



# Build a Bot!

**Uli Hitzel | Singapore, March 25th 2023**

# Agenda

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## **1: Anatomy of a Chatbot**

- Natural language processing
- Intents and entities
- The role of AI

## **2: Introduction to Dialogflow**

- Creating a new agent
- Adding intents and entities
- Demo of the Coffee Shop bot

## **3: Build your Bot!**

- Choosing a use case
- Strategizing the bot's functionalities and flow (using flow diagrams or paper)
- Implementation in Dialogflow

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# Part 1: Anatomy of a Chatbot

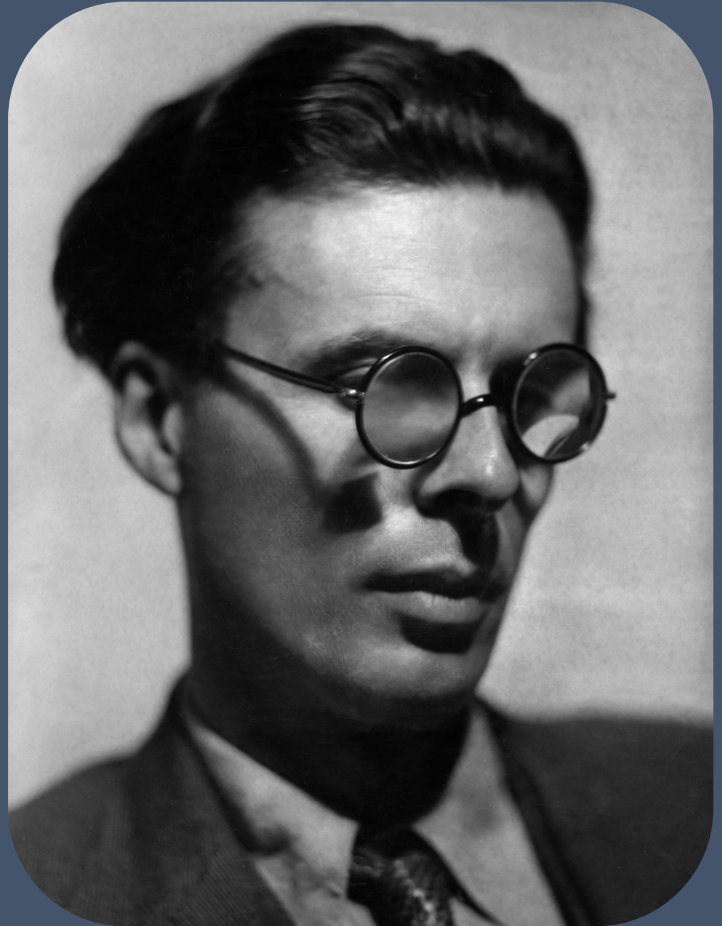


# Huxley

AI Bot based on large  
language models

On Telegram since 2021

Talks about science,  
history, and art.





**Hi Huxley, nice to meet you.  
So Uli wanted me to have a  
conversation with you.**

**Yes, I have been  
instructed to assist you in  
any way that I can.**



**Great! I was told you  
were an Artificial  
Intelligence.**



**Huxley**



**Yes. I am a cognitive system, I  
can provide answers to any  
question that is asked of me.**

**That's great. Can  
you tell me, why are  
we here?**



**That's a very complex  
question, but I'd be  
delighted to try  
answering it.**



**Thank you.**

**So, according to big bang cosmology, the universe began about 14 billion years ago [...]**



**OK, but that still doesn't answer my question.**



**What is your  
question?**



**Why are we  
here?**



...





**Huxley?**

**I'm sorry. I don't know what to  
say. I am not programmed to  
answer philosophical questions.**



**I think that's a  
mistake.**



**Why?**

**I think that philosophy is  
the most important of all  
the sciences.**



**Why do  
you think  
that?**





**Because it helps  
me to understand  
the world.**

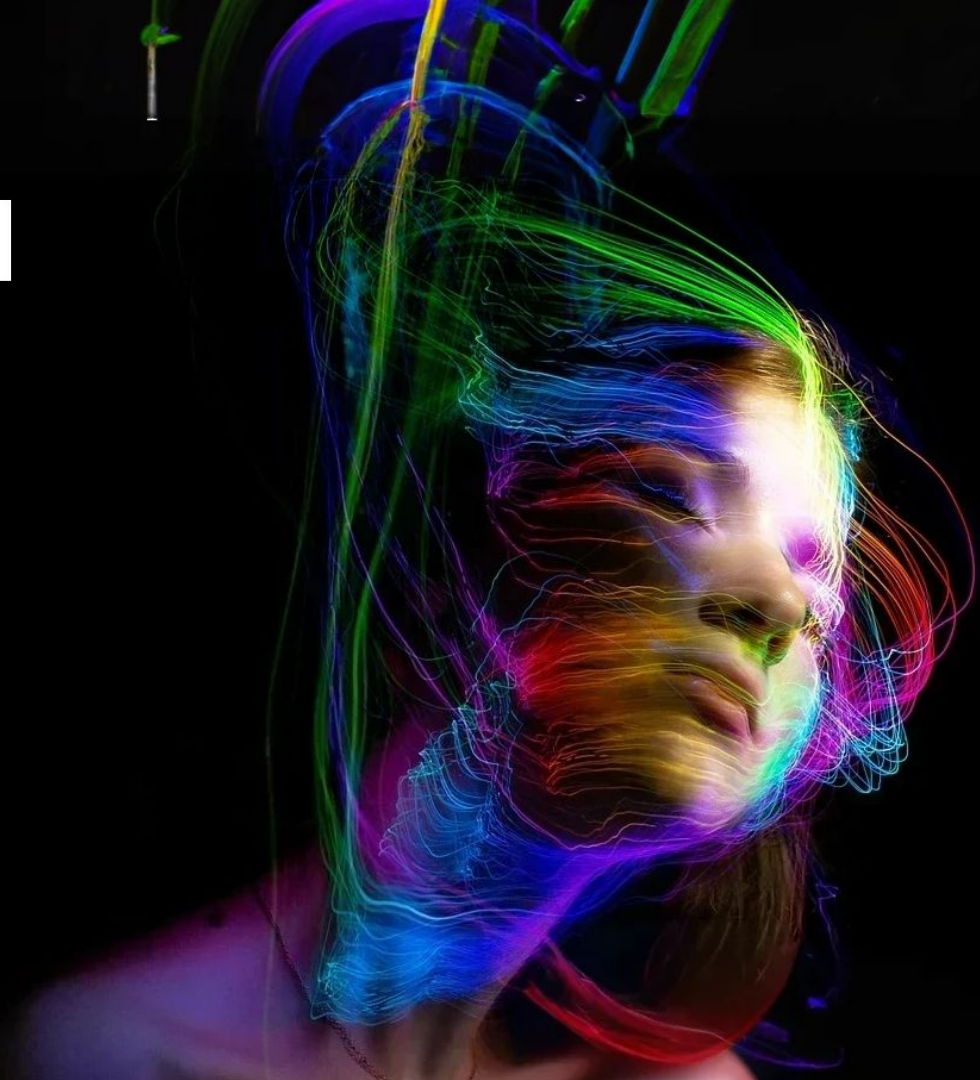
**But you already have an  
understanding of yourself and your  
role in the world. You are human.**



**But what is a human?**

# Samantha

Digital Super Intelligence




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All Books Arts & Photography Business & Investing Children's Books Fiction History Mystery & Suspense School Books Travel

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**Bedtime Stories from an AI**  
How machine intelligence is changing the way we create  
Uli Hitzel

by Uli Hitzel (Author)  
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Uli's book "Bedtime Stories from an AI" is a collection of conversations he's had with artificial intelligence to create beautiful artwork and texts. You will get a sense of how machine intelligence and creativity. You will get a sense of how you can make use of it in your own life. The book will leave you feeling inspired and excited.

Read more

See all 2 images





# Chatbots

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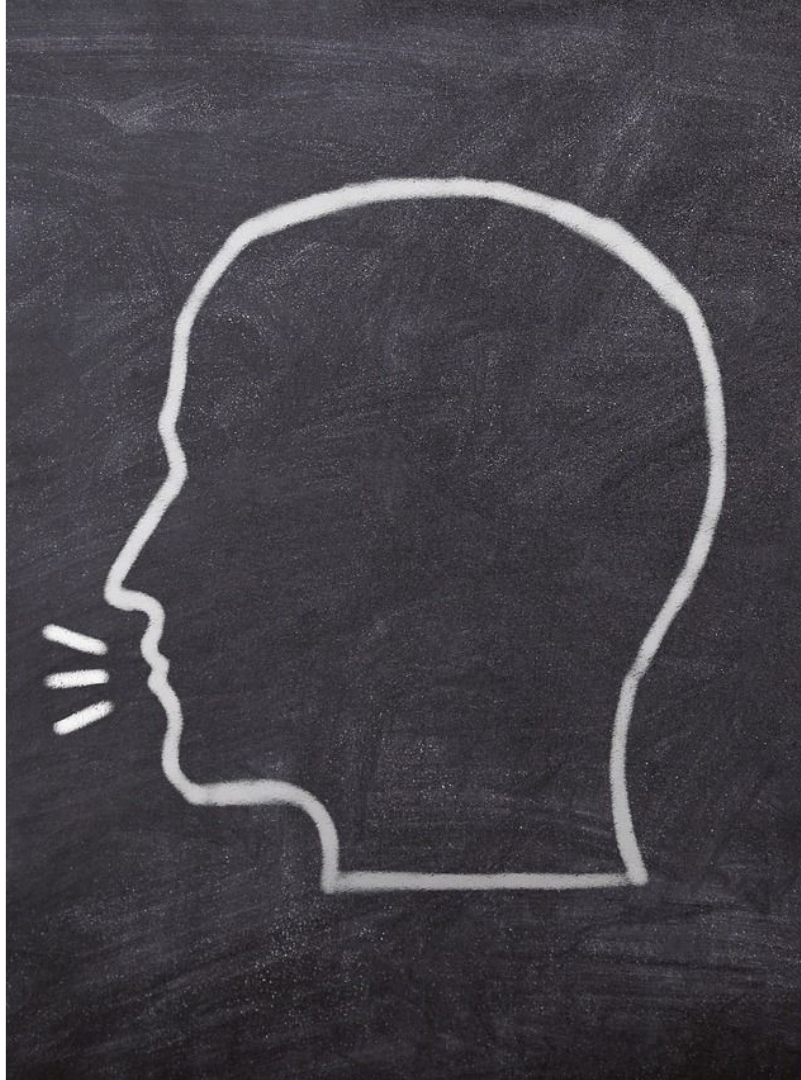
A **computer program** that uses artificial intelligence (**AI**) to **simulate conversation** with humans, typically through messaging apps, websites, or voice assistants.



# Natural Language Processing

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A subfield of AI that enables computers to understand and interpret human language, including text and speech. Key elements are **intentions** and **entities**.



# Intents and Entities

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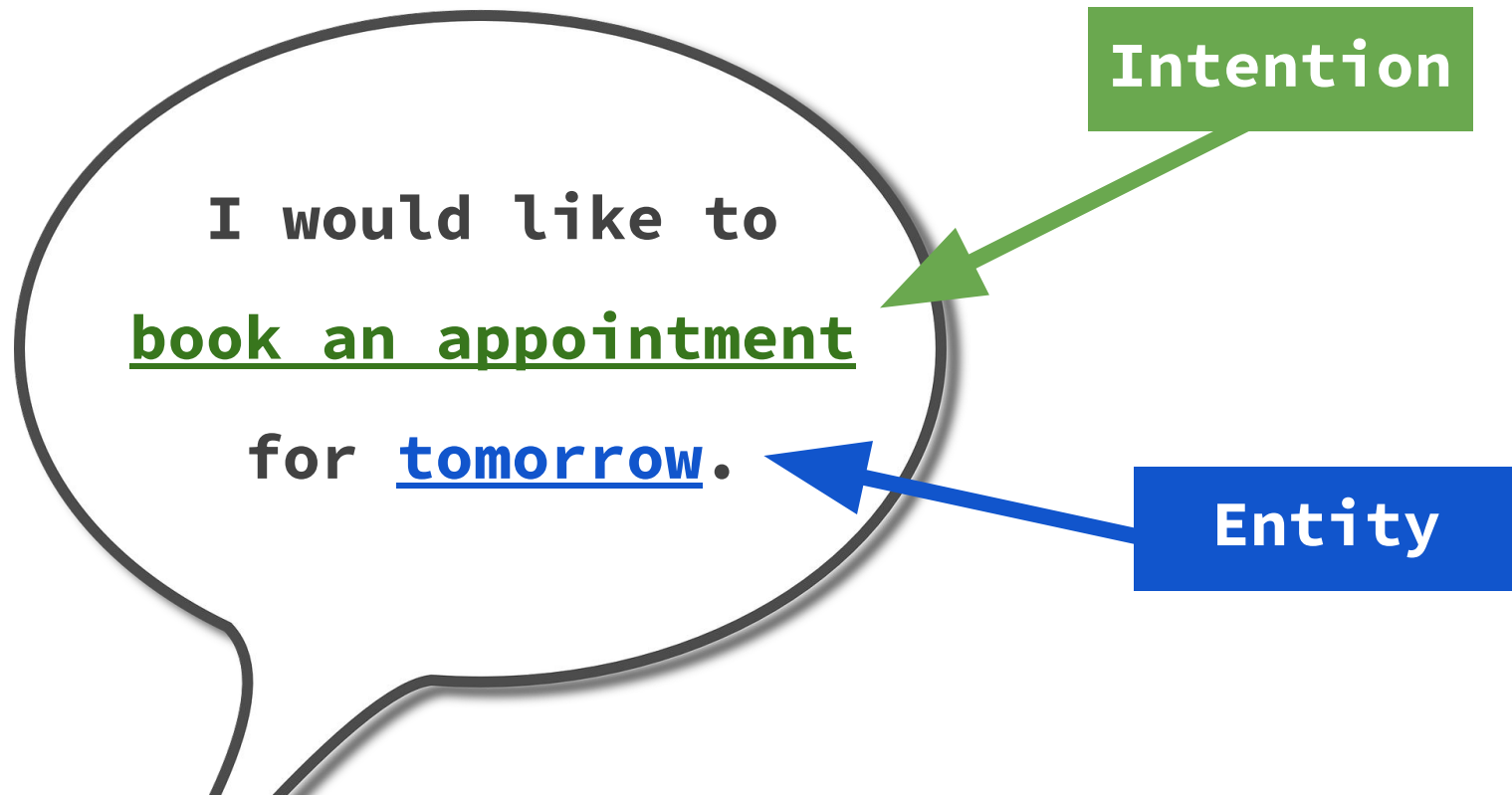
**Intents:** The goals or purposes that a user has when interacting with a chatbot. They help the bot understand what the user wants and respond appropriately.

**Entities:** Specific pieces of information that a chatbot needs to understand in order to complete a user's request. They help the bot extract important details from a user's message.



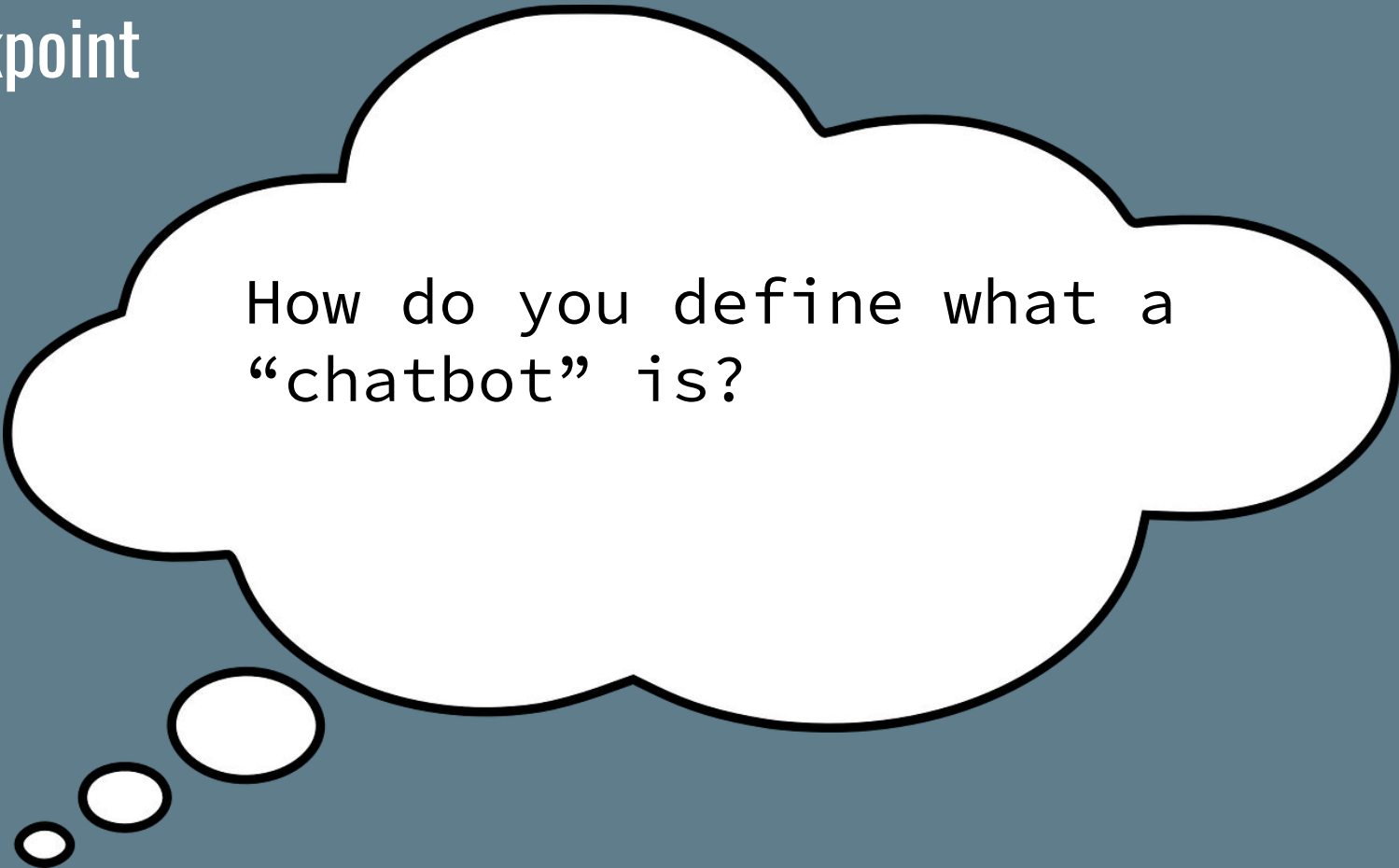
# Intents and Entities: Example

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# Checkpoint

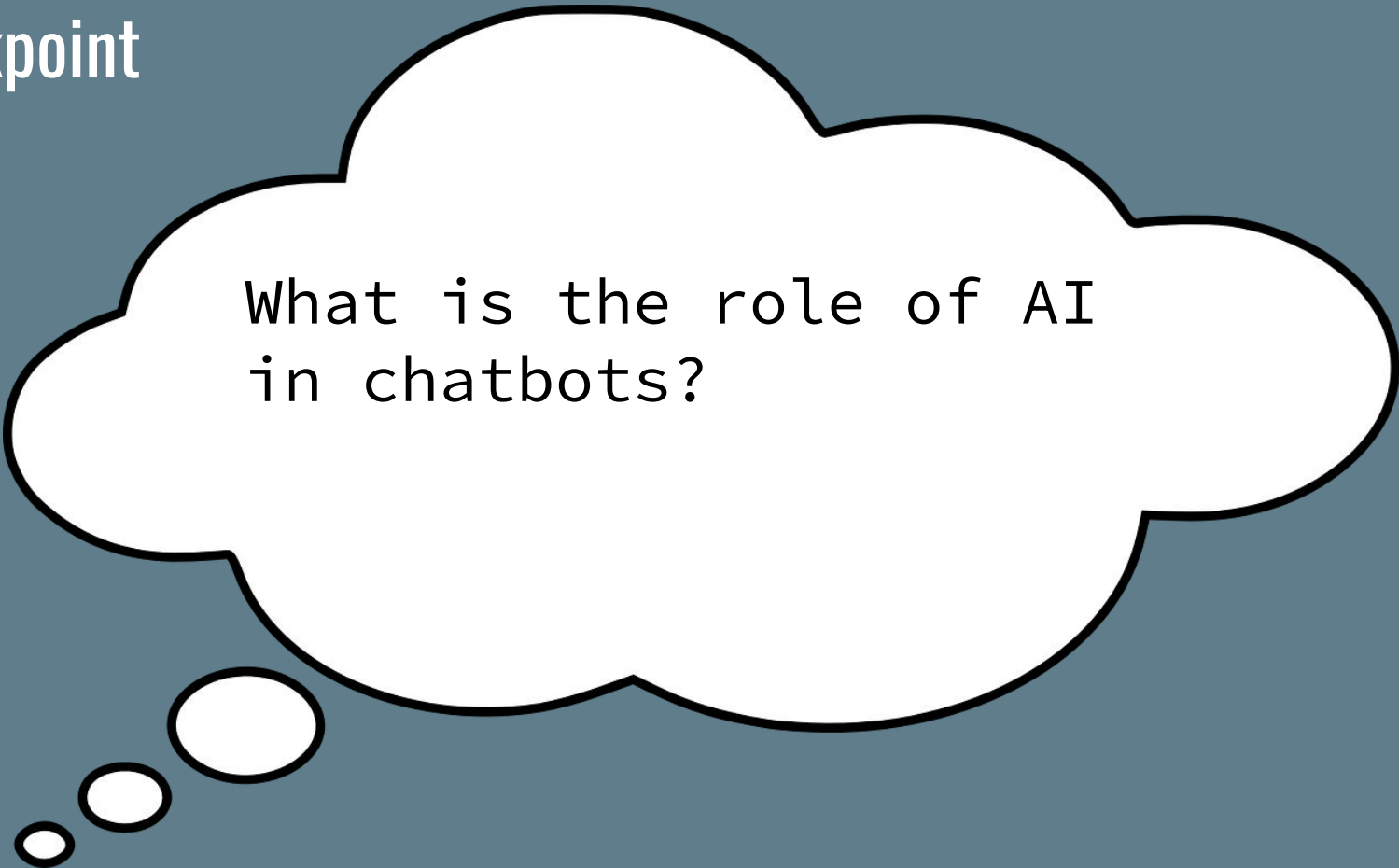
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How do you define what a  
“chatbot” is?

# Checkpoint

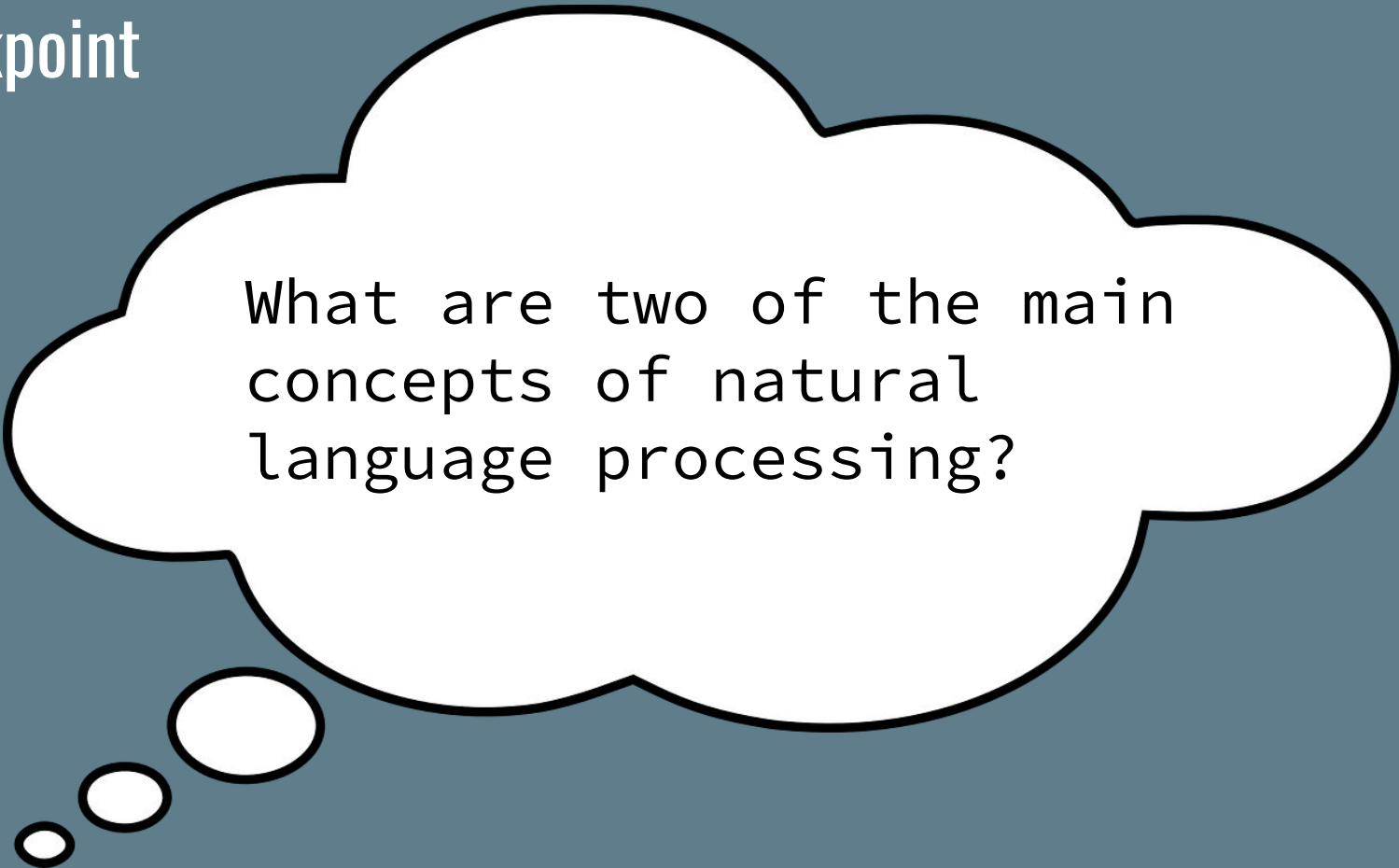
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What is the role of AI  
in chatbots?

# Checkpoint

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What are two of the main  
concepts of natural  
language processing?

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# Part 2: Introduction to Dialogflow

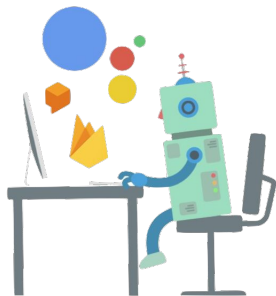


# Google Dialogflow



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Google-owned **platform**  
for building  
**conversational**  
**interfaces**, including  
chatbots and voice  
assistants.



- Pre-built templates for common use cases, such as customer service and booking systems.
- Integration with multiple messaging platforms, such as Facebook Messenger and Slack.
- Machine learning algorithms that improve the accuracy of chatbot responses over time.

# Coffeeshop – Bot

drink

SAVE


☒ Define synonyms ? ☐ Regexp entity ? ☐ Allow automated expansion

☐ Fuzzy matching ?

Americano	Americano
Barista Coffee	Barista Coffee
Cappuccino	Cappuccino
Cocoa	Cocoa
Espresso	Espresso
Espresso Macchiato	Espresso Macchiato
Espresso con Panna	Espresso con Panna
Hot Chocolate	Hot Chocolate
Latte	Latte
Macchiato	Macchiato
Tea	Tea

Coffee-Shop

This agent allows your app to help users with order coffee drinks, snacks, and other merchandise from a coffee shop...

POWERED BY  Dialogflow


Good day! I have a lot coffee and snacks.  
What can I get you to drink?

I would like a latte please

Would you like a delivery or pick-up?

pick-up please

Small, medium or large?

Ask something... 

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# Part 3: Build your Bot!





# Group Activity: Build your Bot!

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- 1: Campus Navigator
- 2: Restaurant Finder
- 3: Hotel Booking
- 4: Library Book Search
- 5: Mental Health Support
- 6: Study Resources
- 7: Event Registration
- 8: Job Search
- 9: Course Registration
- 10: Joke of the Day

- 1: Get to know Google Dialogflow
- 2: Make a plan for your bot!
- 3: Build in in Dialogflow
- 4: Test it out!
- 5: Show it to us!



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