Behaviorism is Not Enough
Better Recommendations through Listening to Users

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TL;DR

Listen to your users

At least sometimes
Learning about Users

Look at what they do

- Implicit Feedback
- Behavioral A/B Testing

Listen to what they say

- Explicit Feedback
- User surveys
- Focus groups

Future Research!!!

If they disagree?
Why Listen to Users?

**Pragmatic reasons**
Open questions require explicit user input
These can enable compelling new applications!

**Philosophical reasons**
Are users’ values reflected in the technology?
*Reciprocity* (Franklin) and *participatory design*
What We Aren’t Saying

Design products by UserVoice mob rule

Ignore behavioral data

Give up on A/B testing or bandits
Recommender

Expert Design

User Input

Behavioral Analysis
Neil Hunt, RecSys ‘14 keynote:

*NetFlix’s metrics cannot distinguish between an enriched life and addiction.*
Intention-Behavior Gap

Problem: users say one thing and do another

Old problem: Paul in 1st century AD said ‘What I want to do, I don’t do; what I don’t want to do, I do.’

• They do not truly understand their desires.
• They are not satisfied with their actions.

Which is true?
Opportunities for Recommenders

If we know a user’s **goals** and their **behavior**, maybe the recommender can help!

- Find ‘baby steps’ that are:
  - Likely to be adopted (behavior helps here!)
  - Closer to user’s goals (their input necessary here!)
Difficulty

Ride down the block
Ride to Lucky Peak
Boise Half-Century
Zion Nat’l Park 200 (km)
HHH (100 mi + TX + August)
Yellowstone / Grand Teton 600
Colorado High Country 1200

Rasch Scale

easier

harder
Giving Users a Voice

Example: Twitter and the algorithmic feed
• Good reasons to involve filtering!
• But: it changes how the service is used
  • Existing users feel unheard

**Participatory design** provides a framework for incorporating user voices into the design process.

**Transparency** lets users know whose voices are being incorporated and how.
Reciprocity (Franklin, 1989)

Broadcast …

… or conversation?

Created by Delwar Hossain from Noun Project

Created by Michael V. Suriano from Noun Project
Many stakeholders, each with values:
Shareholders
Management
Developers
Users

*What* values are embedded in the system?
*Whose* values are embedded in the system?

Behavior will not tell you values.
Pragmatics Again...

If users are co-creators of their technology, might it

• Combat the filter bubble & similar PR problems?
• Increase user satisfaction?
• Increase user adoption of recommendations?
The Recommender Architecture

Data → Algorithm → UI → Evaluation → Recommendations

Needs, Desires, & Goals

Design Process

Behavior & Ratings
Going Forward

A lot of work to do!

Some challenges:
• How can we scale participatory design?
• What does participatory design of algorithms look like?
• How can we use intention-behavior gap to build compelling recommender experiences?
• How can we provide meaningful control over the recommendation process to users?
What We Get

Compelling New Applications

Maintaining User Agency

Questions?