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Guide to Enterprise AI Chatbots

WHAT YOU NEED TO KNOW WHEN CONSIDERING VIRTUAL ASSISTANTS

CHATBOTS AT A GLANCE

Chatbots, also known as virtual assistants are a business application that simulates a conversation in order to deliver information. Advanced chatbots can also take action and automate workflows. Chatbots can be used on websites, mobile apps, SMS, social messaging apps, and other web-based or mobile interfaces – generally via text-based interfaces complemented with images and menu structures. Increasingly enterprise chatbots also integrate with voice assistants such as Google Assistant or Alexa.

Sophisticated chatbots represent one of the most complex areas of artificial intelligence (AI).

Good chatbots meet users' expectation of simulating human conversation and understanding users' intent and needs.

For the same intent and needs, users may have thousands of different ways to say it. To get the same task done, the conversation may be carried out in different order and flows.

It's impossible to enumerate all possibilities for the future, thus conducting a conversation is an extremely challenging task.

This is one of the main reasons chatbots misunderstand, or are unable to understand you.

The two most important and difficult components are Natural Language Understanding and Dialog Manager. Good NLU can automatically handle the diversity of what the user says. A good Dialog Manager can automatically handle the diversity of conversation flows.

This is where many solutions differentiate in quality, value and user experience.

Good chatbot solutions allows businesses to provide a better user experience, satisfaction and retention, as well as lower operational costs, by connecting users with the information they need or routing them to a human at the appropriate time.

> Chatbots and virtual assistants are gaining tremendous interest in the market. **The ability to chat through text, or even talk using voice, with applications, services and brands** is fueling a wave of innovation.
>
> – GARTNER

SOURCE: GARTNER *MARKET GUIDE FOR CONVERSATIONAL PLATFORMS* BY ANALYSTS MAGNUS REVANG, VAN L. BAKER, BRIAN MANUSAMA AND ANTHONY MULLEN, 20 JUNE 2018.

COMMON USE CASES FOR CHATBOTS

Chatbots are deployed across many different industries and use cases. Here are some of the leading use cases:

USE CASE	AREAS OF FOCUS
Customer Service, Support and CRM	Virtual Customer Assistants handle order updates, complaints, refunds, support questions, troubleshooting, repair requests, as well as loyalty-related questions and actions.
Digital Commerce	Chatbots can personalize content and offers, replace online search, recommend products, and handle purchasing.
Human Capital Management / Recruiting	HR Service delivery bots assist employees seeking support, information, basic services. Recruiting bots facilitate the application and recruiting process.
IT Service Management and Helpdesk	Virtual Support Agents can take action such as reset passwords, deploy software, help troubleshoot, escalate support
Sales and Lead Management	Virtual SDRs follow up/qualify new leads, nurture prospects, guide new applications/claims/sales.
Supply Chain	Chatbots handle customer orders, warehouse-related questions, fleet information, as well as personnel scheduling questions and actions.
Workplace and Digital Workplace	Virtual employees shield colleagues from the complexities of legacy IT systems, and help them become more efficient/productive.

> Chatbots have the ability to **dig through huge amounts of data to pick out the best nugget for a customer**, whether it is a troubleshooting solution or a recommendation for a new product to try.
>
> – BLAKE MORGAN, CONTRIBUTOR

SOURCE: FORTUNE "WHAT IS A CHATBOT, AND WHY IS IT IMPORTANT FOR CUSTOMER EXPERIENCE?" BY BLAKE MORGAN, 9 MARCH 2017.

BENEFITS OF CHATBOTS

For customers

- Immediate response
- More accurate information getting to higher first-contact resolution
- Better customer experience with more personalized, intuitive interactions

For enterprise

- Ability to scale and deploy faster
- Lower costs
- Increased revenue
- Increased customer satisfaction, lower churn
- Increased employee satisfaction, higher retention

For employees

- Reduced cognitive overload in working with legacy IT systems
- Improved productivity/ efficiency
- Better overall employee experience

FOUR COMPONENTS OF AN AI CHATBOT

Conversational User Interface
Provides an interface between humans and chatbots (omni-channel),

Natural Language Understanding
Enables chatbots ability to parse what is being said to them.

Natural Language Generation
Allows chatbots to reply in words.

Dialog Manager
Allows chatbots to keep track of information relevant to the dialog then decide what to do next in the current dialogue context, which may include asking user for more input, clarification, switch to a different task, take an action, etc.

THREE GENERATIONS OF AI CHATBOTS

With a 1st Generation chatbot the range of conversation is limited to pre-listed possible ways of conversation. The chatbot designer creates a very simple conversation flow. For example, a simple password reset can be handled if there are no exceptions.

Moving on to customer interactions that generate greater business impact and time savings for customers, more linguistically advanced chatbots in the 2nd and 3rd generation conduct natural language processing – often referred to as "NLP".

The approaches to NLP vary. This variance often separates the 2nd and 3rd generation of bots. These later generations is where Conversational Artificial Intelligence becomes available and where true business impact and customer value can be realized.

CHATBOTS

1st Generation

- Rule based

'Dumb bot'

2nd Generation

- Rule based
- + Supervised Machine Learning

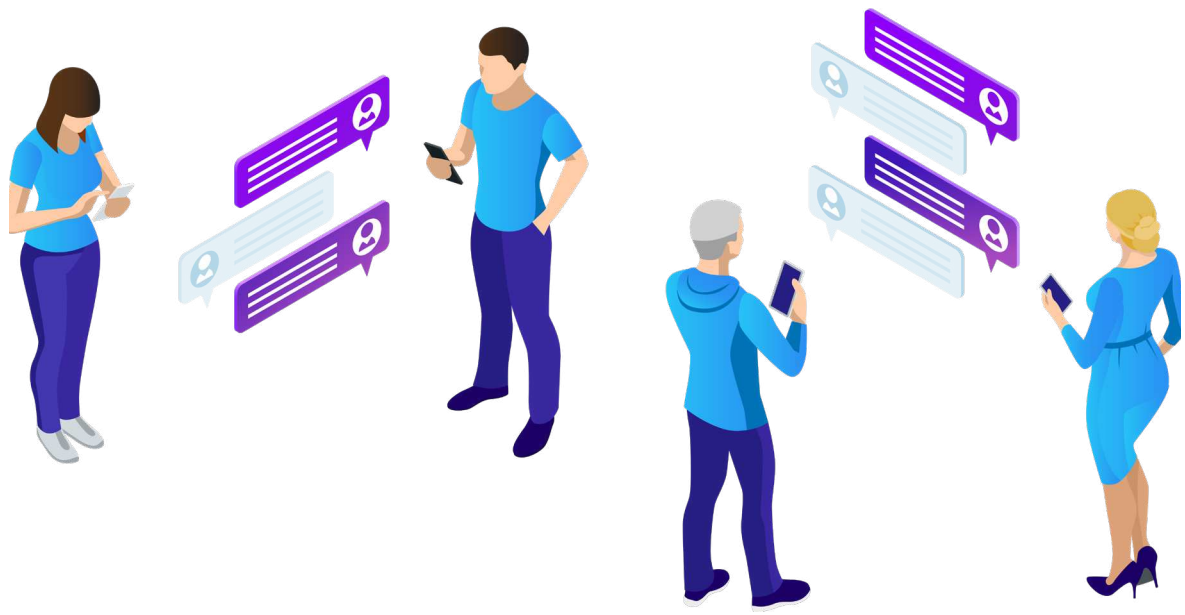
Less "dumb bot" but requiring a lot of training data

3rd Generation

- Rule based
- Supervised Machine Learning
- + Self improving AI: unsupervised machine learning, transfer learning, active learning, reinforcement learning

Smart bot that requires much less training data and can deliver very solid KPIs and ROI.

Within each generation, there are incremental improvements of chatbot technologies



KEY CONSIDERATIONS WHEN DEPLOYING A CHATBOT

1. **Identify the use cases**
   Involve a cross-functional team consisting of CX domain leaders from marketing, sales, customer service, operations and IT, and your chief data officer (CDO) to identify the business opportunities.

2. **Assemble a cross-functional team**
   Draw from the experience and expertise of people in different groups to expedite production and deliver the right product for customers. The team should understand the business process and expected customer journey, know how to do conversational design, and know how to integrate with existing IT systems for automation.

3. **Select a Conversational Computing platform that can support a variety of use cases**

   Because chatbot use cases exist throughout the enterprise, it's important to select a platform that is use-case agnostic and built for x-enterprise scale.

   To allow bots to take action and automate complex tasks, the solution needs to support integration with enterprise systems. It needs to be built on a solid AI foundation to avoid bot confusion or failure, and give ownership of bot design to the CX expert, who should be able to modify/iterate the bot without IT support.

4. **Learn from experience**
   Leverage existing data for chatbot content, including knowledge bases and historical data from contact center operations. Advanced Conversational Computing platforms will be able to ingest this data and automatically identify top intents.

5. **Measure business outcomes**
   Establish objectives and success metrics for the chatbot, which could include user engagement, chatbot resolution vs. escalation to human and cost of engagement.

LEARN MORE

See for yourself how AI chatbots can help you drive business impact and contact Rulai for a Demo.

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ABOUT RULAI

Rulai is a new Enterprise Conversational Computing Platform provider. Rooted in academia, the founding team has a combined 200 years experience in AI research, published over 400 research papers and filed over 80 patents in advanced AI-based dialog management. Its SaaS platform enables companies to build automated chatbots for customer service, marketing, sales, logistics, and HR use cases and has been deployed across a wide variety of industries.

Rulai-based bots help companies automate many human-centered processes to create a fast and frictionless experience for employees and customers. Its self-serve platform allows business users to create and evolve bots with minimal use of precious IT resources. Rulai was recently recognized by Gartner, Forrester, and Bloomberg.