# Online Behavioral Advertising (OBA)

- Browsing → inferences → targeted ads
- Users find OBA useful...
- ...but also creepy

## Background & Goals

**Online Behavioral Advertising (OBA)**
- Browsing → inferences → targeted ads
- Users find OBA useful...
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**Goals**
- Provide data-driven transparency
- “Track the trackers” in a browser extension
- Longitudinal history data → specific examples
- Understand risks; support privacy decisions
- Understand factors influencing OBA perceptions

## Current Tools

- Ghostery, Disconnect, Privacy Badger, Mozilla Lightbeam
- Focus on tracking happening now
- Lists of trackers, but little additional information

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## User Studies: Perceptions of Tracking & Inferencing

### Perceptions of Targeting Mechanisms

- Simulate browsing experience – explain why an ad is being targeted
- Compare relative reactions to 11 different ways of making inferences
- Assess user interest and perceived usability of learning about advertising inferences

### Inferencing Sensitivity

- Classify of sensitivity of ad categories
- See how classifications vary between users
- Determine factors influencing sensitivity
- Follow up on preliminary study

## Browser Extension

**Browser Extension**
- Browser extension in development (Chrome/Firefox)
- Stores page visits, trackers, inferred topic
- Will provide detailed interface for exploration and querying
- Parse page text, compare with ad-interest category keywords

**Browser Extension Studies**
- Investigate popup taglines
- Test designs for exploration interface
- Planned 2-week field study

## Inferring Ad-Interest Categories

**Topic Keyword Generation**
- Find keywords for ad-interest categories
- Categorize Wikipedia articles for training
- Exploring multiple algorithms to extract keywords (TextRank, latent Dirichlet allocation, hierarchical Dirichlet process)
- Associate extracted key unigrams with ad-interest categories

**Exhaustive:** “DoubleClick knows you visited 82 pages across 17 sites in the past 3 days”

**Recent visits:** Yahoo knows that you visited “Things I Wish I’d Known When My Dog Died” (nytimes.com) last night