

CONCEPTUALISATIONS OF WEB SEARCH

Workshop „Conceptualisations of Web Search“

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SEARCH ENGINE RESULT PAGES

The screenshot shows a Google search result for "echo and the bunnymen". The search bar at the top contains the text "echo and the bunnymen" and the Google logo. Below the search bar are navigation tabs for "Alle", "Bilder", "Videos", "News", "Web", "Bücher", "Finanzen", and "Suchfilter". The main content area features a large header for "Echo & the Bunnymen" with sub-tabs for "Übersicht", "Titel", "Mitglieder", "Veranstaltungen", "Alben", "Anhören", and "Videos". There are several image thumbnails, including a group photo of the band and a video player showing a performance. A sidebar on the right contains information about the band's genre (Alternative/Indie), their bassist (Les Pattinson), and a list of social media links for YouTube, Spotify, YouTube Music, and Apple Music. Below the main content, there is a Wikipedia snippet and a link to the band's official website, "bunnymen.com".

The screenshot shows a Google search result for "what's better for a family with kids under 3 and a dog, bryce canyon or x". The search bar at the top contains the text "what's better for a family with kids under 3 and a dog, bryce canyon or x" and the Google logo. Below the search bar are navigation tabs for "Converse", "Shopping", "Images", "Videos", "News", "Maps", "Books", "Flights", and "Finance". The main content area features a large header for "Generative AI is experimental" and a main text block discussing Bryce Canyon and Arches National Parks. There are several image thumbnails, including a "KID OUTDOORS" logo and photos of the parks. A sidebar on the right contains information about the parks, including a list of social media links for National Geographic, Sampling, and Gopetfriend. Below the main content, there are several "Ask a follow up" suggestions and a list of search results, including "Action Tour Guide" and "The MOM Trotter".

TWO TYPES OF RESPONSES

Documents: Information objects shown to help a user answer their question

- Generated from an index of documents

Answers: Text that directly answers a user's (anticipated) question

- Key sentence(s) from documents (through information extraction)
- Facts (from specific data sources like Wikidata)
- AI-generated answers (longer, generated from a pre-processed index; LLMs)

TWO QUESTIONS

1. What's the appropriate terminology?

2. What is a search engine?

1. WHAT'S THE APPROPRIATE TERMINOLOGY?

Response

- All result/answer types

Result

- Document result

Answer

- Text generated by the search engine

Search Engine Result Page (SERP)

- The page presenting the results: SERP

It makes sense to distinguish between results and answers because they are different and lead to different problems with evaluation, judgment, and information literacy. We see a mix of results and answers in search systems, and this will continue.

2. WHAT IS A SEARCH ENGINE?

Definition (from “Understanding Search Engines”)

“A search engine (also: Web search engine; universal search engine) is a computer system that captures distributed content from the World Wide Web via crawling and makes it searchable through a user interface, listing the results in a presentation ordered according to relevance assumed by the system.”

Elements not fulfilled in chat-based systems generating answers

- Distributed content from the web? Crawling?
- “Presentation ordered according to relevance assumed by the system” – does a SE have to show a ranked list?

Can LLM-generated answers be considered “search results”?

- No documents / Answers not directly generated from documents (like direct answers)
- As soon as sources are shown, very similar to “traditional” search results (the answer is just a summary of documents)
- Retrieval-Augmented Generation (RAG) uses a document collection (index) *plus* an LLM to generate the answers

No problem with “mixed systems” (search engines extended through LLM-generated answers) but with purely chat-based systems

- Information seeking / question answering is only one use case among many
- Is it realistic to have purely chat-based systems vs. “traditional” search engines?