



SE Seminar #2 Report

Making an AI chatbot

01286391 Seminar in Software Engineering

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Introduction

This seminar on the topic, “**Making an AI chatbot**”, was given by Mr.Puchong Poomboontrik. He covered topics about .

Introduction to chatbots

A chatbot is a computer program that simulates human-like conversations through text messages. It's clever because it can figure out what you're asking and give you good answers. Chatbots are powered by “pre-programmed responses”, “artificial intelligence”, or both. Chatbots analyze users' questions to provide matching answers. They're handy because they can talk to you like a person, which makes it simple for you to get information or assistance.

There are two main types of chatbots :

- Rule-based chatbots
- AI chatbots.

Rule-based chatbots

Rule-based chatbots communicate using predefined answers. It can only answer questions that user are allowed to asks. Other questions will be rejected.

AI chatbots

An AI chatbot is a piece of software that can freely communicate with users. AI chatbots are much better conversationalists than their rule-based counterparts because they leverage machine learning, natural language processing (NLP), and sentiment analysis.

Machine learning : helps chatbots learn from conversations and make decisions based on user input.

Sentiment analysis : assists chatbots in understanding users' emotions.

Natural language Processing :

In Natural Language Processing (NLP), the process starts with tokenization, splitting sentences into words. For instance, the sentence "Delhi is the capital of India" becomes individual words: {"Delhi", "is", "the", "capital", "of", "India"}. The next step involves identifying the parts of speech, like proper nouns such as "Delhi" and "India," offering insights into the sentence's main subjects.

Stop words like "is", "the", and "of" are common but less meaningful. NLP removes these stop words based on a predefined list, concentrating on words more relevant to the sentence's context. Dependency parsing examines how these words relate to each other within the sentence's structure.

Named Entity Recognition (NER) is another vital step that identifies and labels words such as "Delhi" and "India" as specific entities, like locations. This process aids in understanding the real-world concepts these nouns represent.

History of chatbots

1950 : Alan Turing wrote a paper called "Computing Machinery and Intelligence." implying that a computer program can think and talk like a human.

1966 : Joseph Weizenbaum created ELIZA. The first chatbot. Eliza was a simple keyword-based chatbot. She matches the user's question with scripted responses.

1995 : A.L.I.C.E., Developed in 1995 by Richard Wallace. Alice was inspired by Eliza and designed to have a natural conversation with users.

2001 : SmarterChild was an intelligent chatbot built on AOL Instant Messenger in 2001 by ActiveBuddy. It has a natural conversation with users and is considered to be a precursor to Apple's Siri.

2010 : Virtual assistants have been on the rise since 2010 when Apple launched Siri. Siri was the first personal assistant available worldwide.

2016 : Facebook opened its Messenger platform for chatbots which help fueled the development of chatbot platforms.

Creating a chatbot

From scratch

- time-consuming job
- total control over your chatbot
- solve complex problems
- integrate with any platform

Building with a platform

- easiest way to create a chatbot
- low learning curve
- drag and drop predefined elements to design chatbots and launch them without coding

Chatbot use cases

- Marketing
- Customer Support
- Sales

Chatbot in Marketing

Companies leverage chatbots to broaden their approach to interacting with customers. By employing chatbots, businesses actively engage with visitors on their websites, ultimately leading to increased sales of products or services.

Chatbot in Customer Support

Consumers seek rapid solutions to their issues through their preferred communication methods. Chatbots enable this by transforming the traditional customer service experience that has been familiar for years.

Chatbot in Sales

Prior to buying a product, every consumer needs to navigate through the sales funnel. Chatbots can guide customers through each phase of this process: from becoming aware of the product, developing interest, making a decision, to taking action.

Conclusion

In conclusion, the seminar on "Making an AI chatbot" by Mr. Puchong Poomboontrik provided a comprehensive insight into the realm of chatbots. Exploring the fundamental concepts of chatbot technology, the seminar elucidated the distinction between rule-based and AI chatbots, showcasing how AI chatbots, employing machine learning, NLP, and sentiment analysis, offer more sophisticated conversational abilities.

Moreover, the historical journey of chatbots from early beginnings with Alan Turing's conceptualization to the modern-day virtual assistants like Siri highlights the evolutionary strides in this technology. The integration of chatbots into various facets of daily operations, be it marketing, customer support, or sales, illustrates their pivotal role in enhancing customer engagement and streamlining business processes.

Furthermore, the seminar emphasized the diverse methods of creating chatbots, whether from scratch for intricate customization or via platforms offering a user-friendly interface for quicker development and deployment. It also underscored the pivotal role of chatbots in diverse sectors, illuminating their ability to proactively engage customers, provide swift solutions, and guide consumers through the sales funnel.

Overall, the seminar provided a comprehensive overview of the transformative impact of AI chatbots on customer interaction, business efficiency, and the evolving landscape of technology-driven communication. It underscored the significance of chatbots in reshaping customer experiences and optimizing business functionalities in the contemporary digital age.

What I have learned from this seminar

The seminar on "Making an AI chatbot" by Mr. Puchong Poomboontrik broadened my understanding of pivotal aspects. It covered the distinction between rule-based and AI chatbots, emphasizing AI's use of machine learning and NLP for sophisticated interactions. Exploring chatbot history, from Alan Turing to Siri's development, illustrated their evolution. Learning about NLP in chatbots, their versatile applications in marketing, support, and sales, and diverse creation methods offered a comprehensive view. Lastly, recognizing chatbots' positive impact on businesses, enhancing engagement, support, and sales guidance, highlighted their significance in modern operations and customer interactions. Overall, the seminar provided an encompassing insight into AI chatbots, their functions, evolution, applications, and their influential role in business and customer experiences.

My question about this seminar

What is the role of machine learning algorithms and techniques employed in chatbots to enhance conversational abilities, decision-making, and user interaction? How far can chatbots go? Will it be able to replace human salesmans or other job positions?