

# 1. Chatbots introduction

## **What is a Chatbot?**

Thanks to the Chatbot integrated in vtenext, you will finally be able to get in touch with your customers with the most appropriate message at the most suitable moment.

Our virtual assistant adapts to every case and need. Based on the company-customer history, on the choices made previously and on questions/answers, this Chatbot allows you to send specific, tailor-made and totally personalized messages to your customers.

It can also be configured by the user in complete autonomy thanks to semantics based on BPM processes or the use of FAQs. The configuration is carried out based on the context, varying the content according to the type of user or the aim of the request.

The Chatbot is naturally integrated with vtenext and can be connected to all the major corporate business tools on the market such as CRM, ERP and Management.

It is also possible to develop and implement Chatbots for websites, suitable for all types of companies, which guide the customer in the first phase of contact with the company.

This type of Chatbot can for example:

- Gather basic customer information
- Automate the lead generation process
- Assign the contact to the most suitable operator
- Book a meeting on the Calendar
- Open reports for Technical Assistance

This Chatbot, whose funnel is fully customizable (color, type of buttons, logo on the chatbot, etc.), can be implemented directly within your web pages.

The leads generated through this tool will be imported directly into the used CRM and can be automatically assigned to the sales representative, through connected BPM processes.

We can add any additional information, useful to us, directly within the chatbot and in a few clicks (for example, geographical area, company sector, company size or any other characteristic we wish).

Thanks to the BPM flows, during the assignment phase, we can include multiple rules at the same time or integrate the Chatbot with tools such as the Calendar to set up a meeting with a consultant.

## **Application examples**

- **WEB SITE:** collects new Leads and Contacts, thus providing information to potential customers based on the target
- **COMMUNICATION:** send one-to-one messages to your customers, making them interact with a bot that already knows the customer's preferences
- **INTERNAL CONSULTANT:** helps staff manage procedures and their requirements
- **HELPDESK:** handles top-level requests, both internal and external

## The vtenext Chatbot

The designed chatbot is able to understand natural language in order to interact directly with the customers (or potential) of a company.

It manages to analyze user requests in order to trace them back to already known frequently asked questions (F.A.Q.) or to the chapters of a manual, autonomously providing an answer without requiring the intervention of a company resource.

The chatbot in question includes among its features the ability to manage a conversation made up of multiple messages, keeping track of the state of the conversation in cases where the initial question should be devoid of one or more pieces of information of interest. The chatbot will then take care of retrieving the information it needs through one or more specific questions to the user.

The development of the core of the model in question was based on the use of a set of open-source libraries. These libraries have been useful for the application of Natural Language Processing (NLP) techniques and the necessary infrastructure for the development of chatbots and contextual assistants capable of providing support to a company's customers in receiving information of interest.

In particular, NLP is a field of Artificial Intelligence that deals with the development of algorithms capable of analyzing, representing and therefore understanding natural language, written or spoken.

These libraries allow you to provide the user with a statistical model of neural networks, trained based on a certain training set specified by him. This model is able to analyze the syntax and semantics of the question entered by the user, extracting the most important information of interest. Subsequently, the possible associated answers are analysed, assigning to each, using statistical models, a score based on the degree of confidence between the question entered by the user and those present in the training set. Finally, the answer to which the highest score was assigned is returned.

The core of the chatbot consists of a standard knowledge base, meaning that it includes a base of information relating to the chosen language (Italian, English, etc.) obtained from a pre-training on the Wikipedia web pages. In addition to this, the model is trained on a training set strictly related to the application context of the chatbot.