

# Design of Interactive Systems (DIS)

## Lecture 16: Social media

Dr. Kalpana Shankhwar, [kalpana@iiitd.ac.in](mailto:kalpana@iiitd.ac.in)

Assistant Professor

Department of Human Centered Design,  
IIIT Delhi

# Part III Contexts for designing interactive systems

- Chapter 14: Designing Websites
- **Chapter 15: Social media**
- Chapter 16: Collaborative environments
- Chapter 17: Agents and avatars
- Chapter 18: Ubiquitous computing
- Chapter 19 Mobile computing
- Chapter 20 Wearable computing

# Introduction

- In the twenty-first century there has been an explosion in the use of technologies to connect people with one another.
- Usage of social networking websites such as Facebook, LinkedIn, Twitter are used by millions of people for photos, statuses, activities and videos.
- Other sites such as eBay or Trip Advisor aggregate the **comments** and **recommendations** of other people to give hotels, resorts or eBay traders a quality ranking
- Systems designed to support these and related activities are known as social computing, or social media.

# Aims

- Understand the history of social media
- Understand the background to the main types of system that constitute social media
- Understand the future developments of the Web.

# Introduction

- The **World Wide Web** began in 1989.
- The idea for a **hypertext** document management system to be used at the nuclear research centre, CERN, Switzerland was developed by Tim Berners Lee.
- **Hypertext** is the concept of being able to jump from one piece of text to another through a link embedded in the text
- Prior to 1993 there was plenty of traffic across the Internet, but it was all based on **command languages** with complex syntax that made using the Internet suitable only for specialists
- The Web spread rapidly, with millions of people joining every year and with an explosion of websites of shopping, travel, sport, indeed everything.
- By the later 1990s companies were trading on the **stock market** at vastly inflated prices.
- Internet time and Internet logic replaced reality and common sense.

# Introduction

- In 2001 the market for the Web crashed
- Berners Lee introduced the Hypertext Mark-up Language or HTML (1994 - 8)
- HTML was particularly unsuited to updating things in real time and HTML and its component technologies, such as the scripting language JavaScript, blurred the distinction between content and how it was displayed.
- The first **Web 2.0** conference was held in 2004
- Web 2.0 was a move to much more open services, with application program interfaces (APIs) that allow others to make use of services.

# Introduction

- Software is no longer a huge application running on your computer, it is a service to be accessed when needed.
- Web 2.0 is about participation more than publishing; ordinary people, often unpaid, supply the content and the trail of their activities adds value.
- New business models have evolved through Web 2.0.
- Thousands of small focused applications, Web apps, such as **shopping carts**, **calendars** and **subscription services**, are freely available to be mixed by enthusiastic consumers. Thus the content of websites can be much more usable.



# Introduction

- Web 2.0 turned the Web into a platform for collective intelligence that crosses devices.
- Since 2004 the term '**social media**' has gradually replaced the term Web 2.0 although the web2 summits did still take place until 2011 and were attended by some very influential people in the field.
- In 2006 Jeff Howe coined the term '**crowdsourcing**' to describe the way the Internet can be harnessed to create a large crowd of people dedicated to solving some problem
- Wikipedia is one of the most successful examples of people working together as both providers and consumers (sometimes called 'prosumers') of content.



# Background ideas

- There had been several commercial examples of social media applications and related research projects during the 1990s that led to the development of social media
- Consider the design of an on-line grocery store from the perspective of social navigation.
- First of all, we would assume that other people would 'be around' in the store.
- Instead of imagining a 'dead' information space, we see a lively space where the user can see other shoppers moving around, can consult or instruct specialist agents and 'talk to' the personnel of the grocery store.
- These are examples of direct social navigation.

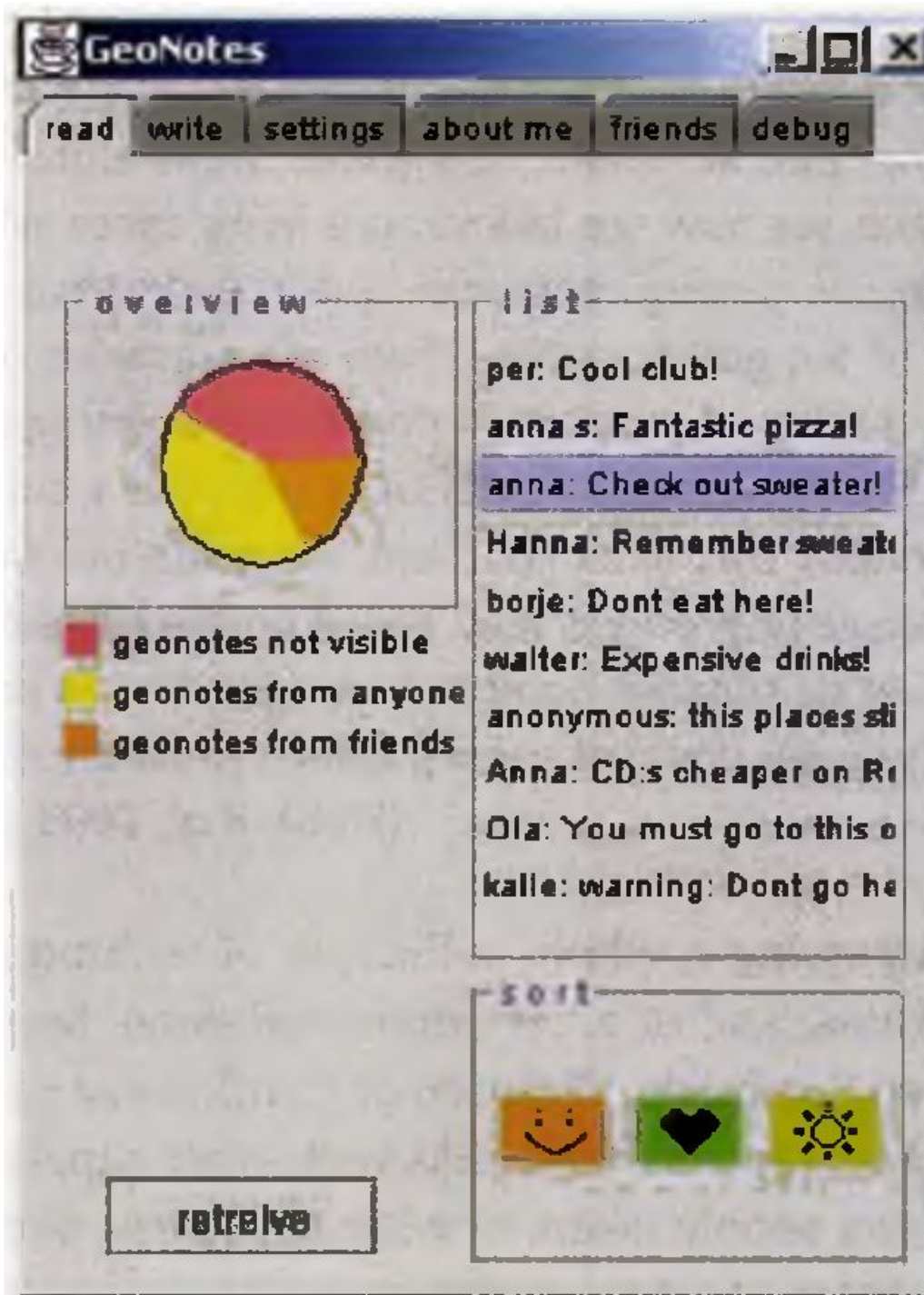
# Background ideas

- **Social navigation** was seen as encompassing a whole collection of techniques and designs that make people aware of others, and of what others had done.
- Social networking communities, such as those on Facebook, MySpace or Orkut, exist primarily for the purpose of enabling people to maintain and build links with other people.
- A central theme of the early work was to move away from the 'dead space' of information to **bring personal** and **social issues** to the fore.
- Vast amount of information in early web. It was difficult to find **personalized information**.
- Talking to someone provides personalized information as per our needs.
- For example, asking for directions for a particular city.

# Background ideas

- People can judge to what extent the information given can be trusted, depending upon the credibility of the information provider.
- In information spaces, using person-to-person communication is an important part of the information architecture that is often overlooked.
- A number of experimental systems were developed during the late 1990s that explored some of these ideas.
- With the help of GPS, an electronic message can be left associated with a particular place.

GeoNotes offers a technologically enhanced version, putting people in contact with other people



# Background ideas

- If other people are not around to provide help and advice then there are a number of systems that try to filter out uninteresting information and point people to things that they will find relevant
- In **content-based filtering** the information is scanned for specific articles that match some criteria.
- Usually **keyword-matching techniques** are used to filter the information.
- Recommender systems make suggestions to people for information based on what other people with similar tastes like or dislike

# Background ideas

- People using the system are connected to a server that keeps track of what everyone does - the articles they read
- Personal profiles are matched and the system creates clusters of people with similar tastes.
- People who subscribe to Amazon can have the system recommend books based on those that they have bought previously
- The more people who rate items, the more accurately the system can group others.
- Ratings can be done explicitly and/or implicitly

## Background ideas

- An excellent and fascinating example of this sort of rating system is eBay the on-line auction site.
- Here, buyers and sellers have ratings based on the quality of service that they have provided.
- Buyers rate sellers and sellers rate buyers.
- Moreover, you can see what both buyers and sellers have been trading



All Categories
Search
[Advanced Search](#)

Categories ▾ Daily Deals

Safety Centre

**NEW** BIG BRANDS WITH SMALL PRICES, CHECK OUT DAILY DEALS! Check each day at 8am Deal

More from eBay



DAILY DEALS

Hinari Breakfast Set

- Free Delivery
- PayPal offered
- RRP £ 24.99

£11.99

\* RRP as at 06/05/2009



Buy Yours Today

ADVERTISEMENT [\(about\)](#)

AUCTION, BUY IT NOW & CLASSIFIED

OVER 200,000 PROPERTIES FOR SALE IN THE UK AND WORLDWIDE

FIND YOUR DREAM PROPERTY

go



GRAB A BARGAIN

Find items ending soon

ADVERTISEMENT [\(about\)](#)

Royal Mail



Send it

Find out more

Be Inspired

LOOKING FOR THESE?

Or how about...



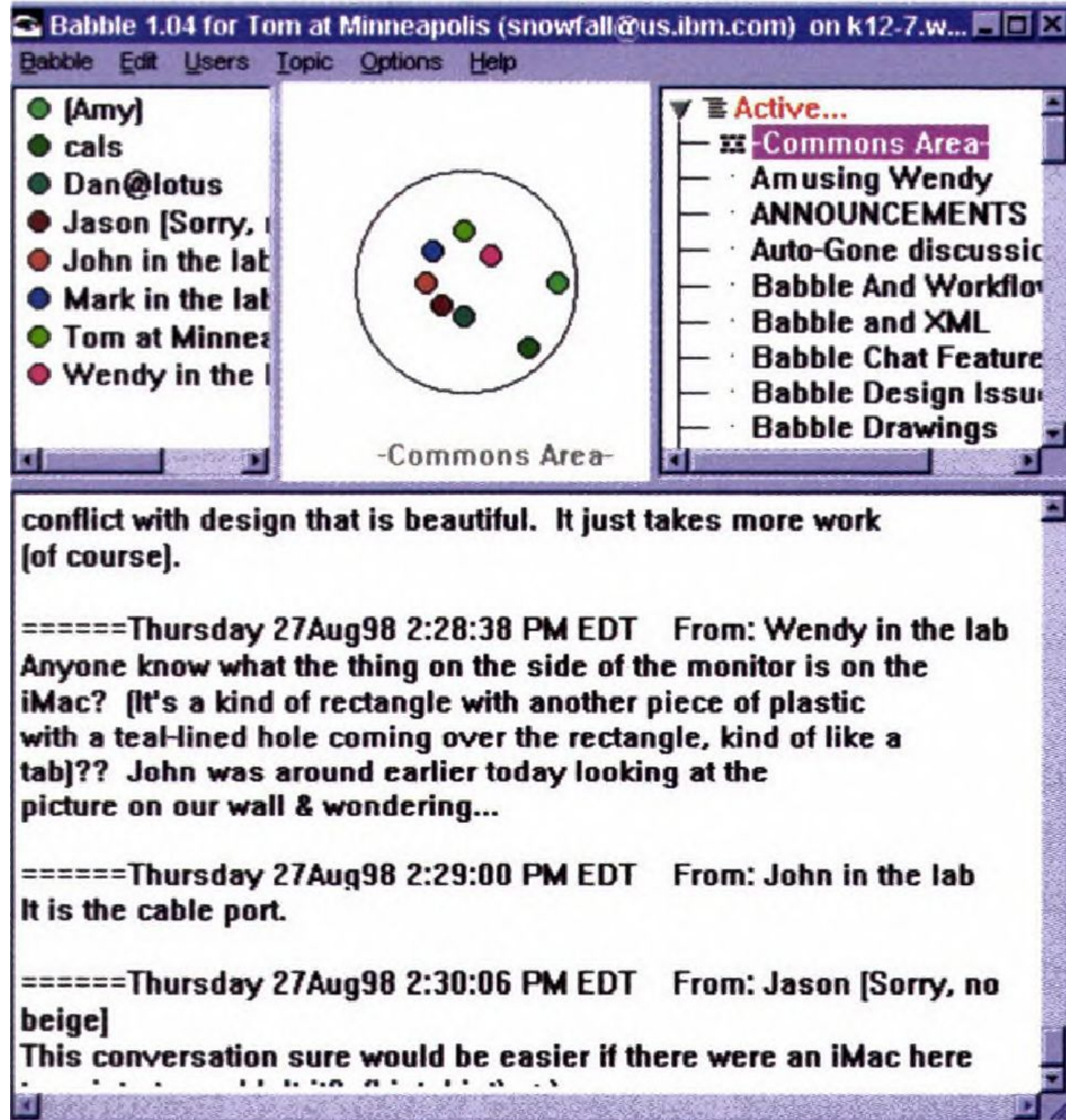
Roll over the items for more information.

Ebay

# Background ideas

- History-enriched environments, or 'readware', is another technique. What other people have done in the past can tell us something about how to navigate the information space.
- If we get lost in the woods and come upon a trail, a good idea is to follow that trail.
- Automatic color change of links.
- Social translucence was a project based at IBM. It employed three core principles - visibility, awareness and accountability
- Tale of a wooden door being opened outward
- Putting the glass door was a design solution. This enabled the three principles of social translucence:
  1. visibility
  2. Awareness
  3. Accountability





Babble

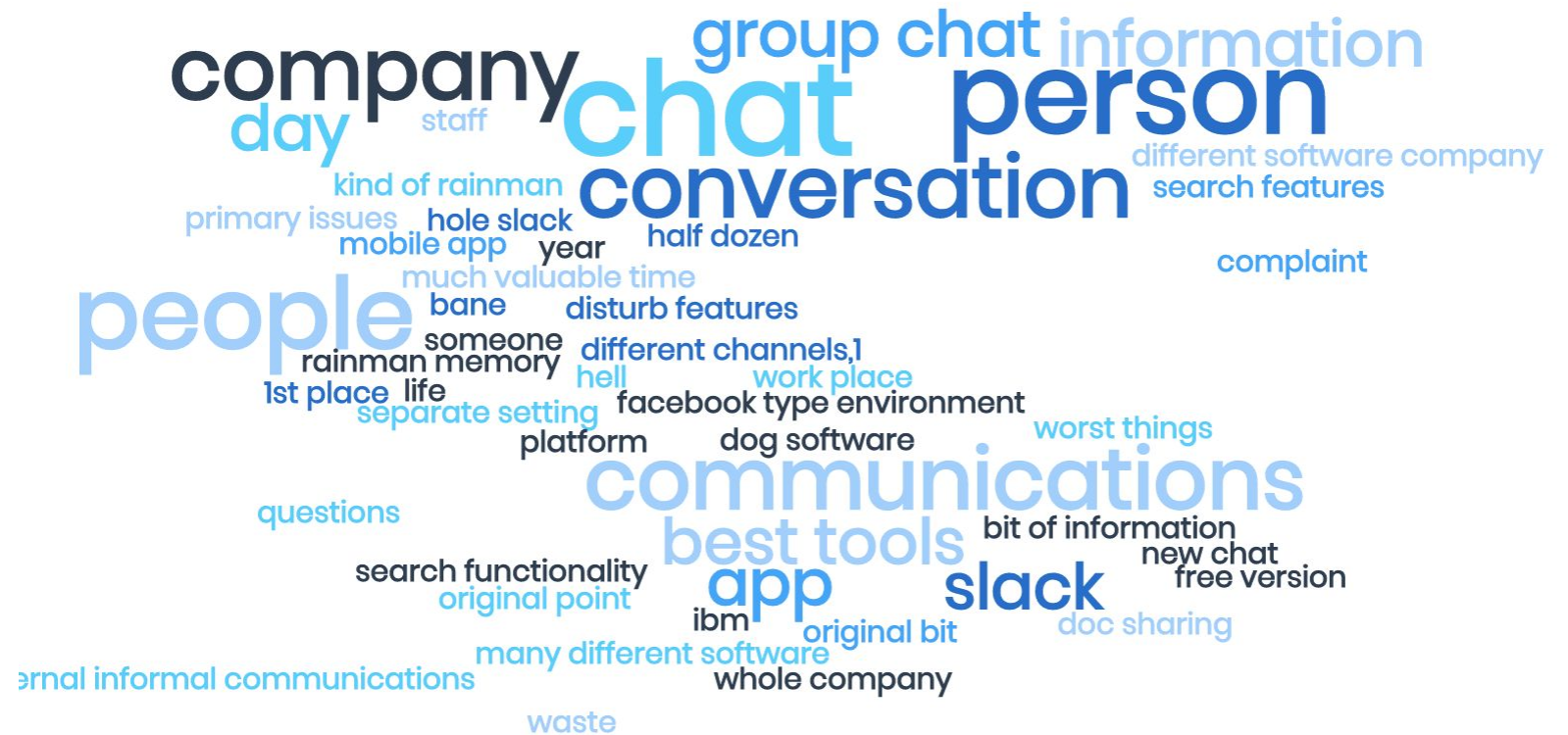
# Social networking

- Hundreds of forms of social networking, Facebook, Instagram, LinkedIn etc. Different in style and popularity in countries.
- The style and look and feel of the sites reflects the different markets and customers that are the focus of these sites.
- Application of social networking sites for election campaigns
- Indeed, there are on-line communities covering almost all hobbies, interests and social issues.

# Sharing with others

- A second aspect of social media is sharing with others.
- With the huge amount of information and activity that takes place on the Web, finding what you are interested in and letting others know what you are interested in has become a major issue
- The most popular way of keeping track of photos, videos, or indeed any digital assets is through tagging.
- Tagging is concerned with adding keywords to assets so that those labelled the same can be grouped, shared or used for navigation.

A tag cloud is a visual representation of the most popular words found in free-form text



## Sharing with others

- **Del.icio.us** is a bookmarking application that allows people to store URLs and tags and retrieve them in different ways.
- In addition to the personal tags that are attached to a site, colleagues and others in a personal network can access your bookmarks and add their own activity.
- **Digg.com** is another site devoted to helping people share their views of the Web.





SIGN UP FOR DIGG'S MORNING NEWSLETTER  
The best stories of the day, in your inbox

SUBSCRIBE NOW

HIDE



Video

Data Viz

Movies and TV

Real Estate

Internet Culture

News

One Main Character

Memes

Relationships

Gaming

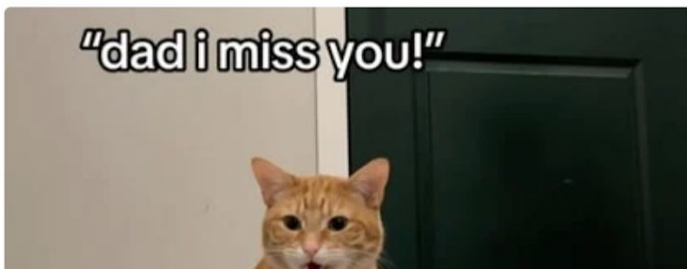
More ▾



## Things That Shouldn't Hold You Back From Living A Little

The Discourse

If your favorite artist has a tour date near you, don't think twice. You should be there.



# The developing web

- Social media is not the end of the story for the Web
- Location-based services are growing rapidly as more people have GPS in their phone.
- There are a number of tourism apps that take advantage of your location to provide relevant information and we can expect location-based group apps and games to become more common.
- Gamification of interaction is itself a growing theme
- For example an app to help people lose weight and to take more exercise can be greatly enhanced if there are rewards for making progress.

# The developing web

- Cloud computing is a development of the Web that has a big impact. Emphasis is on sharing resources.
- The cloud is available anywhere and from any device
- To go along with cloud computing, computer appliances are simple devices with no software on them. Just access any application and any data over the Internet.
- Web services and other software services are provided on a pay-to-use basis.
- Amazon's Elastic Computer Cloud (EC2) is the first real commercially focused example of the full cloud computing concept.

# The developing web

- Google docs is one example of a cloud service that allows people to work on a shared document
- Internet of Things

# Class Activity

Compare the functions and interfaces of two social networking sites.