

Read up on any innovative technology using NLP (by companies such as Google or IBM, for instance) and write a brief summary about the technology, what it achieves/does, and an overview of how it works (250 -500 words).

An example of a NLP technology is Google Duplex. This is a system designed to perform natural-sounding phone conversations on behalf of users, such as making restaurant reservations or scheduling appointments.

Using NLP techniques, Duplex can understand and generate human-like conversation in real-time. It uses advanced speech recognition to understand the user's input and natural language generation to produce responses.

Google Duplex works by utilizing a combination of automatic speech recognition (ASR), dialogue management, and text-to-speech (TTS) synthesis. The ASR component converts the user's speech into text, enabling the system to understand the user's request. The dialogue management system then generates appropriate responses, considering the context and purpose of the conversation. Finally, the TTS module converts the system's responses into natural-sounding speech.

The goal of Google Duplex is to assist users in completing tasks over the phone more conveniently. By leveraging NLP technology, Duplex can interact with businesses, negotiate available time slots, and make reservations seamlessly. The system can handle complexities, such as interruptions, clarifications, or variations in conversation style, to ensure a smooth and human-like interaction.

Initially Google only deployed Duplex in the US and on the company's own brand of Pixel android phones. The technology has received positive feedback for its ability to handle real-world conversations effectively and as it continues to evolve, Google aims to expand Duplex's capabilities to cover a broader range of tasks and improve its overall performance. Certain features have now been introduced to markets outside of the US and to other non-Pixel brand devices also.

References:

<https://ai.googleblog.com/2018/05/duplex-ai-system-for-natural-conversation.html>

<https://www.wired.com/story/how-google-ai-phone-features-work/>