



Past and Future Directions in the Design of Task-Based Information Environments

Workshop on Task-Focused IR in the Era of Generative AI
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Task-Based Approaches to IR

Tasks are goal-oriented activities that can be defined at different levels of abstraction

Task types (work tasks, information tasks); task characteristics, and task process



Why are tasks important?

- Tasks motivate and establish the criteria for search success
- Macro/contextual (over time and search sessions);
- Micro/situational (activities and selection criteria)



Prior Task Research

Relationships between Work Tasks, Information Tasks and Document Genres in enterprise search, e-government search



The design of Assigned Search Tasks and task types for IR experiments

Searching as Learning - models of comprehension, reading and human information interaction

What features of the information support different task contexts? How can we present that information in an environment that is suited to the task?



Task-related information characteristics – software engineering

The most valuable information can be *applied directly to the task*

Level of detail conceptual level, depth, and scope of the information- *high level* and *low level* information.

Sanction officially approved information objects versus less formal sources

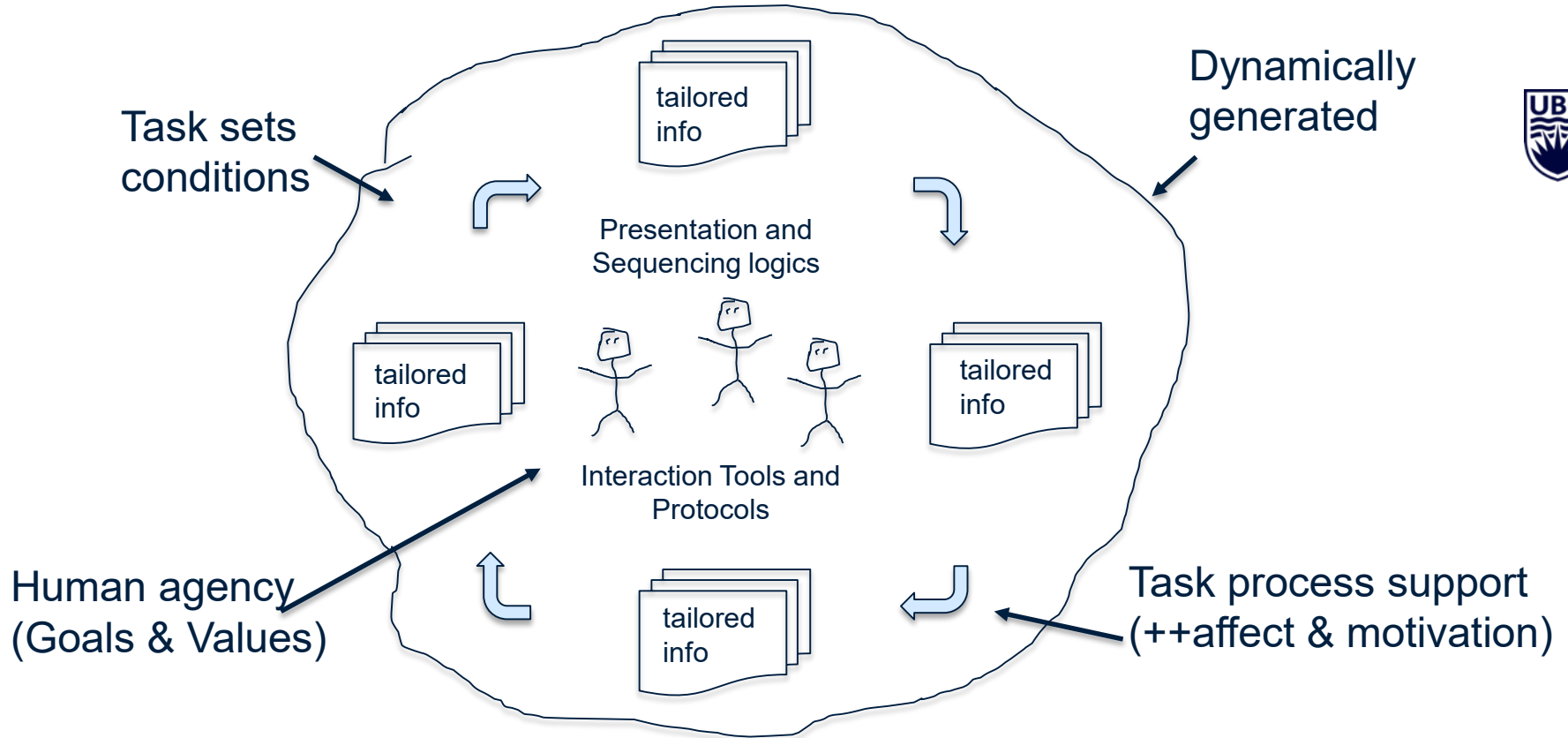
Situatedness expressions of situated knowledge, gained through the first hand experience

Specificity relates to a particular scenario or situation or generic

Purpose information created for different purposes such as training, documenting, marketing, or guiding.



Task-Based Information Environments



GenAI IR - Opportunities

- Overcome obstacles in document analysis and classification – can extract hidden features and extend information modeling
- Can construct task-oriented collections (and documents) based on these features
- Offer tailored modes of interaction and user support through chat-based agents



Photo by Lauren Mancke on Unsplash



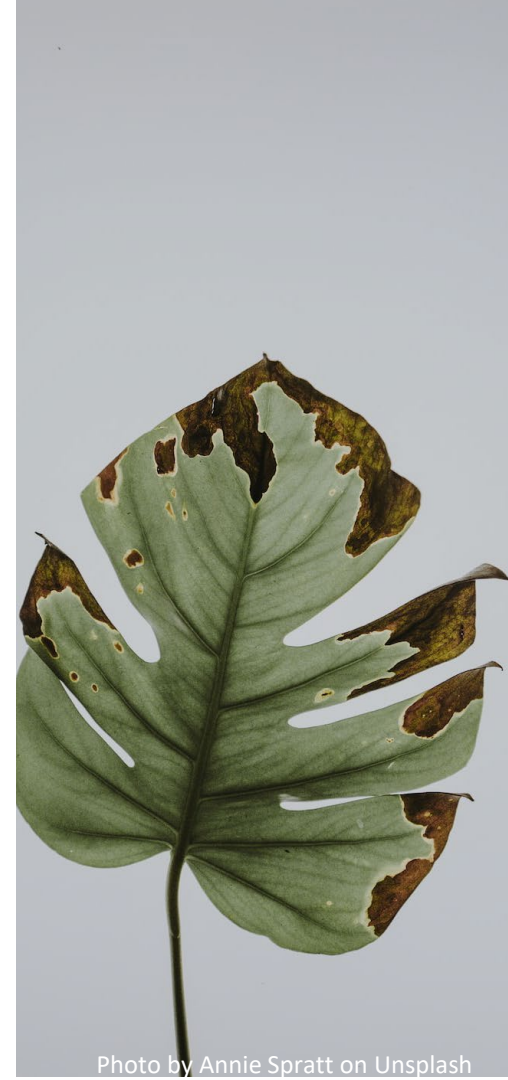
Gen-AI –research forays and concerns

Working with students on:

- ChatGPT-based interactions with social identity and rhetorical style;
- Audit study of query bias, response rhetoric and results selection in GAI search engines and ChatGPT

Concerns

- GenAI – *increased system responsibility* from traditional search
 - potential for manipulation and value-bias in interaction
 - potential to spread misinformation (hallucinations) and machine-generated goo
- Narrowing of perspectives; theft of content
- Undermining of human agency & effort as key ingredient of Info seeking
- Requires regulation and greater transparency





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