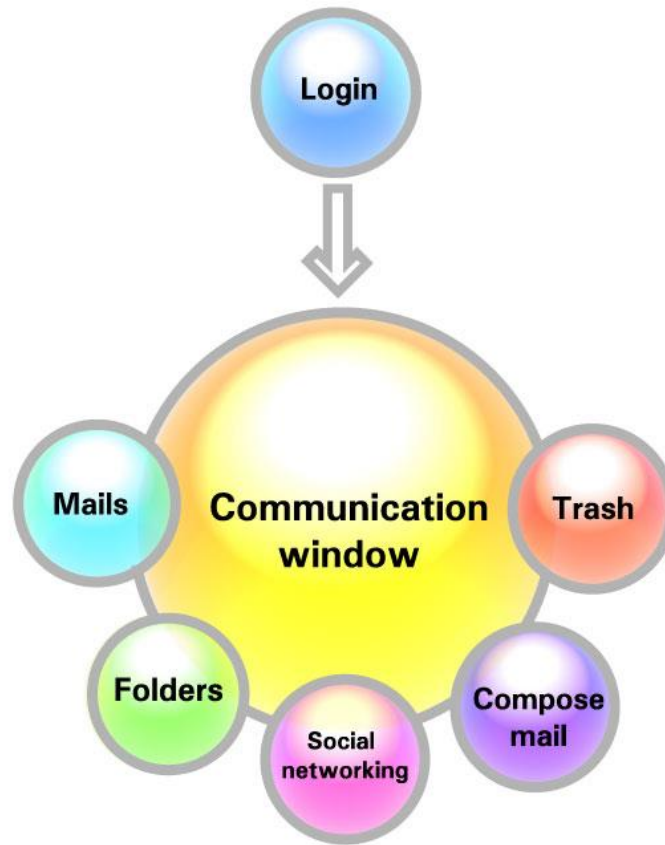
Study phase

Conclusions of study phase

- The inbox has to be visually rich
- The mail listing and hierarchy had to be developed to make the process of finding the important email much faster
- The size of email and type of email attachment has to be made more apparent
- The process of searching for email should be easy and intuitive
- The interface should display the mail history (email threads)
- The process of composing new mail should be reworked on
- The address book must be automated
- The email should support reminders
- The interface should help the use manage pending tasks

Study phase

Proposed conceptual model



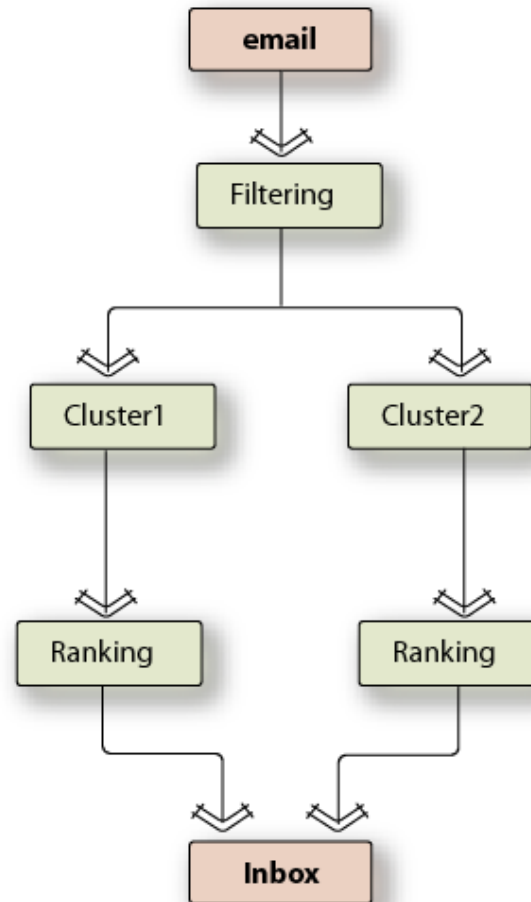
Study phase

Emotional aspects of mail



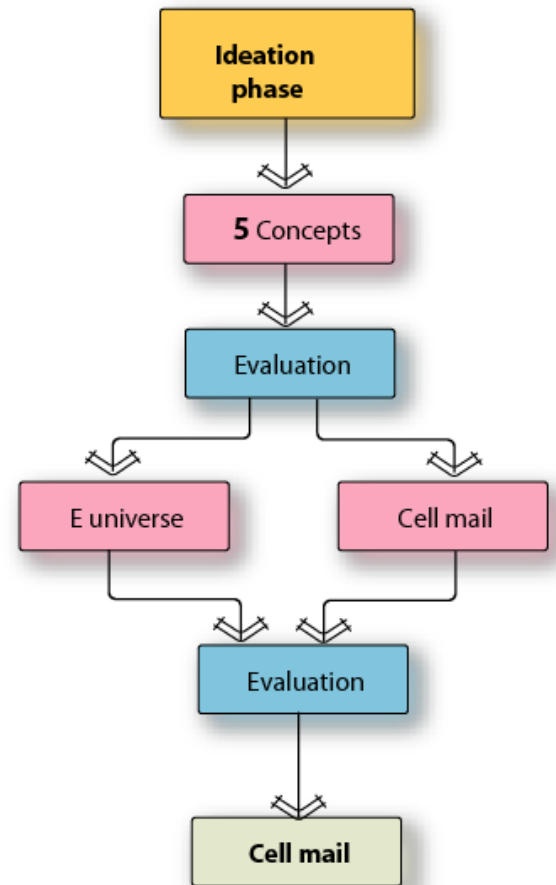
Design phase

System design



Ideation phase

Methodology



Ideation phase

concepts

notes

Ideation phase

concepts

notes

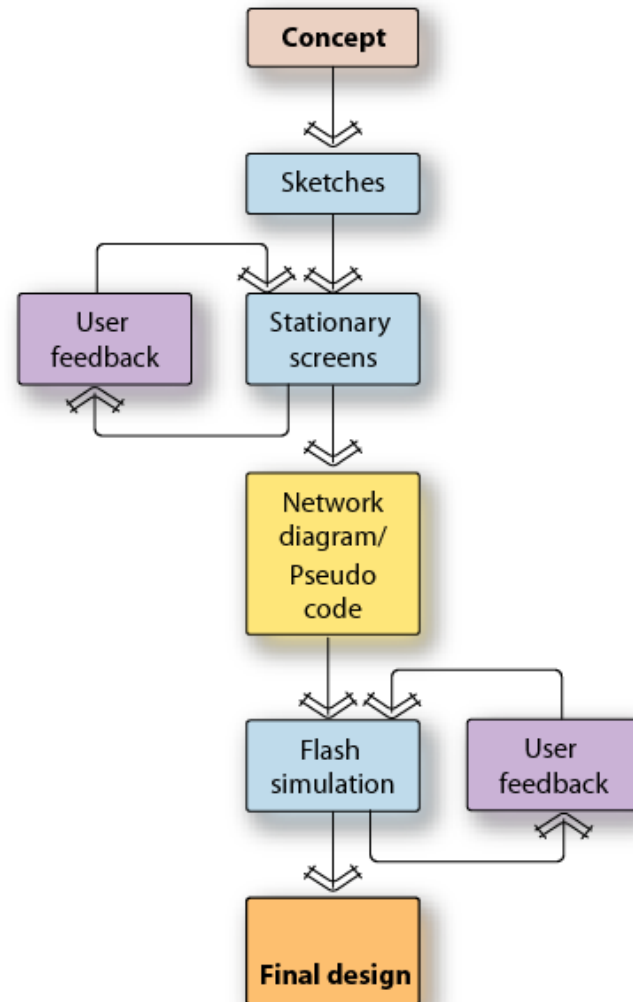
Ideation phase

concepts

notes

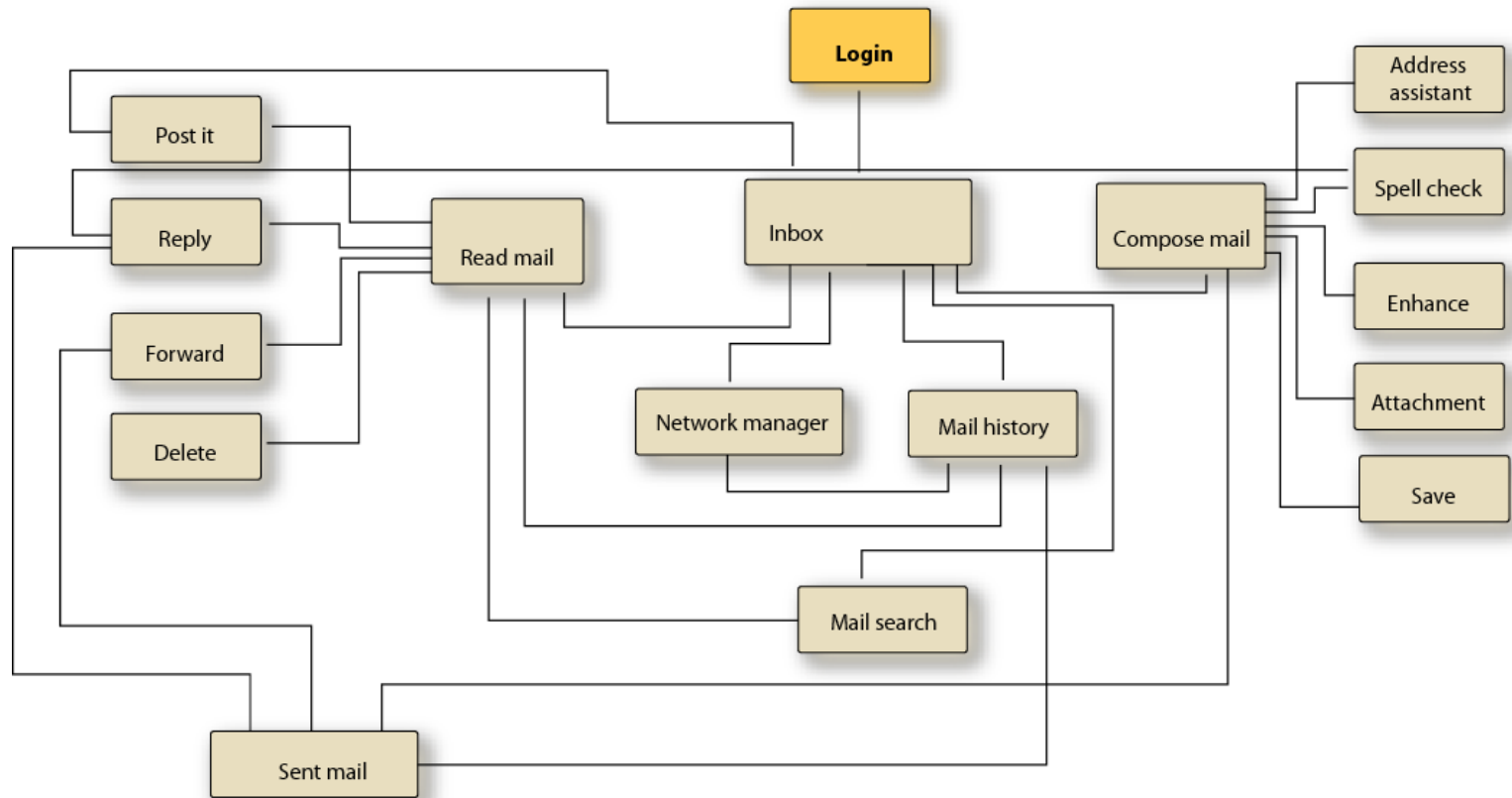
Detail design phase

Methodology



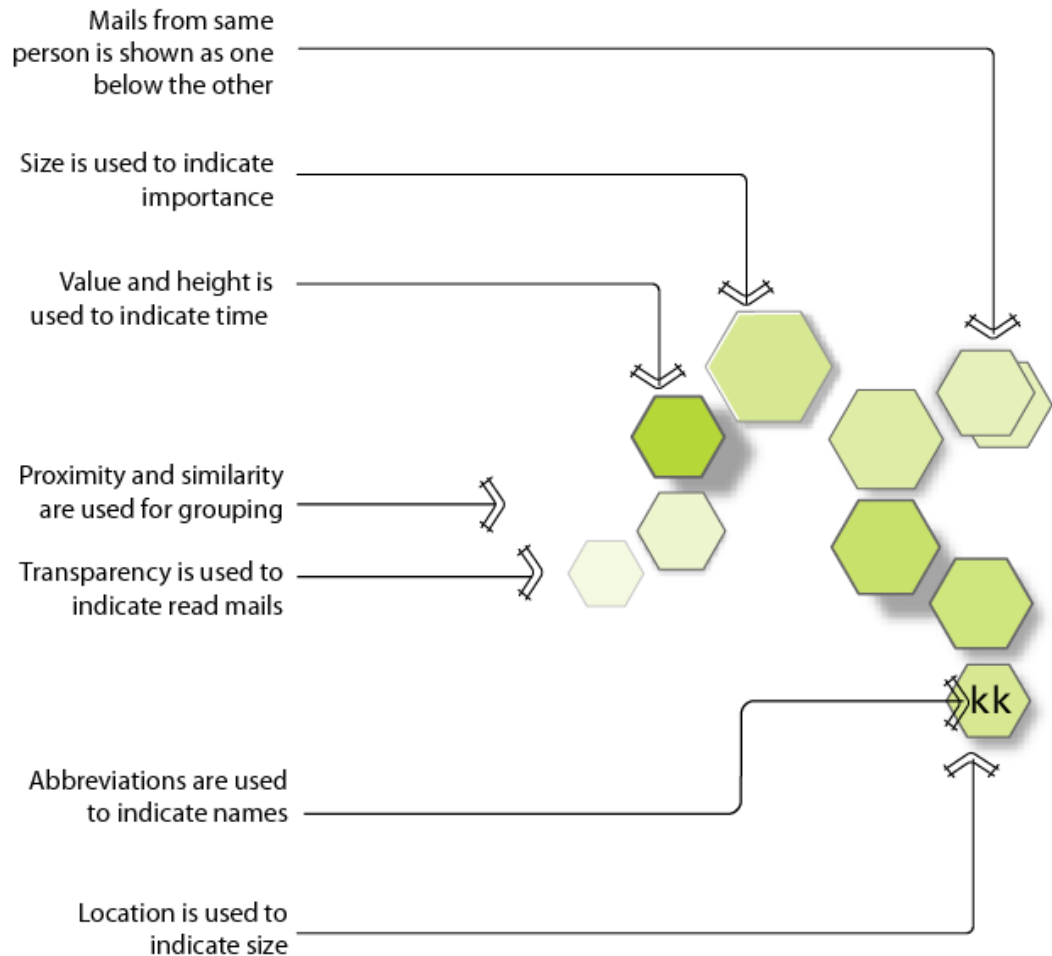
Final concepts

Mail structure



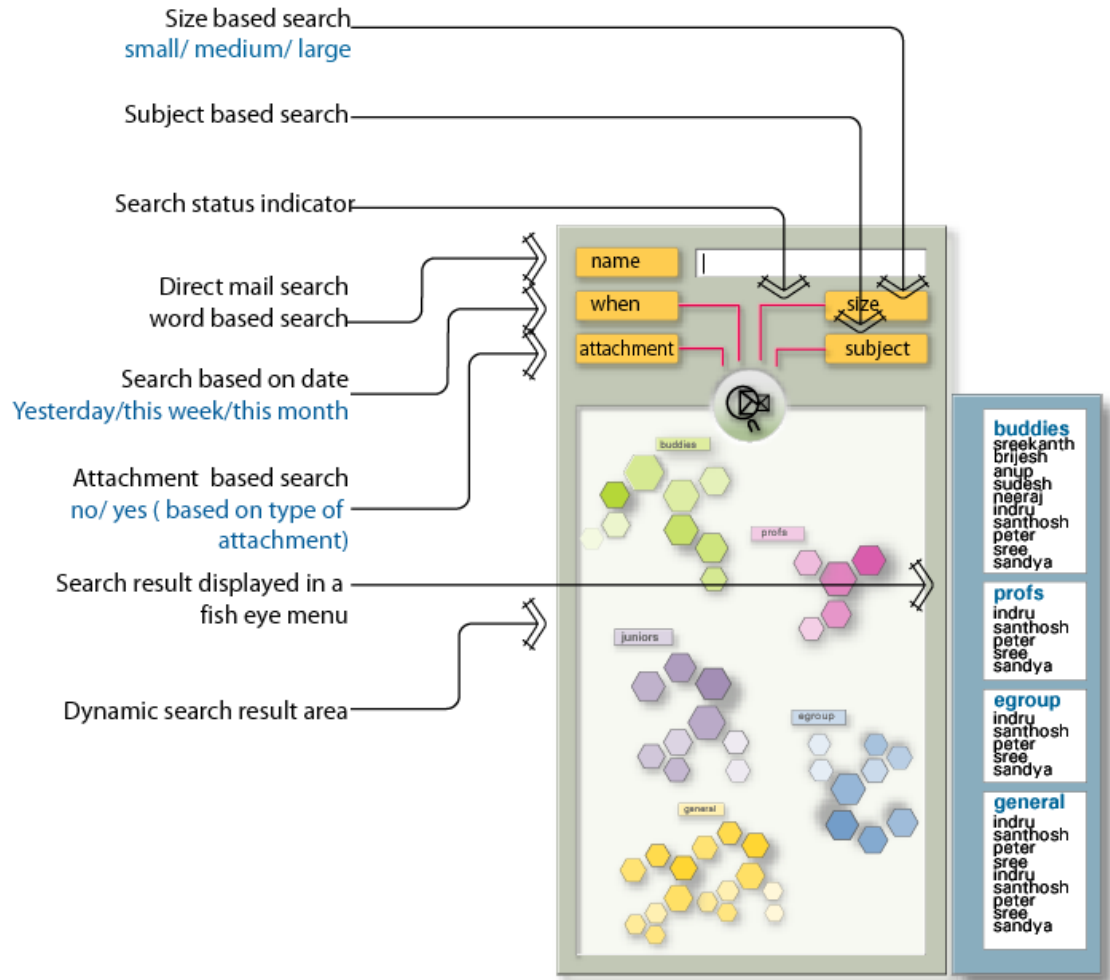
Design details

Inbox



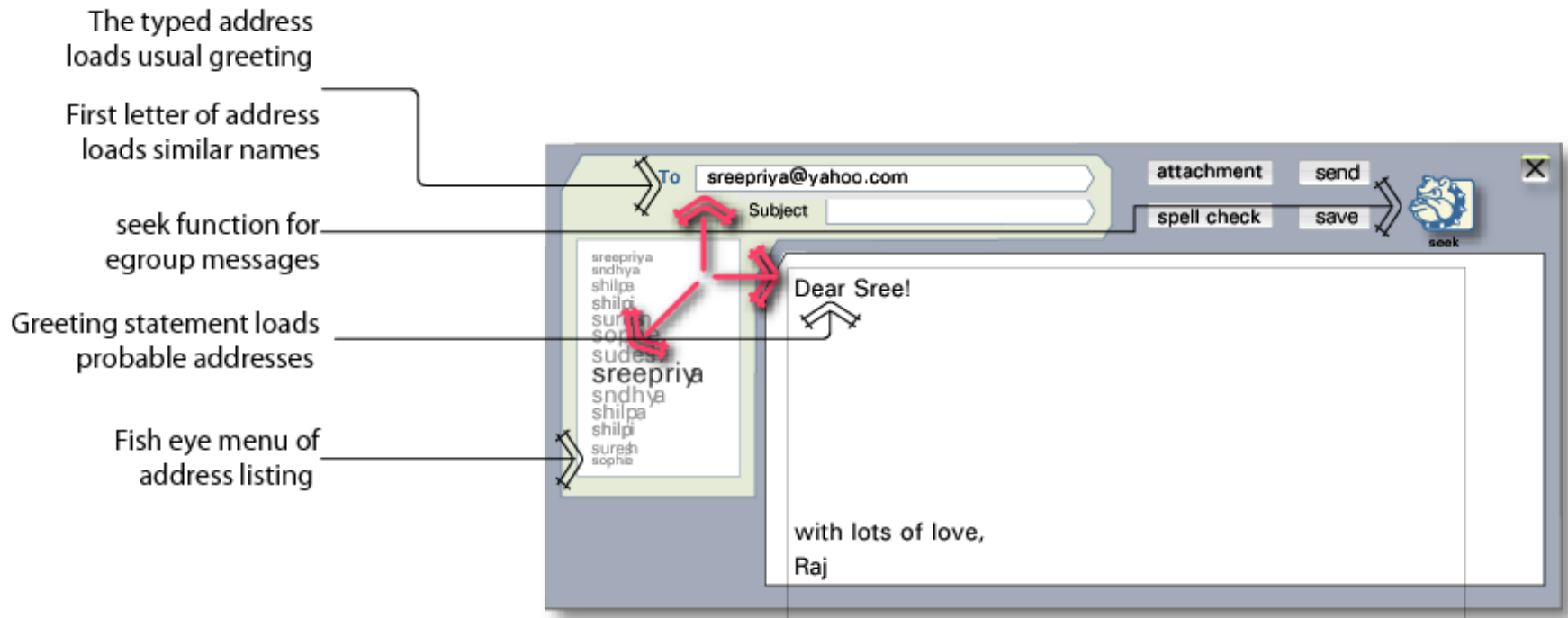
Design details

Mail search



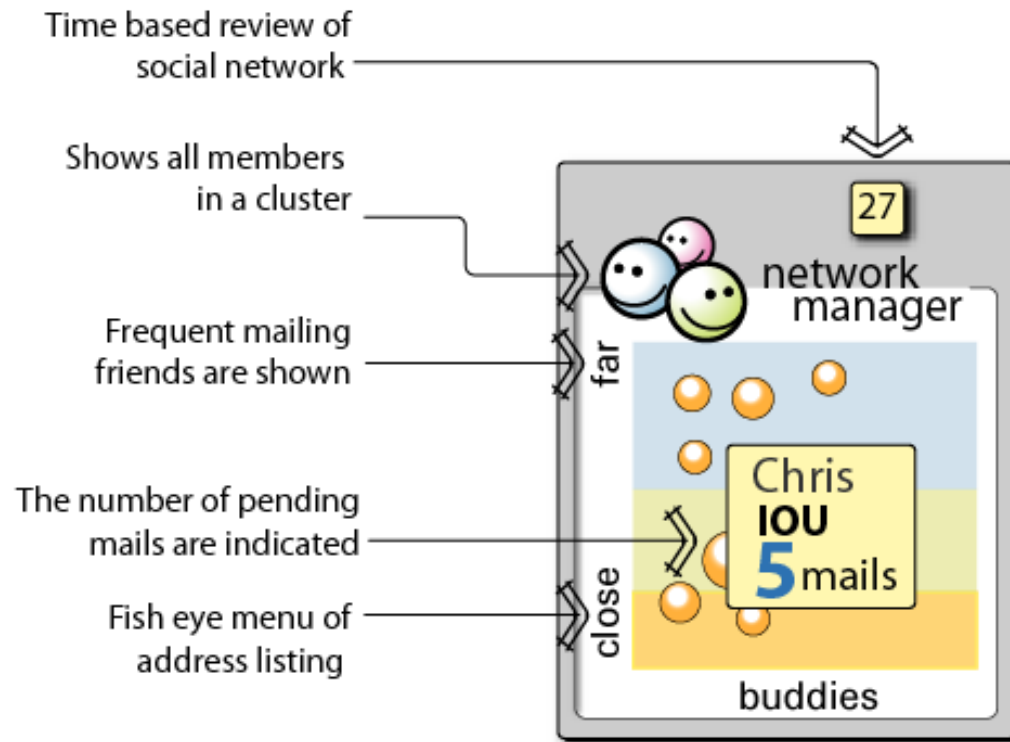
Design details

Mail compose



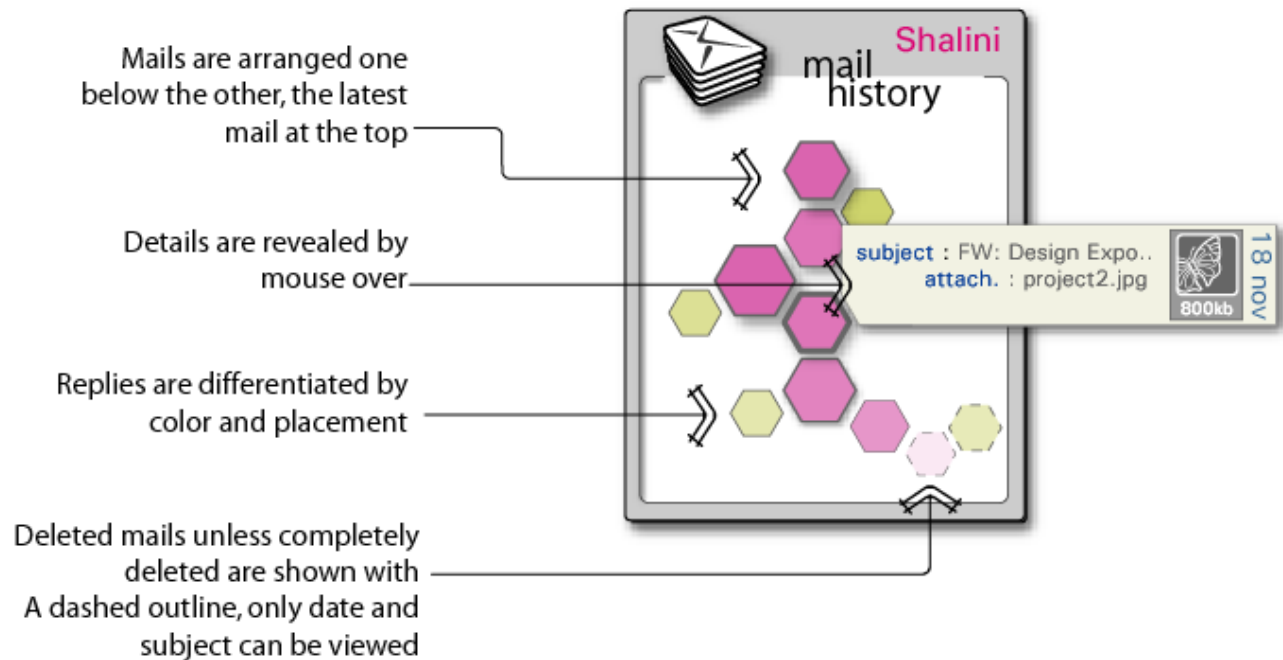
Design details

Network manager



Design details

Mail history



Final design

Mail history

notes

Final design

Network manager

Final design

conclusions

notes

Final design

bibliography

notes