



Recommender Systems: Interfaces and Technology

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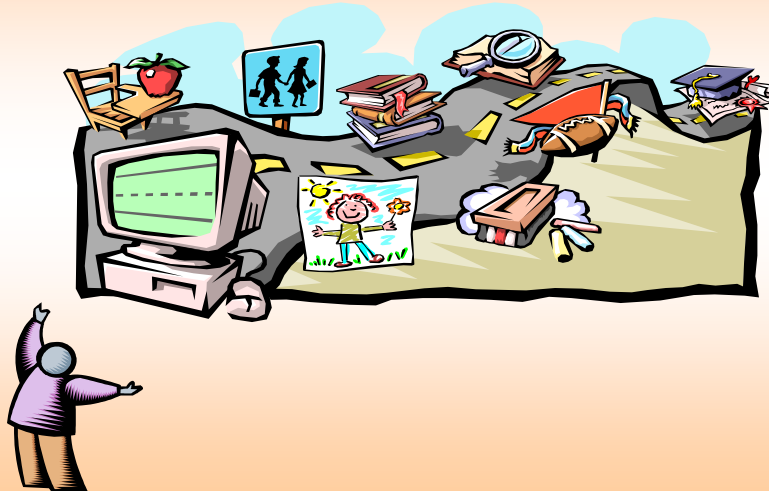
<http://www.cs.umn.edu/Research/GroupLens>

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The Problem: Overload



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Recommenders

Tools to help identify worthwhile stuff

- ◆ Filtering interfaces
 - E-mail filters, clipping services
- ◆ Recommendation interfaces
 - Suggestion lists, "top-n," offers and promotions
- ◆ Prediction interfaces
 - Evaluate candidates, predicted ratings

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Goals

When you leave, you should ...

- ◆ Understand recommender systems and their application
- ◆ Know enough about recommender systems technology to evaluate application ideas
- ◆ Be able to design and critique recommender application designs
- ◆ See where recommender systems have been, and where they are going

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Introduction
Recommender Systems Application Space
MovieLens Case Study
Recommender Algorithms
Eight Principles and Case Studies
Designing Recommender Applications
Privacy Issues
Commercial Tool Survey

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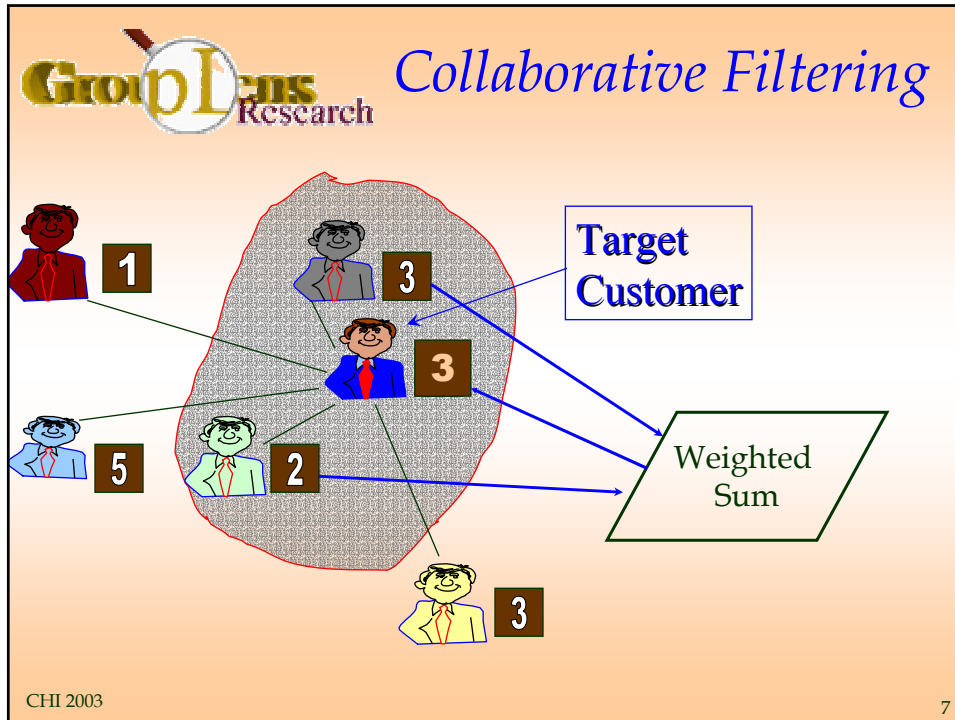


John Riedl
Collaborative and distributed systems
Joe Konstan
Human-computer interaction

GroupLens Research
Net Perceptions
Word of Mouse

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GroupLens Research *From The Laboratory*

Mitchell's Calendar Apprentice

- ◆ Learns rules of how to schedule
- ◆ Takes over as confidence and user permit

Effective Interrogation

- ◆ Value-of-information analysis
- ◆ Which items to ask about?
 - ➔ High popularity? High Entropy?
 - ➔ Value to individual? Value to Community?
 - ➔ System-Driven? User-Driven?



Principles Learned

Be a Customer Agent

- ◆ Listen, Learn, and Use
- ◆ Anticipate Pitfalls
- ◆ Bring “Inside” Opportunities and Info
- ◆ Make the Match

Box Products, Not People

- ◆ Individuals, not Demographics
- ◆ Evolving Personalization
- ◆ Real-Time Updates

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Privacy Issues

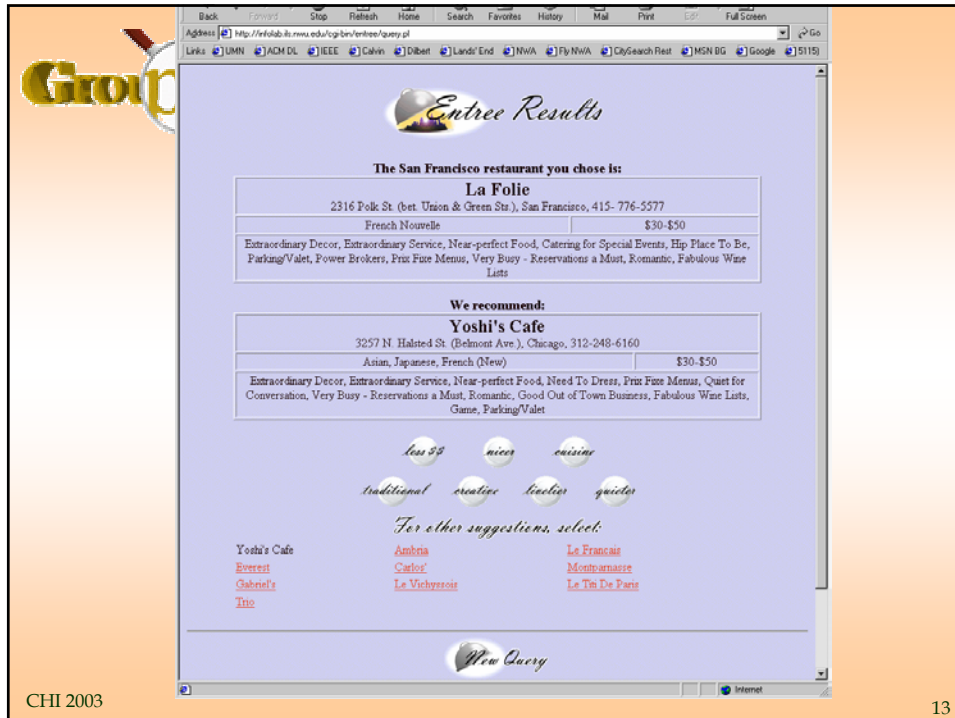
Same as E-commerce, plus

- ◆ Extra sensitivity of profile data
 - E.g., Tacit’s dual profiles

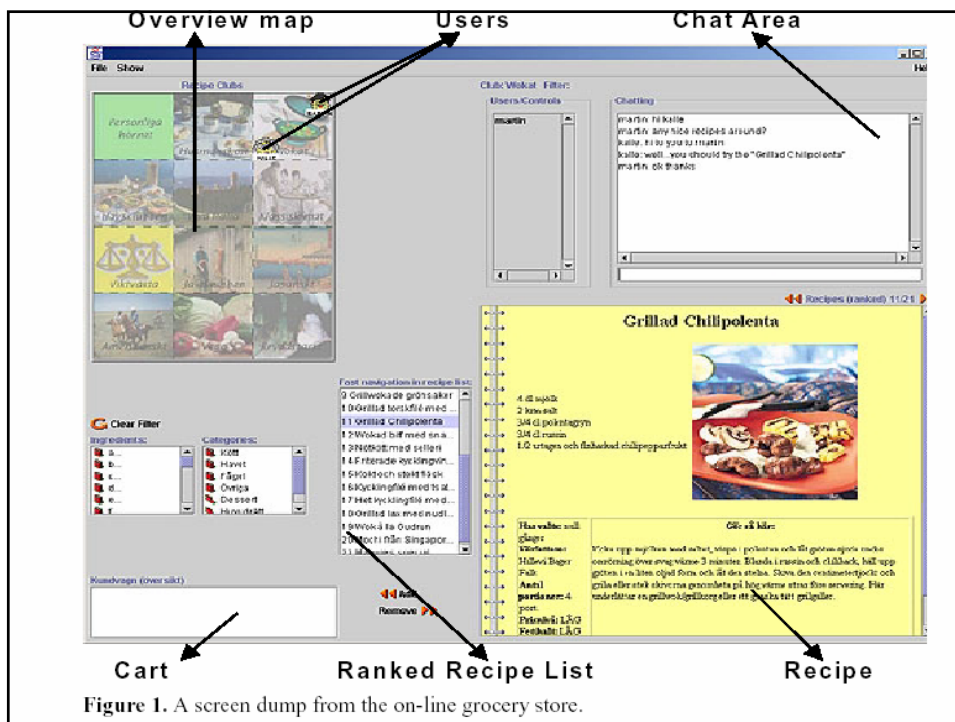
Honesty/openness vs. edited content

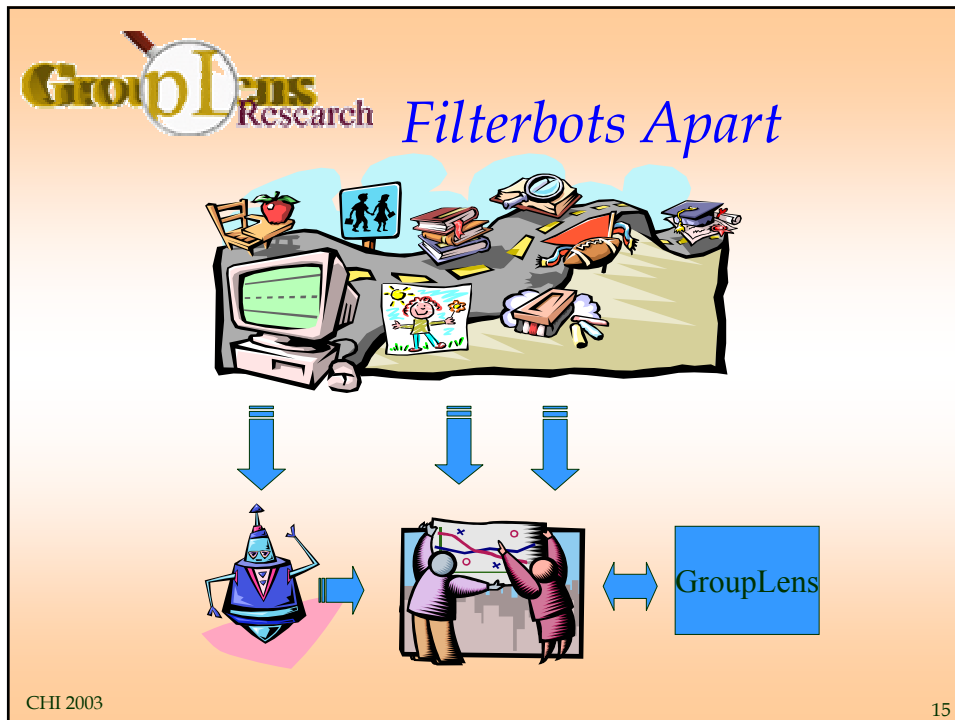
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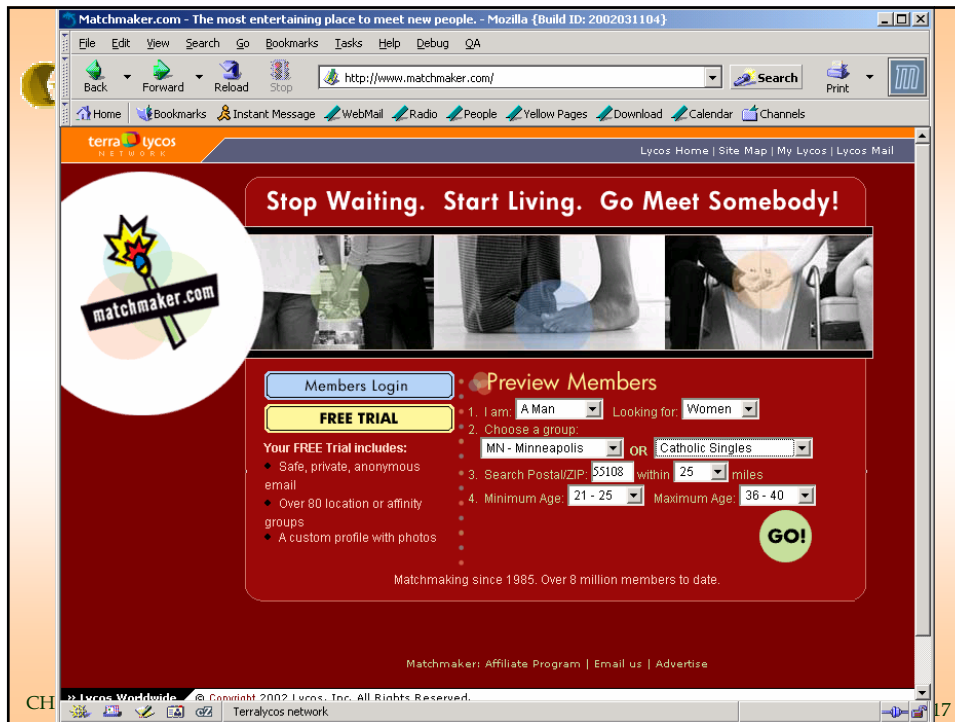
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GroupLens Research *Principles Learned*

Use Communities to Create Content


- ◆ Editorial process is value added
- ◆ Free is better than paying for it
 - customers trust what they produce
- ◆ Help customers find interesting information from other customers

Turn Communities Into Content

- ◆ Help customers find interesting other people
- ◆ Encourage interaction
- ◆ Your customers may be the most interesting thing about you

GroupLens Research *Recommendations Unplugged*

What movie Should I see?




Wireless PDA


Experimental questions

- How do users interact?
- What usage patterns?
- What happens as users gain experience?
- How do different modalities compare?
- How does usage compare with web?


What good movies are close by?




WML



What DVD Should I buy?



Avant Go



Voice

Tell me what I should See!

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GroupLens Research *Discussion*

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