

## Chatbots: Changing the Nature of Human Interactions with Machines

*Chatbots have established their place in the home and our personal lives; now watch what they can do in enterprise applications over the next few years.*

Humans spend nearly 11 hours per day looking at a screen, according to a Nielsen audience report. During that time, we interact with our computers or mobile devices primarily through typing or scrolling, researching information online, conversing with peers via email, and more. It's typically a one-way dialogue. But today, if we need an answer to a question or assistance with solving a problem, we can engage a chatbots, also called a virtual assistant, in order to have a two-way dialogue with our machine.

Chatbots allow humans to interact with their machines. I built my first chatbot in the 90's. Think back to the days of AOL Instant Messenger. If you asked SmarterChild a question about the weather or score of a basketball game, within seconds, the chatbot would spit back a response. Since then, companies across a multitude of industries have utilized the technology to improve customer service and the consumer experience.

One example of a modern-day chatbot is Amtrak's virtual assistant, Julie. Julie operates in a single pop-up box so that you can navigate the Amtrak site and simultaneously ask her questions related to your travel. The chatbot can also assist with booking and cancelling reservations. Further, travel booking site On the Beach has Alison, a chatbot that can answer hundreds of common user questions about booking hotels and flights.

But chatbots are not limited to travel and hospitality. Take a look at the banking industry. Although it's a highly regulated sector, chatbots provide an easy and secure way for customers to quickly obtain desired information. For example, Capital One's Eno chatbot helps customers manage their money using their smartphone. They can ask Eno questions about their account balance, recent transactions, payment history, and credit limit via text message. It can even help them pay their credit card bill.

And, chatbots' influence isn't expected to decrease any time soon. The U.S. market size is set to grow from \$703 million in 2016 to more than \$3 billion by 2021. Why? One could attribute it to the fact that the technology has become more and more common among mainstream brands in the past few years. But there's another important consideration.

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It has to do with advancements in other technologies, from artificial intelligence (AI) to machine learning, voice and visual recognition, and more. As chatbots converge with these technologies, the nature of the interactions they are able to have with humans is fundamentally changing. It is no longer just typing – it's talking. It's physical movements. As such, our interactions with chatbots are more closely mimicking our interactions with other humans.

A prominent example would be Apple's Siri. In the latest iOS release, Apple used its AI technology to improve the voice of the digital assistant. Siri is more expressive and sounds more human-like. Its new facial recognition technology could eventually allow Siri to understand physical human cues so that it can react and respond in an appropriate manner. These advances would allow the tool to become more effective and more responsive to the desires of the user.

Smart homes are another interesting case. For several years, we've been able to download apps that schedule lights to be turned on at sundown or alarms to be set when we leave in the morning. But today, through speech recognition tools and virtual assistants like Amazon's Alexa, we can simply tell our appliances to do things. Any "smart" device – a television, a thermostat, a sound system – can be controlled via voice and instructed to turn on, turn off, and more.

Clearly, chatbots and virtual assistants are quickly becoming an integral part of our everyday life – at work and at home. As we look out over the next five years, our interactions with Chatbots are expected to increase significantly. In fact, according to Gartner, chatbots will power 85% of all customer service interactions by the year 2020 and the average person will have more conversations with bots than their spouse. Likewise, 30% of web browsing will be done by voice.

As such, the implications for businesses and consumers alike are significant. Chatbots are evolving into the ultimate self-servicing way of invoking applications, allowing people to interact with technology in a much more human way, which could largely impact the way brands service their customers and customers engage with brands. By integrating AI and other technologies with chatbots, those chatbots are experiencing breakthroughs that, I believe, eventually will allow them to better understand humans, including not only their immediate wants, but also their current and future emotions, preferences and tendencies. They can become an effective way for humans to interact with their machines to solve problems. And that's pretty powerful.



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