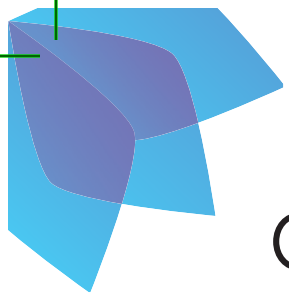# rulai

Guide to Enterprise AI Chatbots

WHAT YOU NEED TO KNOW WHEN CONSIDERING

VIRTUAL CUSTOMER ASSISTANTS

Chatbots and Virtual Customer Assistants at a Glance

Chatbots, also known as virtual customer assistants, are a business application that simulates a conversation in order to deliver information. Advanced chatbots can take action on behalf of the customer to perform transactions. Chatbots can be used on websites, mobile apps, SMS, consumer messaging apps, peer-to-peer communities, kiosks and other web-based or mobile interfaces – generally via text-based interfaces complemented with images and menu structures.

Sophisticated chatbots represent one of the most complex areas of artificial intelligence (AI). The two most important and difficult components are Natural Language Understanding and Dialog Manager. This is where many solutions differentiate in quality and value and customer experience.

Good chatbots meet users' expectation of simulating human conversation and understanding users' intent and needs. This allows businesses to provide better customer 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.

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Common Use Cases for Chatbots or Virtual Customer Assistants

- FAQs

- Refund request

- Rescheduling/cancellation

- Order status check

- Payment/billing issues

- Service disputes and complaints

- Safety issue reports

- Enrollment/recruiting

- On-boarding

- Assistance to employees and partners

- Other service requests

- Lead nurturing and qualifying

" 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

Forbes

SOURCE: Fortune "What Is A Chatbot, And Why Is It Important For Customer Experience?" by Blake Morgan, 9 March 2017.

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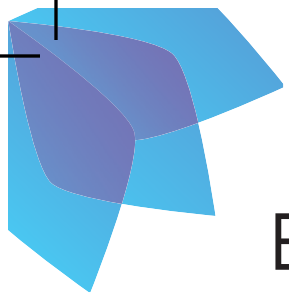
Benefits of Chatbots or Virtual Customer Assistants

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 customer satisfaction

- Higher retention

" Enterprises must reimagine their operations, with automation and AI at the center of their strategy. AI enables automation to get faster and smarter over time and helps uncover new revenue streams and fundamentally transform operations. "

FORRESTER®

SOURCE: Forrester "2018 Customer Service Trends: How Operations Become Faster, Cheaper — And Yet, More Human" by Kate Leggett, January 24, 2018.

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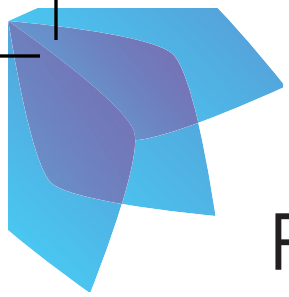
Four Components of an AI Chatbot or Virtual Customer Assistant

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

Makes it possible for 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.

Conversational User Interface

Natural Language Understanding

Natural Language Generation

Dialog Manager

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Three Generations of AI Chatbots or Virtual Customer Assistants

Generation 1

1

- Rule based

  Box Bullet Continuewith this.

Generation 2

2

- Rule based

- Supervised machine learning

  Conversation data must be labeled (a lot of labeled data is required) then a model needs to be trained so the chatbot can learn how to talk with the customer.

Generation 3

3

- Rule based

- Supervised machine learning

- Unsupervised machine learning

  This AI chatbot can learn from unlabeled data. It can use rules and labeled data to learn from many unlabeled data sources to handle more complex conversations.

Conducting a conversation is an extremely difficult task for humans to automate and manage. This is one of the main reasons chatbots are misunderstood or are unable to understand humans.

With first-generation chatbots, the range of conversation limited to a specific use case. The chatbot designer simply creates a very basic conversation flow. With a first-generation chatbot, a simple password reset can be handled easily.

To support customer interactions that generate greater business impact and time savings for customers, more linguistically advanced chatbots in the second and third generation are required. These chatbots conduct natural language processing – often referred to as "NLP."

The approaches to NLP vary. This variance often separates the second and third-generation chatbots. Between second and third-generation chatbots, artificial intelligence (AI) drives business and customer value.

The value of second-generation chatbots is measured by the number of new customers acquired, customer attrition rates, average spend per customer, customer complaints, cross-sell and up-sell rates. Third-generation chatbots can drive customer satisfaction, purchase intentions and willingness to recommend.

Some third generation, AI chatbots include unsupervised learning, transfer learning, active learning, deep learning and proprietary data.

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Key Considerations when Deploying a Chatbot or Virtual Customer Assistant

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,

3. **SELECT CHATBOT SOLUTION THAT BEST FITS USE CASES**

   Try to buy and configure to minimize building from scratch. It may not always be possible to avoid custom building, but it is most desirable.

4. **INTEGRATE WITH EXTENDED ECOSYSTEM**

   Leverage existing data for chatbot content, including knowledge bases and historical data from contact center operations. Also be sure to identify related APIs.

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.
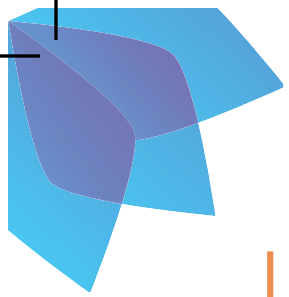
Learn More About AI Chatbots and See for Yourself How They Work.

Contact Rulai for a demo.

contact@rul.ai

ABOUT RULAI

Rulai was founded on a simple, powerful idea – a low-code conversational platform that enables domain experts to take control with limited IT resource. It is shaping the next wave of customer experience (CX) with an award-winning research team comprised of global leading experts in the field of machine learning and artificial intelligence. The company's Interaction Design Console, a no code chatbot development tool for business users, is making groundbreaking contributions to AI development across natural language processing, deep learning, and personalized recommendation systems. Rulai, founded in 2016, is based in Campbell, California.

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