Contact Center with AI Bot

Business needs

Consumers today demand round-the-clock assistance in areas ranging from banking and finance to health and wellness. As a result, companies are rapidly developing virtual assistants to answer customer queries at any time of the day.

Companies are looking for solutions to reduce operational costs and customer service times. Most customer service business processes can be automated using chatbot and voicebot technology. However, experience shows that in many situations the presence of a 'live' agent is required at some stage of the process. To meet these needs, we need a contact centre system that fully integrates artificial intelligence with the tools available to personal advisors.

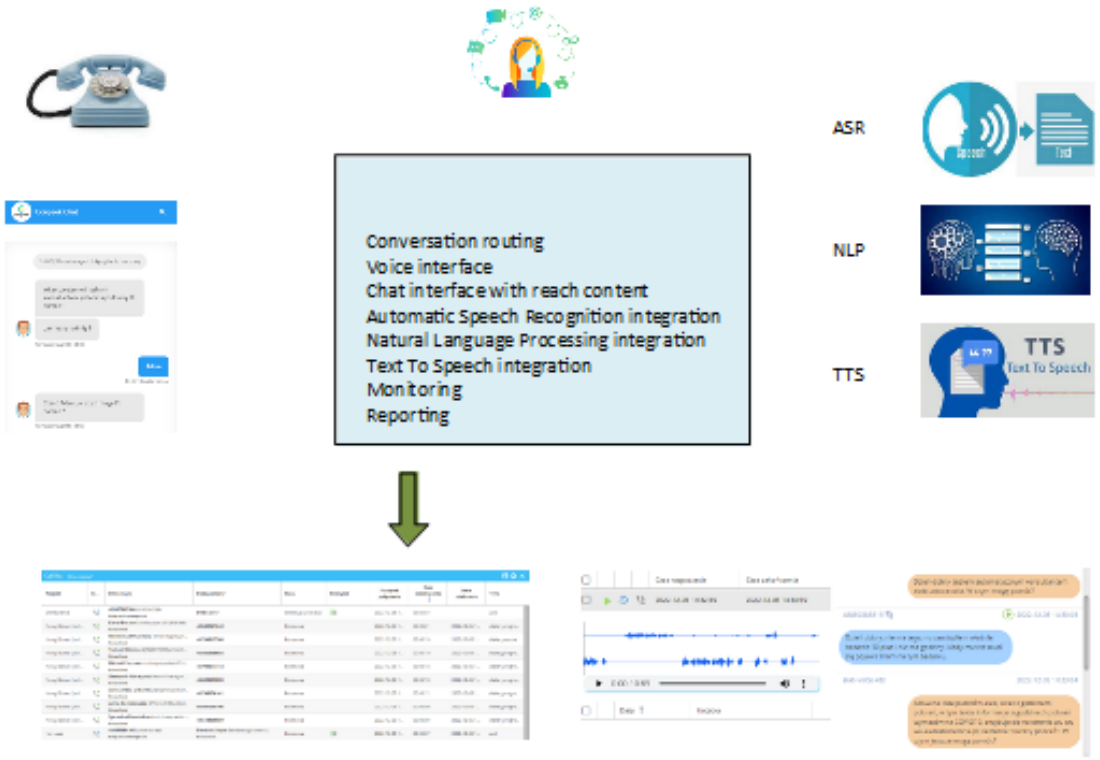
Bots

There are many tools on the market that can be used to implement virtual agents in text and voice channels. Contact centre system allows you to choose any technology you need to ensure the efficiency of the implemented process. In this way, we can use solutions from different vendors in different customer service scenarios, while maintaining the "look & feel" for the customer we are contacting. Below are some of the criteria companies are using to select tools for automated bot processes:

- Ability to train AI models in-house
- Availability of a rich set of controls for use in the chat interface
- Effectiveness of speech recognition through ASR mechanisms
- Quality of text-to-speech conversion through TTS tools
- Ability to integrate the process with business systems
- Vendor support for process implementation and maintenance

Architecture

The figure below shows an outline of the BOT implementation in the system.



Conversation routing

Some business processes require voicebot / chatbot communication to be activated only in specific situations

- Out of hours service

- Not enough agents available

- Customer verification with confidential data

Integration with the Contact Centre system gives us full control over when the call is routed to the BOT.

In the case of a voicebot implementation, we can use the system to implement processes for handling incoming and outgoing calls within voice campaigns.

Chat interface

Along with the system, we provide a professional, fully responsive component that runs on a company's website and can be used to chat with both a virtual agent and a personal advisor.

A number of controls can be displayed within the component to facilitate communication and increase the effectiveness of the conversation:
- Buttons
- Carousels
- Calendars
- Selection lists
- Forms

During a conversation with a customer, both parties can upload photos and files, share a desktop, or suggest changing the communication method to video chat.

Voice interface

There are many unsuccessful implementations of voicebot-based customer communication processes in the market. This is due to the complexity of conducting a dialogue in voice form compared to a chat conversation.

As part of the voice interface supplied with Contact Center, we have a number of mechanisms available to help implement an effective virtual agent.

- Simplex and duplex conversations
- Automatic detection of the end of the customer's speech
- Separation of background noise such as street noise, music, etc.
- Determination of speaking time in the context of the conversation
- Passes speech-to-text success rate to NLP

Automatic Speech Recognition

ASR is the engine used in voicebot processes to convert speech into text after each sentence spoken by the customer. The CC system allows the use of the leading solutions of this type on the market, ensuring that the right solution is found depending on the language, language model and regulations chosen. The current choices are

- Google Speech To Text

https://cloud.google.com/speech-to-text

- Microsoft Azure Speech To Text

https://azure.microsoft.com/en-us/products/cognitive-services/speech-to-text/

To increase the effectiveness of phrase recognition, it is possible to apply different ASR engines to individual utterances.

Natural Language Processing

The LNP engine is the core element of any voicebot / chatbot implementation.

It is the tool in which the conversation flow is configured, the integration with external systems is implemented and the training of the AI model is carried out.

The CC system allows the use of the leading solutions of this type on the market, ensuring that the right solution is found to ensure effective implementation of the process and compliance with regulations. At the moment, the choices are

- RASA AI
  https://rasa.com/
- Google Dialogflow
  https://cloud.google.com/dialogflow
- Azure Bot Service
  https://azure.microsoft.com/en-us/products/bot-services/
- Born Digital
  https://borndigital.ai/

Text To Speech

TTS is the engine used in voicebot processes to convert NLP-provided text into speech. The CC system enables the leading solutions of this type on the market, ensuring that the right solution is found depending on the language chosen, preferences and regulations. At the moment, the choices are

- Google Text To Speech
  https://cloud.google.com/text-to-speech
- Microsoft Azure Text To Speech
  https://azure.microsoft.com/en-us/products/cognitive-services/text-to-speech/
- Amazon Polly
  https://aws.amazon.com/polly/

Channels of communication

In addition to the most commonly used channels, voice and chat, the CC system also allows BOT to run on other customer communication interfaces.

- SMS
- WhatsApp
- Facebook Messenger
- Instagram
- Email

With an existing chatbot implementation, we can usually do this easily by adapting the responses to the chosen communication channel.

Monitoring and reporting

Launching customer communications using voicebot / chatbot technology requires online monitoring and reporting on the effectiveness of the process.

The CC system provides a number of tools that allow process coordinators to have full information on the implementation of the process. This allows for a proper assessment of the effectiveness of the process and the ability to make quick decisions on the need to introduce changes.

Both in terms of online monitoring and historical reports:

- List of calls with information on whether they were handled by the BOT or a consultant

- Access to call recordings and transcripts

- Statistics on the effectiveness of calls

- Tools for evaluating the effectiveness of voice transcription (ASR)

Implementation

There are two models for voicebot / chatbot implementation.

Process implementation by our company

We start the implementation with a joint business workshop to prepare the exact process specification and data to train the AI model. We deliver the solution according to the CDD concept, which ensures that the process works effectively throughout the implementation period (https://rasa.com/docs/rasa/conversation-driven-development/).

Process implementation by another party

We deliver the CC system with all the modules needed to implement the process. If additional integration with ASR/NLP/TTS engines is required, we will do this as part of the project. We assist the customer in configuring the CC application to run the BOT provided by the service provider.

For both options, we take an individual approach to the needs of the organisation and do everything possible to meet expectations. Efficient processes at our customers are our priority and a key success factor.

Our team

We help organisations realise the potential of multi-channel customer communications and business process automation using modern technology.

We show how bringing the whole organisation into the conversation impacts the effectiveness of marketing, sales and customer service.

We suggest how to automate selected processes to reduce costs and extend the organisation's reach.

We provide all-in-one tools that enable you to easily improve customer communications and effectively grow your business.