### **AI-Chatbot for libraries**

# Why? How?

## An ASK – Leadership webinar



Prompt: female librarian, steering a sailboat, 18th century Persian miniature



## Why?

#### Start exploring

Documents Author Researcher Discovery Organizations Scopus Al New

Explore topics and discover relevant references since 2003 How it works

What impact do microplastic pollutants have on marine biodiversity in coastal regions?

Q

What impact do microplastic pollutants have on marine biodiversity in coastal regions?

#### Show Copilot steps 🗸

#### Summary

Microplastic pollutants have a significant impact on marine biodiversity in coastal regions, affecting various aspects of the ecosystem and posing risks to both marine organisms and human health. Here's a breakdown of the key impacts supported by the academic abstracts:

#### Impact on Marine Organisms:

- Microplastics pose serious harmful effects on water quality, fishes, dolphins, crabs, planktons, and other benthic organisms in coastal ecosystems 1.

- Studies have shown that large numbers of marine organisms have been affected by microplastics, with evidence of ingestion at all levels of the marine ecosystem  $\underline{2}\ \underline{3}$  .

- Microplastics have been found to affect survival and behavior of marine organisms, such as beachhoppers, leading to potential flow-on effects to their local environment and higher trophic levels  $\frac{3}{2}$ .

#### **Global Distribution and Sources:**

- Microplastics are found in most commonly utilized products or may originate from the fragmentation of larger plastic debris, entering the marine environment through terrestrial and land-based activities, especially via runoffs  $\underline{2}$ .

Google	do you think an ai chatbot is good for a public library	х 🌢 😨 Q
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🔶 Al Overview		Learn more
can assist with v asked questions	ot can be a valuable asset for a public library. It arious tasks, including answering frequently , providing information on library resources, ough the library catalog, and even assisting with <i>∂</i>	The Use of AI in Public Libraries - collectionHQ 23 Jan 2024 — The use of virtual assistants and chatb C collectionHQ :
Here's a more de Enhanced User I 24/7 Availability:	etailed look at the benefits: Experience:	Chatbots: A review of their potential applications in 31 May 2023 — Training and educating library staff and



#### Tilman Scheel & ASK

- Lawyer, art historian, Al lecturer
- In IT for film festivals and libraries since 2004
- CEO of ava-library.com and AboutSomethinK.org

ASK is the first AI – Chatbot for public libraries in the

world. **ASK** is in production for all Berlin libraries since

June 2024 on voebb.de







### AI – Chatbot

Some background



Prompt: neural network, Longshan culture style



## Terminology – the various roles of an AI - Bot

#### **Recommendation Bot**

- → **Prompt:** "I am bored" "Something in the style of..." "Book with the red cover ..."
- → Key Challenge: Expectation Management, Available Data, Nature of AI

#### **Service Bot**

- → **Prompt:** "Where is the Cafeteria?" "I lost my library card" "Is it open sundays?"
- → Key Challenge: Diverse set of data formats and sources, data must be up to date

#### **Knowledge Bot**

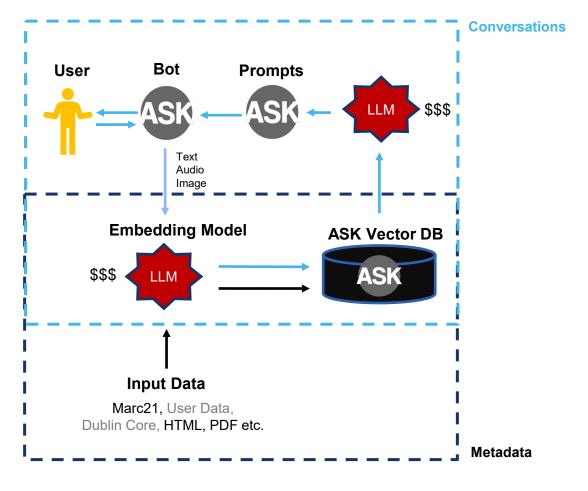
- → **Prompt:** "Was there a PR on.." "Is there a procedure for … " "Can you help me…"
- → Key Challenge: Diverse set of data, data protection, on-site hosting of LLM

#### **Research Bot**

- → Prompt: "What do studies say about …" "Where was Schopenhauer angry with Hegel? Include footnotes." "Show me the sketches of Rubens for this image…"
- → Key Challenges: Lots of context, Cost, Data relations, Reliability & Transparency, Copyright



## **RAG-Workflow**





#### **Expectation Management**

- AI-Bots and Search are (very) different approaches to find and interact with content

- Conversation vs. Keyword
- Answer vs. List of results
- Probability vs. Precision
- An AI-Bot only talks about things it has been taught and nothing else:
  - Intrinsic Knowledge
  - "RAG-Knowledge"
- AI has to be taught (like any team member) and learned (like the Internet, as Search)



#### Live – Frontend, Backend



#### Der Titel: "Pi mal Daumen" von Alina Bronsky

Alina Bronsky erzählt von einer Freundschaft zwischen zwei ganz unterschiedlichen Menschen: einer 53-jährigen Großmutter im Leopardenlook und einem 16-jährigen Mathematiküberflieger. Ein Buch, das humorvoll und warmherzig die Eigenheiten seiner Figuren zelebriert. "Pi mal Daumen" ist im Verlag Kiepenheuer & Witsch erschienen und wurde 2024 als Lieblings-





#### **Use Cases**

#### **Recommendation Bot**

- Q: I am bored; Fantasy with strong female lead for 14yr olds

#### **Service Bot**

- Q: Lost my library card; opening hours

#### **Research Bot**

- Q: Any studies on the relation between Switzerland and the EU



#### **User Response**

- Satisfaction Rate went from 46 % in July 2024 to 82 % in April 2025. Reasons
  - We are getting better
  - Users learn chatbot-behaviour as they learned search 25 years ago

- Librarian expectations are not User expectation
  - Hallucinations are rarely a concern
  - "Carrier Type" is, but less so
  - Mostly "in the style of" question caused (past tense) negative feedback



## **Setup of Chatbot**

#### With ILS

- TBD .... (Royal Library of Sweden, aStec, Axiell, Datronic, koha ... )
- Different business models with ILS providers
- Up to date information on service, additional information on media (availability)

#### Without ILS

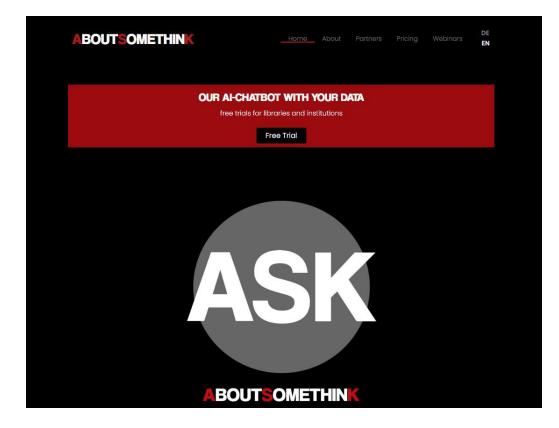
- Metadata delivery: Marc21 (Recommendation-Bot), links, pdfs, wiki etc.

(Service-Bot, Knowledge-Bot) Copyright (Research-Bot)

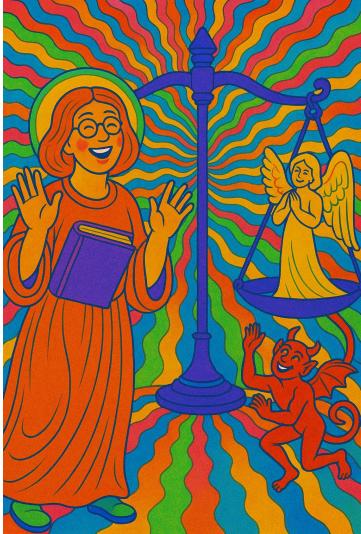
- Website integration: <u>https://aboutsomethink.org/en/documentation/</u>
- Setup: 1 day max.



### Testbot







Legal



Prompt: happy female librarian on judgement day, psychedelic 70s style

### Data Protection I.

#### GDPR

Data is stored in our data-center in Germany, it is transferred to the AI-Service twice: to generate

the Embeddings and during a conversation. The workflows are documented and transparent.

#### Solutions

Scenario 1: Open Al, etc.

Scenario 2: Mistral (EU)

Scenario 3: Local Hosting



#### **Data Protection II.**

- Depends on Use Case and data shared (Recommendation, Service, Knowledge)
- We can exclude the usage of personal data
- Use the scenario that fits best to your use-case and budget
- Use our statement on Data Protection (available soon in English)



### EU – Al act

- We are a "limited risk" service
- Welcome by "AI chatbot"
- We provide documentation and transparency
- Art. 4: obligation to educate staff by any employer
- Let's see, as it is about to be changed (and loosened)
- $\rightarrow$  Included in our GDPR Statement



## Copyright

- Recommendation Bot: included in Search
- *Research Bot:* Ownership, Open Access and, well, yes: \$\$\$



## **Public Tenders**

**Spending Limits** 

- Vary from country to country or even inside countries (compare Pricing)

**Integration with ILS** 

Collaboration with a consortium

Only service of its kind around the world (that we know of)



## **Ethics**



Prompt: Librarian, climbing to heaven with Vergil, Giotto style



### **Common concerns**

- AI will substitute tasks not people (AI needs tutors...)
- Data protection is on the same level as google; in scenario 2 & 3 it is better
- Energy consumption: Yes, it is an issue (but getting better as competition becomes

more of a cost issue (i.e. now)

- AI will most certainly not rule the world (in the foreseeable future)
- Bias: Unlikely in our use cases, but especially female librarians always wear glasses
- Recommended reading: public reaction to the introduction of printed books



 $\rightarrow$  Discussion about <u>specific risks</u> are needed.

## Cost



Prompt: librarian, counting money, Hans Holbein style



## COST

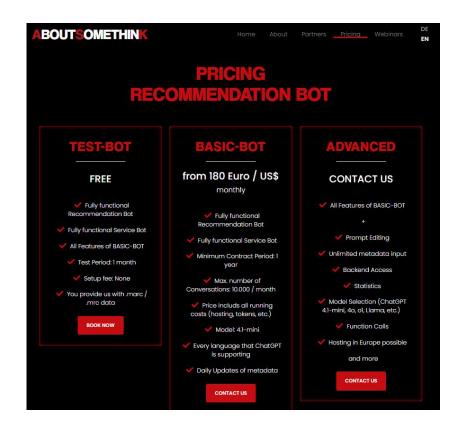
- Tokens for:

- Embeddings (Initial import + Updates)
- Conversations
- $\rightarrow$ depending on LLM, specific model, usage
- $\rightarrow$  dynamic pricing, included as flat fee in ASK offer
- Infrastructure (Vector DB, RAM, Updates, etc.)
  - Basic: Shared Platform
  - Advanced: staging & production server, testbots, automated tests stats, etc.
- Personnel (!)
  - Customizations
  - Maintenance (Security, Updates, constant improvements, etc.)
  - Support



## Pricing

- Testbot: 0 Euro
- Basic Bot: 180 Euro / month (negotiable)
- Advanced Bot: Starting at 420 Euro / month
   Depending on: Size of Metadata, Model,
   Usage, country, etc.
- Now would be a very good timing indeed !





### Future



Prompt: A spaceship launching to the stars, Perry Rhodan style



### **Future**

- Networks of Culture
- Research with HU-Berlin

- Services for special groups
- Knowledge Graphs
- Open Access, etc.

Select a role  Tourist	≡ Marble statue of a youthful Hercules -		
Child Scholar Artwork History Marble statue of a youthful Hercules			Welcome to The MET! Enter the ID of a particular work. The bot will take it from there. For those who want to know more, we will suggest literature from the Watson library. Please choose your role and get started. O Tourist Child Scholar
		A	Marble statue of a youthful Hercules -
		<ul> <li>(b)</li> </ul>	The "Marble Statue of a Youthful Hercules" is a Roman sculpture from the Early Imperial period, specifically the Flavian era (69–96 CE). This impressive marble piece stands over 97 inches tall and was originally part of the Giustiniani Collection in Rome before becoming part of the Metropolitan Museum of Art in 1903, thanks to the generosity of Mrs. Frederick F. Thompson. The statue undervent significant restorations in the early 17th century. with
+ Start New Chat		Ask anything	0



#### Thank You !

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> https://aboutsomethink.org/ webinars

## Questionnaire!!!



Prompt: librarian waving good-bye, crazy japanese manga style

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