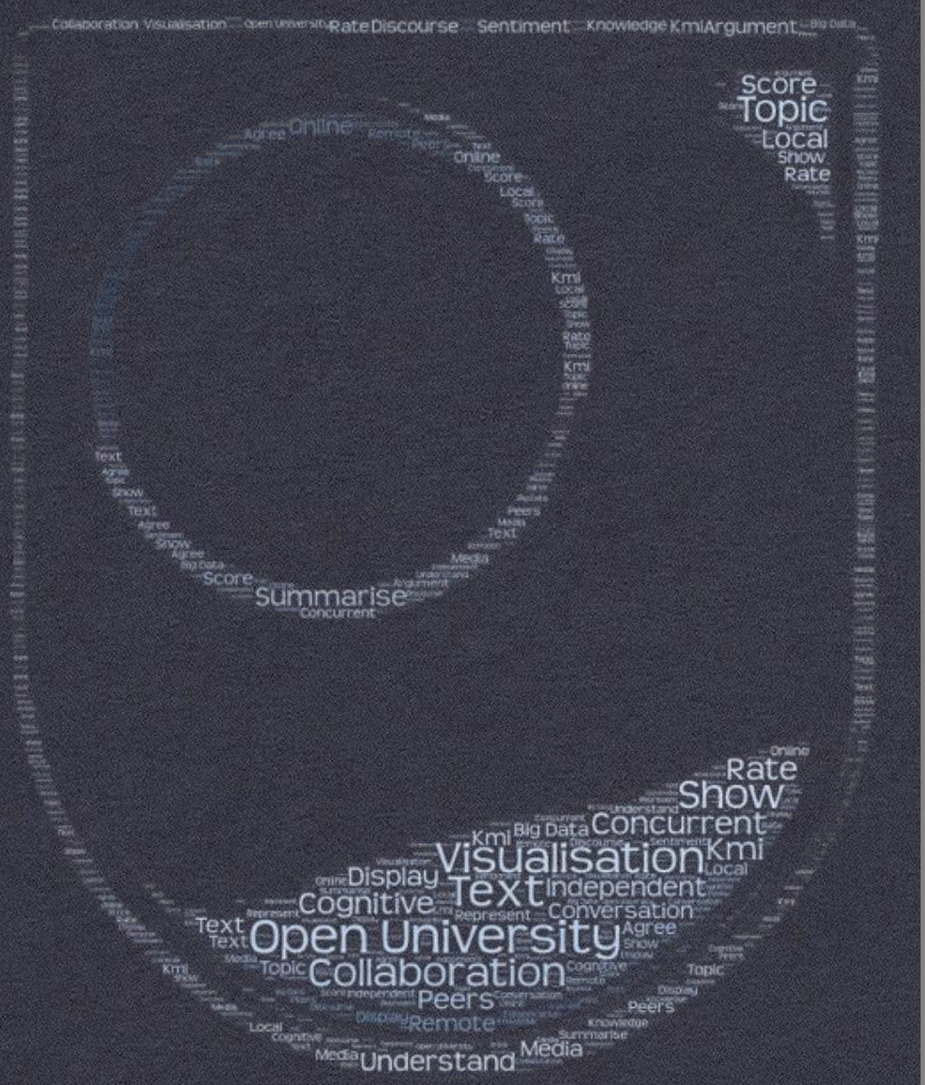

EVALUATING THE EFFECTIVENESS OF AN 'AWARENESS AGENT' IN MANAGING DIGITAL INFORMATION OVERLOAD

A PhD research project with the Open University Knowledge Media Institute

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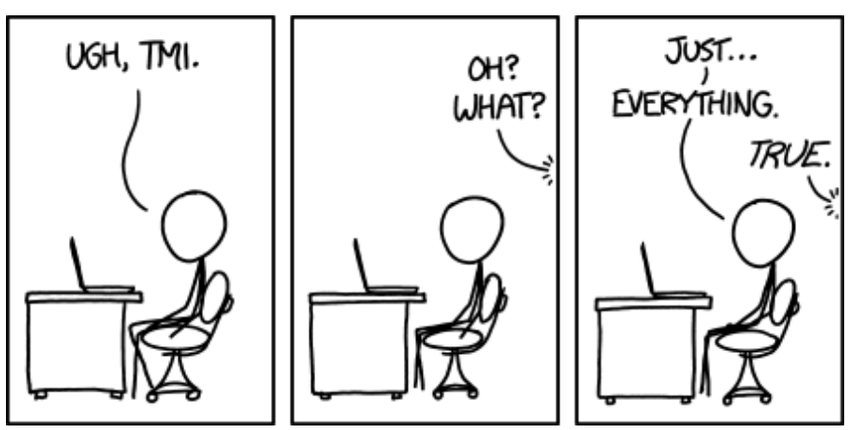
Too much information?

Online collaborative & social environments are full of information and interactions from many sources

Users experience problems with:

- Finding the items that most interest them
- Locating useful and relevant information
- Being able to take timely action where needed

We are using the Computer Supported Cooperative Work (CSCW) concept of “awareness” to formalise the problem

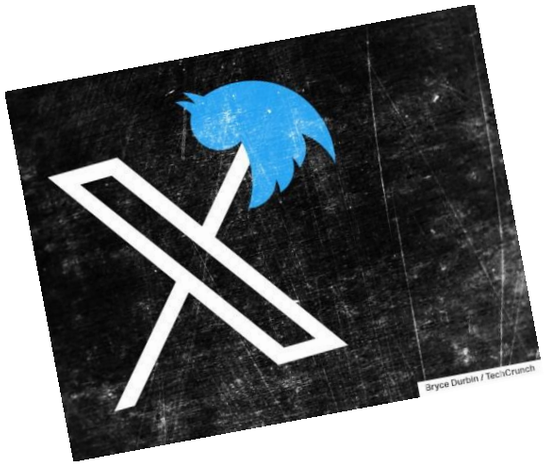


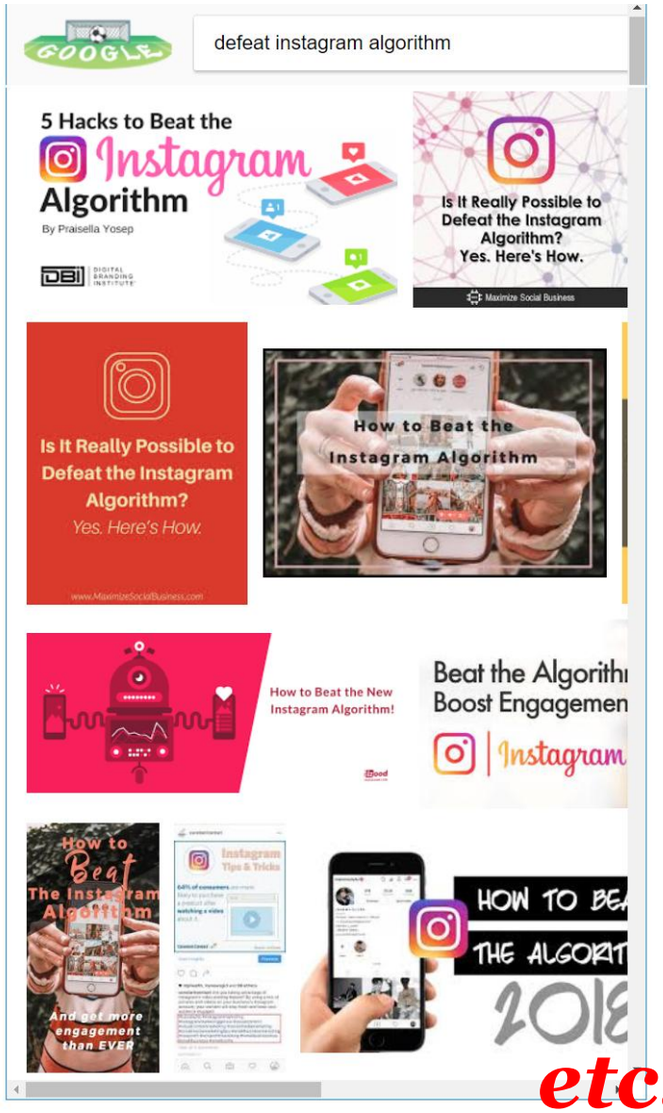
https://xkcd.com/1369/

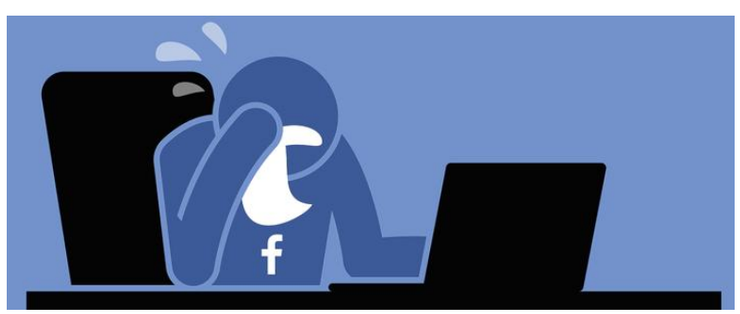
We are looking at this problem in the context of both work and social computing

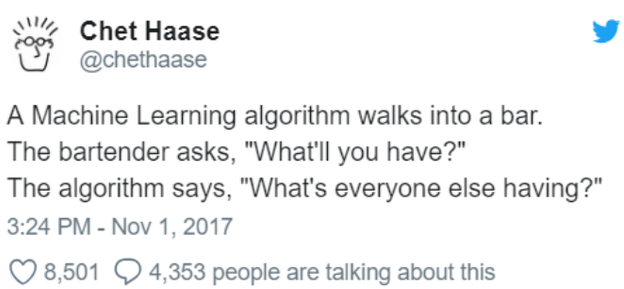
Who and what do we trust?

- Algorithms are increasingly used to determine what we see and when
- We don't own or control these algorithms
- Do we trust them?
- Do they do a good job?
- Could our own ones do better?









"The goal of News Feed is to show you the stories that matter most to you"
- Facebook

https://slate.com/technology/2018/06/i-left-facebook-for-10-days-and-facebook-did-not-let-me-forget-it.html

How do we access information?

- Different services usually have their own user interfaces
- Some integrate with other things, some do not
- User may not have choice in all the information sources they have to use
- Diversity of interfaces adds to information overload

How might we fix this?

- Can we reduce the number of interfaces user has to interact with to get the information they need/want?
- Develop techniques to remove or reduce unwanted content
- Bring control of into the hands of the *user*, not the *provider*
- Utilise the delivery mechanisms that work best for the user (where and when they are)

An awareness agent

- Autonomous agent acting on behalf of the user that owns it
- Uses own AI models to prioritise and categorise content
- Publish content via common interface

Awareness Agent prototype

- We are testing a simplified prototype of an Awareness Agent
- User can manage and train their own AI classifier models
- The prototype uses Slack to interact with user:
  - Items are posted to Slack channels
  - Control the agent via Slack
  - User can give feedback (train the models) by interacting with posted Slack content
- Limited in scope/functionality:
  - Limited data sources supported
  - Currently only understands ‘classification’ not time-based prioritisation
  - Basic UI

Study design

- Participant and researcher collaborate to define:
  - A set of AI models and classifications
    - Synthetic and real content sources
- Participant trains the models as content comes in
- Study data is gathered automatically, with some short surveys
- Evaluation and feedback phase

Study stages - Initiate

- **Day 1**: Go through this presentation and discuss any questions
- Technical onboarding
- Workshop the design of:
  - AI models and classifications
  - Synthetic data sources
  - RSS feeds
- Researcher will take this away and complete study setup

Study stages – Phase 1

- **Data gathering – about 30 minutes a day for 3 days**
- Meet if needed to look at the initial data and make any adjustments
- Participant trains models using the **Training UI** independently
- Short review meeting at end of phase
  - Researcher answers any questions arising
  - Participant completes short survey
  - Get ready for next phase…

Study stages – Phase 2

- **Daily usage – about 30 minutes a day for 7 days**
- Participant continues to work with the agent using the **Slack UI** and optionally the **Training UI**
- Use the tools to classify content as it comes in and give feedback
- Short daily commitment, and it's OK to skip days
- At end of period researcher will analyse and prepare data for next phase

Study stages – Phase 3

- **Evaluation of AI LLM** (2-3 hours, can be spread over a few days)
  - Since the last phase we used an LLM (ChatGPT/OpenAI) to evaluate the same content as the participant
  - We want the participant to help us understand how well the LLM did this…
- Initiate phase 3 with meeting:
  - Short questionnaire on process so far
  - Introduce the Evaluation Explorer UI
- Participant independently reviews the AI LLM's work
- Wrap up meeting at the end
- Study participation complete – thank you!

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