

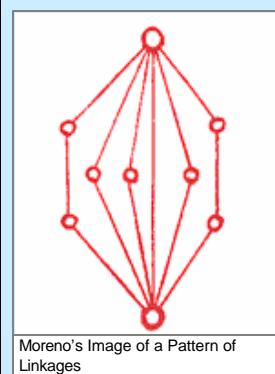
CPSC 599.28/601.28

Social Visualization

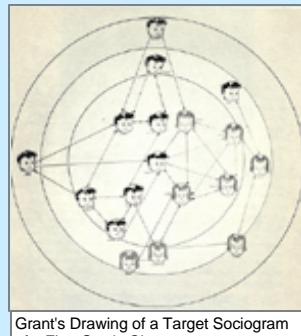
Sheelagh Carpendale

Social visualization

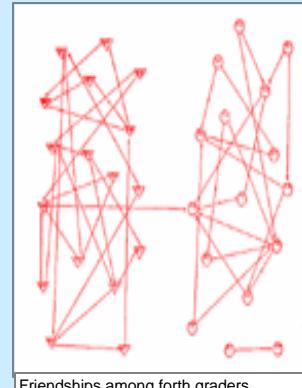
- Drawn by hand in the 1930s



Moreno's Image of a Pattern of Linkages



Grant's Drawing of a Target Sociogram of a First Grade Class



Friendships among forth graders

Online communication

- Chat
- Email
- Online communities
- Blogs
- Etc. ...
- Lets look at purpose – what would one want to visualize and why?

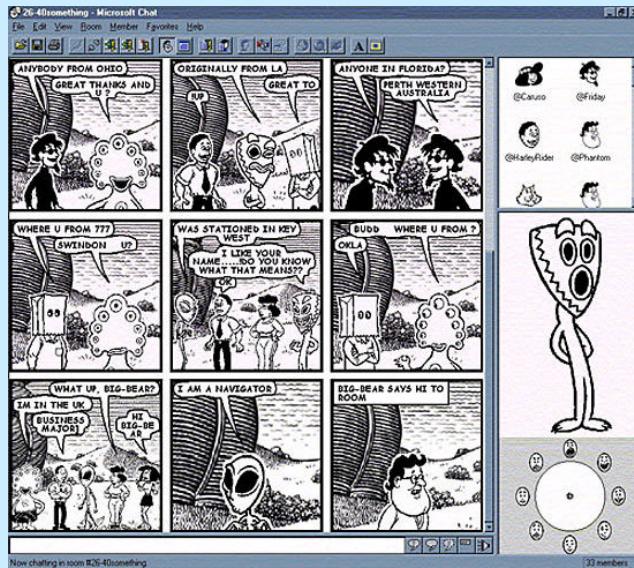
Chat

Purpose #1
A visual interface for chat.

Comic Chat

Purpose #1

A visual interface for chat.



<http://research.microsoft.com/vwg/projectsheets/comicchat.htm>

Chat Circles

Purpose #1

- A visual interface for chat.
- In contrast to more pictorial solutions
- Abstract shapes to convey
 - identity and
 - activity

<http://alumni.media.mit.edu/~fviegas/projects/chatcircles/index.htm>

Chat Circles

Abstract shapes to convey

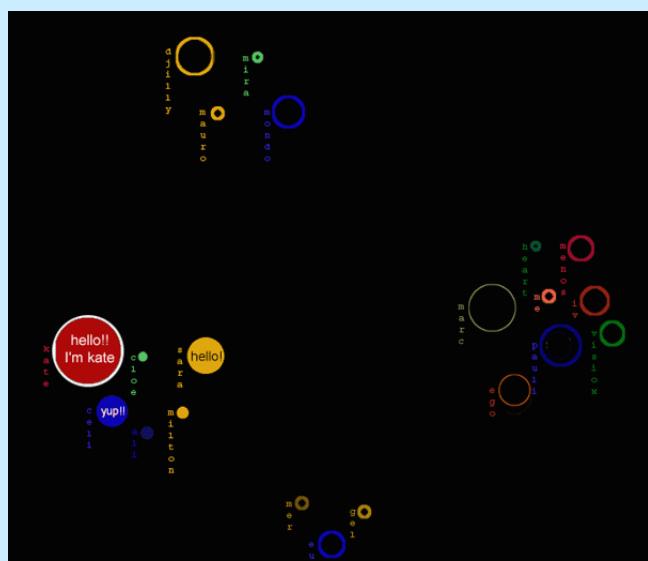
- identity and
- activity

Participant → circle (colour is personal choice)

Activity → brighter (dimmer with silence)

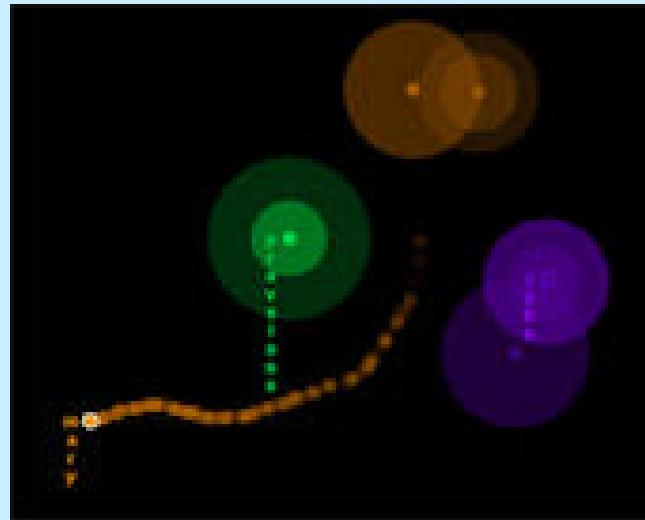
Chat Circles

Proximity is needed to 'hear'



Chat Circles

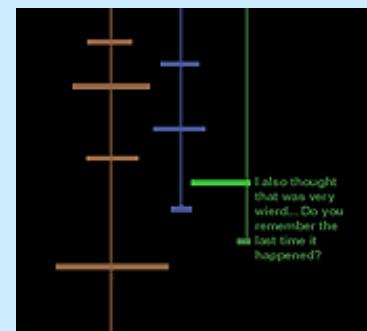
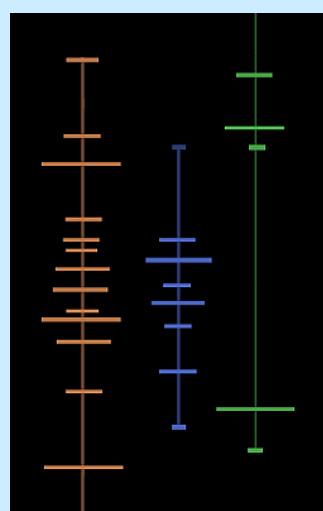
Movement leaves trails



Chat Circles

purpose:
conversation history
Graphical Log

- participant is thread
- bars are messages



Online interaction environments

Purpose:

The people who use them → data portraits

- Do people get really involved?
- Post frequently? Rarely?
- Do people respond to each other?
- Are newcomers welcome?
- Who are the experts?
- Who has been here for a while and has made many posts?

PeopleGarden

<http://graphics.lcs.mit.edu/~becca/papers/pgarden>

PeopleGarden

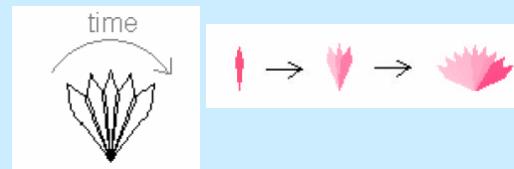
Basic person flower

More petals – more messages

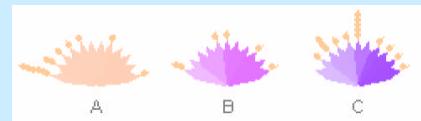
New on the right

Petals fade with time

Marked difference in saturation
mean time gap



Responses to postings



Magenta indicates initial post

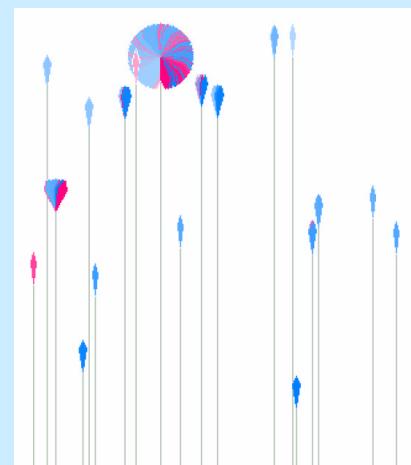


PeopleGarden

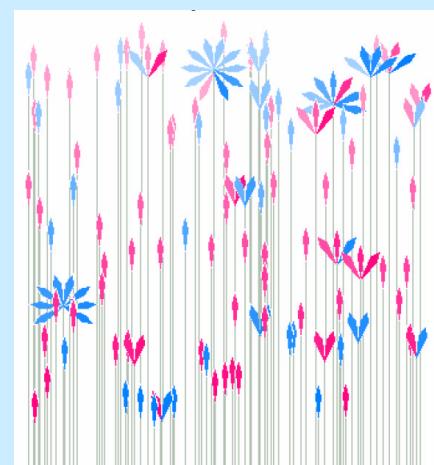
- A PeopleGarden showing messages from a message board with 1200 postings over a 2-month period.
- Height of flower denotes amount of time a user has been at the board.



PeopleGarden



A dominating voice



A more democratic group

Visualizing dialog

Purpose:

Give the impression of the conversation

Data:

The identity of who the person enters the text

The text – words and punctuation

What to visualize?

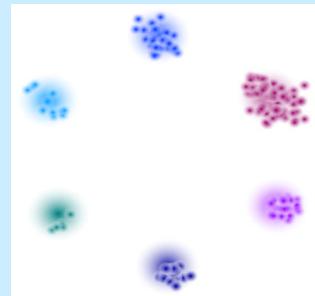
The Approach

- The response relationship
- The use of capitals
- The use of exclamation marks
- The number of words
- The number of characters

The number of words

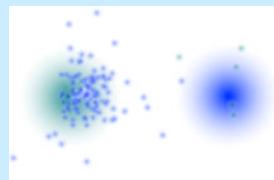


The number of words

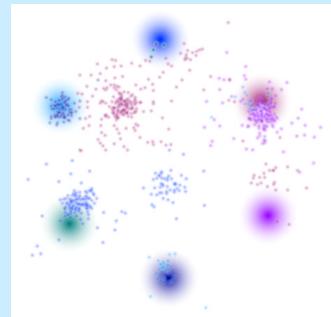
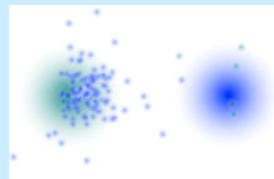


- To sense an individual's quantity of contribution to the conversation

The number of characters

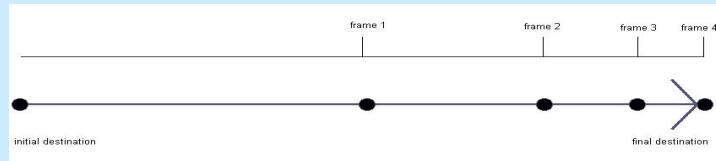


The number of characters



- A sense of quantity can be distinguished

Motion – Control Theory



Where we want to go = where we are + ((where we want to go – where we are)/2)

Where we want to go = where we are + ((where we want to go – where we are)/n)

If $n < 0.5$ motion accelerates past target

If $n = 0.5$ motion oscillates around target

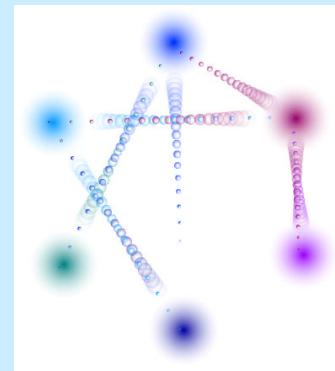
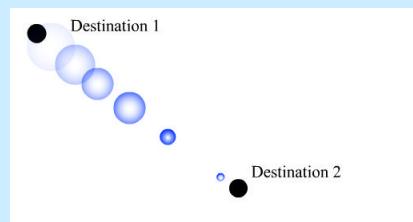
If $0.5 < n < 1$ overshoots target and comes back

If $n = 1$ will get to target immediately

* If $1 < n < 2$ will slow down as particle is closer to target

If n is over 2 particle will never reach target

The Response Relationship



The use of capitals

- To shout or capture one's attention

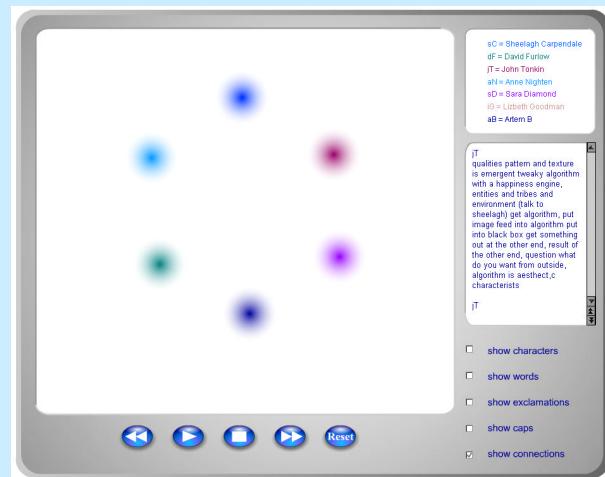


The use of exclamation marks

- To exaggerate or emphasize



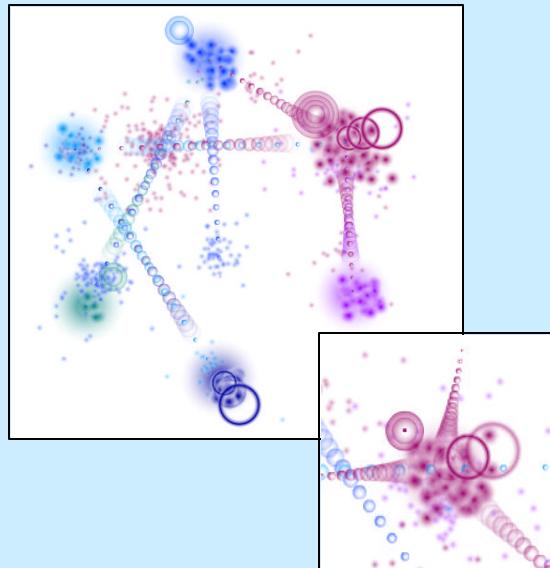
Demonstration



Enriching communication

Visualizing Human Dialog

- A Visual Representation illustrating a conversation or 'chat' between several people
- Representation uses abstract patterns

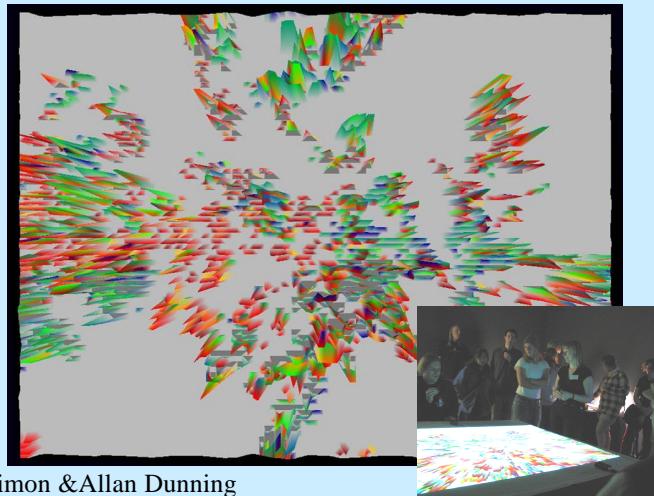


Annie Tat

Enriching communication

The Shape of Conversation

- **A Visual Representation** depicting a conversation between 2 parties
- **A Visual History** of the conversation is developed like a painting on a canvas



With Edward Tse, Holly Simon & Allan Dunning

Instant messaging

Reveal one person's chat activities
-> data in chat log history

- make individual messages apparent
- keep the link between the message's visual symbol and its text contents.
- indicate the beginning and ending of a 'conversation' as defined by the opening and closing of a chat dialog box.
- group one's interactions with each person in one's chat network.
- provide a structure linking the interactions with all people in one's chat network.
- show temporal order
- show temporal spacing and frequency
- provide an indication of the emotional content of the chat dialog as indicated by the emoticons used.

CrystalChat

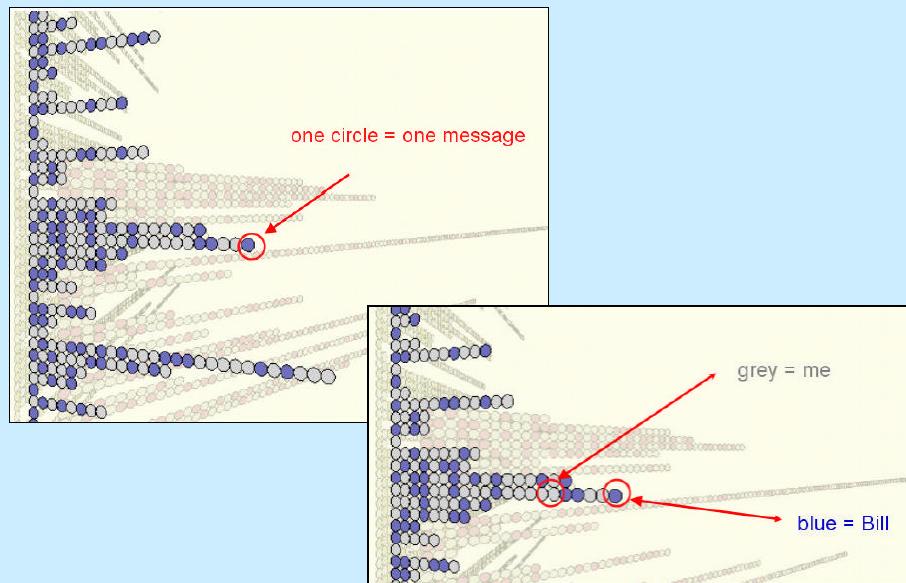
CrystalChat

Reveal one person's chat activities

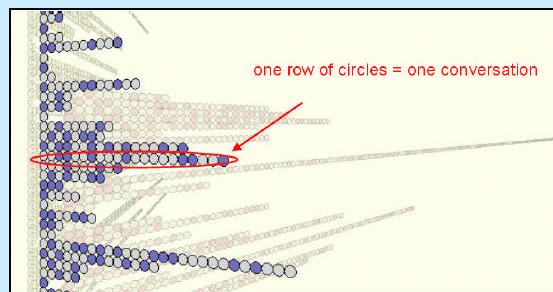
-> data in chat log history

Date	Time	From	To	Message
10/7/2003	10:52:09 AM	Disc Girl (Kristen)	Annie	hi
10/7/2003	10:52:12 AM	Annie	Disc Girl (Kristen)	hey
10/7/2003	10:52:18 AM	Disc Girl (Kristen)	Annie	we going for lunch?
10/7/2003	10:52:31 AM	Annie	Disc Girl (Kristen)	yes do you want to go at 11:15?
10/7/2003	10:52:34 AM	Annie	Disc Girl (Kristen)	instead
10/7/2003	10:52:47 AM	Annie	Disc Girl (Kristen)	nice pic
10/7/2003	10:54:08 AM	Disc Girl (Kristen)	Annie	ok
10/7/2003	10:54:11 AM	Disc Girl (Kristen)	Annie	11:15 is fine
10/7/2003	10:54:19 AM	Disc Girl (Kristen)	Annie	thanks. I got it take for work
10/7/2003	10:54:32 AM	Disc Girl (Kristen)	Annie	I'm supposed to have it on me so I look professional
10/7/2003	10:54:38 AM	Annie	Disc Girl (Kristen)	haha
10/7/2003	10:54:39 AM	Disc Girl (Kristen)	Annie	how did you know about this hotmail account?
10/7/2003	10:54:48 AM	Annie	Disc Girl (Kristen)	I just guessed
10/7/2003	10:54:52 AM	Disc Girl (Kristen)	Annie	oh wow
10/7/2003	10:54:54 AM	Disc Girl (Kristen)	Annie	you're smart!
10/7/2003	10:54:58 AM	Annie	Disc Girl (Kristen)	I thought it would be easier
10/7/2003	10:55:05 AM	Disc Girl (Kristen)	Annie	yes, this is great
10/7/2003	10:55:12 AM	Disc Girl (Kristen)	Annie	now we can communicate properly
10/7/2003	10:55:17 AM	Annie	Disc Girl (Kristen)	no kidding
10/7/2003	10:55:25 AM	Annie	Disc Girl (Kristen)	now we can be real opco geeks!
10/7/2003	10:55:29 AM	Disc Girl (Kristen)	Annie	haha
10/7/2003	10:55:36 AM	Disc Girl (Kristen)	Annie	yeah.. handy her
10/7/2003	10:55:55 AM	Disc Girl (Kristen)	Annie	I'll meet you on 1st floor math science at 11:15
10/7/2003	10:56:05 AM	Annie	Disc Girl (Kristen)	ok, sounds good

CrystalChat



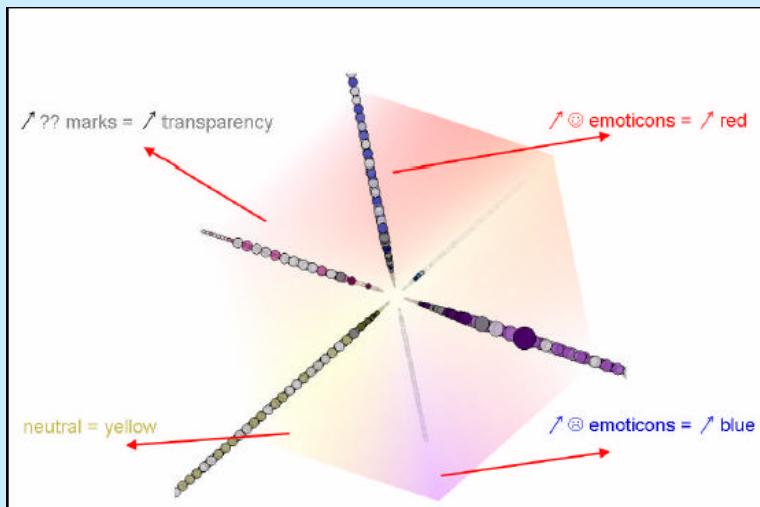
CrystalChat

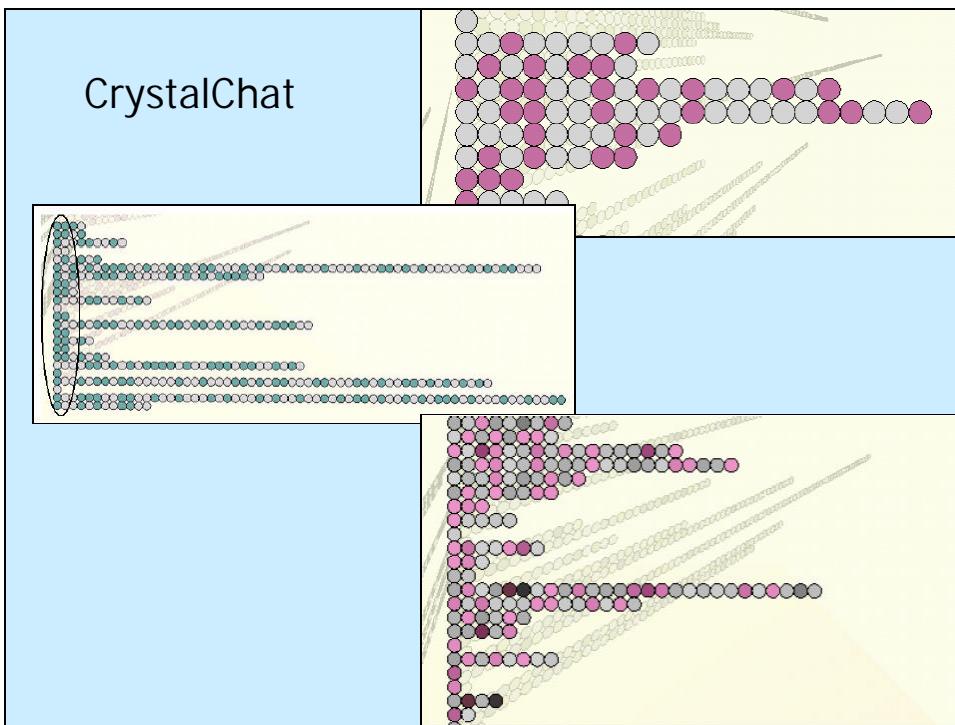
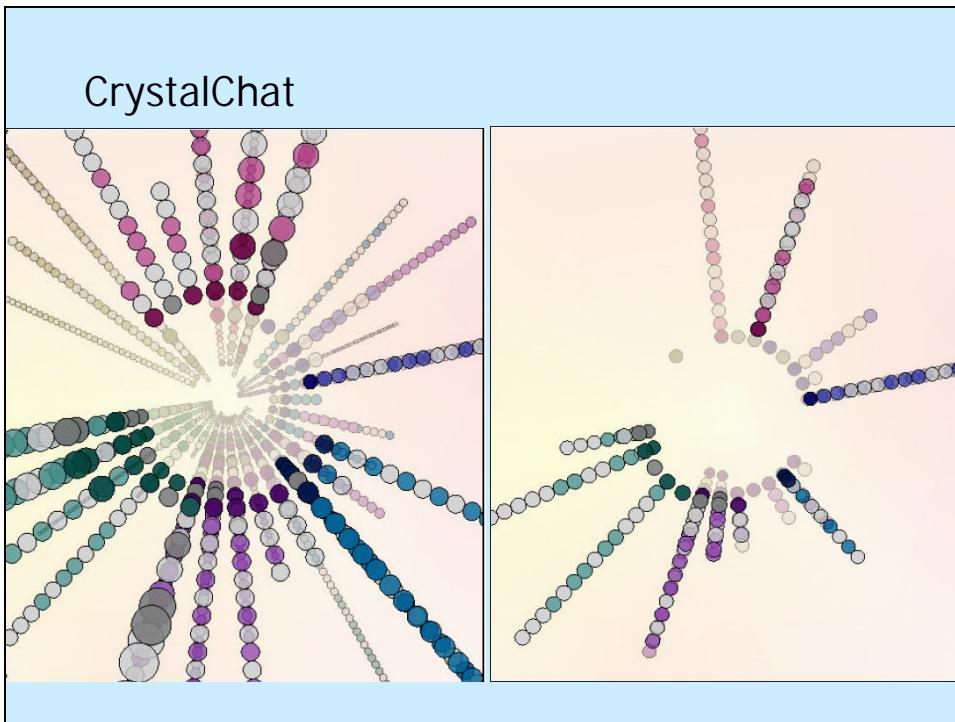


A zoomed-in view of a conversation in CrystalChat. The messages are displayed in a 3D space, with the text of each message visible near its corresponding circle. Some messages include emoticons like 😊 and 🤗.

on
it's so I can buy lunch today. I will bring it tomorrow, you should be working
I'm leaving school right now
I can bring it to you
you for your lunch
guess what?
I'm gonna get a mole
That way I can get my hair cut
remind me again tomorrow
sura
only 4:30
are you going to be able to be home at 5:00 tomorrow in case they deliver my desk?
yo!

CrystalChat





Artifacts of the Presence Era

Purpose: To show what is happening in conjunction with what has happened.

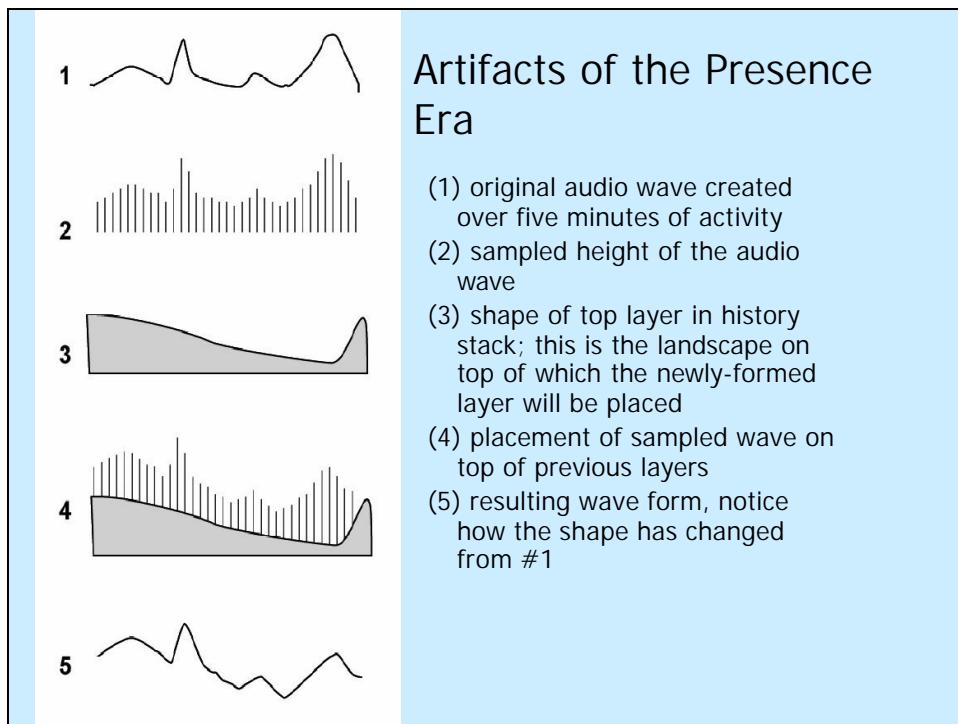


Artifacts of the Presence Era

what is happening

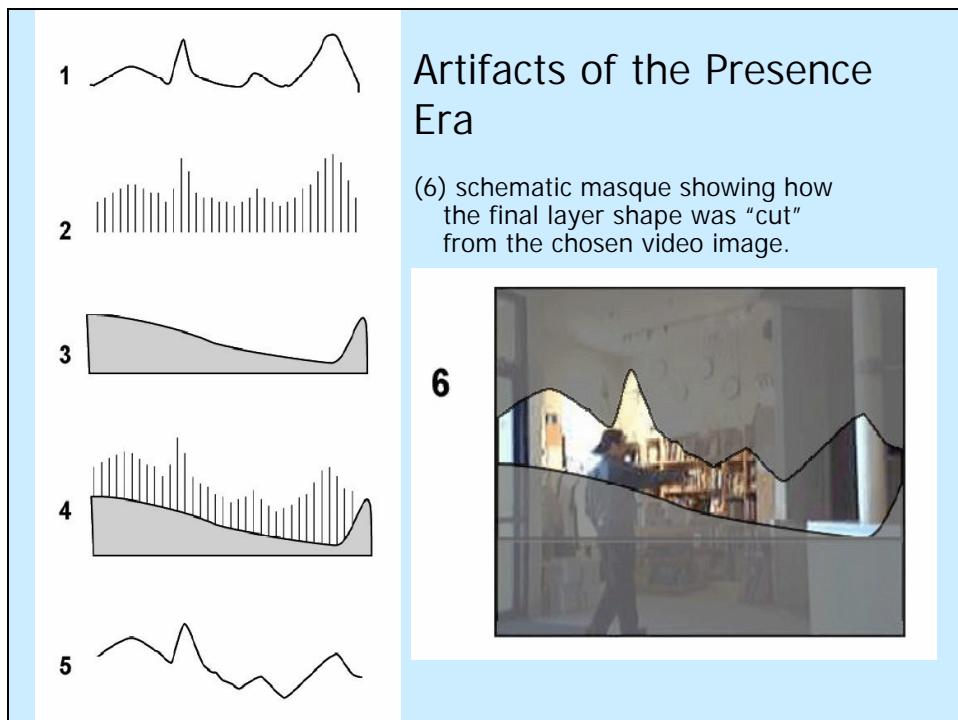
Video taping and audio taping the room in the gallery.

<http://alumni.media.mit.edu/~fviegas/ICA/>



Artifacts of the Presence Era

- (1) original audio wave created over five minutes of activity
- (2) sampled height of the audio wave
- (3) shape of top layer in history stack; this is the landscape on top of which the newly-formed layer will be placed
- (4) placement of sampled wave on top of previous layers
- (5) resulting wave form, notice how the shape has changed from #1



Artifacts of the Presence Era

- (6) schematic masque showing how the final layer shape was "cut" from the chosen video image.

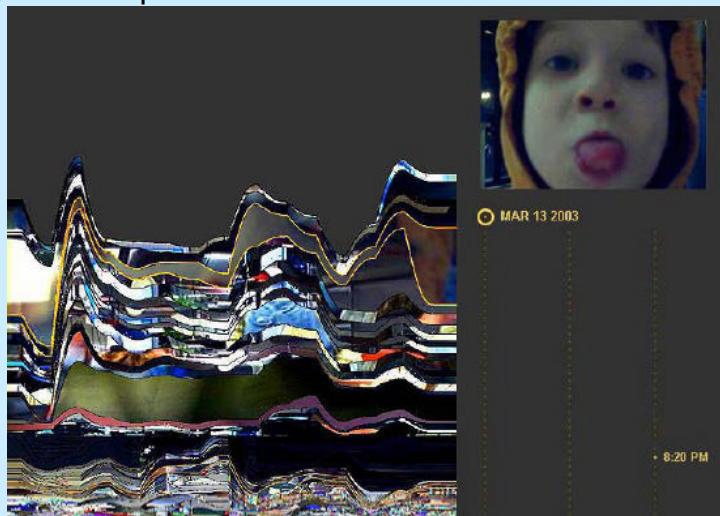
Artifacts of the Presence Era

Layer every five minutes



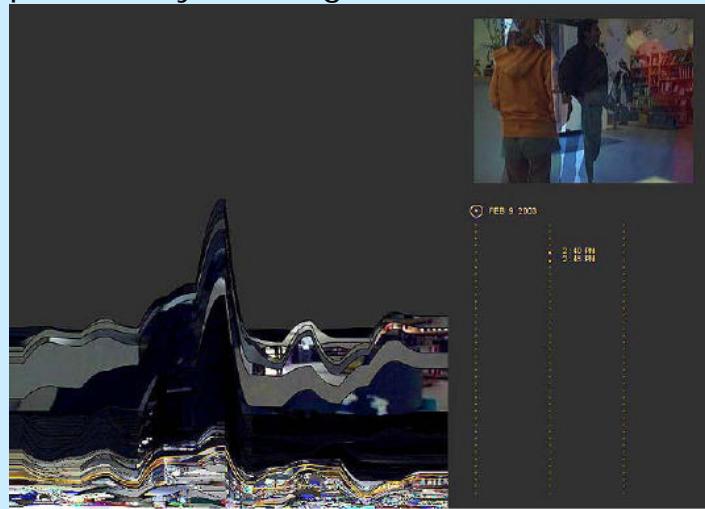
Artifacts of the Presence Era

Layers compress over time



Artifacts of the Presence Era

Compressed layers merge over time



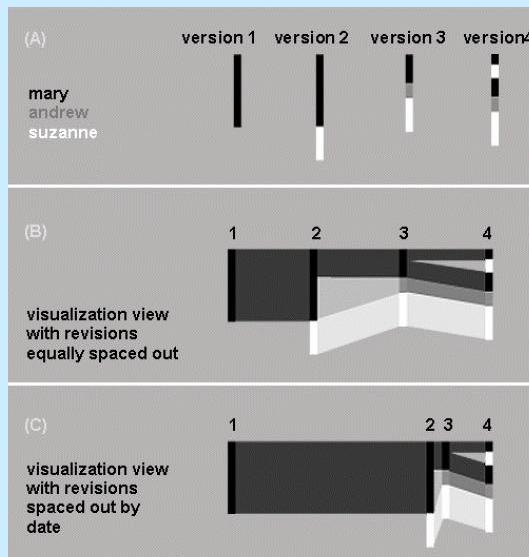
Wiki: web based collaboration

History Flow Wikipedia Visualization

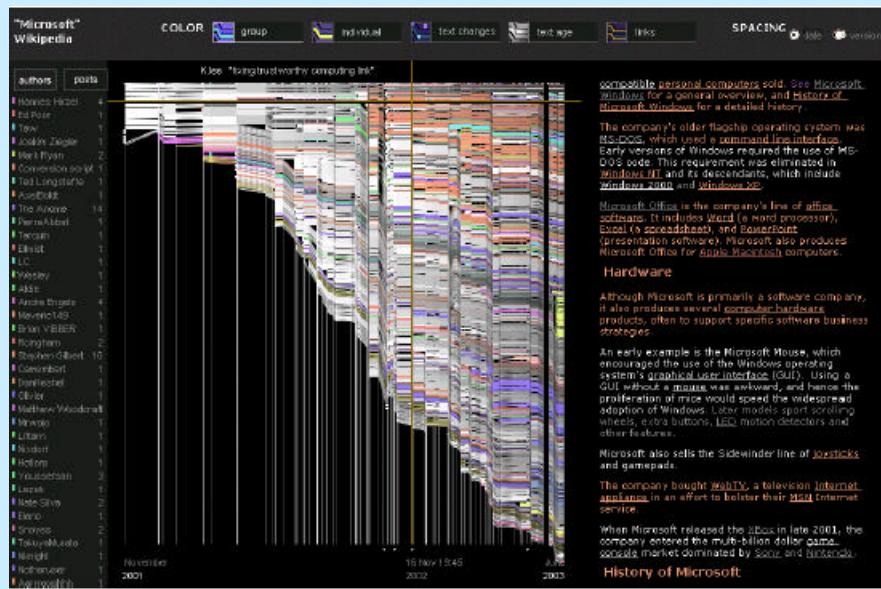
- make broad trends in revision histories immediately visible
- preserve details for closer examination.

http://www.research.ibm.com/visual/projects/history_flow/

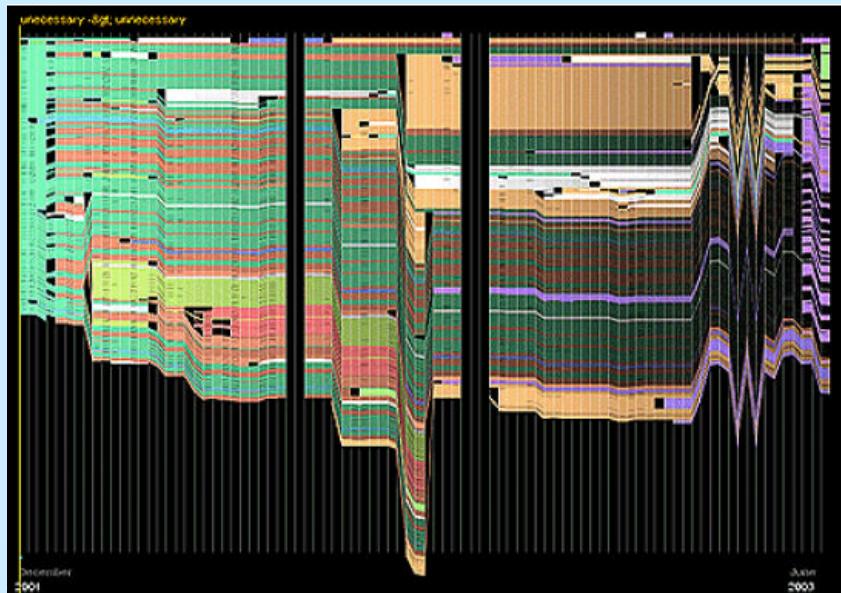
Wiki: web based collaboration



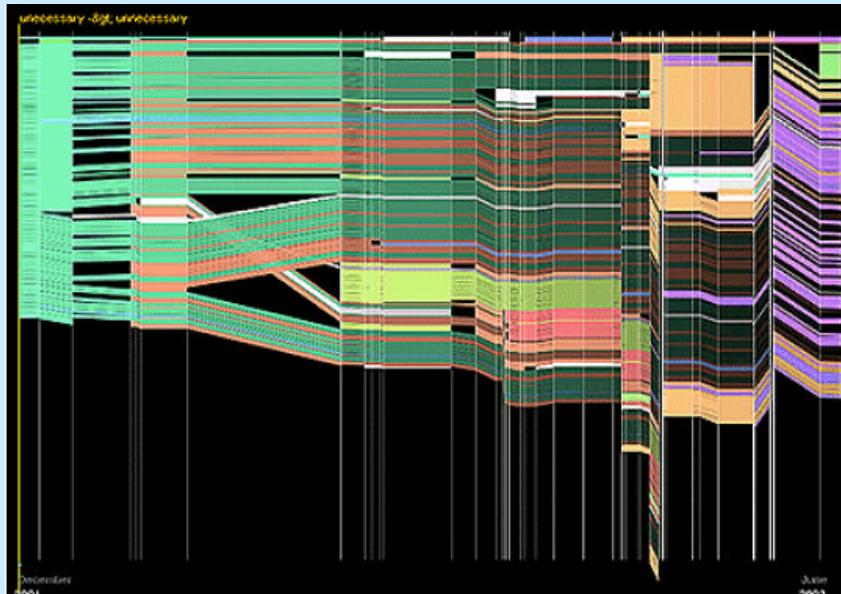
Wiki: web based collaboration



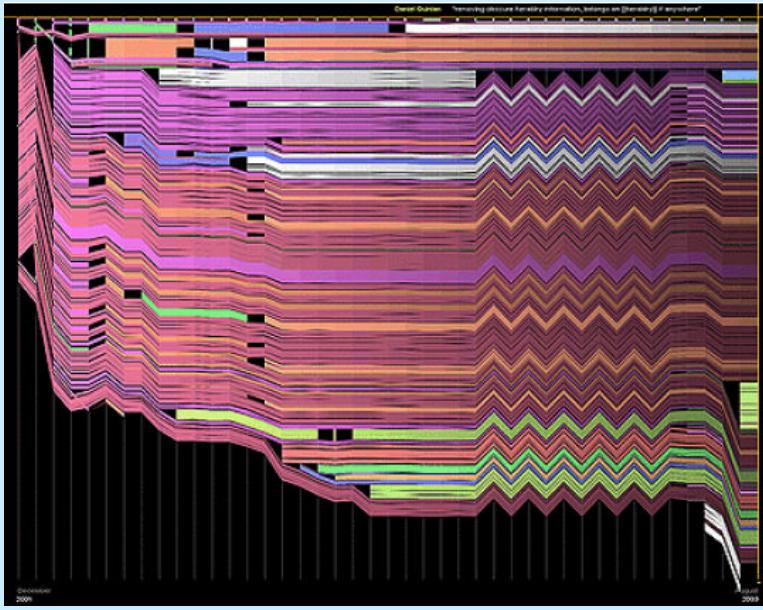
Wiki: web based collaboration



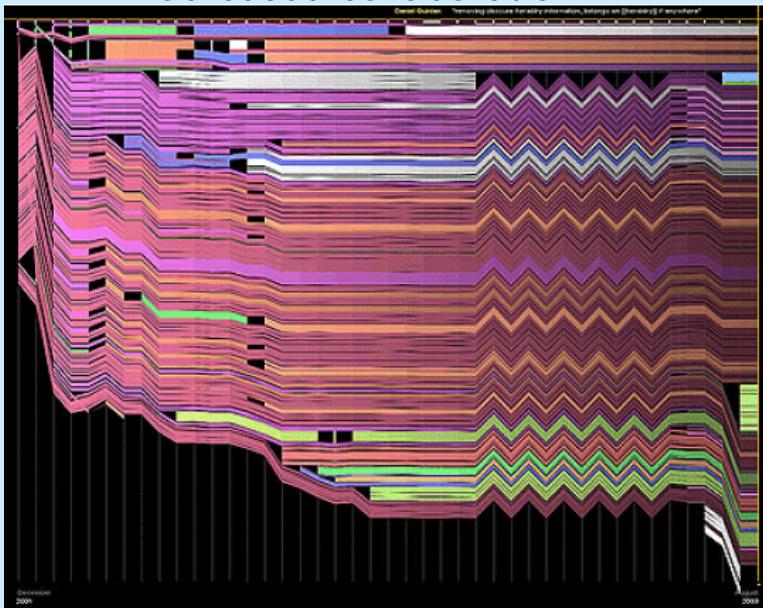
Wiki: web based collaboration



Wiki: web based collaboration



Wiki: web based collaboration



Baby Names

Relative popularity of baby names during the last century

<http://babynamewizard.com/namevoyager/Inv0105.html>

GapMinder

Hans Rosling: Debunking third-world myths with the best stats you've ever seen

<http://www.ted.com/index.php/talks/view/id/92>

We Feel Fine

Jonathan Harris: The Web's secret stories

<http://www.ted.com/index.php/talks/view/id/144>

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