Royal Cyber Technical White Paper

May 07, 2018

Chatbot

Digital Customer Service Strategy

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Executive Summary

This white paper is an introduction to Chatbot. The paper discusses the importance of Chatbot, challenges, possibilities, benefits and finally about Royal Cyber Chatbot solution.

Chatbots are moving mainstream. This technology helps humans converse with computers in their native language via a computer interface. It is attaining popularity in a variety of scenarios, especially customer service. The emergence of messaging apps, the eruption of the app ecosystem, progress in artificial intelligence (AI) and cognitive technologies, a fascination with conversational user interfaces and a more extensive reach of automation are all driving the Chatbot trend. These factors are propelling the current interest in Chatbots.

The intended audience for this paper are organizations which are interested in using Chatbot as their digital customer service strategy.

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1. What is a Chatbot?

A Chatbot is computer program you can talk to, through messaging apps, chat windows or increasingly by voice. It acts as a virtual assistant to carry out conversations with people and enables the users to speak directly with businesses. Pattern matching or machine learning algorithms power the conversational approach of Chatbot.

2. Importance of Chatbot

A Chatbot cannot handle all customer queries. However, it can be used to manage many of the routine questions that typically make up most service requests. Chatbots make it simple and fast for customers reach you using the same messaging services they use daily. Digital services are becoming more sophisticated and contextually-aware, making them able to anticipate and respond to individual needs.

"According to Gartner Research, by 2020, 85% of customer interactions will be managed without a human"
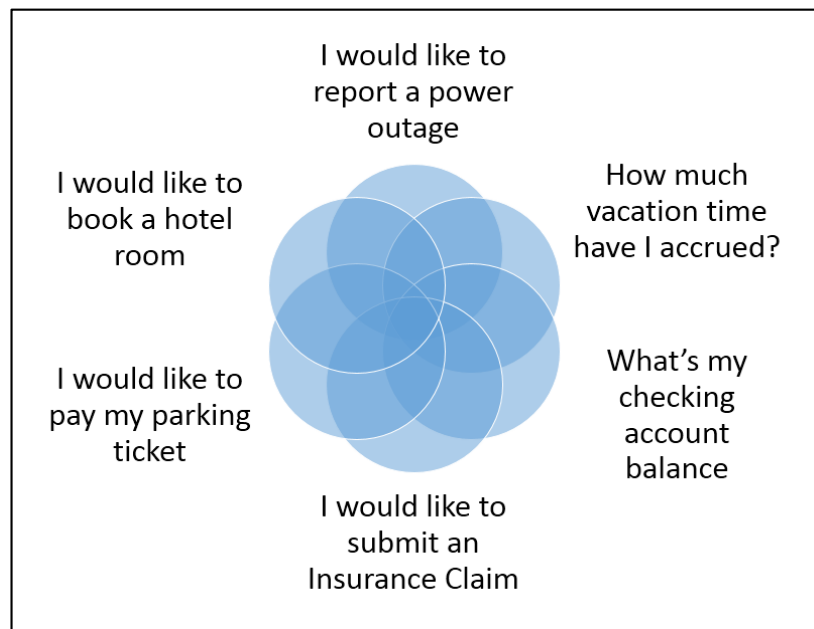
- **Powered by AI** – Chatbots make use of high level artificial intelligence using Watson, Lex, LUIS, Open Source ML, DL, NLP, Analytics, Big data
- **Messaging Platforms** – It can be connected with popular social platforms like Facebook, Slack, Google, Twitter, Skype
- **Analytics & Reporting** – Track chat engagement & provide personalized support
- **Website/Mobile App** – It can be Integrated with existing Omni channels
- **Seamless Integration** – Chatbots enhance experiences in e-commerce (WCS, Hybris) or any other Enterprise Software/ Applications such as in Shopping, Banking, Healthcare, Travel etc.

3. Challenges

Despite the considerable interest, the current hype around Chatbot will vanish over time without a solid business rationale and better near-term results.

- Chatbots' future viability depends on empowering more natural and human-like conversations with users. This is a huge goal, given that AI is not yet able to deliver on the promise of **natural language processing (NLP).**

- Another issue is that, over time, Chatbot newness will wear off. When that occurs, users' main concern will be how well the bot can get things done. For instance, **Tencent's WeChat** has initiated the usage of a messaging platform to order, purchase and pay for products and services. The prime reason WeChat is popular in Asia, especially in China, is that it provides almost every service into the messenger without the need to leave the WeChat app. It accomplishes all of this without an army of Chatbots.

- Chatbots can be very handy for problems that are clear, easy to articulate and straightforward to solve. Issues that are complex and difficult to explain to a human at the other end of a phone are even harder to explain to a machine over chat. The Chatbots today are mostly programmed to request users to repeat their question or simply try again. Being repeatedly asked to rephrase can result in user frustration.

4. Possibilities with Chatbots

I would like to report a power outage

I would like to book a hotel room

How much vacation time have I accrued?

What's my checking account balance

I would like to pay my parking ticket

I would like to submit an Insurance Claim
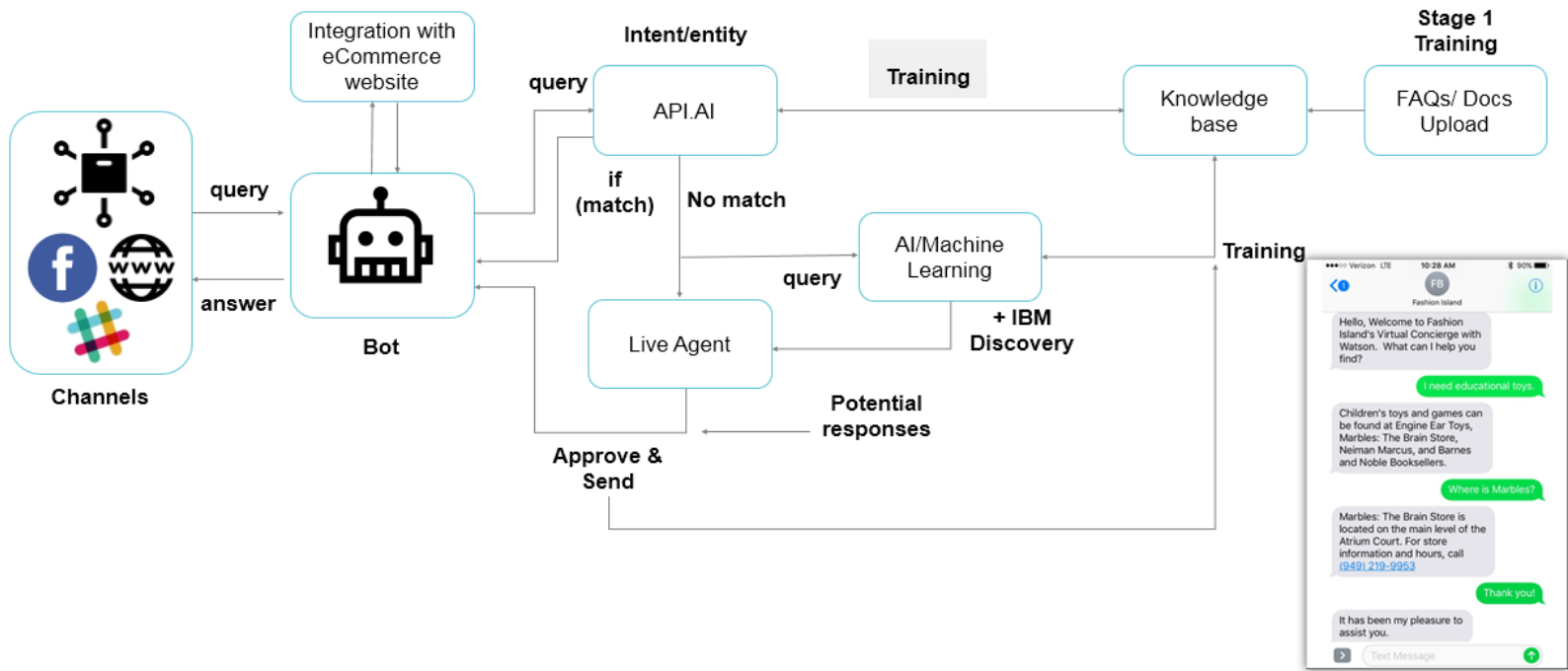
5. Benefits

Businesses can benefit in the following way:

- Savings in operational cost

- Increase in customer care through 24x7 service

- Reduction in response time

- Carry out specialized tasks

- Increase conversion rates

- Payments

- Enhances Customer Engagement

6. Royal Cyber Chatbot Solution

6.1   A.I. Self-Learning Chat Solution

Royal Cyber Chat solution is self-learning using the machine learning concepts. Provided below is the Chatbot self-learning flow.

6.2 Royal Cyber Bot Capabilities

Security
- Authenticating bot users against corporate directories
- Signing and encrypting bot messages
- Archiving bot messages for compliance models

Integration with Enterprise Systems
- Provide simple models for integrating bots with corporate systems
- Simple APIs for accessing business data from bots
- Simple APIs for reacting to bot events and execute actions in line of business systems

Bot Manager
- Enable the distribution of bots for corporate users
- Organize bots into categories to facilitate its discoverability
- Apply security and management policies to corporate bots

Testing
- Tools to test bots and validate its runtime behavior
- Programmatic models to author and run test in bot solutions
- Integration with enterprise app lifecycle management tools

Managing and Monitoring
- Tracks and monitor messages exchanged by users and bots
- Integration with app performance monitoring platforms
- Apply access control, distribution and management policies to bots

6.3 Enterprise Back-end Integrations

Royal Cyber Bot can be integrated with enterprise back-end systems.

Account Management	Billing	Complaints	Device Management
• Account name change • Account privileges • Billing address inquiry • Update address, email, phone • Upgrade eligibility • …and more	• Balance inquiry • Payment reminders • Request bill copy • Bill dispute & adjustment • Credit status • Bill explanation • …and more	• Customer complaint • Network issues • Troubleshooting	• Device activation • General device management • Swap device
Help	**Payment**	**Sales**	**Service Management**
• Connect to agent • Ending • Greetings • Help • System information	• Make a payment • Payment history • Payment due date • Late fees • Refund • …and more	• General sales • Porting inquiry • Return device inquiry	• Activate roaming • Add insurance • Add service features • Coverage area inquiry • Price plan inquiry • Roaming inquiry • …and more

6.4 How Can Royal Cyber Help?

Royal Cyber can offer the below services:

Custom AI
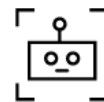Custom train for your set-ups without the need of any complex models.

AI + Agent
A hybrid solution works together with the support agents.

Analytics
Improve the bot communication and measuring customer engagement.

Emotion Recognition
Accurately understanding the emotional state of people.

Omni-Channel Integration
Host your bot on multiple other channels.

Royal Cyber can provide a Proof of Concept (POC) Chatbot in three (03) Weeks.

- We'll develop a custom solution for you.
- Integrated with your systems and channels.

Checkout the video below to know more about Royal Cyber Chatbot.

https://www.youtube.com/watch?v=caBobQQ1-tY

7. Conclusion

Businesses can quickly design and deploy an elementary Chatbot. The reason bots exist is that organizations want to know people where they spend most of their time, namely messaging apps such as WeChat.

The future of Chatbots will pivot around their ability to become useful, maybe even indispensable, to human beings. How effectively does the bot know the user? How appropriately does it know what the user needs? Can the bot of the future be a master bot that helps, advises and continuously gain knowledge about the user? Can it be knowledgeable and intelligent enough to become wiser but never cross the line by pretending to be human? Stepping into the uncanny valley is not the goal — supporting users and making their lives easier is.