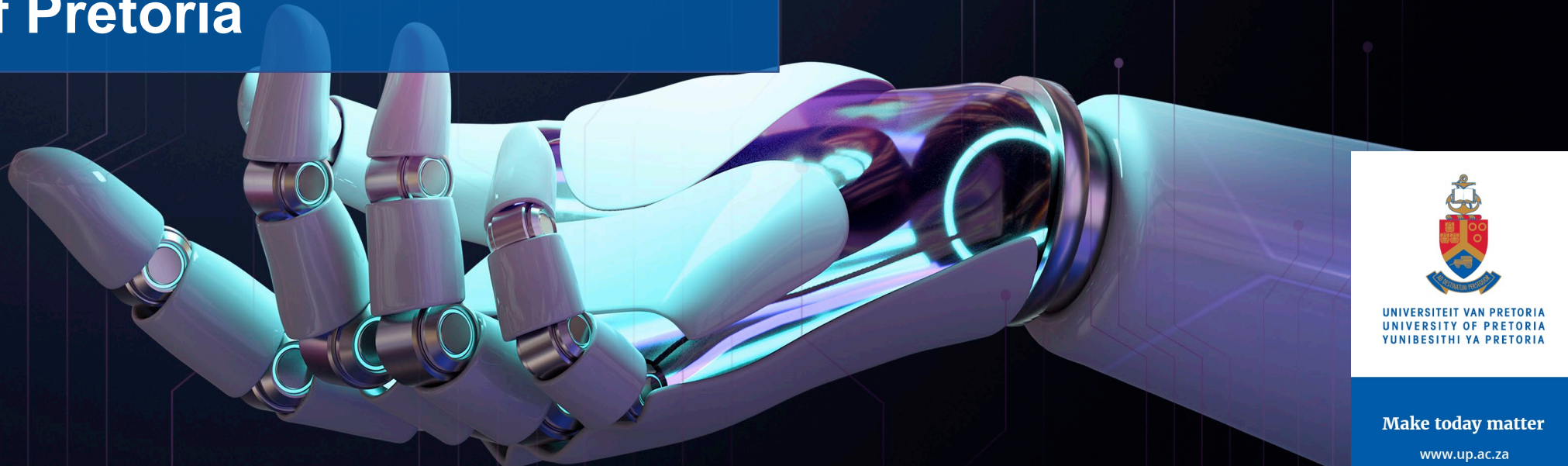


Integrating AI chatbot on the Academic Library Website

Presenter: Rosina Ramokgola

University of Pretoria



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Presentation Outline

- Introduction
- Definition of AI Chatbots
- Different types of Chatbots
- Example of a Chatbot
- AI Chatbots in Higher Education
- AI Chatbot Architectural Framework
- Dialogflow
- Dialogflow Components
- Data Flow Diagram
- Library Chatbot
- Pros and Cons
- Conclusion
- References



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Introduction

- Technological advancements
- The COVID-19 pandemic posed both challenges and opportunities. Forced the academic libraries to come up with innovative ways, mechanisms, and technological solutions to continue providing services to the users
- Academic libraries are service-oriented
- Library website as a virtual point of contact
- Cutting-edge technologies such as robots, chatbots, etc. as agents of change, They are becoming partners or colleagues and have entered different industries e.g. e-commerce, hospitality, banking, libraries, etc. and changed how library users seek and use information
- From the physical Robot Libby – the chatbot was created



Library Robot



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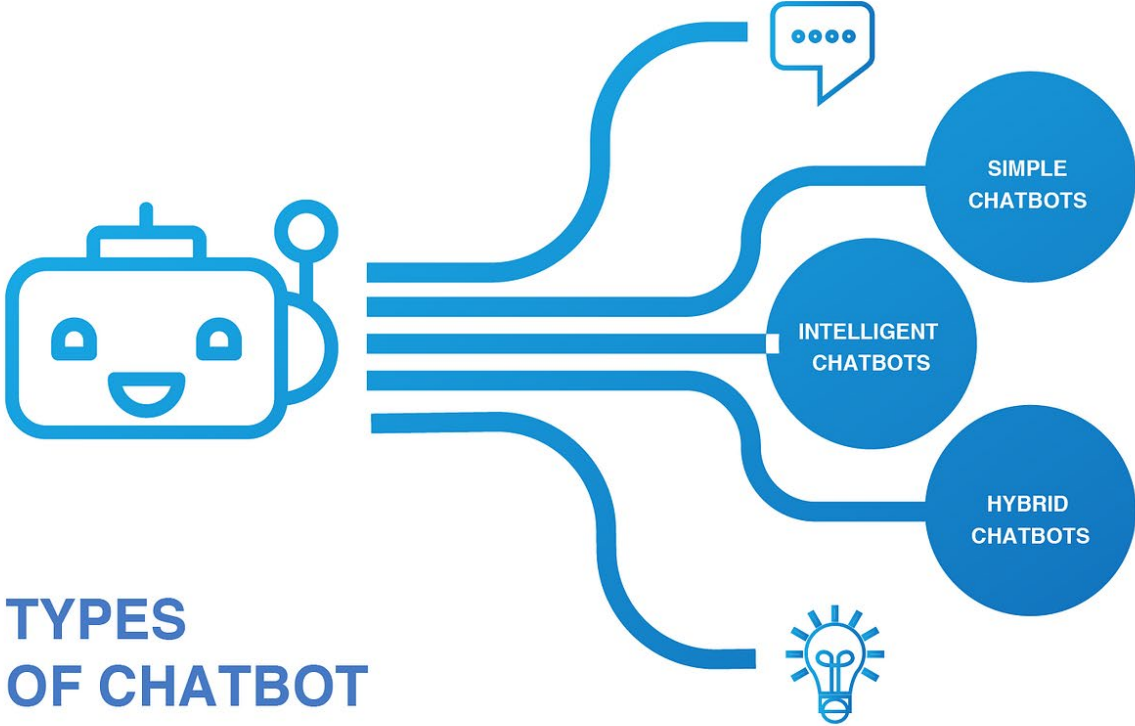
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What is an AI Chatbot?

- Chatbots are a new way to interact with a user in a more human way, through conversation
- They are AI-powered or driven
- It is a machine conversation system or platform that interacts with humans using a natural language computer program
- A chatbot is an AI-based software that delivers services through dialogue (Kaushal & Yadav, 2022)



Types of Chatbots?

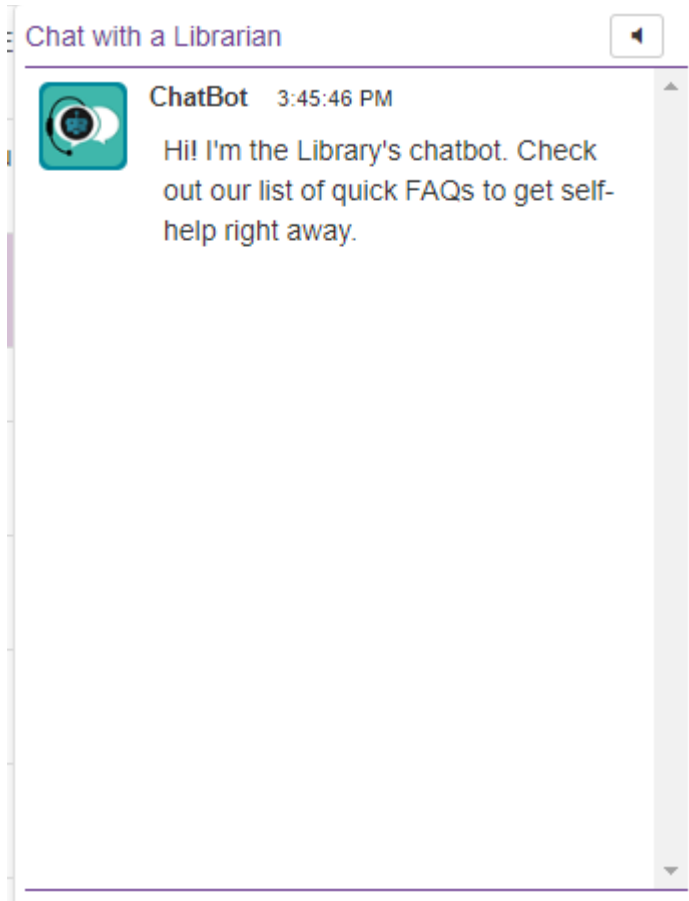


TYPES
OF CHATBOT

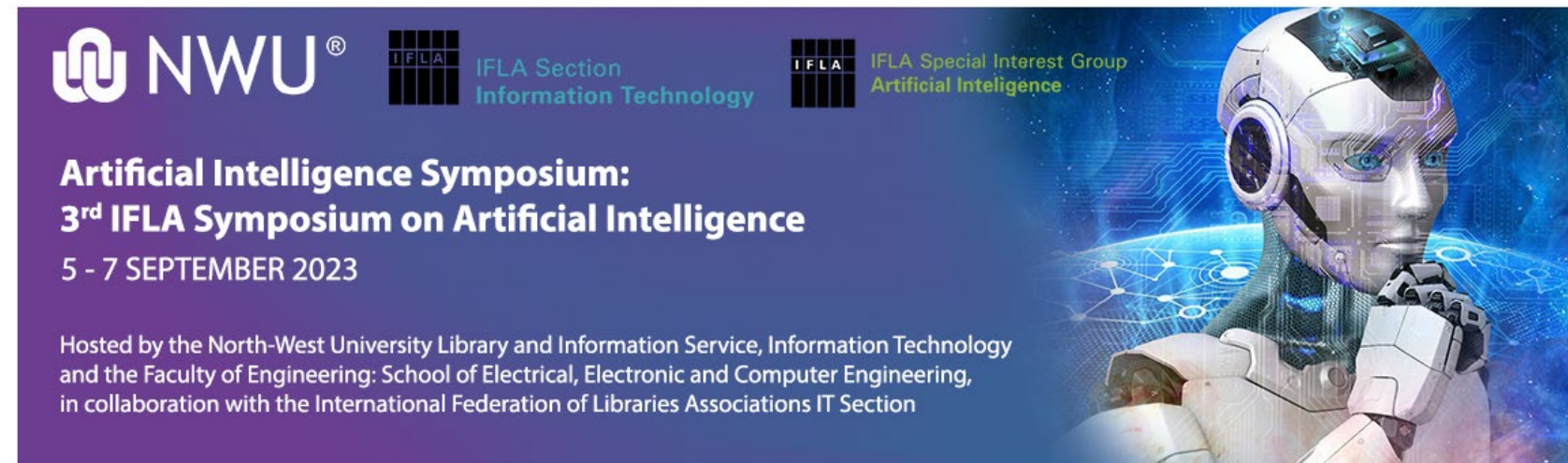


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Example of a Chatbot



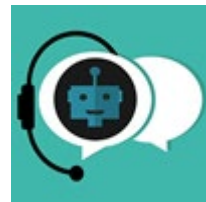
Artificial Intelligence Symposium 2023



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AI Chatbots in Higher Education

Mental health chatbot at UP?



A screenshot of a video player. The main content area shows a blue speech bubble icon with a smiling face. Below it, the text reads "Talk to **SCU-B** on your **Student Portal**". At the bottom left, there is a small crest icon, a duration of "0:18", and "507 views". To the right of the video area, there are three elements: the hashtag "#UPCares", the text "SCU-B Chatbot" in red, and a blue speech bubble icon with a smiling face.

Mental Health Chatbot

Your AI driven mental health chatbot to assist to support and promote your overall well-being.



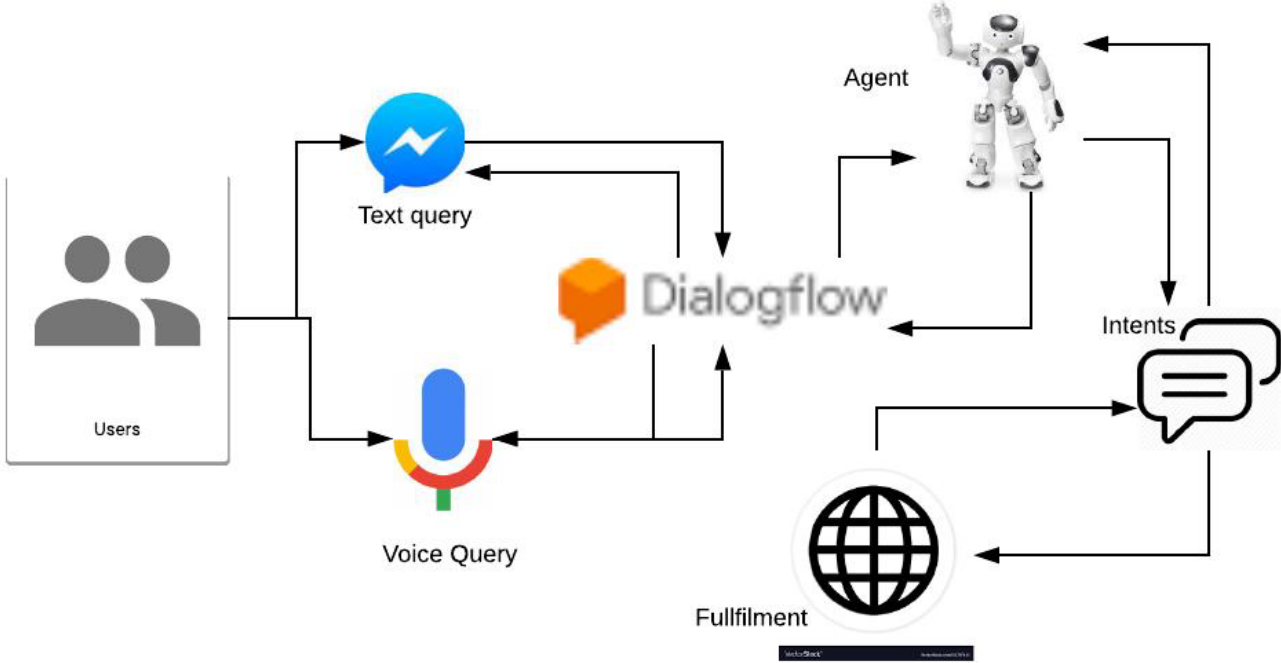
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AI Chatbot Architectural Framework

Dialogflow-based chatbot process



Ranavare & Kamath (2020: 4808)



Dialogflow

- Google Cloud Service
- Natural Language Processing (NLP) platform used to design and integrate a conversational user interface e.g., chatbots, mobile apps, etc.
- Mainly used to build Google assistant devices
- Uses API keys
- Test all the bots questions and answers on this platform



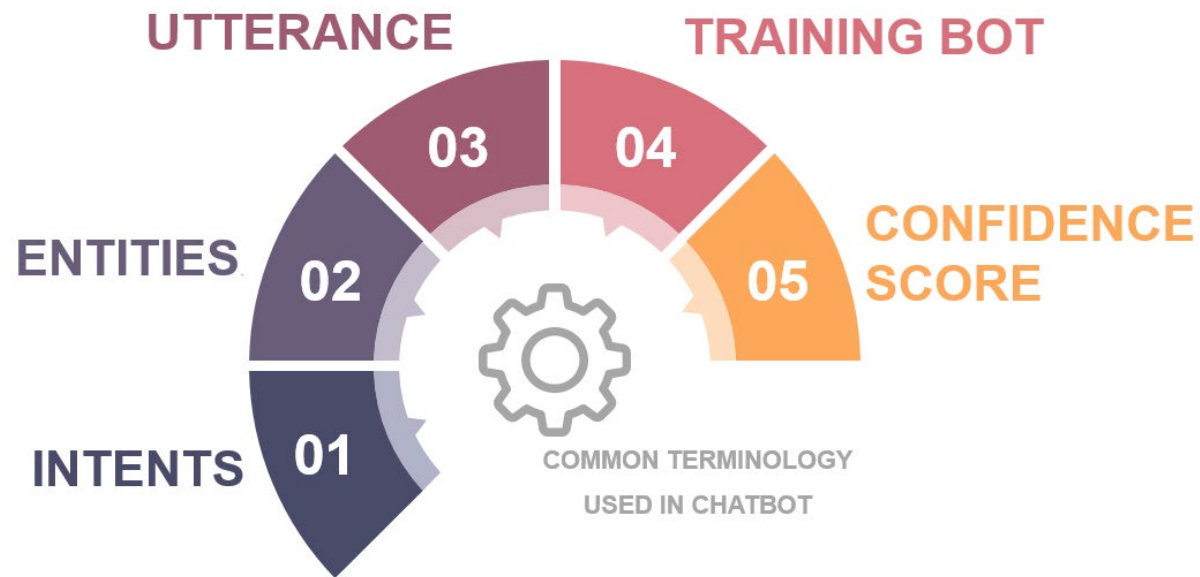
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Dialogflow Components

Dialogflow components



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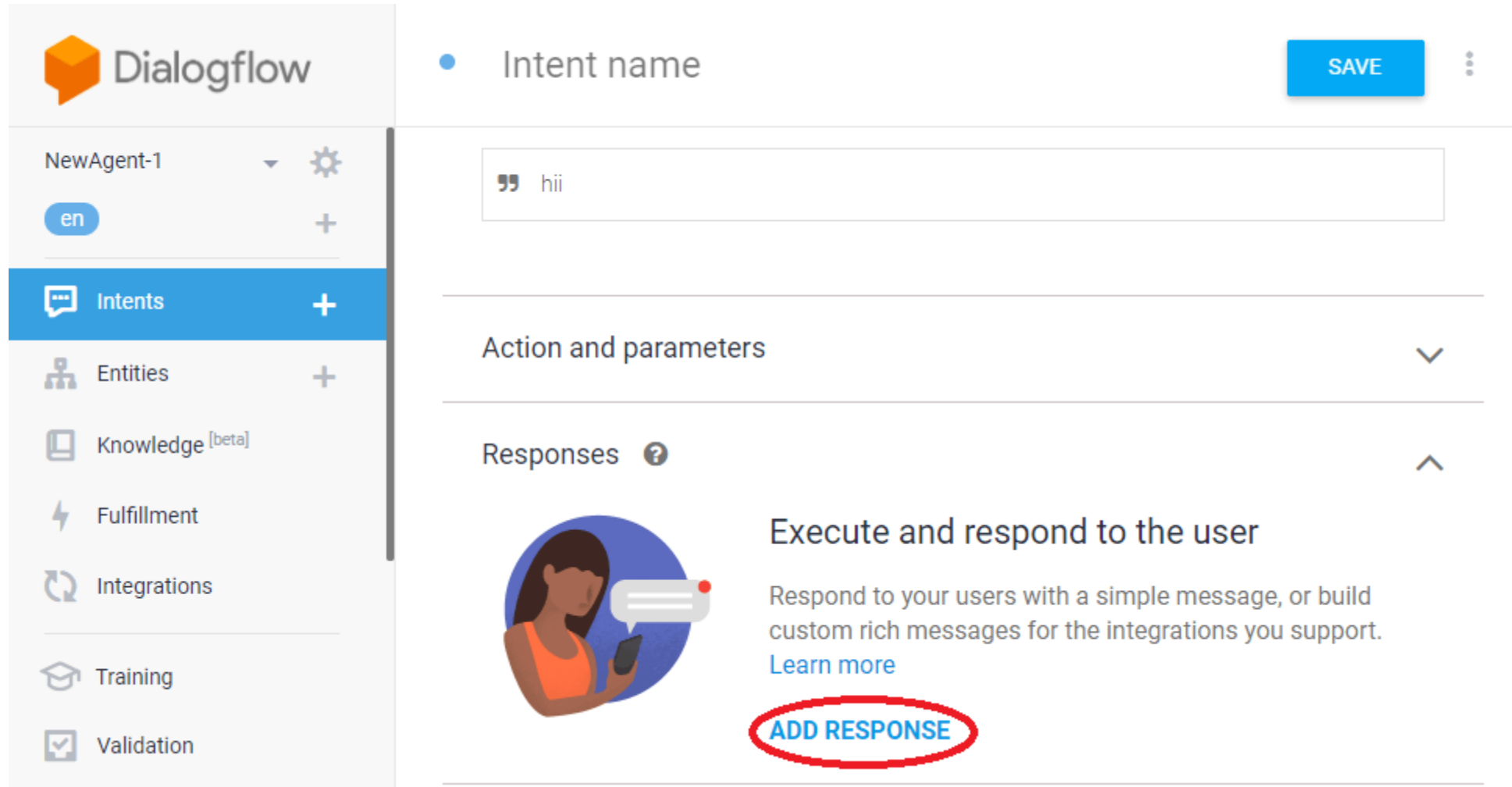
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Create an Intent on Dialogflow

The screenshot displays the Dialogflow console interface. On the left, a sidebar menu shows the navigation options: NewAgent-1, en, Intents (highlighted), Entities, Knowledge [beta], Fulfillment, and Integrations. The main content area shows the configuration for an intent. The 'Intent name' field is empty, and a blue 'SAVE' button is located to its right. Below the intent name, there are sections for 'Contexts', 'Events', and 'Training phrases'. The 'Training phrases' section includes a search bar and two input fields containing the phrases 'hello' and 'hii', each preceded by a red checkmark.



Adding a response on Dialogflow

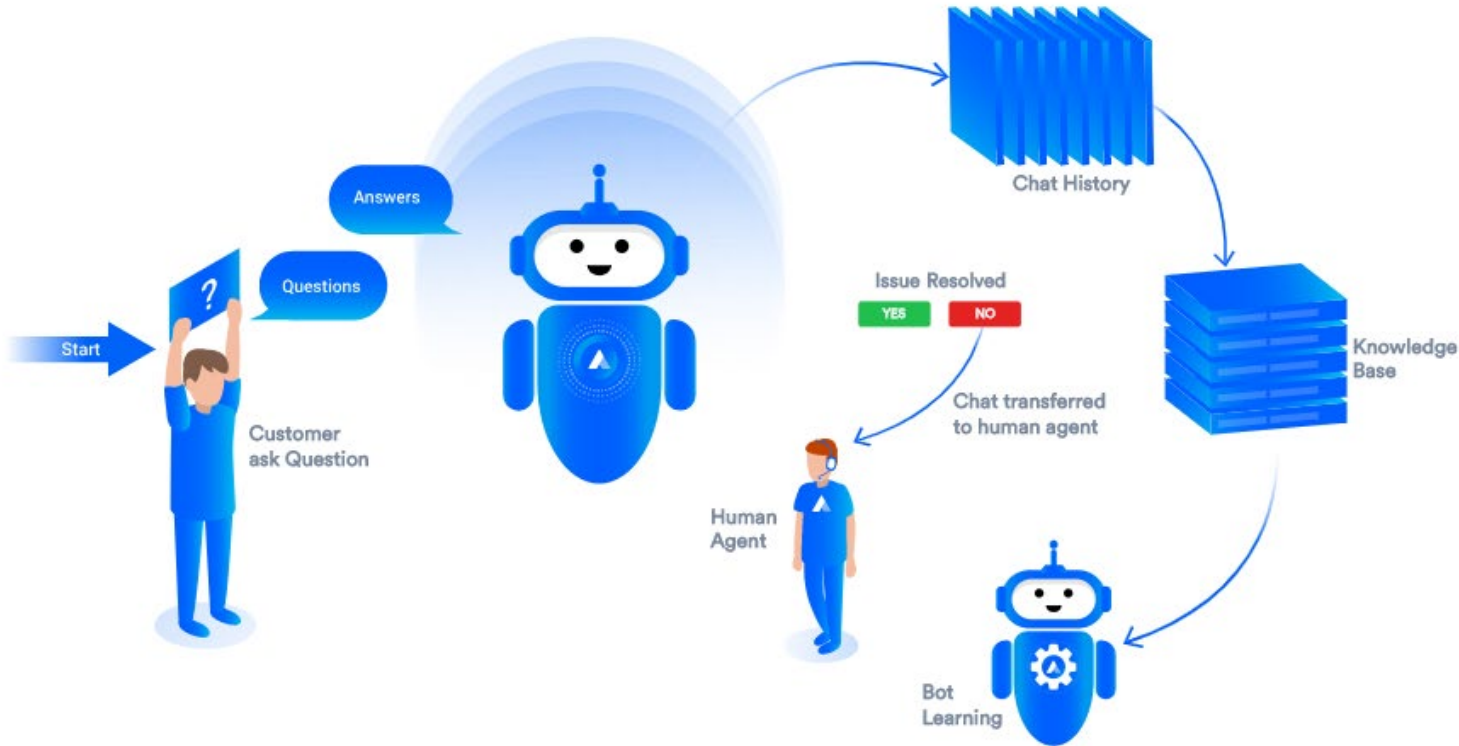


The screenshot displays the Dialogflow console interface. On the left is a navigation sidebar with the Dialogflow logo and menu items: NewAgent-1 (with a dropdown arrow and settings gear), en (with a plus sign), Intents (highlighted in blue with a plus sign), Entities (with a plus sign), Knowledge [beta], Fulfillment, Integrations, Training, and Validation. The main content area shows the configuration for an intent named "Intent name". At the top right of this area is a blue "SAVE" button and a three-dot menu icon. Below the intent name is a text input field containing the text "hii". Underneath this is a section for "Action and parameters" with a downward arrow. The "Responses" section is expanded, showing a question mark icon and an upward arrow. It features an illustration of a woman with a speech bubble and the text "Execute and respond to the user". Below this is a descriptive paragraph: "Respond to your users with a simple message, or build custom rich messages for the integrations you support." followed by a "Learn more" link. At the bottom of this section, the text "ADD RESPONSE" is highlighted with a red oval.

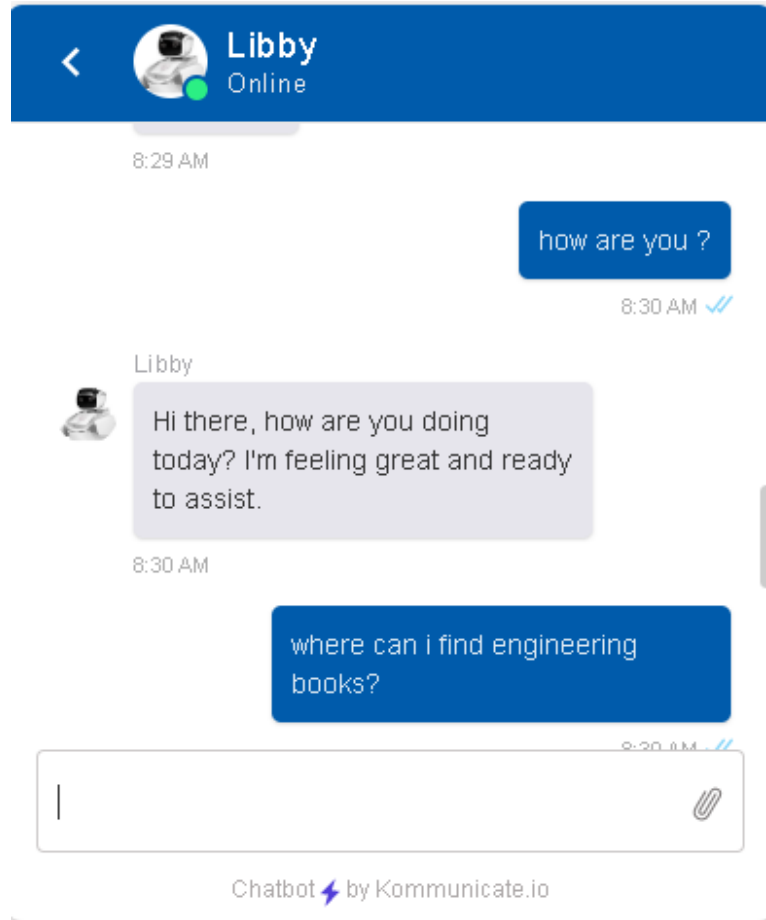


How AI Chatbots work

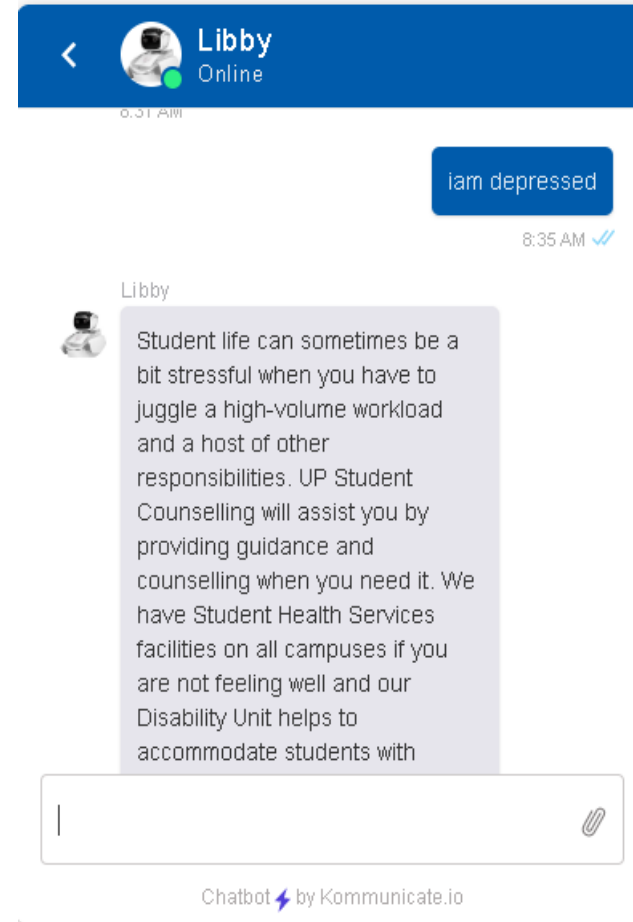
Data Flow Diagram



Library Chatbot



A screenshot of a chat interface with a chatbot named Libby. The header shows a back arrow, a profile picture of Libby, and the name 'Libby Online'. The chat history includes a user message 'how are you ?' at 8:30 AM and a bot response 'Hi there, how are you doing today? I'm feeling great and ready to assist.' at 8:30 AM. A new user message 'where can i find engineering books?' is being typed in the input field at 8:30 AM. The footer reads 'Chatbot ⚡ by Kommunicate.io'.



A screenshot of a chat interface with a chatbot named Libby. The header shows a back arrow, a profile picture of Libby, and the name 'Libby Online'. The chat history includes a user message 'iam depressed' at 8:35 AM and a bot response 'Student life can sometimes be a bit stressful when you have to juggle a high-volume workload and a host of other responsibilities. UP Student Counselling will assist you by providing guidance and counselling when you need it. We have Student Health Services facilities on all campuses if you are not feeling well and our Disability Unit helps to accommodate students with' at 8:35 AM. The input field is empty. The footer reads 'Chatbot ⚡ by Kommunicate.io'.



Pros and Cons

- Answers FAQ
- Provides URLs
- Enhances user experience (UX)
- Increases traffic to the website
- Changes user seeking information behaviour
- Serve a diverse range of library users
- Increase awareness of user demands
- Increase user engagement
- Customer support, for query resolution purposes
- Enhance content discoverability



24x7 Availability



Cost-saving



Instant Response



Better Engagement



Cons

- Employment risk?
- Job redundancy?
- Financial risk?
- Social risk - social isolation
- Vernacular - adding multiple languages
- Data security
- Ethics?



Conclusion

- It seems that there is still rigidity and resistance to the adoption of artificial intelligence (AI) technologies in libraries.
- Chatbots are part of a group of 'cutting edge technologies' that have not yet been tapped in.
- They are the future, let's deploy this cutting-edge technologies to innovate, improve, and support library services.

- AI is changing the Higher Education landscape



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Any Questions?



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Thank You



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