



SEPTEMBER, 22

13:00 (EEST)

LIVECODING

BUILDING FULL STACK AI CHATBOTS WITH JAVA



LUCIAN GRUIA

PRINCIPAL JAVA
DEVELOPER, CIKLUM

Meet Ciklum



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Data & Analytics	Cloud	Engineering Services

2002
founded

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professionals

20+
offices

300+
clients

Leading companies choose us:



Speaker:

Lucian Gruia

Principal Java Developer at Ciklum

- Romania, Bucharest
- 4 years @Ciklum
- 11+ years in software engineering
- Telecom, Fintech, Aerospace

 luciangruia.ro



Agenda

01

AI and the future of web

02

Building a conversational full stack chatbot

03

Architectural aspects

What is a chatbot?



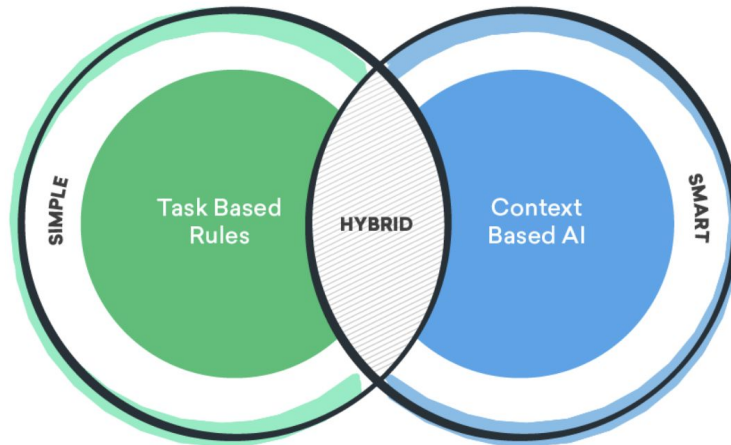
Chatbot fundamentals

Types of Chatbots

- Simple
- Smart
- Hybrid

What can you do with chatbots?

- Replace a website
- Transfer money and value
- Host games
- Social networking



Setting expectations

What we want to create

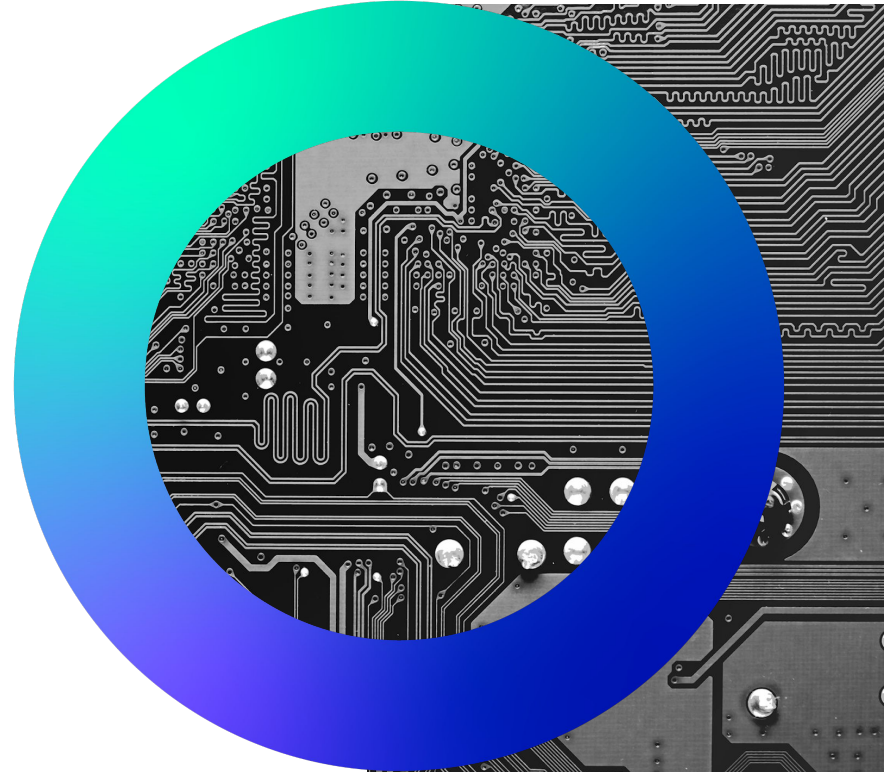
- No more than a PoC
- A general purpose chatbot that you can talk with
- A knowledgeable chatbot
- A smart chatbot
- An intelligent decisions
- An app that does not rely on cloud-based services, subscriptions or 3rd parties

Today's session goals:

- To feel how is it to think like a bot
- To understand the complexity of the task
- To see a low-level architecture
- To have a sense of what's happening behind popular frameworks



Livecoding



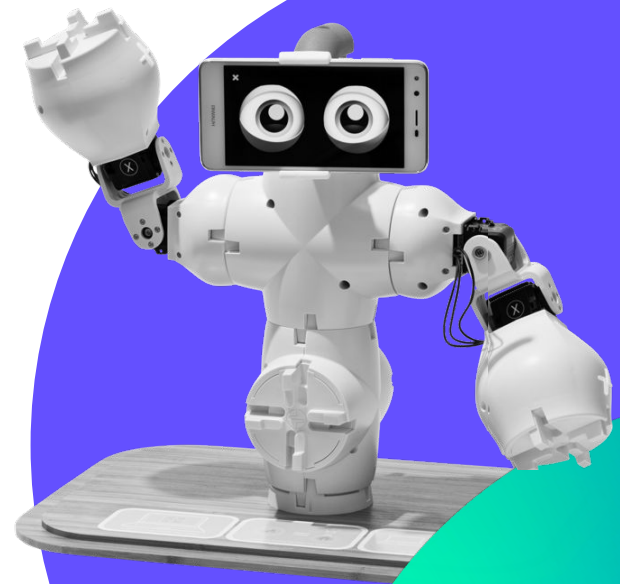
The results

A low-level application that serves as a chatbot.

A perspective comparing to

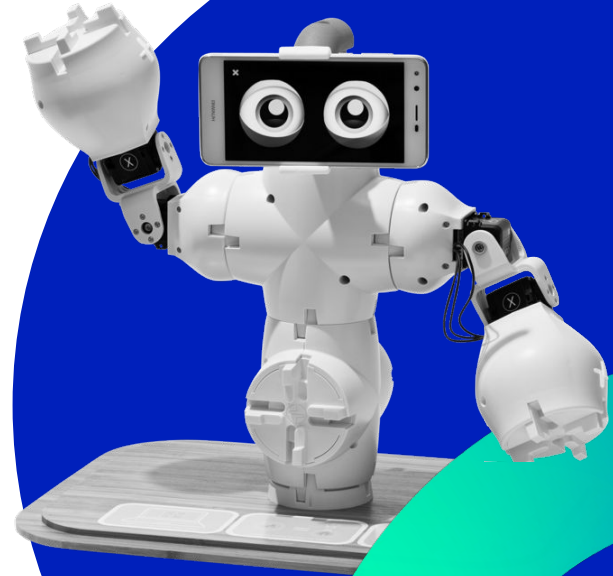
- Microsoft Bot Framework
- Dialogflow
- Kore.ai
- BotPress

And other low-code platforms.



Improvements

- Hosted in cloud
- Implement an in-memory cache layer
- Multi-lingual
- Data crawling and indexing
- Graph all data
- Neural networks for decision



Architectural
best practices



Scalability

Reliability

Availability

Speed



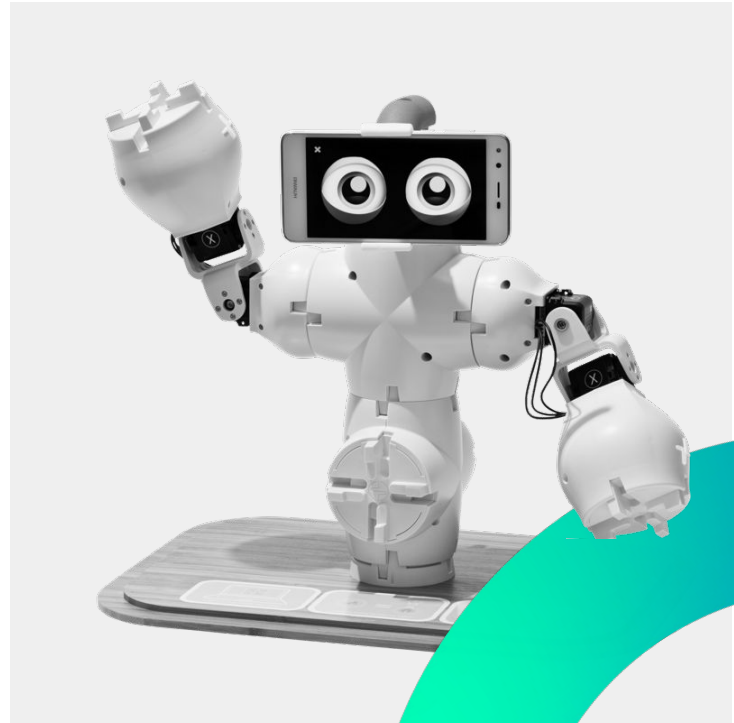
Takeaways

Tech stack

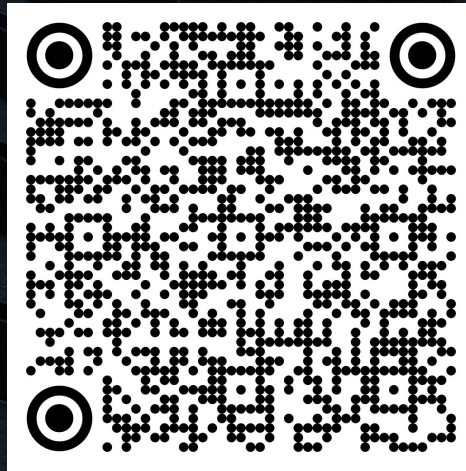
- Java 17, Spring, IntelliJ, Maven, Git
- Maria DB/Postgres -> SQL
- Solr (Lucene)
- Telegram API -> HTTP REST
- Docker

Development steps

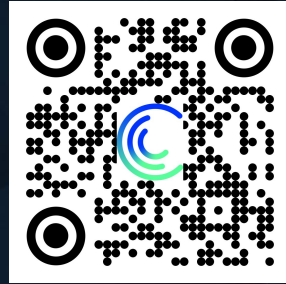
- Start simple
- Make it robust
- Make it intelligent
- Make it scalable



Share your feedback!



Thank you!



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