Compulsory Task 2: NLP Capstone Project

WhatsApp NLP chatbots by Meta are an example of an innovative technology that uses NLP.

What do WhatsApp chatbots do?
A WhatsApp chatbot is an AI-powered conversational chatbot that asks and answers questions between a business and a customer using the WhatsApp interface. The premise is to mimic the type of interaction that would occur between a human customer service representative of a company and a customer. It's a key step in automation for sales and customer service processes for businesses using WhatsApp.

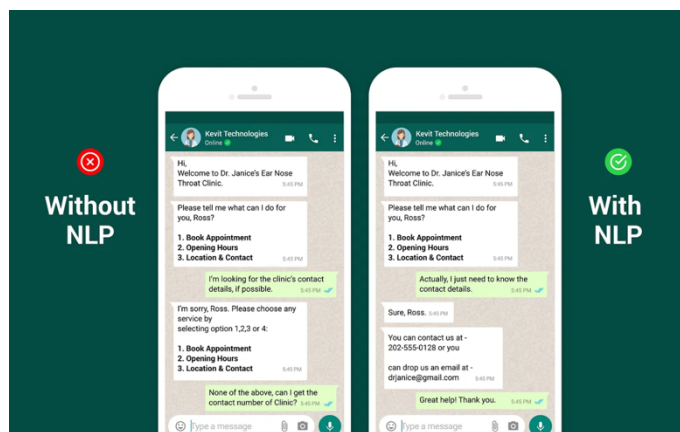**WhatsApp chatbots key innovation features:**
WhatsApp chatbots use NLP to break down a customer's input (phrase or sentence) into multiple parts to gather context and meaning. The technology behind the chatbots uses NLP models to narrow the scope of the customer query/input to predict which responses are most relevant for the chatbot to deliver to the customer. For example (non-exhaustive list):

- Domain: input is classified into a pre-set group of conversations for a particular domain (e.g. a sales domain would likely include words like buy, refund, order, etc.)
- Entity classification: Classifying the entities in the customer input to gather more information about the intent. This ultimately aids the chatbot in understanding the sentence's meaning accurately.
- Context: classify different meanings of an entity based on context provided in the customer input. (e.g. 'business hours' can further be classified as closed or open).

Advantages of using NLP-based chatbots
NLP-driven chatbots can more deeply understand customers' queries based on context and respond to users in natural language, leading to more natural conversations. There's the ability to develop and train machine learning algorithms using customers' responses and improve the chatbots' assessment and responses in the future. Compared to chatbots that do not use NLP, there isn't a need to strictly adhere to pre-defined answers that may not be what the customer is looking for. This degrades the customers experience in terms of variations in input responses, and sentimental support. The image included below illustrates this.

Source: How NLP plays an important role in WhatsApp chatbots? By S. Priyanka on Medium

References:

- https://botpenguin.com/automating-whatsapp-with-nlp-complete-guide/
- https://verloop.io/blog/nlp-chatbots/#How-does-an-NLP-chatbot-work?
- https://medium.com/kevit-technologies/how-nlp-plays-an-important-role-in-whatsapp-chatbots-64c75d7349d5