Speeding up customer engagement

Through an AI-driven conversational business platform

Technical White Paper by hi.guru™

Abstract

Quickly and efficiently engaging with, and managing the queries of customers is the bedrock of excellent customer service. Without which, valuable time is lost by business users, and customer satisfaction is less likely to be achieved. Customers want to feel valued, and this is attained through human-like customized interactions that provide specific solutions to their problems, rather than automated replies. The use of cognitive technology can give customers this experience in a fraction of the time. Through an AI-driven conversational business platform, with real-time interaction, cross-channel capability, integrated smart conversations, as well as easy deployment and maintenance, the speed and quality of customer engagement is increased exponentially. The experience is enhanced through a business platform, which consolidates these conversations and augments the total customer experience.

Introduction

Speed is a leading indicator of success. The faster you and your business can progress, the faster it will be able to succeed. Customers value speed too. Today, 55% of consumers are interested in interacting with a business using messaging apps to solve a problem (Williams, 2018), with 73% of consumers placing "valuing their time" as the most important aspect of great customer service (Artificial Solutions, 2017). The ability to interact via instant messaging, however, is not saving the time it promises to – 82% of business owners, marketers, and salespeople lose up to an hour a day logging into and managing different systems (An, 2017).

"When responsiveness meets discoverability, users get the best of conversation and the internet together," Derry Finkeldey, research director at Gartner.

This leads us to the question of whether bot interaction is the solution? Many customers already use or are ready to use bots for customer engagement. HubSpot Research found that 47% of consumers are open to buying items using a chatbot, while 57% of consumers are interested in getting real-time answers from chatbots on a company website (Williams, 2018).
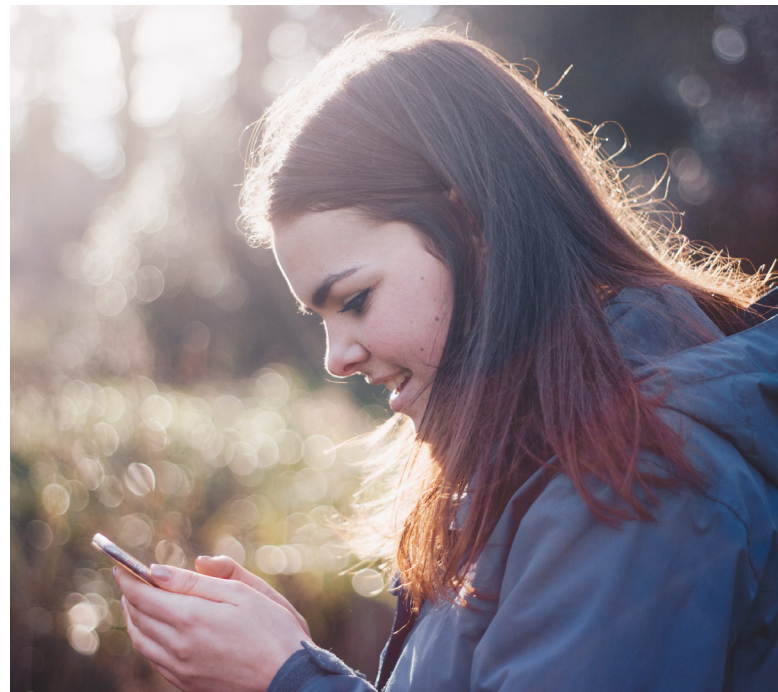
"While increasingly being used by businesses for customer service, chatbot technology is still in its rough, early stages", Forrester vice president, Julie Ask, said. The technology will need human help to get through its growing pains and into a breakout year (Krauth, 2018). Experienced practitioners know that defining "best answers" is a dynamic process and that customer care agents and other subject matter experts remain vital resources for defining the 'when', 'where' and 'how' of how an Intelligent Assistant should respond (Miller, 2018).

Many customers are not really interested in whether it is a human or a bot they are engaging with. What they do want is better engagement

on a one-to-one basis. Businesses must focus on the experience, rather than the technology, when connecting with customers - help them wherever they are, whenever they need help, and put them in contact with the best person to help them (iAdvize, 2016). This makes having an omnichannel presence an imperative.

Engaging customer experience relies on using channels that consumers enjoy using – and are already spending significant time using — such as messaging, chat or other natural-language interfaces, ideally powered by artificial intelligence, to communicate. Bot interactions may provide speed, but on their own, they aren't enough. When e-commerce offers a conversational experience, it converts up to 20% of visitors. A more human-like experience produces tangible economic results (iAdvize, 2016).

The challenge is to marry the predisposition to send messages, the benefits of AI tools as well as the need for personalization into one solution.

A conversational platform provides the foundation to bring together disparate sources of incoming customer messages and serves as an interface that enables brands to interact in real time with customers. These personalized interactions can take place in social media, mobile apps and e-commerce websites. But, the differentiator is that the business platform consolidates these conversations and augments the total customer experience. Artificial intelligence capability further adds to the efficiency and customer experience of businesses using conversational platforms. The objective of a conversational e-commerce platform is building customer relationships and loyalty, by enabling a business to serve as a trusted companion throughout the customer journey.

Key features of business conversational platforms

What constitutes a best-in-class conversational e-commerce platform? Which features and functionalities should the platform deliver on customer expectations and what potential should this technology offer? The following are key features to be considered, regardless of application.

REAL-TIME INTERACTION

Conversations need to be instant conversations in an always-on, always-present environment. Customers need to have the same experience, regardless of the time of day. The ability to extend the conversation interface to a mobile application ensures that even smaller businesses, with limited customer-facing resources, have real-time customer engagement ability. The solution should be very amenable to horizontal scaling to handle an influx of customer conversations.

CROSS-CHANNEL CAPABILITY

Whether it's Facebook, Twitter, text, or WebChat, all channels should be available to customers to engage with the brand. It is essential that all communication channels are consolidated to give a single view of the customer.

INTEGRATED CONVERSATIONS

The ability to escalate customer conversations with and to the right people in the organization will ensure a seamless experience for the customer. The platform also needs to be able to run parallel to existing systems or be fully integrated within an existing CRM, HR, or related system. Not every customer conversation is about getting help or support. For example, it could be sales-oriented, or related to getting account information. Direct access to such structures is necessary for a unified customer experience.

SMART CONVERSATIONS, DRIVEN BY AI

Conversations need to be guided by AI and machine learning. Using cognitive technology for business conversations has many benefits e.g. reducing waiting times through chatbot responses, accurate product pairing suggestions, or through serving as a feedback loop to fine-tune customer interactions. AI optimizes the customer's experience by drawing on legacy information and resolutions, enabling the conversation to be faster and more successful. Responses should not always be automated, but should also be vetted by platform users. The platform should anticipate varied and complex communications from customers and should respond accordingly.

A hybrid approach that combines the best of linguistic and machine-learning models allows enterprises to quickly build AI applications, whatever their starting point – with or without data – and then use real-life inputs to optimize the application from day one. In addition, it ensures that the system maintains consistent behavior, aligned with business aims.

EASY DEPLOYMENT AND MAINTENANCE

A system that is easy to set up, maintain, and support is critical to getting it off the ground quickly and allowing businesses to reap the benefits of the solution as quickly as possible. Easy, distance-enabled maintenance will ensure uninterrupted service delivery takes place according to the standards required.

COMPLETE DATA SECURITY

It is critical for a conversational platform to meet stringent security conditions relevant to legal requirements, and across multiple geographies. While most enterprises have no issue with a standard cloud deployment, the cloud isn't always an option when complying with industry regulations or ensuring security policies are met. If this applies to your business, you will need to ensure that an on-premises option is available.

hi.guru™ platform components

The hi.guru™ platform has been developed to deliver on all the critical requirements of a sophisticated conversational business platform. The different elements of the hi.guru™ platform are:

CREATING INTELLIGENT CONVERSATIONS: Behind the scenes
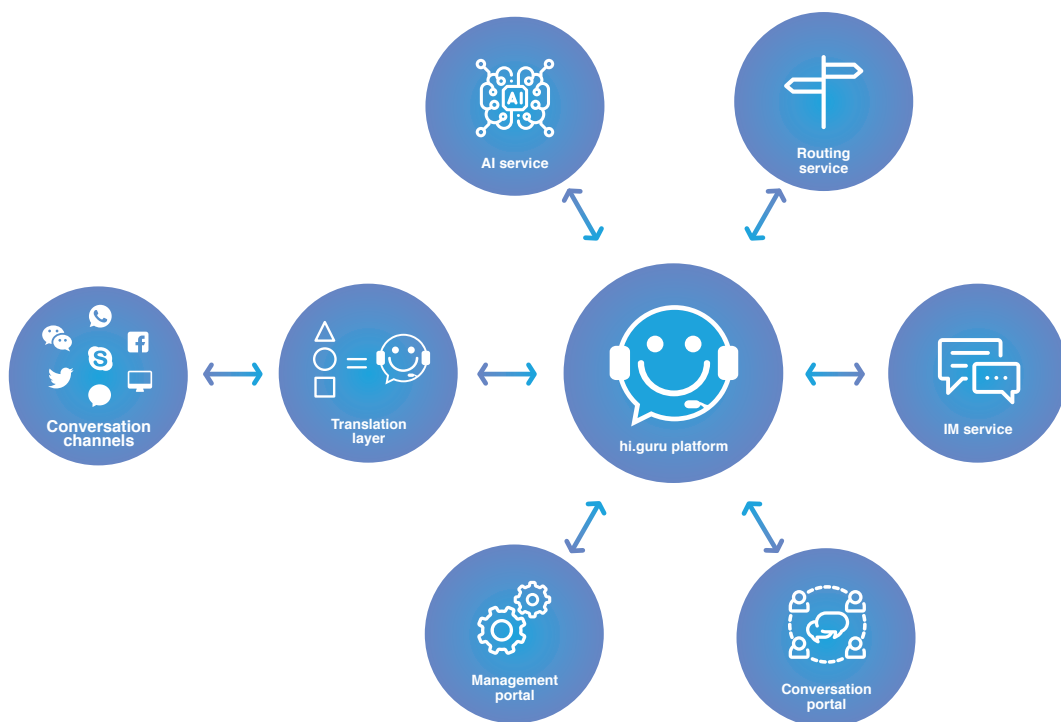
TRANSLATION LAYER

The hi.guru™ Translator micro service provides easy and fast integration with popular IM platforms, such as Facebook Messenger, WeChat, Twitter, our mobile app, and web app. The platform-specific data then gets transformed into a generic model, allowing communication with our hi.guru™ services over an industry standard protocol (XMPP). The Translator software is developed using the functional language, Elixir, which uses the Phoenix framework. The Elixir language was designed for building scalable, low-latency, distributed, and fault-tolerant systems, while still being maintainable.

API

The backend of the hi.guru™ platform is a restful API, developed in Ruby on Rails – it manages and stores all of the data such as consumers, users, companies, and company units – that serves as an interface between the various internal micro-services. This RAD tool enables new development at high speeds. A relational database supports high levels of data integrity.

The IM engine manages the XMPP authentication for all of the interfaces, such as the Translator and the Rails API. It also stores the XMPP credentials, which can be linked to users. When a consumer joins the platform, it creates the groups and manages the invite process.

ROUTING SERVICE

The routing service uses a set of predefined configurable algorithms to determine which users should be matched to which consumers. It uses Elixir's multithreaded capabilities for improved speed. The service is a continuous observer between the consumers, users, and matched conversations. The algorithm will use all of this information in order to make the optimal decision to meet customers' needs.

AI AND BOT SERVICE

The bot service uses both internal and external interfaces to assist customers by utilizing different AI and NLP platforms, such as IBM Watson and Google's Dialog flow. Customers can decide which of these services they want to use and will be able to configure every step in the process. The service will help handle mundane processes like basic sets of questions for a questionnaire. Users of the system will be given recommendations from the various interfaces to assist in giving the end user the best answer possible.

PORTALS

The management portal is the gateway to manage users, teams, social media integrations, documents, bots, and various settings related to customizing the way hi.guru™ is used. It implements a role-based user-management system that separates access to company units based on assignment by privileged user accounts, which allows for sophisticated managerial and consumer-facing teams to be set up. The portal introduces a social-collaboration aspect between managers and agents with a chat interface, connected to the conversational portal specifically for inter-company conversations.

The conversational portal connects agents and consumers through an interface that is designed to help agents manage their conversations optimally. Agent and consumer can converse with rich media to get intent across; an inbox-management algorithm guides agents to the next conversation. Media, documents, FAQs, and bots, which are set up on the management portal, are easily accessible and ready to be used to resolve consumer queries. Both portals are developed in Angular. However, the conversational portal implements Redux Architecture to handle the complexity of chat-related applications.

APPLICATIONS

Native iOS and Android mobile applications, developed in Kotlin (Android) and Swift (iOS), will allow users to engage with the platform through their smartphone devices. iOS and Android SDKs will allow businesses to enhance their existing mobile offerings by adding the power of hi.guru™ to their mobile applications. These applications will allow users to run their whole business from their phone through the linking of all social channels, managing of files, and the setting up of their account.

The web application is developed in React. React is a JavaScript framework, created and maintained by

the Facebook development team. React implements a component-based immutable state; immutable state management is industry standard for chat applications. The web app compiles data into a small, bundled JavaScript file, which can be embedded into a client's website using the embed code, which is emailed to the user when the web chat option is activated from the management portal.

SECURITY

hi.guru™ employs standard industry-best practices to secure user data. User passwords are hashed and salted to ensure password safekeeping. The internal services are protected behind a firewall, as well as a proxy server. All external connections are required to make use of SSL to ensure transport layer security.

Conclusion

In our fast-paced modern world, speed and efficiency when dealing with customer engagement are imperative. Being able to quickly and efficiently deal with customer queries is not only beneficial to the customer but to the smooth running and productivity of all businesses, as well.

Although chatbot technology is still in its infancy, it is definitely the way forward to achieve streamlined, speedy customer engagement. With the help of our highly customizable AI-driven conversational platform with industry-leading components such as real-time interaction, cross-channel capability, integrated smart conversations, as well as easy deployment and maintenance, customers will experience a dramatic augmentation of their experience, and your business goals will be achieved faster.
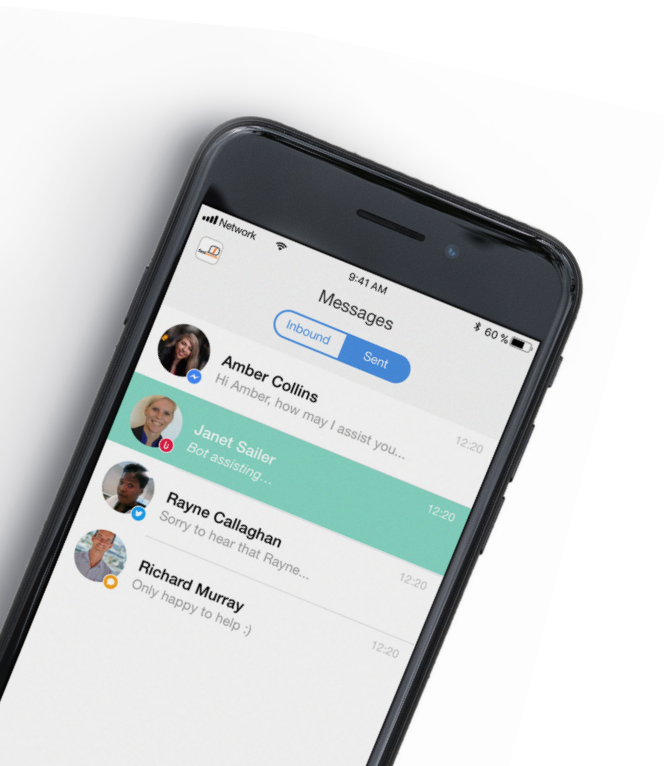
About hi.guru™

hi.guru™'s intelligent technology integrates conversations from various communication channels into a web application, allowing business users to interact with customers in an efficient and streamlined manner. hi.guru™ uses smart agents and avatars to deliver mass consumer personalization at scale. Its broad customizability ensures that processes can be handled by a bot, a person, an algorithm, or by all three. hi.guru™ enables sharing of rich media to augment the discussion and enhance understanding.

The hi.guru™ platform is highly flexible allowing integration into multiple channels and back-office systems. The unique technology-agnostic platform allows full configurability and adaptability. hi.guru™ AI applications form a natural extension to the data-rich platform to better predict and respond to customers' needs.

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