



The Complete Guide to Chatbots Ebook

By Greg Ahern

Founder of Ometrics®

Version 5.0

The Complete Guide to Chatbots eBook is updated on a regular basis as the chatbot and artificial intelligence industry grows.

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What is a chatbot?

A chatbot is a computer program that can learn over time how to best interact with your website visitors. It can answer questions and trouble shoot customer problems, evaluate and qualify prospects, generate sales leads and increase sales on an ecommerce site.

Think of the chatbot as a store greeter or sales person that asks you if you need any help when you enter a brick and mortar store. Now your users can ask a question and get an answer instead of searching and reading static pages on your website. The information is still on your site, but access to the right page for the user's needs is increased significantly, which improves the overall user experience and lead quality.

In time, all websites will have chatbots and customers will learn and engage with companies via social networks or an artificial intelligent system with a voice or vision interface. The idea of a list of static pages organized by a navigation bar will be considered archaic. We can already see this shift with the use of Amazon Alexa, Google Home and Facebook Messenger for search queries.

37% of Americans would be willing to make a purchase through a chatbot.

38% of consumers view chatbots positively, 11% negatively, 51% neutral.

49% of consumers prefer to interact via chat, text or messaging.

There are chatbots that can have personality-based conversations. You can ask them personal questions for psychotherapy, companionship, and daily organization to help you schedule your day and remind you of appointments. There are even chatbots that can give you news and ideas for your business and work as personal assistants.

There are many sites and phone systems that have chatbots with artificial intelligence. We have all received unsolicited phone calls from computers with artificial intelligence. A good way to find out if the system is smart is to keep saying "take me off your list." The smarter systems stop the sales pitch and switch to "you will be removed from our list."

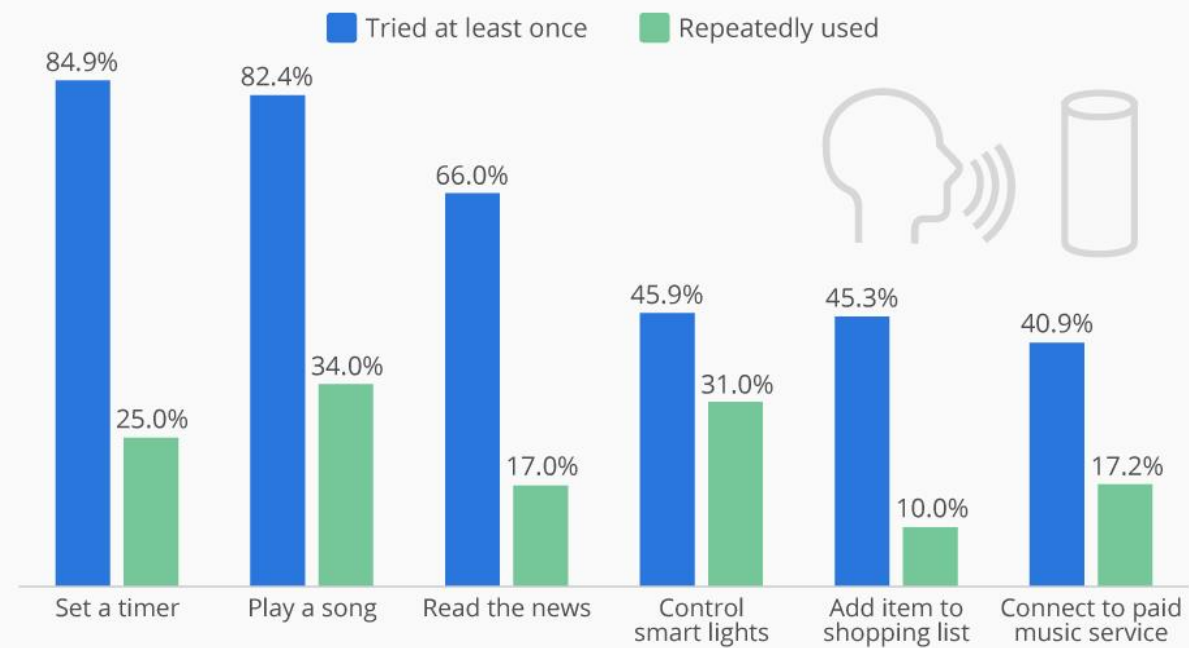
Messaging apps are overtaking social media apps in number of monthly active user.

There are many social platforms with APIs that interface with your bot. For example, Facebook, Twitter, Kik, and Slack to name a few. You can engage with users on social platforms or directly on the website. What is interesting about using a chatbot on social platforms is you can make an inquiry just like sending an email. You can ask a question about an event, product or service, or even ask for advice, and the bot sends you an immediate reply. In many ways, chatbot responses are better than email replies because they happen so quickly. We built a few simple chatbots for fun. Just do a search on Facebook or Facebook Messenger for OJokebot, facebook.com/ojokebot some others are OQuoteBot, OZenBot.

The most well-known bots are from the big companies such as Google Home (Google Assistant, Allo), Amazon Alexa (Echo, Dot), and Facebook Messenger. These bots are very complex, yet far from being perfect. There are many ways to communicate such as clicking a button, typing text, speaking, and showing an image or video. Chatbots and artificial intelligence are in their infancy and expected to grow considerably in the next 15 years. The chart below shows how people are starting to use Amazon Echo and the projected growth of digital assistance.

What the Amazon Echo Is Actually Used For

% of Amazon Echo users who have (repeatedly) used the device to do the following



Based on a survey of 180 Amazon Echo users conducted in May 2016

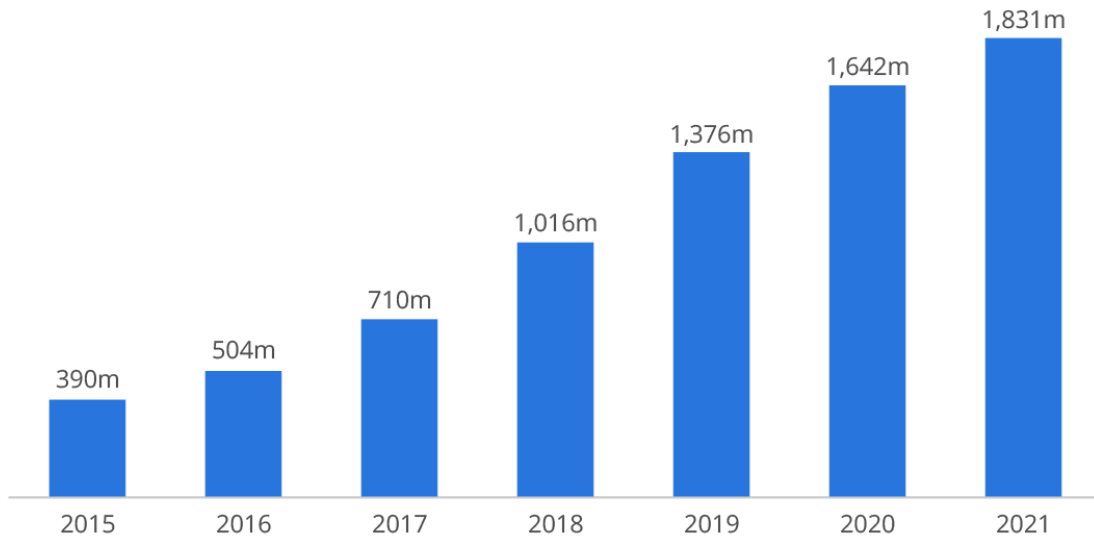
Sources: Experian, Creative Strategies

statista

Tech Chart of the Day

Digital Assistants - Always at Your Service

Estimated number of users of virtual digital assistants worldwide*



* e.g. Cortana, Siri, Alexa and Google Now; figures do not include enterprise usage

BUSINESS INSIDER

Source: Tractica  

We will be focusing on chatbots used on websites and social networks, but it is important to understand the overall applications of artificial intelligence and machine learning. The core technology is used on websites and social networks. For example, talking to your phone, a website or social network instead of typing text will be the standard. For now, the chatbot technology for websites and social networks is focused on applications such as customer support, lead generation and sales.

By 2020, customers will manage 85% of their relationship with the enterprise without interacting with a human, at least for the initial engagement.

The chatbot market is growing at a compounded annual growth rate of 27.8 - 37%

Why do I need a chatbot?

Chatbots improve the conversion rate and workflow in many areas of a company.

Support and Customer Service – Many support questions can be easily answered with a chatbot. Chatbots allow live support people to handle more difficult questions that require a human touch. More importantly, the user is immediately satisfied by getting an answer to their question 24/7. If a question is too difficult for the chatbot to answer, the bot can switch the user to a live chat with a human, or transfer the user to a live phone call. A [virtual assistant chatbot](#) answers these questions in a conversational way, and the user's questions are collected and evaluated to improve your support department.

Lead generation – The sales process for any product or service can be complex. From the prospect's view, they want to know if the product or service will match their use case and price. From the company's viewpoint, the sales person wants to qualify the prospect to understand if the prospect's use case and budget are a good match for their product or service. Good [lead gen chatbots](#) ask questions to fill out a traditional form in a conversational way then send the lead to the companies CRM.

Surveys – To know what your customers are thinking about, you have to ask them questions, and a survey is a useful tool for this type of data collection. A survey can be used inside a chatbot to engage users by asking questions in a conversational way such that the user does not know they are part of a survey. The user responds to the questions and the response is collected and stored to reveal new information about user preferences and behavior. The data collected from a [survey chatbot](#) is useful for future marketing and sales campaigns.

Ecommerce sales – There are two conversion funnels on an ecommerce site. They are:

- 1) Home page, category page, product page and cart
- 2) Cart, checkout, order completed

Both of these conversion funnels have areas with high drop rates where users leave the site. In the first funnel, the user may have questions about the product. This process is solved with an [ecommerce chatbot](#) directing the user to a product quickly, as well as upselling other products that go along with it. Over time, the bot can track what was purchased in the past and provide suggestions that coincide with the user's likes and desires. In the second funnel, the user may have questions about taxes, shipping, coupons, return policy, etc.

Ecommerce sites have higher conversion rates when chatbots are answering questions and overcoming obstacles. **Ecommerce sites using [Ochatbot](#) have a 15% to 35% increase in revenue when using the chatbot.**

Overall website conversion rate is improved because the user experience is more engaging and helpful than a list of pages on a website. A chatbot works like a store employee who comes up to you at the store and offers assistance.

As more and more websites start using chatbots, your customers and prospects will expect a certain level of service from a site and chatbot. This is especially true because the number of mobile users is still increasing and viewing large sites on a phone is difficult. The concept of clicking multiple pages on a site to find information compared to asking a question and immediately getting an answer will soon be outdated.

By 2020, 88% of brands will have implemented automation technologies in sales, marketing and customer service.

Live Chat vs Chatbots

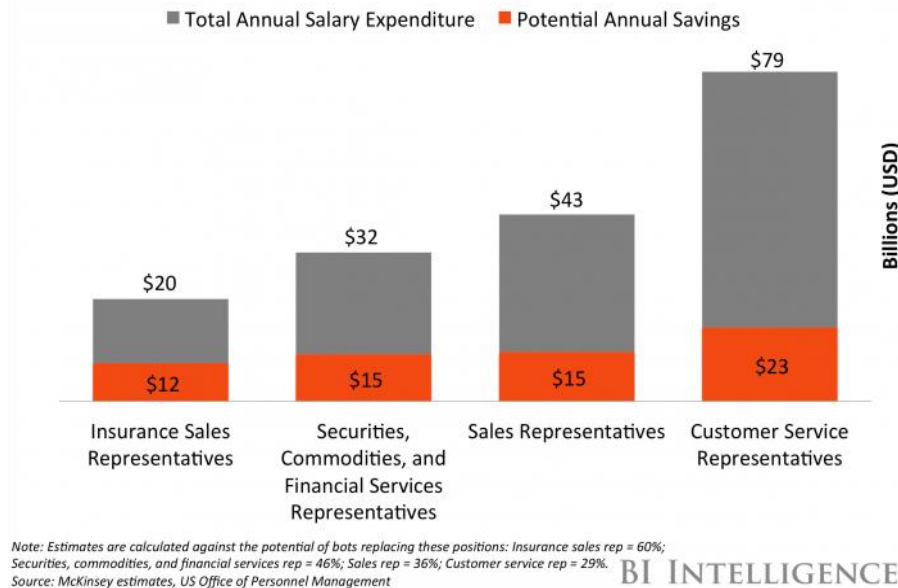
Live chat still has its place, but there is a difference. Live chat is often the default when the chatbot cannot answer the user's question. The main difference between live chat and a chatbot-only system is that live chat requires a person with all the company's knowledge to be online 24 / 7. Another difference is that studies show users trust chatbots more than live chat. Users are more open and they answer more questions with a chatbot. The key is to let the user know they are talking to a chatbot. There are two reasons to notify the user about the chatbot:

- 1) The user won't feel they are under pressure to buy something, and
- 2) They can leave the conversation and not feel guilty about offending the bot.

Chatbots and the Workforce

There are many estimates about how chatbots will affect the workforce. Some of these estimates are pure speculation. I predict that chatbots will not replace a human's job, but will improve the overall customer service experience. When human sales and support handle higher level questions, it means the humans are focusing more on sales and less on pre-qualifying.

Potential Annual US Salary Savings Created By Chatbots



Chatbots are an Alternative Content Delivery System

How often do you get an email that you never open? You read the subject line and delete the message without opening it. Over 97% of emails are treated this way. In contrast, how often do you open a Facebook Messenger notification? The open rate is huge compared to email. The average MailChimp email campaign has a 10% open rate and a 2% conversion rate where the user clicks through to the website. A Facebook Messenger notification has a 1,400% engagement rate, which means a significant number of users open a Messenger notification, click the link inside the message, and visit the company's website.

I remember my first email campaign in 1994 had a 40% open rate! I was ecstatic! However, although social messaging has a high conversion rate now, it will decrease over time as users get hit with more spam. Right now, every message is from a trusted friend and very few messages are solicitations. Although the numbers look great now, they will normalize over time. That said, I still think the conversion rate will be better than email for the very fact that you can correspond in real time, which email cannot do.

A survey via a chatbot showed 3X more conversion than over email.

45.8% would rather contact a business through messaging than email.

Why does a chatbot have a higher click-through rate than email? Here are some theories:

1. That red icon on your Facebook Messenger app will sit there until you open it, which means it's difficult to ignore.

2. People associate email with junk or spam, which means they are in the habit of deleting email without opening it.
3. There are very few brands on Messenger, which means a message is likely from someone you know. People open messages from people they know.
4. It takes a millisecond to open a Facebook Messenger notification, which is much faster than opening an email.
5. It only takes two finger taps to click through a Messenger notification, whereas email requires a lot more navigation steps.

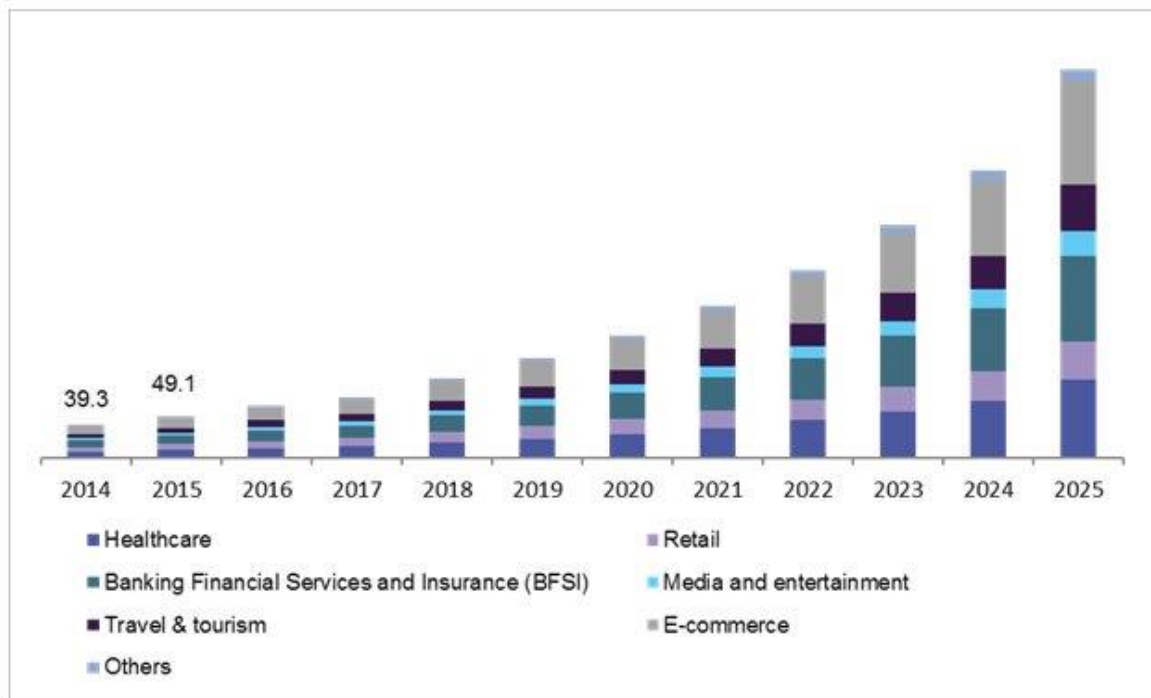
Facebook Messenger is becoming one of the best alternative content delivery systems out there, which is something marketing folks have been searching for as a replacement for email. Email is still a strong marketing tool, but it is declining as email systems become smarter. For example, Google's Gmail automatically removes email or routes it to spam, and it moves email to different buckets such as social, promotions or updates. When a Gmail user moves a message from one bucket to another, the system remembers that action and repeats it in the future.

One thing to keep in mind is not everyone uses Facebook, and those that do use it don't necessarily use Facebook Messenger. The number of users on Facebook may not be using the network on a daily basis and may not be using Messenger at all.

What industries are using chatbots?

Every industry will benefit from a chatbot. Some of the larger industries are already spending a huge amount of resources to add chatbots to their websites and social platforms. For example, Amazon has over 1000 engineers working on chatbots, artificial intelligence and machine learning for all of their services. The chart below shows some of the major industries and their projected growth.

U.S. Chatbot Market by Vertical, 2014 - 2025 (USD Million)



This does not mean you have to spend a lot of money on a chatbot. A simple chatbot can be built for a site for \$30 a month, or a complete chatbot system with maintenance for \$500 a month. Over time as you collect data, you can expand on the intelligence of the bot to answer more questions or generate different types of leads and sales.

How does a chatbot work?

Think of a chatbot in terms of simple logic. Chatbots are more than simple logic, but to understand the basic concepts, simple logic will work.

A chatbot is “listening” for certain words and phrases. When a particular term is heard, the chatbot responds with a preprogrammed answer. For example, if a user asked:

User: What is your phone number?

Bot: Our number is 800-555-1212. Do you want to talk to support, accounting, sales, or customer service?

User: If the user says “sales,” the bot provides the sales phone number which can be clicked to initiate the phone call.

The challenge is there are many ways to ask for a phone number. The chatbot needs to understand all the variations in a particular language as well as multiple languages.

The next layer of complexity is to understand the context of the conversation. If the user asks, “What time is it in London,” the bot will provide the time. If the user asks a follow up question such as, “What’s the weather there,” the bot doesn’t know what “there” means. It may not connect the first question with the second question. Humans easily understand this sequence of questions, but chatbots may not get it. It becomes even more complex when the user continues to ask questions and the bot may forget the original question, which was about the time in London. That is the most difficult part of programming a chatbot.

There are three primary terms that describe how a chatbot is programmed. Different systems use different terminology. See the glossary for terms for more.

Intent – An intent is figuring out the user’s intention and providing the appropriate response. The intent is “listening” for keywords and phrases and has a programmed response such as, ask another question, provide an answer, present button options, show an image or video, or go to a URL. The intent has many variations of the keywords and phrases, and it has logic around particular keywords. Intents can also be connected together.

Agent – An agent is a set of intents around one topic. For example, an agent called “Contact” could have intents for phone, email, web, social, etc. Other agents could be for specific types of products and services.

Conversations – This is a decision tree or logic diagram of a scripted conversation. Think of a sales script. What are the questions you would ask during the sales process or when trouble-shooting a technical support issue? These conversations can be linear or have branching logic with multiple answers to questions. They can also be interrupted mid-conversation and switch conversations to questions and answers much like a human conversation.

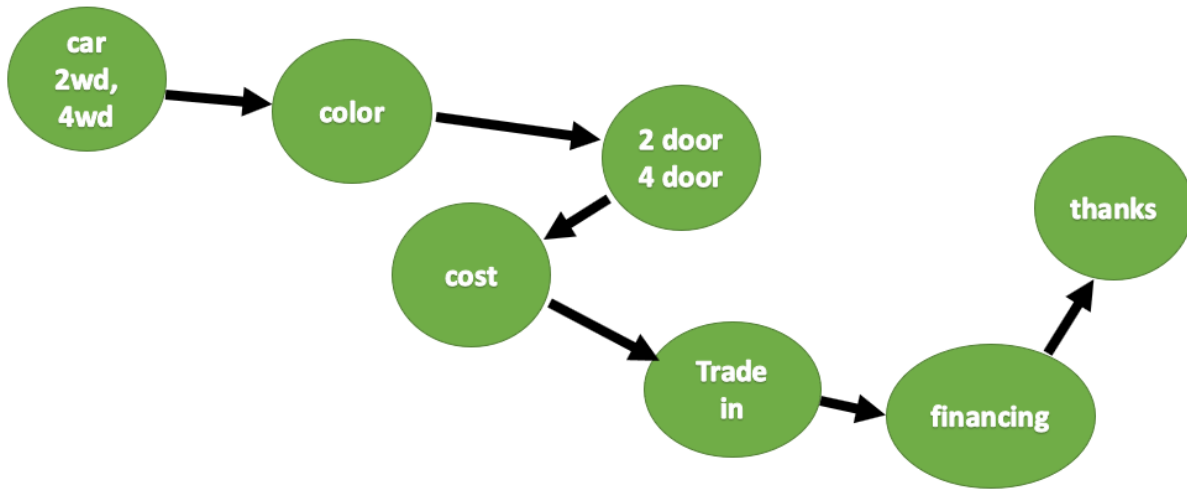
Chatbots are powerful because they can mimic human language. They do not have to stay in the conversational flow. If the user asks a separate question, the bot can jump over the preprogrammed response and answer that particular question. For example, the bot could be asking questions to narrow down what product or service the user needs. In the middle of this conversation, the user could interrupt the bot and ask an unrelated question like “Where are you located?” or “What is the cost?” The bot will then stop its conversation and answer that question.

Here is an example of a simple conversation logic decision tree:

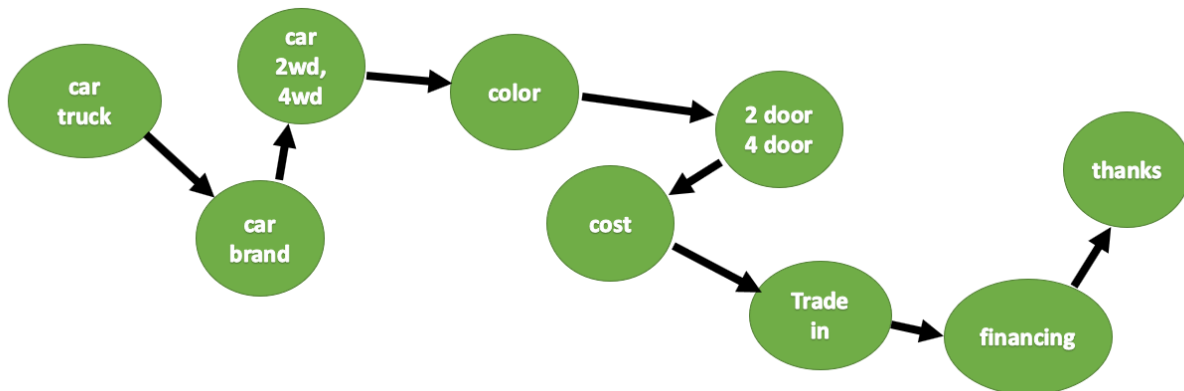
Question	Answer	Reply	Action
Do you sell cars	Yes, do you want 2wd or 4wd?	2wd	Go to URL for more or Test Drive
		4wd	Go to URL for more or Test Drive

Here are four examples of a chatbot conversation that becomes more complex. In most cases conversations jump to unrelated topics. The goal is to have the chatbot respond like a natural conversation.

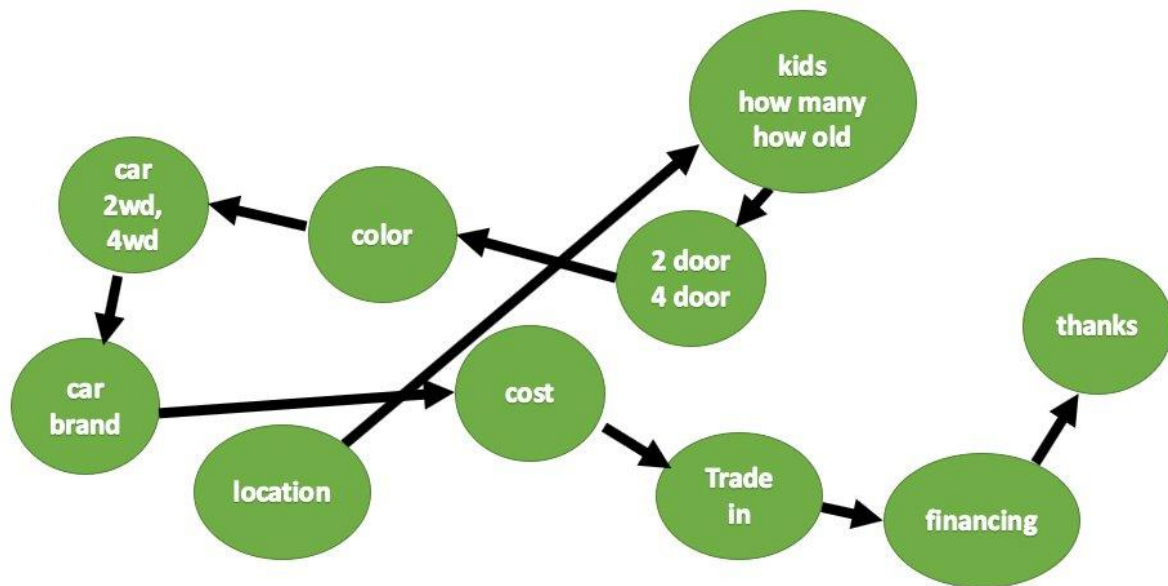
Example 1



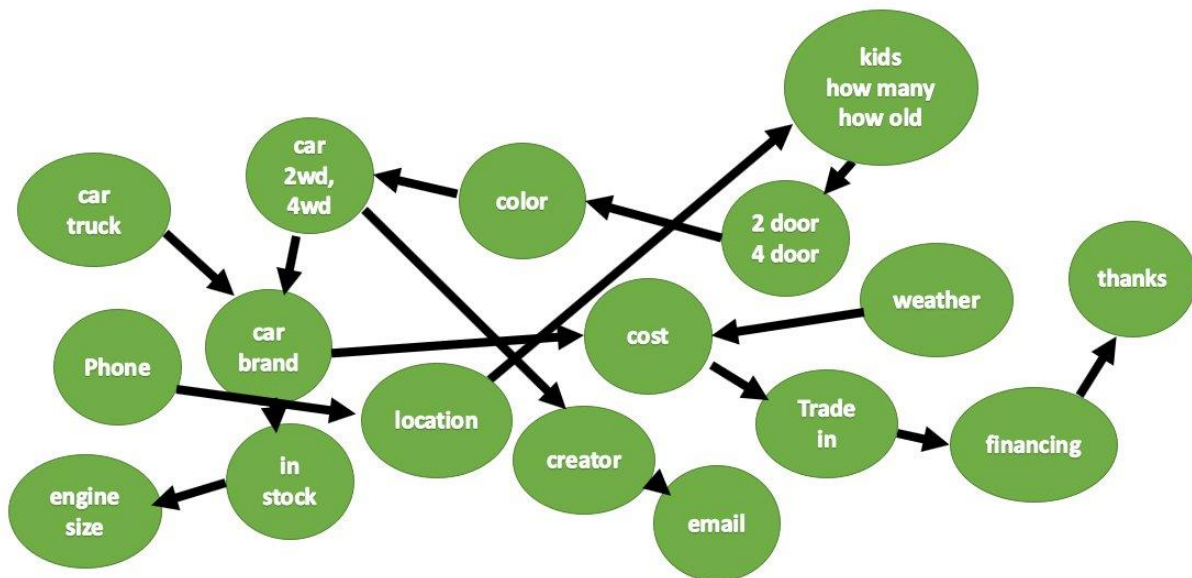
Example 2



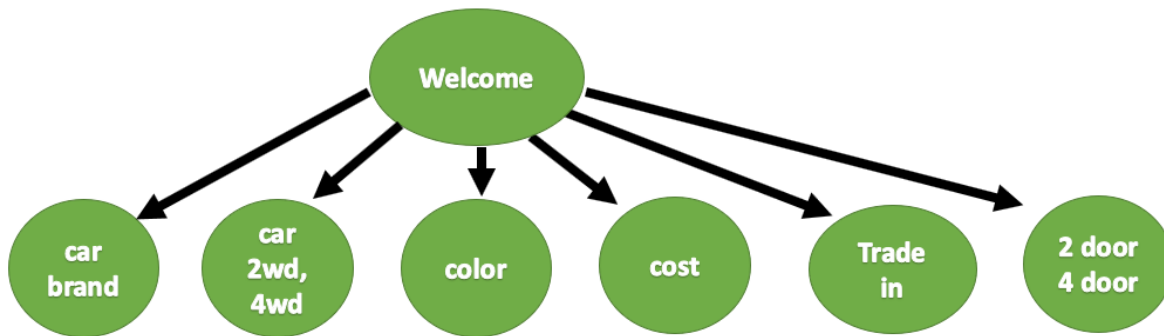
Example 3



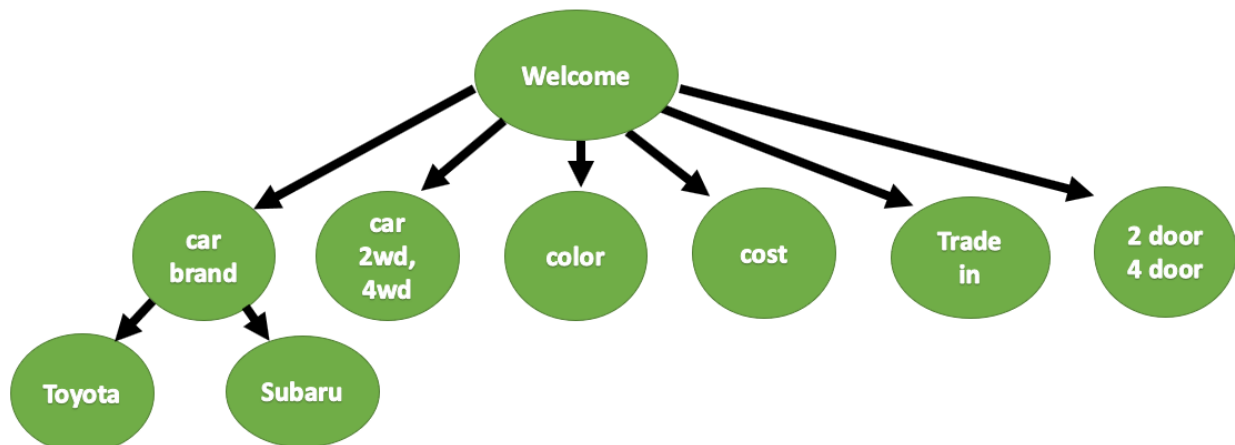
Example 4



In a chatbot architecture, the questions are connected together so that all questions have access to the same listeners.



A more complex chatbot has a decision tree of questions on a particular subject that branches out from the main conversation.

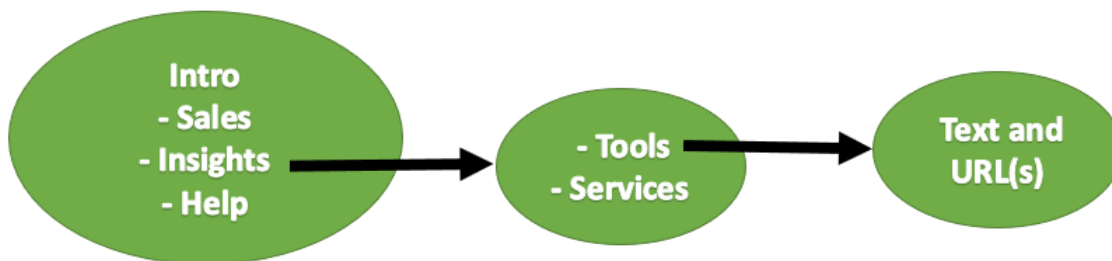


The chatbot changes direction when the user asks a common question, which falls into the global intent category. In this example, the chatbot listens for a type of car, but when the user changes the question, the chatbot listens for these unrelated questions and goes to the global intents.

Question	Answer	Reply	Action
Listens for "Do you sell cars"	Yes, do you want 2wd or 4wd?	2wd	Go to URL
		4wd	Show image

Question	Answer	Reply	Action
Listens for “Kids”	How many kids to you have?	1 child	Go to small car
		5 children	Go to Mini van

Here is an example of a sales chatbot on a website. Each bubble is a new question.



How does a chatbot learn?

Chatbots can learn automatically by analyzing past data and making assumptions on what is right. The other way chatbots learn is by having a human editing the system. In most cases, both are required. Even though a chatbot has artificial intelligence, a human still needs to audit the responses to make adjustments. This is called “human in the loop.” There have been some epic failures of chatbots that run 100% on artificial intelligence. Many smaller bots only have human in the loop because there is not enough data to answer all of the user’s questions. In these cases, data is collected from the bot system and what is learned is applied to all the bots for general intents and agents.

Over time, the bot gets smarter and theoretically there is less maintenance. From a marketing perspective, there are insights to be gained from the bot data, and the data is fed back into the bot as well as shared with product development, marketing and sales teams.

What is artificial intelligence?

Artificial Intelligence (AI) is the creation of computer systems that can perform tasks that require human intelligence, such as speech recognition, understanding and translating language, and decision making. AI includes computer science, neuroscience, psychology and linguistics, which are all needed by a machine to duplicate a typical human response. When an AI process can function with contextual responses in a real human conversation, that is when it has become successful in simulating human intelligence.

The data is collected and clustered into groups. These clusters of data are multidimensional and take significant computer power to analyze. Special software systems with a variety of algorithms are used to evaluate how the data is being correlated. The system is then tested and adjusted accordingly.

Artificial intelligence is what makes chatbots different than a simple yes or no logic program. Chatbots learn over time what a user is asking in a particular industry and what is the best way to answer that question. This is done by collecting and monitoring the data of all the conversations. The AI system applies what it learns from each conversation. However, there is a caveat. A human has to monitor some of these responses. This is called “Human in the Loop.” In the past, chatbots have been launched on social sites, and unfortunately, they start learning the more negative influences of our society. For example, Microsoft’s Tay.ai was launched on Twitter in 2016, and it became a sexist bigot within 24 hours and was shut down and fixed. The best way to avoid these situations is to respond with polite humor preventing the conversation from spinning out of control.

The bottom line is a good chatbot will have ongoing maintenance to review the conversations. This has two benefits. First, it gathers data about what customers want, ask for, are confused about, etc. Second, it detects where the bot is getting stuck in a conversation so it can learn and create new responses.

What is machine learning?

Chatbots and other artificial intelligence systems have multiple inputs such as text, button clicks, voice, and vision. Machine learning is when the chatbot analyzes the input data to determine a result. For example, if the system is reading a scanned document with numbers, the number images are clustered by how similar they are. All the 6’s are grouped separately, then all the 3’s are grouped together. This is pretty simple to do. The trick is when a 1 looks like 7 or 4 looks like a 9. By clustering thousands of images, it becomes smarter and the error rate decreases.

Machine learning is the process where a computer learns from experience rather than from programming. The machine learns by gathering data and it can find insights from that data without being explicitly programmed. When you see an ad on your Facebook newsfeed or from

Google for a product you recently searched, that is a result of machine learning about you and your preferences. There are many inputs of data for the system to draw a conclusion. Computers are really good at this, where it would take a human too long to figure it out.

What is natural language processing?

Natural language processing (NLP) is teaching a computer to understand language and the intent behind the language. NLP is based on artificial intelligence, computer science, and computer linguistics.

NLP is enabled by machine learning where words, phrases, and sentences are analyzed, and the system gives a response based on the analyzed data. An NLP algorithm uses inferences to provide the best answer. The system gives a better answer when it receives more data. One of the biggest challenges with NLP is context – human conversations are contextual and it's difficult to teach context to a computer.

If you use a spelling and grammar app or a language translation app, it is most likely using NLP to correct you.

What is Human in the Loop?

“Human in the loop” is a Natural Language Processing Engineer who continually reviews the bot data and adds new intents and agents to the bot. The engineer adjusts the programming with new acronyms and new ways of asking a question. The engineer also detects new customer objections and questions which are vital to selling a product or service.

Where to start when building a chatbot?

For a basic bot, there are three types of agents needed: A support agent, a FAQ agent, and one or more conversational agents.

Support agent: This agent handles all the basic questions such as “Where are you located?” or “What is your billing phone number?” A more complex support agent would answer questions like “What software do I use for product X?” or “How do I add XYZ feature to my ABC product?” Support agents often have sub-intents for each product or service.

FAQ agent: The FAQ agent answers all the general questions from a user. The questions may be from prospects or customers. The FAQ agent is not as detailed as a complex support agent, but it quickly answers the question or points the user to a page or a document that has the answer.

Conversations: At least one conversion is needed just to introduce the chatbot to the user and ask how it can help. For leads and sales, a decision tree of questions is asked to either point the user to the right product or service, or to make the user understand the value of the product or

service, gather contact information or make a purchase. In many cases, you will have different conversations on different sections of the site.

Here are two examples of where a conversation would be used.

- If you have two products that serve five different industries, you have to ask which industry they are in, and provide the benefits and features for that industry.
- If you are trouble shooting a support question, you must have some basic facts such as what product they have now, if they are using a Mac or PC, what browser they use, etc.

Here are the first three steps in creating the chatbot conversation.

1. Draw a thought bubble diagram of all the types of conversations that would happen on the site.
2. Create a spreadsheet that has a list of questions and answers along with button options and their actions. This will replicate the scenario of a customer talking to a salesperson. Start with the most common questions. Over time you will see questions that you did not think of, and you can add those questions to the spreadsheet.
3. Think about how each question can be asked by the user. Break out each question into 15 to 20 different ways it could be asked. You can use wildcards to make this easier.
4. Enter the questions and answers into the chatbot platform and test each question.

How much does it cost to build a chatbot?

Chatbots can be simple or complex, and the price varies significantly. There are a couple parameters that affect the cost.

- 1) The platform the bot is on. There are many bot platforms and the prices range from free for a small number of interactions to over \$1000 a month.
- 2) The number of user interactions per month or users per month. Bigger systems charge \$.002 to \$.00075 per interaction or response. Others charge by users, for example, \$600 for 1000 users. Keep in mind that the bigger systems require more software development.
- 3) The number of agents, intents, and conversations that have to be created and maintained. This is the biggest one-time expense, and it can be part of the retainer, or it can range from \$500 to \$50k.
- 4) The amount of maintenance required. In some cases, maintenance is included in the monthly bot fee. It can also be hourly or as a retainer, depending on the number of agents and user interactions. Typical costs range from \$100 to \$1000 a month.

- 5) The type of bot interaction, for example, text, voice, or vision. Text is the least expensive, voice is next most expensive, and vision is the most expensive.

The Ometrics Ochatbot has two pricing plans. One is Do It Yourself free plan to get started, the Plus plan is \$79 a month. The other is a Starter package that includes chatbot design, FAQ agent, Support agent, one conversation, and monthly chatbot maintenance. Development ranges from \$1000 to \$5000 and maintenance ranges from \$100 to \$1000 a month. To learn more about Ometrics Ochatbot, please visit Ochatbot.com/pricing

How to Build a Chatbot

Building a chatbot does not have to be overly complex, but it does require a little forethought. We will show how to build a chatbot in a step by step process.

Step 1 - What is the purpose of your chatbot

Chatbots have a number of purposes such as:

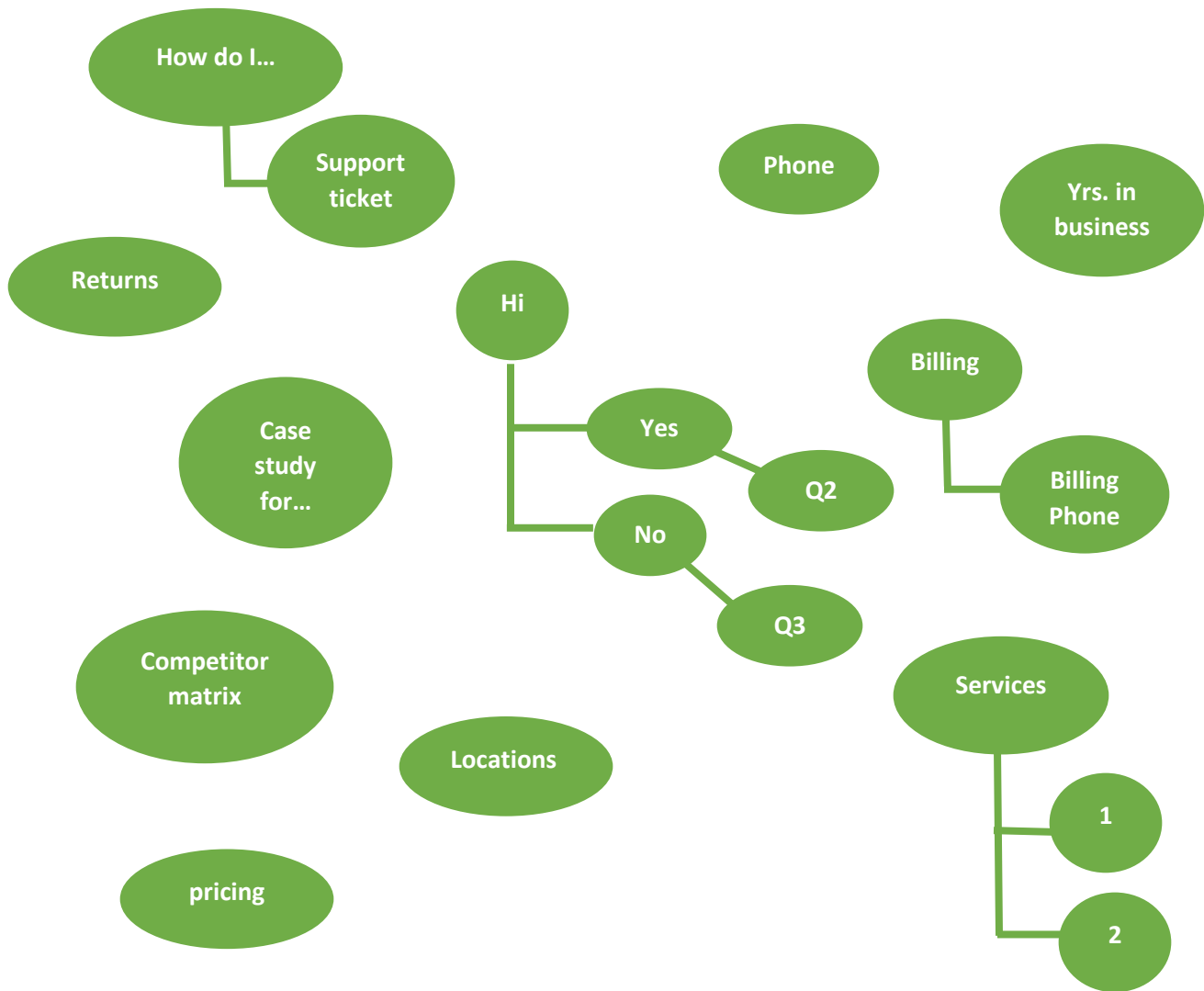
- Lead generation
- Sales, online and offline
- Improving usability and navigation of the site
- Gaining insights
- Support

The conversation and call to action for each of these is different. You can have all of these conversations happening at once. Each conversation would be scripted differently.

To understand how well the chatbot is working, determine what metrics you will watch. Note that all data is collected from the conversations. This means if you forgot to include a product or service, users will ask for it. You will also gain insights on what users are asking.

Step 2 - Create a bubble diagram of conversations

The architecture of the chatbot has many tangents and sub-topics just like typical conversations. A quick way to organize this is to create bubble diagram showing different conversations and if they are connected. Here is an example of a bubble diagram.



Here is an example of the question and answer spreadsheet:

Question	Answer	Button	Action
What is your phone number	Our number is 123-1223-1223		
Do you sell cars?	Yes do you want 2 wheel drive or 4 wheel drive?	2 wheel	Go to URL...
		4 wheel	Show text...

The next step in a chatbot conversation is to create a default introduction question. The default introduction question is like a website homepage where users see the same information each time they visit. The default question affects the conversion rate and the effectiveness of the chatbot. Without a good intro question, users will not engage with the chatbot.

Step 3 - Create your default introduction question

The default introduction question is similar to a home page with users coming back to it. More importantly, the first question asked will affect the conversion rate and effectiveness of the chatbot. With the wrong introduction question, the chatbot may not be activated by users.

Here is an example if you had a catering company:

Option one:

Hi I am a chatbot. What are you interested in?

- Weddings
- Graduations
- Big parties
- Small parties
- Office lunches

The user would click an option that brings them to a page, or the chatbot can ask a qualifying question to assist them.

Option two:

Hi, I am a chatbot. Tell me about your event.

The chatbot listens for words like wedding, graduation...

If the chatbot determines it is a party, the chatbot responds with:

That's great, I love parties! How many people will be attending?

Additional questions are:

Is the party going to be inside or outside?

Do you want a sit-down meal or a buffet?

For a buffet, I would recommend our taco bar...

Option two is a typical consultative sale where you find out what the customers' problems are, and then suggest solutions instead of providing information that may not be relevant to the customer.

Within the default question, there will be intents that are specific to the question and other intents that are global. Determine what intents are specific to this conversation.

Chatbot Structure

This is a good time to take a tangent and explain how chatbots work.

Chatbots are trying to understand the "intent" of what the user is talking about.

Intents have two components:

Listeners - Listeners are keywords and phrases that trigger when that particular term is detected. Many listeners are already preprogrammed and are constantly being improved so you only have to think of the listeners that are relevant to your business. The keywords can use regex (a regular expression) logic such as:

word | words – list of words

^word – must begin with this word

\b word \b – must contain this phrase

A regular expression (regex) is a special text string to describe a search pattern. A regular expression is like an amplified wildcard.

Intent Listeners:
+ Add Listener

price

Name

price

Description

what is price

☒ Advanced Listener?

Regular Expression

price|cost|fees|pricing|plans|fee|costs

Replies – Replies are the action that happens when the intent is triggered. There are a number of reply options which can be combined.

- Connect to a question
- Provide a text reply
- Provide a button with a link
- Show an image or video

Intent Actions:
+ Add Action

1. Reply: We offer custom guidin...

Action Types
☐ Branch to Question
☒ Reply
☐ Reply with Attachment

Reply

We offer custom guiding for climbing, mountaineering, back country skiing, military training, and entertainment rigging. Click below to learn more.

Attach Button

Button Text: Custom Guiding
Custom Guiding

☒ Link to URL
☐ Trigger Question
☐ Trigger Intent

Linked to URL:

https://coloradomountainschool.com/custom-guiding/

Button Text: Back
Back

☐ Link to URL
☐ Trigger Question
☐ Trigger Intent

☐ Remain listening to Question
☐ Re-ask Question

Intents can be global or specific to a question. If the chatbot does not understand a question, an intent is triggered to reply with your fallback question as a last resort. There are other logic options such as “stay within this conversation.”

Step 4 - Outline your questions and conversational logic

Often there is additional conversational logic after the default question. For example, if your first question is, “Are you interested in a car or a truck,” there would be additional questions for each type of vehicle. Some questions are general like budget, and other questions are specific like truck bed size, number of passengers, sports car or mini-van. Remember each of these conversations can have their own unique intents.

Step 5 - List your global intents with common questions and replies

Many of the global intents are commonly asked questions or FAQ’s that could happen at any time in a conversation.

For example, in a support conversation, the customer may suddenly ask for a phone number. In this case, the support number is given. If the customer was not in support and asked for a phone number, then the reply would list different department phone numbers (sales, support, billing...).

FAQ's can also be set up using a Virtual Assistant. If the Assistant cannot answer the question, the user is directed to a specific page or referred to live support. The user's questions are collected for future analysis, which is valuable for sales and marketing efforts.

Ochatbot™ Name

Questions Global Intents **Assistant** Lead Forms & Surveys Ecommerce Settings Triggers Targeting Alerts Reporting

Chatbot Virtual Assistant
Chatbot Virtual Assistant quickly creates intents for customer support and other question and answer intents. Once added, you can edit listeners and replies to the intent.

Intent Name	Ochatbot™ Listens For	Action	Attach Button?	Buttons
talk.support	support customer service	☐ Branch to Question ☒ Reply Reply: Need help? Call us at 1-800-555-1212.	☒	

[Create Intent](#)

Assistant Intents: [Add Advanced Intent](#)

Step 6 - Determine your variables and call to actions

Variables allow a faster creation of intents. A typical variable would be a phone number, email address or contact us URL. You can also have full sentences which are often the same as a call-to-action such as “to learn more call 800-700-8077.”

To use a variable just type {{phone}} or {{email}} or {{contact us}} in the reply message box. When that intent is activated, the phone number or email address is automatically added to the reply message.

In the following examples, we show you how to create a chatbot using the Ometrics Ochatbot program.

Ochatbot™ Variables			+ Add Variable	
Name	Value	Usage		
contact us	https://www.ometrics.com/contact_us	{{ contact us }}	✎	🗑
cro_consulting_url	http://ometrics.agency/conversion-rate-optimization/	{{ cro_consulting_url }}	✎	🗑
email	info@ometrics.com	{{ email }}	✎	🗑
ochatbot_url	https://www.ometrics.com/ochatbot.html	{{ ochatbot_url }}	✎	🗑
ometrics_agency_url	http://ometrics.agency	{{ ometrics_agency_url }}	✎	🗑
ometrics_url	http://ometrics.com	{{ ometrics_url }}	✎	🗑
Phone	(800) 700-8077	{{ Phone }}	✎	🗑
support_email	support@ometrics.com	{{ support_email }}	✎	🗑
Save Variables & Settings			+ Add Variable	

Step 7 - Build your default question

Now you are ready to start building your chatbot. The following example is using the [Ochatbot tool](#). First, determine how the chatbot will engage with the user. Do you want the default question to show first followed by a simple “how may I help you” on the home page? Another option is to ask a different default question on a different page or section of the site. When you first create your Ochatbot, a series of questions will prefill your default question, variables and other main intents.

You can adjust the presentation of the chatbot window in the settings section. Below is a partial screenshot of the settings section.

Ochatbot™ Name

Questions Global Intents Assistant Lead Forms & Surveys Ecommerce **Settings** Triggers Targeting Alerts Reporting

Description:

Ochatbot™ Design Settings

Window Title:

Placeholder Text:

☐ Display Message Time?

Window Background Color:

Header Background Color:

Header Text Color:

User Message Background Color:

User Message Text Color:

Chatbot Message Background Color:

Other settings such as colors, window sizes, chat icon can also be edited here. Below are a few of the options.

Chatbot Message Background Color:

Chatbot Message Text Color:

Button Color:

Button Text Color:

Input Background Color:

Input Text Color:

Floating Bubble Color:

Icon:  [Select Ometrics Icon](#) OR [\[Select local file\]](#) [\[Upload local file\]](#)
(Recommended image size is 125x125)

Desktop Window Height:

Desktop Window Width:

Mobile Window Height:

Mobile Window Width:

Video Attachment Height:

Desktop Floating Bubble Location:

In the trigger section, select how you want the chatbot to trigger for desktop and mobile.

Questions Global Intents Assistant Lead Forms & Surveys Ecommerce Settings **Triggers** Targeting Alerts Reporting

Ochatbot™ Triggers

- Desktop Trigger Widget**
- ☐ Show Floating Button
 - ☐ Open Chat Widget
 - ☐ Show Floating Button Always, Trigger Chat Widget on Target Urls
 - ☒ Trigger Chat Widget Once, then show Floating Button
- Desktop Trigger**
- ☒ Show all the time
 - ☐ Show after _ seconds
 - ☐ When the user is in the middle of the page
 - ☐ When the user is in the bottom of the page
 - ☐ Exit of Page
 - ☐ Page Views - Show on _ or more pages viewed
- Mobile Trigger Widget**
- ☒ Show Floating Button
 - ☐ Open Chat Widget
 - ☐ Show Floating Button Always, Trigger Chat Widget on Target Urls
 - ☐ Trigger Chat Widget Once, then show Floating Button
- Mobile Trigger**
- ☒ Show all the time
 - ☐ Show after _ seconds
 - ☐ When the user is in the middle of the page
 - ☐ When the user is in the bottom of the page
 - ☐ Exit of Page
 - ☐ Page Views - Show on _ or more pages viewed

In the questions section, select the question you want to be the default question. The default question will show after the introduction text, depending on your settings. To switch to another question, assign the new question as default by clicking the checkbox.

Ochatbot™ Name

Questions
Global Intents
Assistant
Lead Forms & Surveys
Ecommerce
Settings
Triggers
Targeting
Alerts
Reporting

Questions:
New Question

Ochatbot™ Preview:
Reset Question
Reset Ochatbot

Question Settings

Name:

Description:

☒ Is this the default Question for this Chatbot? (Will be shown when Chatbot initializes)

Question:

Buttons:

Button Text:

☐ Trigger Question
☒ Trigger Intent

Linked to Intent:

Button Text:

☐ Trigger Question
☒ Trigger Intent

Linked to Intent:

Encore Chatbot Assistant

How can I help you? Choose a topic below or type in your question.

Have you tried Ochatbot?

Step 8 - Build other questions and conversational logic and intents

Below the question section, you can add specific intents that are associated with that specific question. Once intents are built, you can drag them over from the list on the left and edit them specifically for that question.

Available Intents:

Filter Intents: Add Intent Filter

☒ Custom Intents ☒ Standard Intents

ask.what-to-bring	Custom
climb.how-to-climb.advanced	Custom
climb.ice	Custom
climb.learn-how-to-climb	Custom
climb.learn-how-to-climb.beginner	Custom
climb.learn-how-to-climb.intermediate	Custom
climb.rock	Custom
fallback	Standard
guide.hire	Custom
guide.learn	Custom
mountaineering	Custom
mountaineering.avalanche-training	Custom

User Intents in Default Question (Default Question):

climb.rock		
climb.learn-how-to-climb		
climb.ice		
ask.what-to-bring		
climb.learn-how-to-climb.beginner		
guide.hire		
guide.learn		
climb.learn-how-to-climb.intermediate		
mountaineering		
mountaineering.avalanche-training		
climb.how-to-climb.advanced		
fallback		

Step 9 - Build global intents

A global intent is an intent that listens all the time including inside an unrelated question or conversation. Global intents are prioritized after the current conversation intents.

Questions
Global Intents
Assistant
Lead Forms & Surveys
Ecommerce
Settings
Triggers
Targeting
Alerts
Reporting

Global Intents

These intents will be applied to all questions in your bot. Your chatbot will listen and respond to these intents whenever it hears them.

Intent Name	Ochatbot™ Listens For	Action	Attach Button?	Buttons
support.headphones.sale	headphones[sale] ?	☐ Branch to Question ☒ Reply Reply: All headphones are 20% off this weekend only.		

Create Intent

Available Intents:

Filter Intents:
Filter

☒ Custom Intents
☒ Standard Intents

abcd Custom
back.headphones Custom

Add Advanced Intent

Global Intents:

support.help.products.bulk-pricing	 
talk.economy-shipping	 
support.pricing	 

Step 10 – Call to Action for Lead Generation: Lead Forms and Surveys

Websites have a call to action and a chatbot is no different. You want to collect information about your visitor such as their name and email address. A lead generation form inside the chatbot casually asks your visitors for their contact information and allows them to enter their question. After the user has submitted their answers, the chatbot confirms that the information is received and a representative will respond.

Lead Form Questions

+ Add Question

Please select the pre-defined fields or create your own by selecting 'Custom Field'.

Question	Field Type	Buttons
Great! We can contact you. Please tell me your name.	Name	
What is the best number to reach you at?	Phone	
How about your email address?	Email	
Do you have any questions?	Comments	

Another way to gather user information is setting up a survey within the chatbot, which engages users in a conversational way without them knowing they are taking a survey.

Survey Questions + Add Question

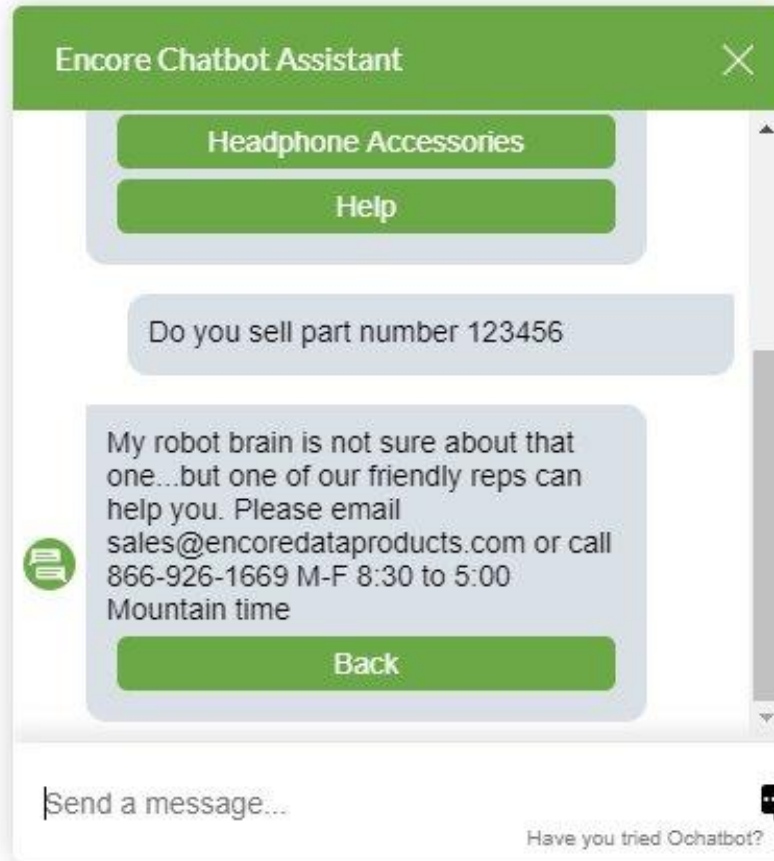
Please select the pre-defined fields or create your own by selecting 'Custom Field'

Question	Field Type	Buttons
Do you wake up in the morning alert?	Type Custom Field Validation No Validation	+ Button Text: Yes, alert Yes, alert Button Text: No, groggy No, groggy
Do you prefer coffee, tea or an energy drink in the morning?	Type Custom Field Validation No Validation	+ Button Text: Coffee Coffee Button Text: Tea Tea Button Text: Energy Drink Energy Drink

Step 11 - Hitting the rails

Hitting the rails means the chatbot does not understand the question and the reply goes to a “fallback” intent. Determine how you want to handle these types of errors. You can have text, another question or point them to live chat. Be creative in your response and make it fun.

Always test in real time as you add your questions and intents.



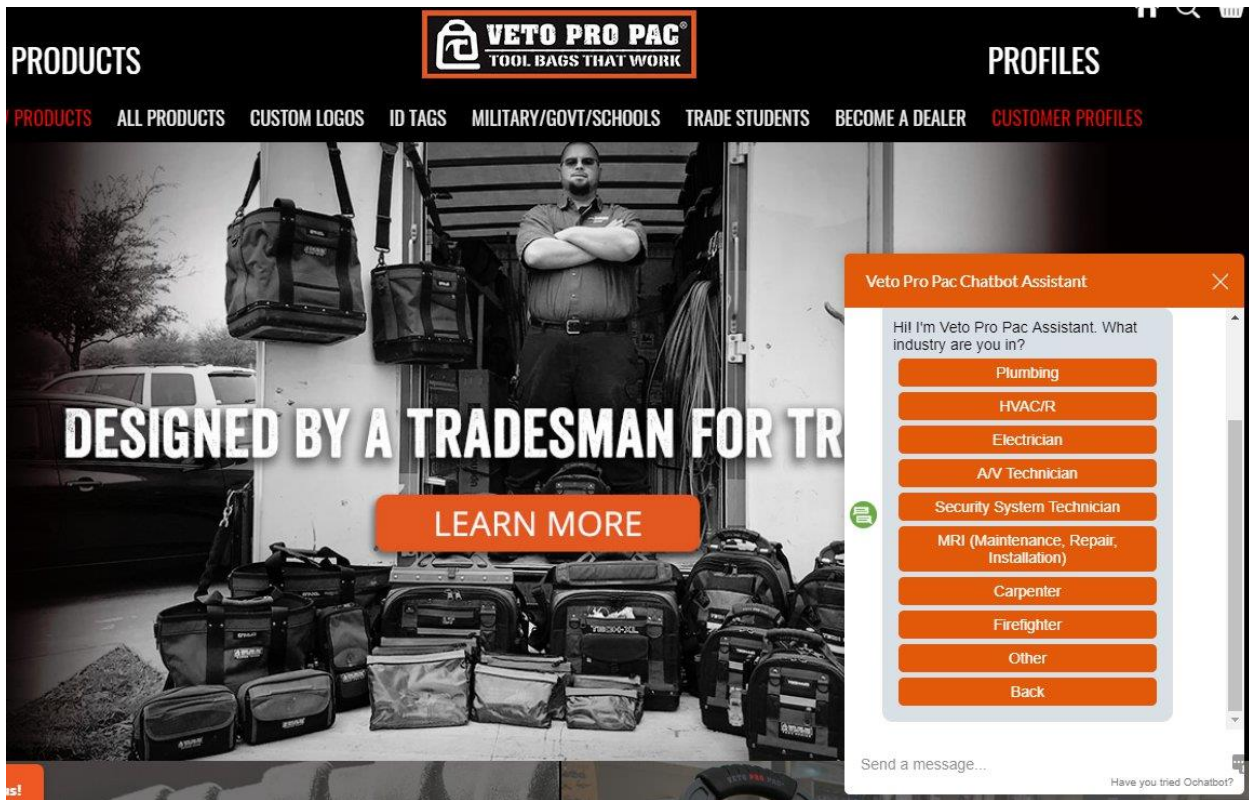
Case studies

Chatbots are the next paradigm shift on the internet. Downloadable apps are decreasing and have already been surpassed by chatbots on websites and social networks. As apps wane, chatbots are replacing how users search for and get information.

Here are a few case studies about how companies are using chatbots in unique ways on their websites.

Veto Pro Pac

Veto Pro Pac sell industrial-strength tool bags for contractors and tradespeople. Veto Pro Pac uses [Ochatbot](#) to help customers find a product and answer warranty questions. Ochatbot asks the user what type of industry they work in, and when the user clicks the industry button, Ochatbot shows the products that are relevant to tradespeople in that industry. Results have shown an average of 35% lift in sales revenue when using the chatbot and that more users purchase when engaging with the chatbot. This is because it drives the user directly to the product. Click [here](#) to see the live bot.



The screenshot shows the Veto Pro Pac website. The header includes the Veto Pro Pac logo and navigation links: PRODUCTS, ALL PRODUCTS, CUSTOM LOGOS, ID TAGS, MILITARY/GOVT/SCHOOLS, TRADE STUDENTS, BECOME A DEALER, and CUSTOMER PROFILES. The main banner features a tradesman standing in front of a truck with tool bags, with the text "DESIGNED BY A TRADESMAN FOR TR" and a "LEARN MORE" button. A chatbot window titled "Veto Pro Pac Chatbot Assistant" is open, asking "Hi! I'm Veto Pro Pac Assistant. What industry are you in?" and providing a list of professions: Plumbing, HVAC/R, Electrician, A/V Technician, Security System Technician, MRI (Maintenance, Repair, Installation), Carpenter, Firefighter, Other, and Back. The chatbot also has a "Send a message..." input field and a "Have you tried Ochatbot?" link.

H&M



H&M is a global fashion company that promotes sustainable materials and human labor. H&M created a chatbot to help mobile customers assemble outfits online by guiding them through the online store.

H&M's chatbot collects specific information and responds differently based on the information provided. The chatbot identifies your gender and style, suggests an outfit that matches your style, and provides the total price of the outfit. If you don't like the suggested outfit, the chatbot gives you different options, allows you to save the outfit, and gives you the opportunity to socially share the outfit.

H&M increased sales after implementing the chatbot. H&M is one of many retailers experimenting with chatbots and leveraging chatbot technology as a mobile marketing opportunity.

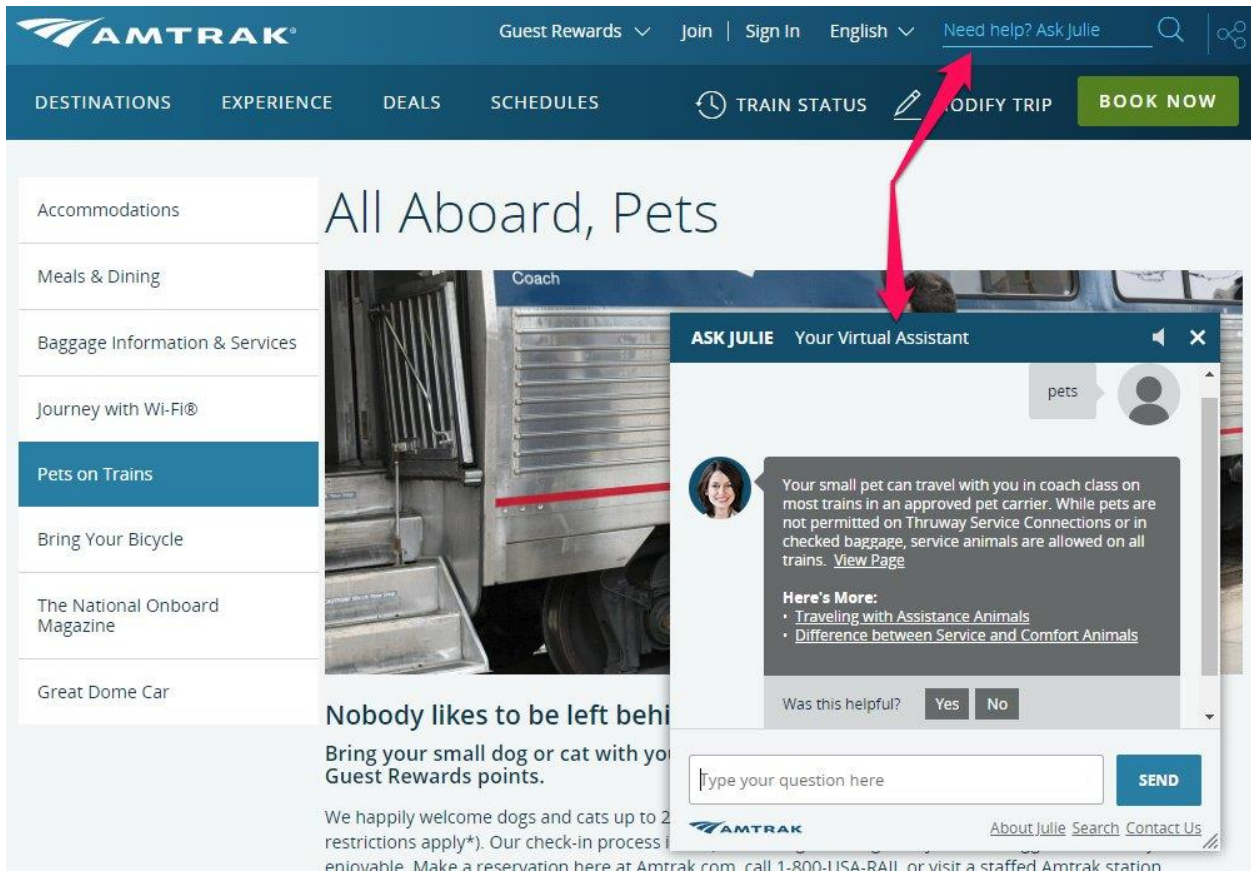
Captain Notepad

Captain Notepad sells customized notepads, magnets and sticky notepads for businesses and real estate agents. Captain Notepad uses [Ochatbot](#) to help customers find a product and answer questions about orders and shipping. A website user can enter “real estate” and Ochatbot shows all the products for the real estate market. Click [here](#) to see the live bot.



Amtrak





The screenshot shows the Amtrak website's 'All Aboard, Pets' page. The top navigation bar includes links for 'Guest Rewards', 'Join', 'Sign In', 'English', and 'Need help? Ask Julie'. A red arrow points from the 'Need help? Ask Julie' link to the 'ASK JULIE Your Virtual Assistant' chatbot window. The chatbot window displays a message about traveling with pets, a 'Was this helpful?' feedback prompt, and a text input field for questions. The background of the page features a train and a sidebar with links like 'Accommodations', 'Meals & Dining', and 'Pets on Trains'.

Amtrak provides passenger rail service for people in the lower 48 states in the US. Amtrak created a chatbot named Julie that guides users through the website using natural language capabilities. Julie can respond via text, and Julie can also vocalize an answer along with the text. Julie helps customers find information on reservations, station and route information, as well as information about the rewards program.

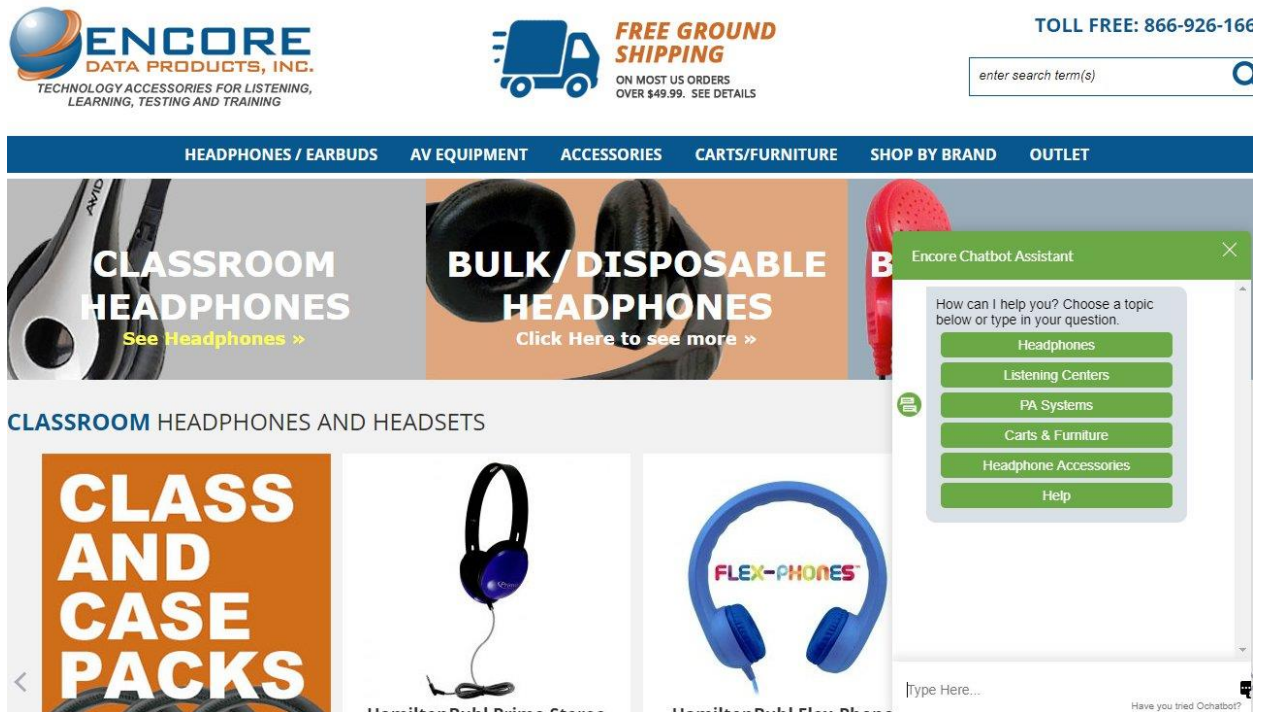
Since the implementation of Julie, Amtrak has increased bookings by 25%, saved \$1 million in customer service email costs, saw a 50% growth in user engagement, and increased the per booking revenue by 30%.

The Julie chatbot is an upgraded version of Julie the telephone agent. Amtrak didn't get rid of Julie the phone rep, but rather expanded Julie's presence by adding responsive chatbot technology to Julie's functionality.

The Amtrak website has an average of 375,000 visitors per day, and the rail service transports 30 million passengers per year. Amtrak wanted a solution to provide customers with quick access to online self-service. Julie answers 5 million questions per year, and Julie has an upsell feature where a customer can book a hotel room along with round-trip train tickets.

Encore Data Products

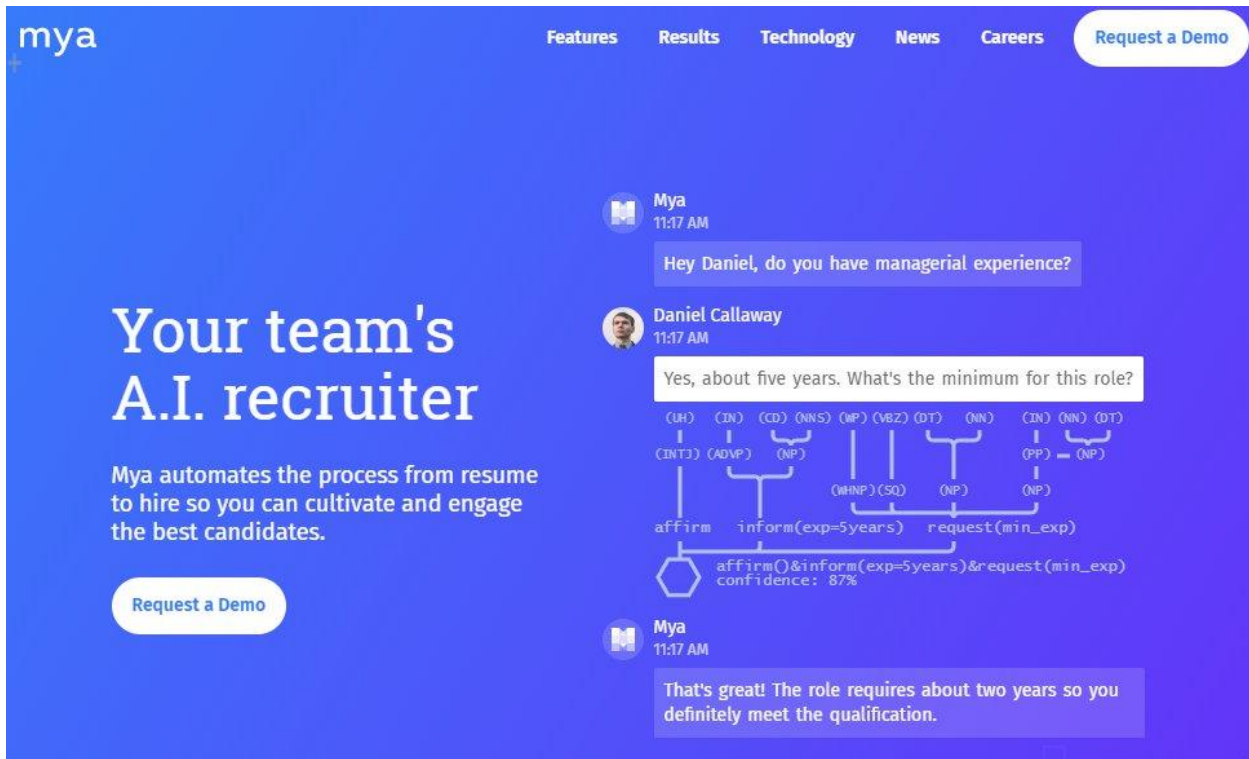
Encore Data Products provides headphones and accessories for the education, hospitality, healthcare and tourism markets. Encore Data Products has [Ochatbot](#) on their website to help customers locate the right product for their needs. A customer can enter a type of headphone or search by wired or wireless, and Ochatbot provides the information to answer the query. Encore drives users to category pages and has a 15% lift in revenue when users use the chatbot. Click [here](#) to see the live bot.



The screenshot shows the Encore Data Products website. At the top, there is a navigation bar with links: HEADPHONES / EARBUDS, AV EQUIPMENT, ACCESSORIES, CARTS/FURNITURE, SHOP BY BRAND, and OUTLET. Below the navigation bar, there are three main promotional banners: "CLASSROOM HEADPHONES" with a "See Headphones »" link, "BULK/DISPOSABLE HEADPHONES" with a "Click Here to see more »" link, and a partially visible "B" banner. Below these banners, there is a section titled "CLASSROOM HEADPHONES AND HEADSETS" featuring "CLASS AND CASE PACKS" and two product images: "HamiltonBuhl Prime Stereo" and "HamiltonBuhl Flex Phone". On the right side of the page, there is a chatbot interface titled "Encore Chatbot Assistant" with a list of topics: Headphones, Listening Centers, PA Systems, Carts & Furniture, Headphone Accessories, and Help. The chatbot also has a search bar and a "Type Here..." input field.

Mya





FirstJob is an online recruiting company that matches recent college graduates with entry-level positions and internships by utilizing their social networks. FirstJob created a chatbot named Mya, an AI recruiting assistant that manages a candidate database where recruiters and hiring managers can easily find job candidates.

Mya talks to thousands of candidates simultaneously via Facebook, Skype, SMS, and email. Mya asks pre-screening questions, responds to FAQ's, provides application status updates, gives guidance and tips to candidates, alerts candidates when positions are filled, and sends assessments and challenges to each candidate.

Mya can rank each candidate from most to least qualified based on factors such as experience, recent job activity, and social engagement, and this information is provided to recruiters. Mya automates about 75% of the qualifying, screening and engagement process. The recruiter efficiency rate is increased by 38%, and the candidate engagement rate is increased by 150%.

Utilizing a chatbot that helps both job seekers and employers find each other is a new and interesting application for AI technology.

Expensify



Expensify is a software company that automates expense reports and travel arrangements for businesses in all industries. Expensify created a chatbot called Concierge that guides users through the initial set-up process, and helps users troubleshoot problems in the expense report submission process. Concierge can detect what problem is causing the system to reject an expense report, and instructs the user how to fix it.

Concierge has access to travel pricing in real time, and it can notify users if their travel pricing is the best value. Concierge can talk to users on the Expensify website, interact with users on mobile devices, and is compatible with Slack (a team collaboration tool).

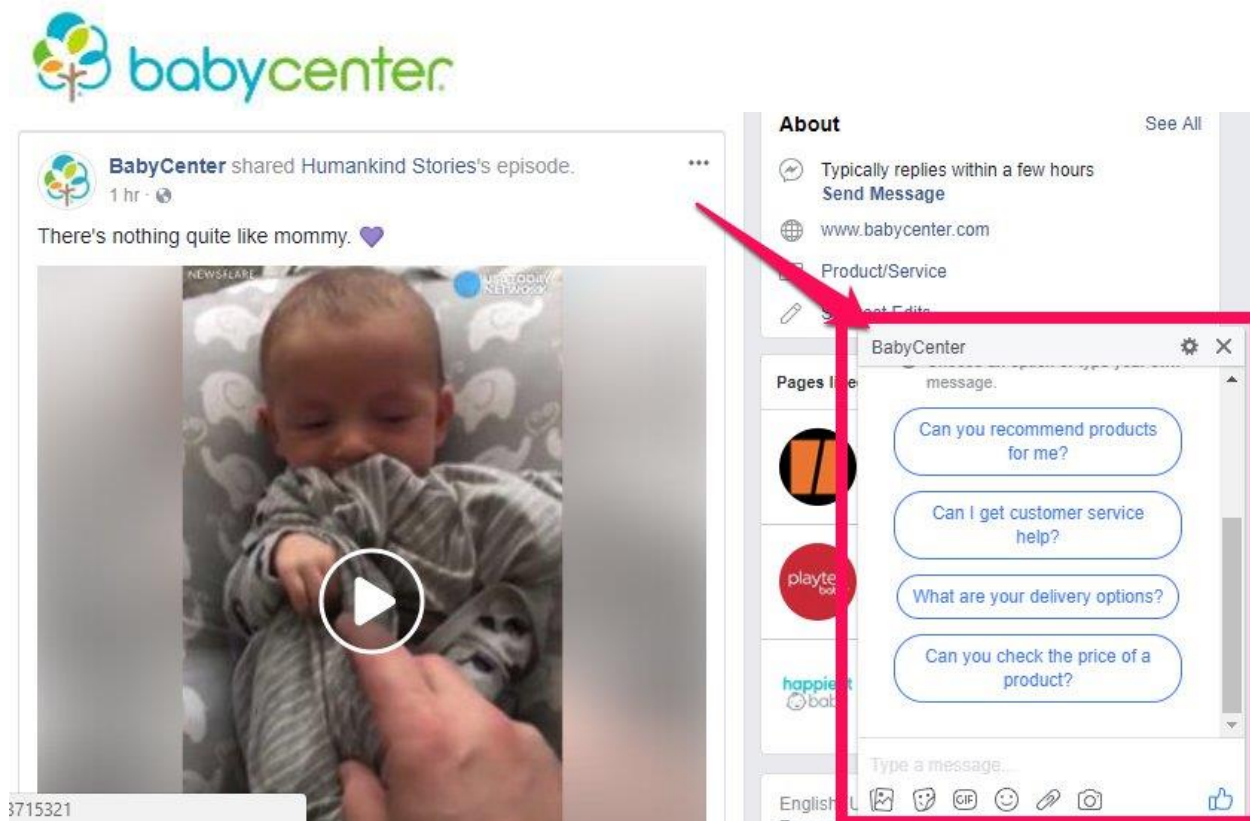
Concierge has helped to reduce banking problems by 75%. One of the biggest advantages to the Concierge chatbot is that it's a preventative tool. When an Expensify user is trying to submit an expense report and they get a system error, Concierge can help diagnose the problem and find the solution. It saves a lot of time for managers and employees to submit their expense reports with the least amount of trouble.

Evergreen Chamber of Commerce

The Evergreen Chamber of Commerce uses [Ochatbot](#) to provide information about local events, activities and businesses in the town of Evergreen Colorado. Users can enter the type of product or service they are looking for and Ochatbot returns a list of local businesses that meet their requirements. For example, users may enter "plumber" and Ochatbot provides a list of local plumbers. Click [here](#) to see the live bot.



Babycenter



BabyCenter is a pregnancy and parenting digital destination. Not only do they provide information and advice, but they also sell baby products and gear. BabyCenter created a Facebook Messenger chatbot to drive traffic to their website because they discovered that Facebook messages were opened more often than emails.

The two goals of implementing a Facebook Messenger chatbot were to drive traffic to the website and to create an alternative content delivery system. BabyCenter also wanted to increase the level of engagement with their website users. The chatbot achieved all of these goals. An average of 84% of users read the Facebook message, and 53% of those who opened the message also clicked through to the BabyCenter website. It is estimated that Facebook Messenger chatbots have a 1400% higher engagement rate than email.

My Karate Store

My Karate Store sells uniforms, sparring gear and weapons for the martial arts industry. **Ochatbot** is used on their website for help customers find a particular product for a specific

martial art practice. A user can enter “uniform” and Ochatbot provides a link to the website with all the uniforms. Click [here](#) to see the live bot.



Contact us for more case study information and sources.

Best use practices

Think like a user – When you start your project, step back and think like a user coming to your site or calling to ask questions. Get everyone involved from the receptionist, sales, marketing, engineering, support etc. It is important that you answer as many questions up front before you start developing the bot. This will save time with future changes, and it makes a good first impression of the bot to users.

Testing – Test the bot internally and then test it with trusted customers before launching. This is the best way to capture all the variations in a conversation and the nuances of a product or service, as well as customer support.

Human in the loop – Monitoring and improving the intelligence of the bot is extremely important, especially when you launch it.

Start small then build – Humans are complex, and mimicking a human is complex too. Start with the basic and most common support issues and lead / sales questions, and then build over time.

Guard rails – When a user asks a question that stumps the chatbot or is beyond the scope of the chatbot, make sure the chatbot can elegantly transition the conversation to a live chat,

form, or phone call. The user experience is paramount. Don't put the user in a loop of "I don't understand your question."

Secrecy – Don't hide the fact that it is a bot not a human. Studies show some users open up more to bots than to humans.

Use humor – When things start going sideways, people are less likely to get upset if the bot does not have an ego and uses humor to diffuse an issue, misunderstanding or mistake.

Glossary of Chatbot and Artificial Intelligence terms

Agent – An agent is a set of intents around one topic.

Algorithm – An algorithm is a specific set of mathematical steps or operational commands that are used to solve a problem. Algorithms are critical to AI because they analyze and transform data. Each analytical task requires a unique algorithm.

Application programming interface (API) – A set of definitions, protocols and tools to build application software.

Artificial intelligence (AI) – AI is the creation of computer systems that can perform tasks that require human intelligence, such as speech recognition, understanding and translating language, and decision making. AI includes computer science, neuroscience, psychology and linguistics, which are all needed by a machine to duplicate a typical human response.

Bots (see Chatbots) – A short name for computer programs that interact intelligently with humans and the internet.

Broadcast – A message that is proactively sent to users, similar to a push message in a mobile app.

Channel – The medium for chatbot conversations. Channels include Your Website, Messenger, Slack, Skype, SMS, email and web chat windows.

Chat Logs – chat data of human bot conversions.

Chatbot – A chatbot is an intelligent computer program that interfaces among humans, computer systems, and the internet. The word is a contraction of chat and robot.

Cloud or cloud computing – Internet-connected computers that share computer processing resources and data with other computers on demand.

Context – Contextual data is information from the chatbot related to specific conversations and can have a relative importance.

Conversational UI – A user interface based on human speech or language.

Conversations – This is a decision tree or logic diagram of a scripted conversation. These conversations can be linear or they have branching logic with multiple answers to questions.

Deep Learning – Algorithms used in machine learning and artificial intelligence to gain insights.

Entity - An *entity* modifies an intent. For example, if a user types “show me yesterday’s financial news”, the entities are “yesterday” and “financial”. Entities are given a name, such as “dateTime” and “newsType”. Entities are sometimes referred to as *slots*.

Framework – A structure that provides building blocks and functionality to build a chatbot that also requires programming.

Human in the Loop – Chatbots learn by collecting and monitoring data from conversations. The AI system applies what it learns from each conversation. Human in the Loop is when a human has to monitor some of the AI responses to make sure the appropriate response is given.

Intent – An intent is the user’s intention to gather a specific piece of information, such as the daily weather forecast. The intent is usually a noun-verb word combination that tells the chatbot what the human wants it to do. For example, find an ATM, book an appointment, or order food.

Interaction – A verbal or written communication between a chatbot and a human.

Interface – A shared boundary where two or more parts of a computer system exchange information.

Machine Learning (ML) – Machine learning is the process where a computer learns from experience rather than from programming. The machine learns by gathering data and it can find insights from that data without being explicitly programmed.

Multiple intents – When a user makes a complex request to the chatbot and the chatbot has to process and prioritize two or more intents simultaneously.

Natural language processing (NLP) – Natural language processing is teaching a computer to understand language and the intent behind the language. NLP is based on artificial intelligence, computer science, and computer linguistics.

Natural language processing Engineer – a person that specializes in NLP, AI, ML and chatbots

Neural network – A computer system that is modeled after the human brain and nervous system.

Ochatbot™ – a chatbot building system by Ometrics®

Pilot – The development stage of a chatbot where it is deployed to small group of testers.

Rails, Guard Rails – When a user asks a question that stumps the chatbot or is beyond the scope of the chatbot, the conversation must be redirected to a human. This redirection is called a Rail or a Guard Rail.

Response – Any reply from a chatbot based on user input.

Structured data – Highly organized information that is searchable when put in a database.

Unstructured data – Information that does not fit a pre-defined data model or structure and lacks overall consistency.

User experience (UX) – The overall experience of a human using a product such as a website or mobile app. User experience is determined by how easy or enjoyable something is to use.

Utterance - Anything the user says. For example, if a user types “show me yesterday’s financial news”, the entire sentence is the utterance.

Virtual agent – A chatbot used for customer service interactions with humans.

About the Author



Greg Ahern is a fanatic about conversion rate optimization and lead generation and chatbots. Greg has been a successful Internet entrepreneur since 1994. He has launched a number of companies including PromoteWare™ a web marketing and development company and QuoteCatcher® a business to business leads company which were both successfully acquired. Before the internet Greg was an Electrical Engineer and has a BSEE from Northeastern University. When unplugged Greg enjoys mountain sports (climbing, biking, MUNI, skiing), creating art and playing guitar. You can follow Greg on Twitter @gregahern and LinkedIn.

About Ometrics®

Ometrics offers lead generation systems, chatbots and conversion rate optimization tools and consulting. The Ometrics easy to use tools are in one script. They increase leads, sales, customer support and engagement, and improve your site’s performance. Tools include chatbots and chatbot services, unobtrusive lead pop-ups, offer sliders, lead sliders, surveys, feedback tabs, A/B testing services, heat maps, click metrics, and sales conversion funnel metrics. To learn more ask for a free conversion analysis or how a chatbot can help your business. Contact us at www.ometrics.com and follow us on Twitter at [@ometrics](https://twitter.com/ometrics) and Instagram @Ometricsllc.