

Why Does KDD Care About Personalization?

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Agenda

- Recommender Systems
- The Future of Recommenders
- Research Needs



Recommender Systems

- Personalize by selecting products to recommend
- Web, call center, kiosk, mail

E-Commerce Recommendation Applications

J. Ben Schafer, Joseph A. Konstan, John Riedl

Common Recommenders

- Broad recommendation lists
- Customer comments and ratings
- Notification services
- Product-associated Recommenders
- Deep personalization

GUS Call Center Experiment

- Consumers call in purchases
- Implemented personalization, too
- Experiment:
 - One group of agents with old method
 - One group of agents with personalization

Directed Buyers: Increasing Cross-Sell



**With traditional
cross-sell
methods**

**With
realtime
recommendations**

Avg Cross-Sell Value

\$19.50*

60%
higher

Cross Sell Success Rate

9.8%

50%
higher

* Converted from British Pounds

Real-world Experience

- Large International Catalog Retailer
 - 17% Hit Rate, 23% Acceptance Rate in call center
- Medium European Outbound Call Center
 - 17% Hit Rate, 6.7% Acceptance Rate from an outbound telemarketing call
 - \$350.00 Price of Average Item Sold
 - Items were in an electronics over-stocked category and were sold-out within 3 weeks
- Medium American Online Toy Store (E-Mail Campaign)
 - 19% click-thru rate vs. 10% industry average
 - 14.3% conversion to sale vs. 2.5% industry average

The Future of Recommenders

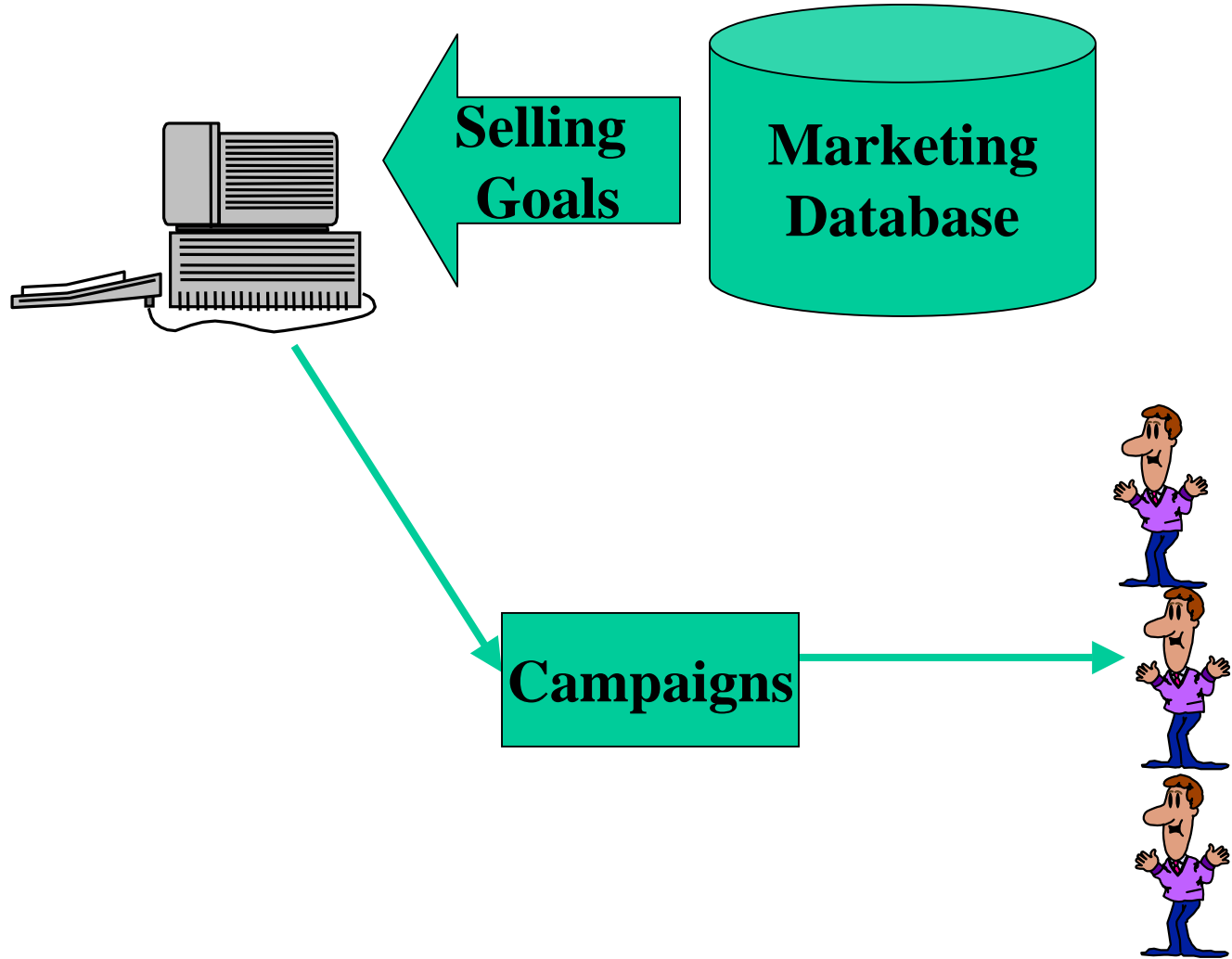
Consumers Are in Control

- Consumers know everything
 - What you paid
 - What your competitors are charging
- Customers are used to naming own price

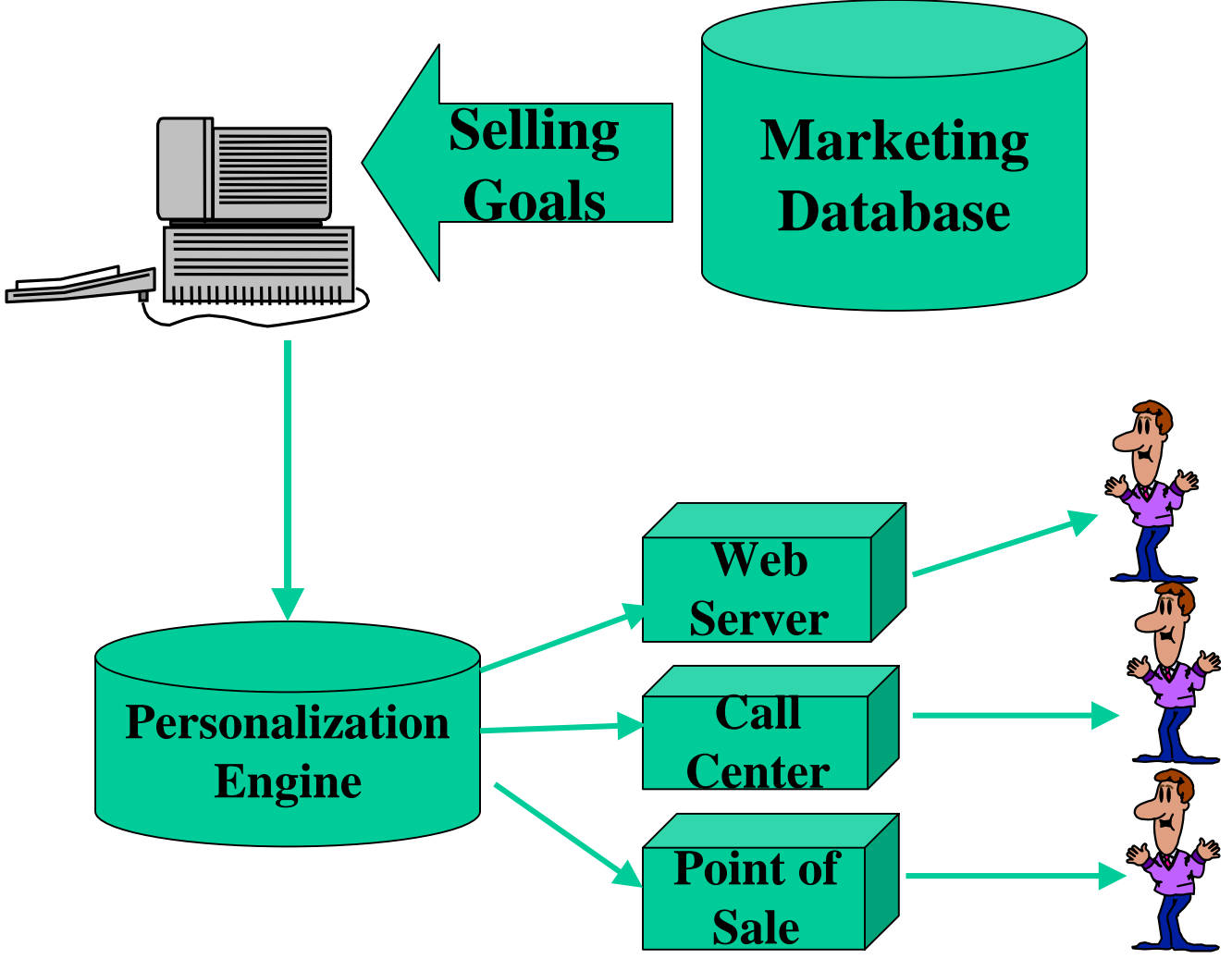
The Death of Marketing

- No longer enough to talk consumer into product she doesn't want
- Must match consumers to products!
- Manipulate consumers and they will leave
- Just predicting that Grisham will sell is not enough!

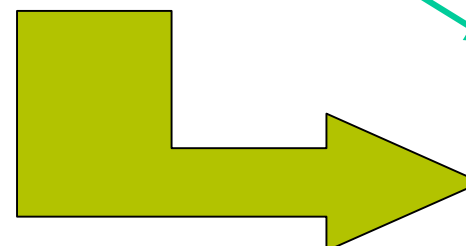
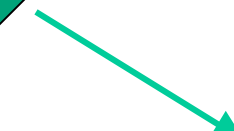
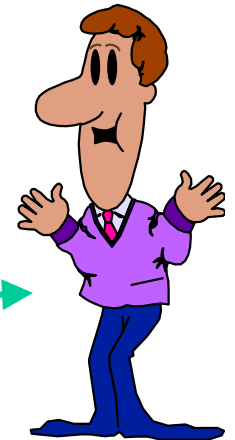
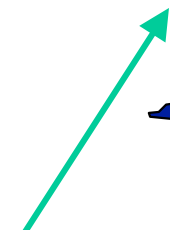
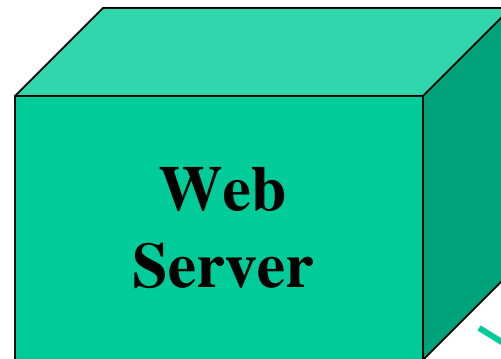
Marketer Control of Campaigns



Marketer Control of Campaigns



Buyer Control of Personalization

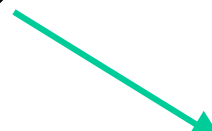
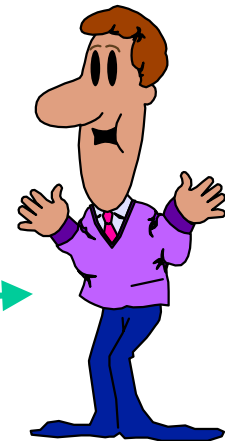
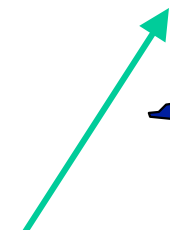
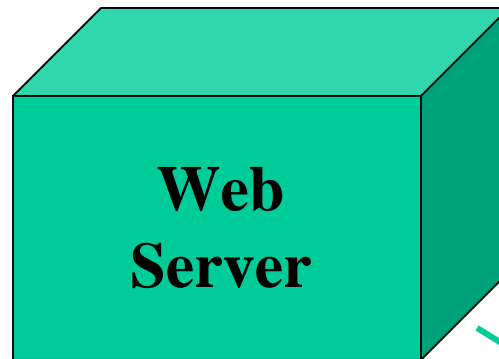
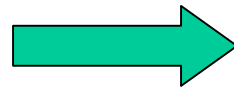
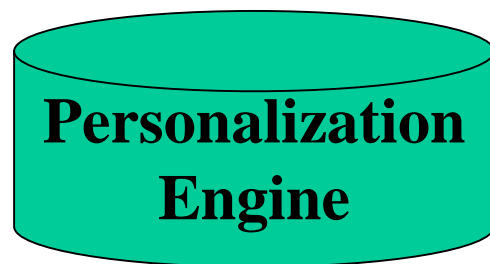




Buyer Control of Personalization

- You will like Ben Hur because:
 - You liked Chariots of Fire
 - You liked Spartacus
 - Everyone else who liked them liked Ben Hur
- The recommendation is good because:
 - I've been 95% right about your movie tastes
 - 198 of your neighbors loved this book.

Buyer Control of Personalization





[MovieLens Home](#) · [Your Ratings](#) · [Account Info](#) · [Group Info](#) · [Reviews](#) · [Help](#) · [Privacy](#) · [Logoff](#)

Search For Movie Title:

Select group:

Get Recommendations:

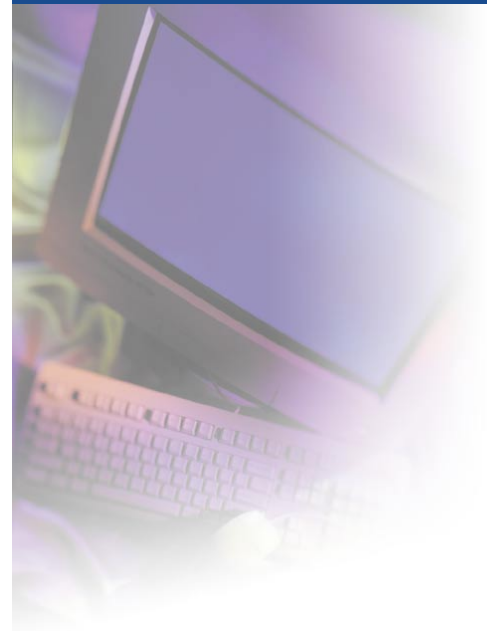
Rating more movies improves your predictions; you've rated **143** so far.
 Currently displaying **Sci-Fi** movies released in the **1990s** for group **GroupLens**.

[5] = Must See [4] = Will Enjoy It [3] = It's OK [2] = Fairly Bad [1] = Awful

Group recommendations for GroupLens

[Back To Individual Recommendations](#)

TITLE	GENRE	REVIEWS	GROUP	YOUR	herlocke@cs.umn.edu	konstan@cs.umn.edu	mcnee@cs.umn.edu	good@cs.umn.edu	sarwar@cs.umn.edu
Open Your Eyes (Abre los ojos) (1997)	Drama, Romance, Sci-Fi		★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★	★★★★★
Mystery Science Theater 3000: The Movie (1996)	Comedy, Sci-Fi		★★★★	★★★★★	★★★★★	★★★★★	★★★	★★★★★	★★★★★
Delicatessen (1991)	Comedy, Sci-Fi		★★★★	★★★★★	★★★★★	★★★★★	★★★★	★★★★	★★★★★
Cube (1997)	Sci-Fi, Thriller		★★★★	★★★★★	★★★	★★★★	★★★★	★★★★	★★★
Visitors, The (Visiteurs, Les) (1993)	Comedy, Sci-Fi		★★★★	★★★★★	★★★★★	★★★★★	★★★★	★★★★	★★★★★
City of Lost Children, The (1995)	Adventure, Sci-Fi		★★★★	★★★★★	★★★★★	★★★★★	★★★★	★★★	★★★★★



generic - UP.Simulator [min] [max] [close]

File Info Edit Settings Help

Go <http://grouplens.cs.umn.edu:8080/wmlle>

Please login.
login:
|

OK ALPHA

SEND [directional pad] END

HOME MENU CLR BACK

1 2 ABC 3 DEF

4 GHI 5 JKL 6 MNO

7 PQ RS 8 TUV 9 WX YZ

* 0 + # =

..

Please login.

login:

|

OK

ALPHA

Password:

*** |

Login

alpha

Please select a
choice:

- 1 Recommend All
- 2▶ Recommend Comedies
- 3 Recommend SciFi

Recommend!

5 My Life in Pink (Ma
vie en rose) (1997)

5 Fandango (1985)

5 Holiday Inn (1942)

4.5 Kolya (1996)

4.5

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Research Challenges

- Scalability and real-time performance
- Incorporating rich data
- Consumer-centered recommendations
- Connecting recommenders to marketers

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