

# The EconDesk Chatbot: Work in Progress Report on the Development of a Digital Assistant for Information Provision

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# Reasons for Chatbot

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- User support outside library opening hours and EconDesk-Reference-Team working hours
- Support for EconDesk-Reference-Team by taking over the frequent recurring and/or simple user requests

Hello I have to write on my essay?  
Can I work on at your library?

Hello and welcome to the chat! Let me read your question

Yes, you can work at the library. Alone ore together with your learning group.

Nice!  
Can you help me with my research?  
I have to write about inflation and I don't know where to start....

Sure. Have you tried with search fpr "inflation" in EconBiz?

# Use Cases


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- Chatbot only
  - Questions around the library
  - Questions about EconBiz
- Chatbot and EconDesk-Reference-Team
  - Questions about Login
  - Simple Research Questions

# Software Development

1

**User Interface**



2

**Preprocessing**

- NLP techniques
  - Cleaning
  - Correcting
  - Noun phrase detecting

3

**Understanding**

- RASA NLU
- Intents
- Stories or dialogue flows


4

**Detecting best answer**

- Actions
- RASA Core

5

**Return answers to users**



# Labels and Intents

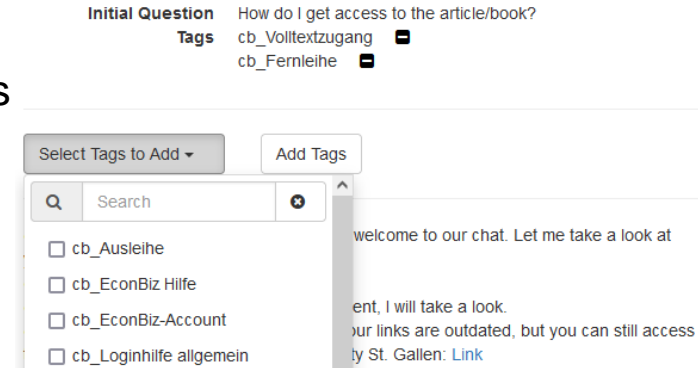
## Step 1:

- 10 labels divide the chat transcripts into rough categories
- Labels are assigned by the EconDesk-Reference-Team
- This allows the evaluation of specific cases to obtain a sufficiently large sample size of intents

## Step 2:

- Intents are assigned in a four eyes principle to the previously labeled chat transcripts
- Modular structure to be more flexible in designing intents and fitting responses (actions)

<u>intent_order_pickup</u>	<u>action_order_pickup</u>	<u>General questions regarding the pick up of media</u>
<u>intent_order_pickup_proxy</u>	<u>action_order_pickup_proxy</u>	<u>Can they someone else pick the book up for a user</u>
<u>intent_order_pickup_timeframe</u>	<u>action_order_pickup_timeframe</u>	<u>How long do users have time to pick up a ordered i</u>
<u>intent_order_processing-time</u>	<u>action_order_processing-time</u>	<u>How long does it take until a book is ready for pick</u>



# Further Steps

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- Work on/evaluate chatbot personality
- Evaluate dialog flows for chatbot-only use cases with EconDesk-Reference-team and improve them
- Evaluate chatbot-only use cases with users (Wizard of Oz Method)
- Work on more intents, actions and examples for them
- Review and eventually enhance use cases
- Develop hi-fi vertical prototype for chatbot-only use cases

# Contact

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- Machine learning, NLU/NLP, RASA

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- UX researcher/designer, EconBiz team, Information Provision and Access Department
- User research, conversational UX

Alexander Unteutsch - a.unteutsch@zbw.eu

- Librarian, Customer Services Department
- Cahtlogs labeling, developing intents/actions

# Inspirational Corner

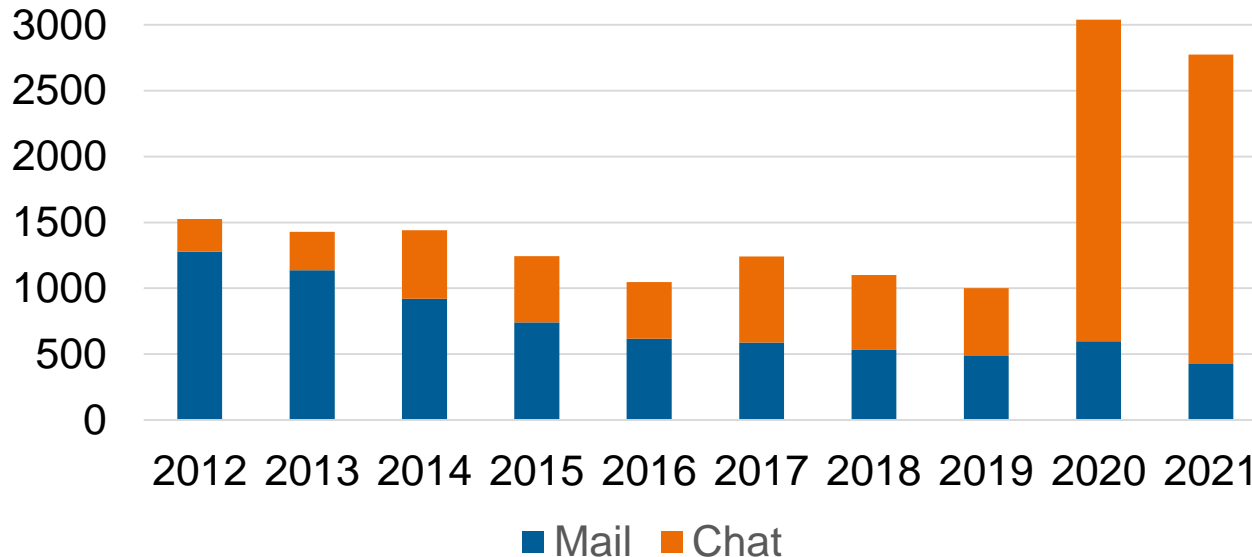
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# Research Guide EconDesk development

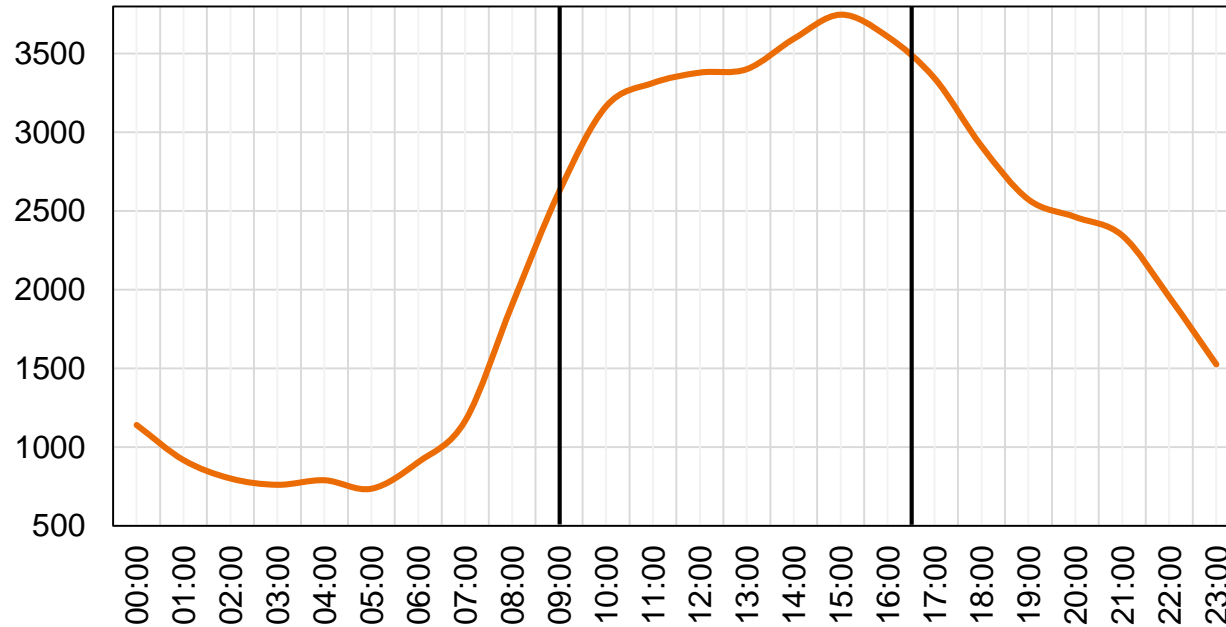
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Requests: Research Guide EconDesk



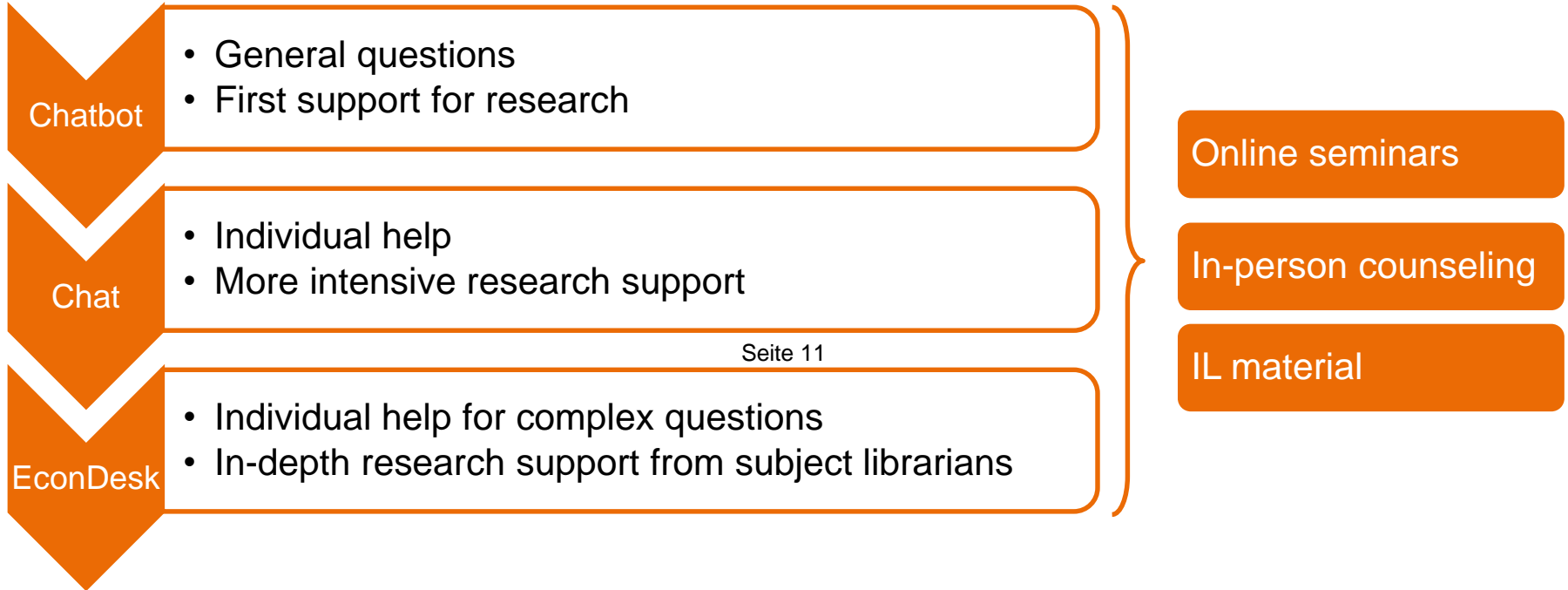
# EconBiz traffic

Website visits EconBiz



# Chatbot concept

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# Use Case Development

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- Chat-log analysis
- Interviews and workshop with members of EconDesk-Reference-Team
- Splitting use cases in
  - chatbot-only
  - chatbot and EconDesk-Reference-Team
  - EconDesk-only

# EconDesk-Reference-Team as Stakeholder

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- Chances and risks workshop
- Personality Workshop
- Regular feedback
- First testers
- Intents/actions and examples creators