

Question Answering and Chatbots

0th Practical exercise

Aleksandr Perevalov

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October 6, 2021



Hochschule Anhalt

Anhalt University of Applied Sciences

Before we start – I DO ARRT

Intention, Desired Outcome, Agenda, Roles, Rules and Time (I DO ARRT)

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- **Time:** Two exercises (one per sub-group). Every week. Break after 45 min. Deadline for the all assignments – 22nd December.

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Main item in my bio: Participant of QA and Chatbots WiSe 19/20

What about you?

Please, introduce yourself, technical background, skills, interests,
working/learning experience.

Working Framework

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- Project – main thing in the course. Done within teams.

Any questions before we start?

Technology stack

Programming language: use any language that you know. But it would be easier with Python or Java.

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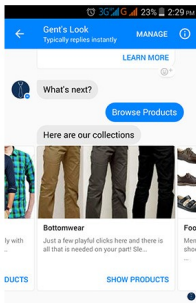
Technologies:

- Programming + Web knowledge;
- DBMS + Triplestores (RDF, SPARQL);
- NLP Tools (NLTK, spaCy, Gensim, StanfordNLP ...);
- Basic Linux skills;
- Docker;
- GitLab (<https://gitlab.hs-anhalt.de>);
- ML/DL stack (Pandas, NumPy, Sklearn, Tensorflow ...).

What do you know about application of QA and Chatbots?

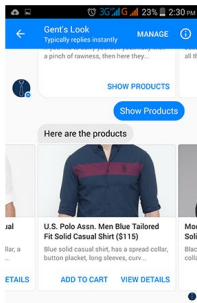
Usage of QA and Chatbots

Chatbots for eCommerce



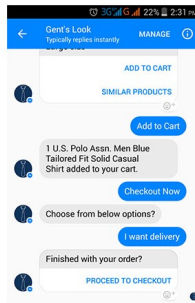
Send a message

Order Now



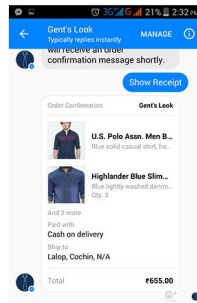
Send a message

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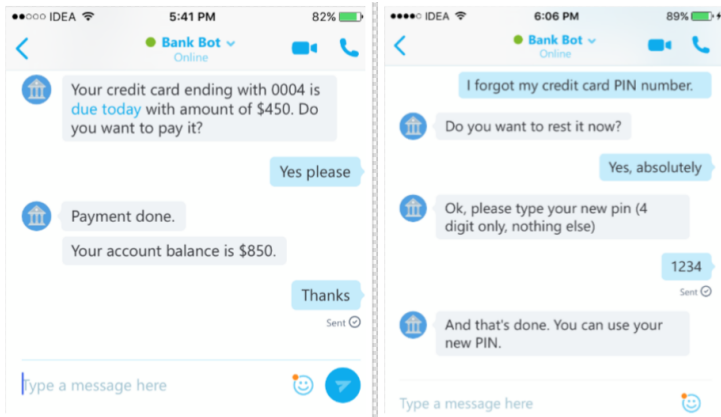
Order Now



Send a message

Order Now

Chatbots for Banks



Chatbots for the Government

The screenshot displays the 'Coronabot Demonstrator' interface. At the top, there is a dark teal header with a circular icon on the left, the text 'Coronabot Demonstrator' in the center, and 'Examples' with a German flag icon on the right. The chat area has a light blue background. It shows two incoming messages from the bot, each with a circular profile picture on the left and a timestamp '13:16' on the right. The first message is a greeting and provides information about the bot's data sources. The second message reports COVID-19 statistics for Germany as of February 12, 2021. An outgoing message from the user is shown on the right, asking for 'case numbers 12.02.2021', with a timestamp '13:16' and a circular profile picture. At the bottom, there is a text input field labeled 'Your question to me...' and a 'Send' button.

Coronabot Demonstrator

Examples

Hello, I am Coronabot. I answer questions about the number of cases of COVID-19 in Germany. I use the official data sources of the [Robert Koch Institute](#). However, I am not an official application, but a scientific demonstrator. The official German chatbot regarding COVID-19 is available at [chatbot.bund.de](#). This demonstrator was developed at [Anhalt University of Applied Sciences](#). More information on this regard is presented in the ⓘ section.

13:16

case numbers 12.02.2021

13:16

On 12.02.2021 there were 8530 COVID-19 infections reported in Germany. The 7 day incidence on 12.02.2021 was 64 infections per 100,000 people. Do you have another question?

Source of data: [Robert Koch Institute](#)

13:16

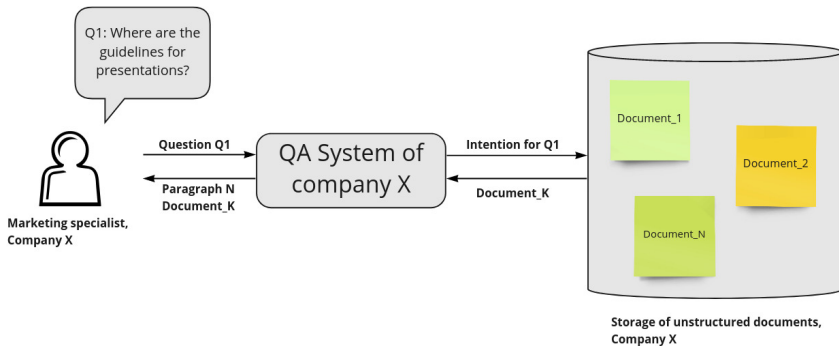
Your question to me...

Send

<http://coronabot.ins.hs-anhalt.de> – Joint project of our course & ITZBund

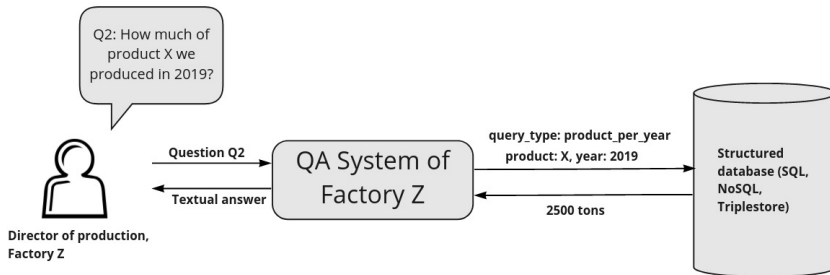
Usage of QA and Chatbots

Information Retrieval-based Question Answering



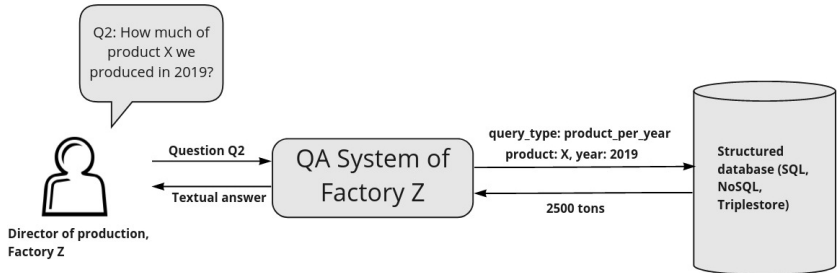
Usage of QA and Chatbots

Database/Knowledge Base-based Question Answering



What are the differences between a Chatbot and a QA system?

How would you design your own QA system?



- In groups, define an easy algorithm for a QA system or a Chatbot (define several use cases-questions) – **Draw a sketch.**
- Finish “Skills entrance testing” on Moodle.

Key points:

- Finish today's tasks (survey & sketch) and submit via Moodle;
- The next (1st) assignment will be announced by the end of this week;
- On the next week we discuss the content;
- The deadline for the 1st assignment is **the week after the next one** (20th October).