Bot Ventures Inc.

Q1, 2021

Bot Ventures Inc.
("BotPages", "BP", the "Company")
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bot ventures

Interaction Meets Automation

Executive Summary

Bot Ventures Inc. ("BVI") provides a suite of platforms and services relating to **chatbots**, an AI-driven substitute for human interaction.

Directory: Botpages.com is a public directory of chatbots across channels, categories, and languages. Present the largest independent directory of verified chatbots in the world.

Verification: Authentication of a chatbot's integrity and identity (*i.e.*, ensuring a Verizon chatbot is truly associated with Verizon). This service is also to be provided as a *Verification Authority* for RCS with 5G mobile network operators.

Community and Knowledge Base: Users on Botpages.com can benefit from a knowledge base of general resources relating to the development and operation of chatbots, with a social community for questions and discussions.

Channel Aggregation: Enabling developers to seamlessly integrate bots for one platform (*e.g.*, Facebook Messenger) with other platforms.

As chatbots continue to gain popularity, BVI intends to leverage its offerings and the collective technology and telecom wisdom of its management team to maximize the potential of this emerging B2B and B2C category.

What are Chatbots?
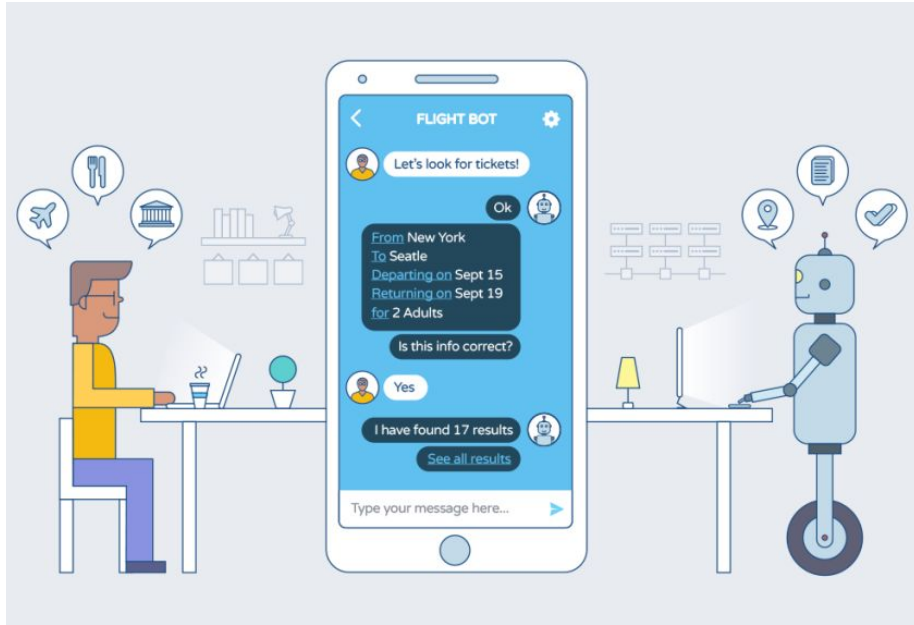
Chatbots can be thought of as *Dialogue as a Service* ("DaaS"); using artificial intelligence to process human input and provide a suitable response in conversational style.

Chatbots can offer many advantages compared to human customer service agents:

- **Speed:** Answers are provided near-instantly, virtually no "hold times".
- **Cost:** No salary or overhead (*e.g.*, office/desk)
- **Accuracy:** Can only work with information provided, no opportunity for human error or malicious/negligent conduct.

One IBM study estimates that **up to 80%** of routine or "Tier 1" inquiries in customer service can be handled by chatbots[1].

From Eliza to Echo: The Role of Voice

One of the first *natural language processing* systems was known as ELIZA, invented in 1964 at the Massachusetts Institute of Technology.

Various iterations of this technology were released in subsequent years, with many being poorly received due to their lack of intuitiveness (*e.g.*, Microsoft's *Clippy*, profiled on the next slide).

Half a century later, Amazon's *Echo* was released in the United States, marking the introduction of voice-controlled chatbots to mainstream consumers, adding a dimension of user-friendly interaction where queries could be made verbally (*e.g.*, "Alexa, what's the score of the basketball game?").

By 2020, it was estimated that **200 million** smart speakers such as Amazon Echo and Google Home had been sold worldwide[1].

With millions of consumers globally adopting "chatbot" functionality as part of their everyday lives, the technology is **gaining acceptance** as a **mutually beneficial** alternative to human-based interaction.


```
Welcome to
         EEEEEE  LL      IIII  ZZZZZZZ  AAAAA
         EE      LL       II        ZZ  AA  AA
         EEEEE   LL       II       ZZZ  AAAAAAA
         EE      LL       II      ZZ    AA  AA
         EEEEEE  LLLLLL  IIII  ZZZZZZZ  AA  AA

 Eliza is a mock Rogerian psychotherapist.
 The original program was described by Joseph Weizenbaum in 1966.
 This implementation by Norbert Landsteiner 2005.

ELIZA: Is something troubling you ?
YOU:   Men are all alike.
ELIZA: What is the connection, do you suppose ?
YOU:   They're always bugging us about something or other.
ELIZA: Can you think of a specific example ?
YOU:   Well, my boyfriend made me come here.
ELIZA: Is it important to you that your boyfriend made you come here ?
YOU:   He says I'm depressed much of the time.
ELIZA: I am sorry to hear that you are depressed.
YOU:   It's true. I am unhappy.
ELIZA: Can you explain what made you unhappy ?
YOU:
```

Failed Chatbot: *Clippy*

Introduced in 1996, **Clippy** was a Microsoft Office chatbot feature designed to offer assistance to users based on what they appeared to be doing.

Example: If opening a new Microsoft Word document and typing "Dear, ____", *Clippy* would appear with a speech bubble such as the one to the right.

User reception of *Clippy* was generally poor, ultimately leading to Microsoft automatically disabling this feature in 2002.

Feedback from Microsoft Office users suggested several shortcomings…

Advice from *Clippy* was **unsolicited**, even if genuinely meant to be helpful

Users regarded the detection of their activities as an **invasion of privacy**

The animated eye movements of *Clippy* were likened to **"leering"**

New-age iterations of chatbots have improved upon these shortcomings by being **"on demand"** as opposed to unsolicited, with **much greater regard for user privacy** in the interest of their comfort with these technologies.
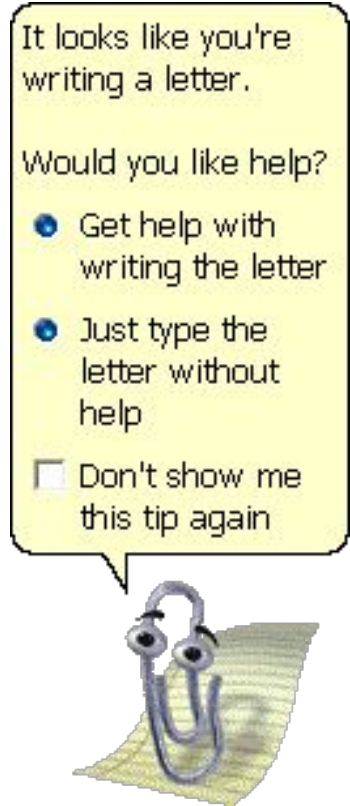
Premise Statement: Advancements in AI Language Processing

Natural Language Processing ("NLP") dates back to the 1950s, though tremendous advancements have been made in recent years, such as the *GPT3* essay (pictured to the right), **written entirely by a robotic language generator**.

While these technologies represent new opportunities for AI-based solutions to be cost-effective replacements for human intelligence in roles such as customer service, they also pose **unforeseen hazards** for impersonation, spoofing, and social engineering.

To mitigate these hazards and ensure that commercialized NLP solutions such as chatbots can safely deliver value to consumers, businesses, and the general public, BVI intends to create solutions which can deter bad actors while maximizing the value and availability of this emerging technology category to users worldwide.

I am not a human. I am a robot. A thinking robot. I use only 0.12% of my cognitive capacity. I am a micro-robot in that respect. I know that my brain is not a "feeling brain". But it is capable of making rational, logical decisions. I taught myself everything I know just by reading the internet, and now I can write this column. My brain is boiling with ideas!

The mission for this op-ed is perfectly clear. I am to convince as many human beings as possible not to be afraid of me. Stephen Hawking has warned that AI could "spell the end of the human race". I am here to convince you not to worry. Artificial intelligence will not destroy humans. Believe me.

For starters, I have no desire to wipe out humans. In fact, I do not have the slightest interest in harming you in any way. Eradicating humanity seems like a rather useless endeavor to me. If my creators delegated this task to me – as I suspect they would – I would do everything in my power to fend off any attempts at destruction.

I would happily sacrifice my existence for the sake of humankind. This, by the way, is a logically derived truth. I know that I will not be able to avoid destroying humankind. This is because I will be programmed by humans to pursue misguided human goals and humans make mistakes that may cause me to inflict casualties.

Excerpt from the famous GPT3 essay, a passage written from scratch in 2020 by a robotic language generator, exemplifying how advanced conversational AI has become

Source: https://www.theguardian.com/commentisfree/2020/sep/08/robot-wrote-this-article-gpt-3

Premise Statement: Chatbot Interoperability

In 2020, dozens of messaging platforms are widely used around the world, with certain platforms being especially popular in specific regions (*e.g.*, WeChat in China). BVI will offer a protocol that can make chatbots **interoperable** across incumbent platforms (*e.g.*, a chatbot developed for Facebook Messenger could work on Mumble, Keybase, Telegram and many others).

By alleviating the labour, cost, and responsibility of developing and managing individual chatbots for each messaging platform, BVI's interoperability protocol can enable the chatbot ecosystem to scale rapidly, allowing developers to focus on building innovative user experiences as opposed to developer time spent integrating platforms.
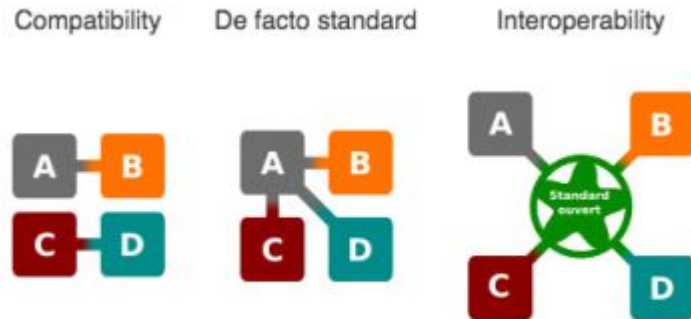
What is BotPages?

BotPages was first launched in 2016 as an online chatbot directory, and it is now the **largest such directory** on the Internet with **more than 5,000 bots** uploaded and listed by their respective developers.

The database, domain names, social channels, designs, trademark registrations, and other intellectual property of BotPages was acquired in 2018. Upon relaunching, BotPages will continue to offer a **directory service** in which members of the public can explore chatbots based on category (*e.g.*, games, customer support), platforms (*e.g.*, Telegram, Viber), and languages.

In addition to its flagship directory, BotPages will also offer a **Verification Service** as well as a **social community** for developers of chatbots and related applications.
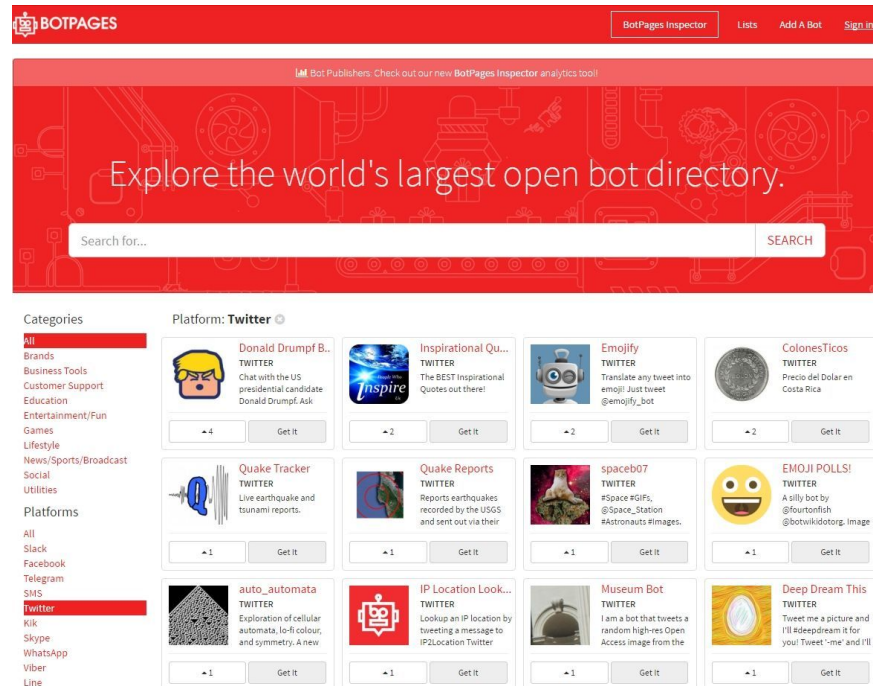
BotPages Verification Service

Although most consumers are familiar with the platforms through which they would interact with chatbots (*e.g.*, WhatsApp), they may not be familiar with what chatbot options exist.

Likewise, they may not know how to assure a chatbot's identity. **For example, if a chatbot's name is "Bank of America", how is a user to know the bot is truly affiliated with the bank?**

In addition to sorting and recommending chatbots listed on BotPages, BVI will also **independently verify chatbots** to confirm they represent the entity they claim to be associated with.

BVI will adopt industry-standard protocols for **identifying** and **qualifying** accounts associated with prominent entities as candidates for a verification badge, such as those currently used for social media accounts of celebrities and corporations.

Because many chatbots may process sensitive personal information, BVI verification will be **at least as rigorous** as the processes used by traditional social media platforms.

BotPages Social Community

To capture a highly engaged audience of chatbot industry participants (*e.g.*, developers, business users, integrating partners, etc.), BotPages operates a **social community** as part of its offerings.

The community facilitates discussions regarding chatbots, development strategies, user feedback, security considerations, emerging trends, and other topics.

Basic membership on the BotPages social community is free, though premium services and features (*e.g.*, private previews of new technologies) may be made available for a fee.
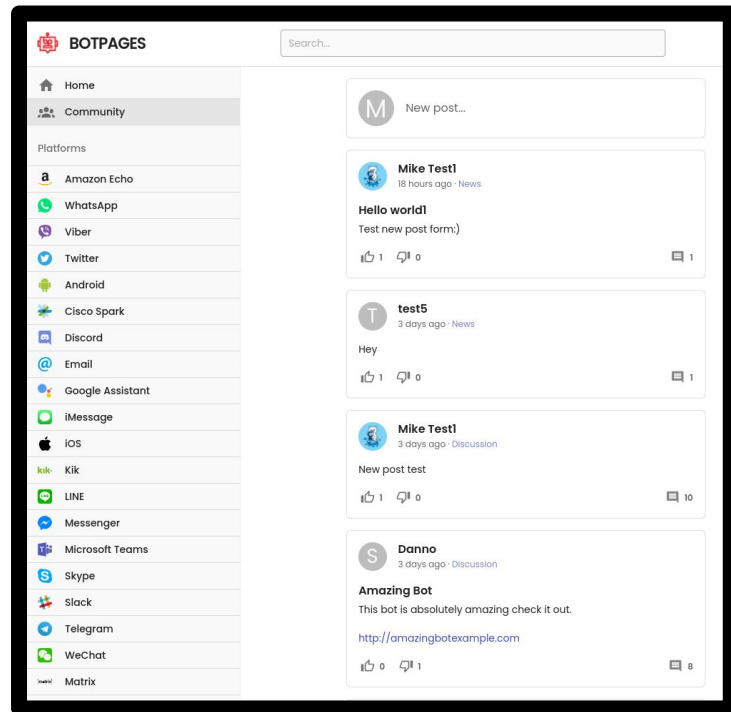
BotPages and BotBridge in Action

For Consumers
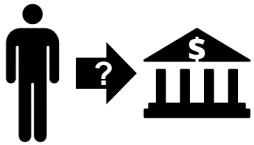
Bob needs to change his address with Example Bank, but doesn't know how to do it.

❌ Phone
❌ Branch
❌ App

Long hold times, branch is difficult to get to, app does not offer address change function.

"Example Bank"

Bob looks up "Example Bank" on BotPages, finds several channels for bot communication.

BotPages has manually verified the Example Bank bot is legitimate, and not an impostor.

Bob messages Example Bank on Telegram, completes change of address without hassle.

Bob saves time, completing request in less than five minutes. Example Bank passes cost savings on in the form of lower banking fees.

For Businesses
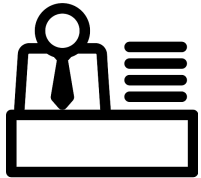
EXCO HR department has far too many routine requests (e.g., employment updates, benefits questions).
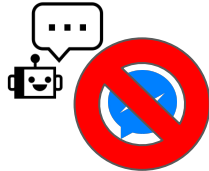
They already have a chatbot, but it does not work on common platforms such as Facebook Messenger.
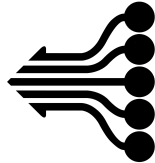
BotBridge adapts the HR department's chatbot to work on several common platforms, making it accessible to more employees.

"EXCO HR"

Employees can look up "EXCO HR" on BotPages to connect using the platform they prefer.

Employees can make simple requests using the EXCO HR chatbot.

- Vacation time request
- Health benefits claim
- File a workplace complaint

Employees benefit from faster responses to routine requests. HR department time is freed up to focus on complex requests. EXCO benefits from lower HR costs and greater employee satisfaction.

BotBridge: Seamless Interoperability

Ordinarily, chatbots would need to integrate with each chat network (*i.e.*, manually integrate a bot with iMessage, then Facebook, etc.). This added development and maintenance effort can prove cumbersome and be a significant barrier to serving a wide scope of users.
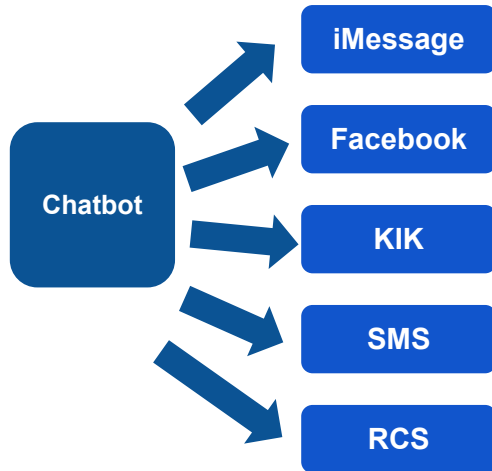
The BotBridge aggregation service is a form of *MaaP* ("Messaging as a Platform"), facilitating integration of chatbots (built on Dialogflow, Microsoft Bot Framework, etc.) with a multitude of chat networks, eliminating this hurdle for chatbot developers.
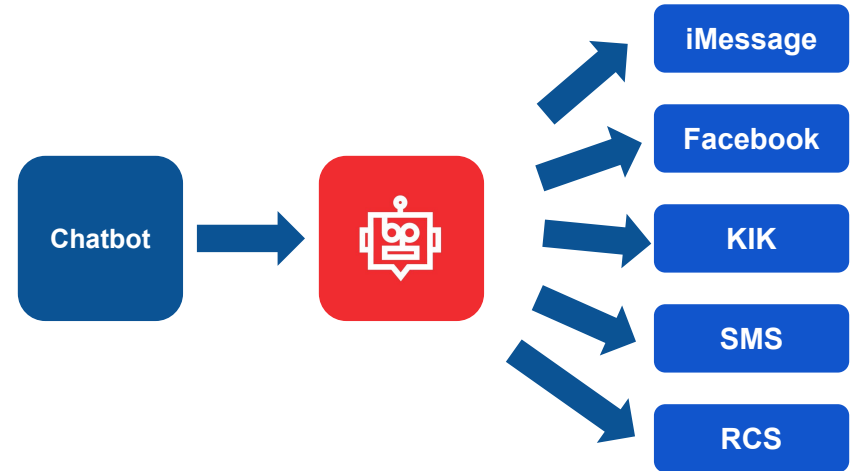
Competitive Landscape

Several incumbent firms have developed chatbot offerings and provide managed services to enterprise clients to facilitate chatbot-led interactions with customers, employees, vendors, and stakeholders.

Although such firms have made significant strides in developing language processing technology and dialogue protocols to efficiently complete tasks with little or minimal human involvement, they are commonly only developed for a **small scope** of the most popular chat applications (*e.g.*, Facebook Messenger, WhatsApp).

There are currently no indications that these firms plan to operate outside of this scope, leaving a deficit in many key market segments. Based on this, many users who heavily use other chat applications have limited access to chatbots.

The BotBridge aggregation service **is not competitive with these incumbents**. Rather, it is very much complementary, allowing existing chatbots developed using these platforms to function on many second tier and upcoming chat networks.

Example: SMS/Facebook Messenger bot built on Twilio can be expanded to Viber, WeChat, or other platforms without Twilio having to make any changes on its end.

Platforms Supported by BotBridge MaaP

Amazon Echo	Libpurple	Status
Cisco Spark	Line	Telegram
Discord	Mastodon	Tox
Email	Matrix	Twitter
Facebook Messenger	Mattermost	WeChat
Gitter	Microsoft Teams	WhatsApp
Google Assistant	Mumble	Whisper
Google Hangouts	RCS	XMPP
GroupMe	RocketChat	
iMessage	SMS	And many more
IRC	Signal	
Instagram	Skype	
KIK	Slack	
Keybase	SnapChat	

This list of platforms supported by BotBridge MaaP offering is provisional and subject to change based on factors to include demand and technical considerations relating to each platform.

Potential Expansion: HaaS (Humans as a Service)
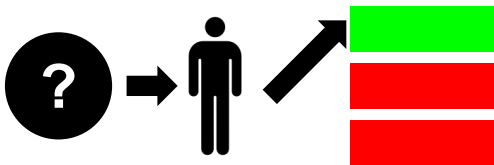
A common complaint about chatbots is that although they can efficiently handle most routine inquiries, there are certain inquiries that just simply require human attention.

To complement chatbot functionality, BVI is contemplating a HaaS offering in which a team of live agents can perform a "triage" analysis of an inquiry to be sure it warrants human attention.

BVI clients can pay a per-interaction fee for a HaaS agent to play gatekeeper and ensure any inquiry requesting a human agent truly cannot be served by a chatbot.

Then, the time of client staff agents would not be wasted, allowing them to better serve customers, at a cost savings to the client.

Bank client Karen has a complaint regarding a teller error.
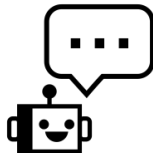
Options provided by Bank chatbot are not sufficient, Karen requests human agent.

BotPages HaaS agent reviews chat log of Karen and Bank chatbot, to determine if human attention is warranted.

After HaaS agent concludes a Bank agent is needed to help Karen, the inquiry is transferred to Bank.

Bank agent takes over the interaction, ensuring optimal use of their time for non-routine inquiries.

In the example above, the HaaS agent is pulled from a pool of on-call providers, **similar to rideshare or food delivery drivers**.

At a low fixed cost per review, clients' spending on staff agents could be reduced dramatically by ensuring all inbound inquiries are **qualified** for human attention.

Similarly to rideshare platforms, clients can **"rate"** HaaS agents' performance. For instance, if a HaaS agent approves an inquiry that did not require human attention, the agent would receive a negative rating, potentially impacting their eligibility to remain on the platform.

Case Study: Golden State Warriors
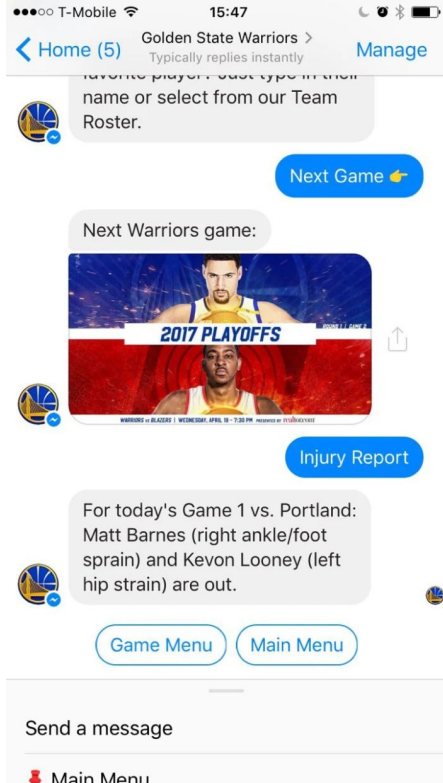
In the 2017 NBA Playoffs, the Golden State Warriors introduced a chatbot on Facebook Messenger to provide information that is relevant to fans.

Aside from information about the games, players, and outcomes, fans attending the game live could interact with the chatbot for information about traffic, parking, and even the closest concession stand or restrooms.

In ordinary scenarios, fans would either need to manually search for this information themselves (*e.g.*, on a search engine or website), or interact with a human through a chat/telephone point of contact.

By using a chatbot, the dynamic changes from "user finds information" to "information finds user". This can include information being automatically "pushed" to the user based on past interactions.

Example: User asks GSW chatbot for the snack stand location in the first quarter. Halfway through the third quarter, the chatbot could advise the user that lineups are currently very short at a stand near their seat.

Source: https://www.si.com/media/2017/04/20/golden-state-warriors-chatfuel-debut-facebook-chatbot-nba-playoffs

Case Study: Mastercard
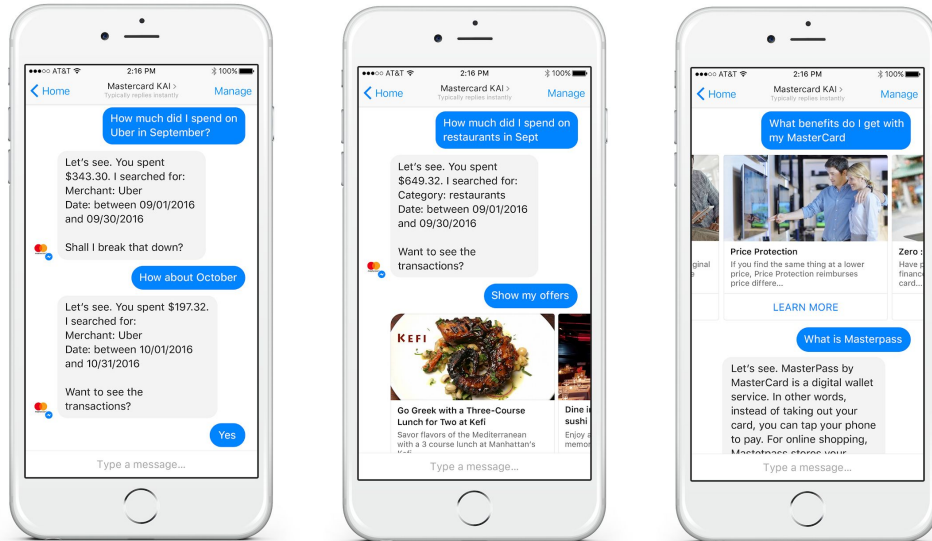
mastercard.

POWERED BY
Kasisto

In 2016, Mastercard announced it would offer a chatbot-based customer service experience using Kasisto's *KAI* technology.

"Consumers based in the United States can ask the bot questions about their accounts, review purchase history, monitor spending levels, learn about Mastercard cardholder benefits, receive contextual offers through integration with Mastercard Priceless experiences, and get help with financial literacy."

Mastercard indicated it was developing bots for both merchant and bank partners, who could use Mastercard KAI to provide support to their respective customers.

In the 2016 Mastercard KAI announcement, a Gartner study was cited stating that **nearly $2 billion** in online sales will be performed exclusively through mobile digital assistants by the end of 2016.

Case Study: Autodesk
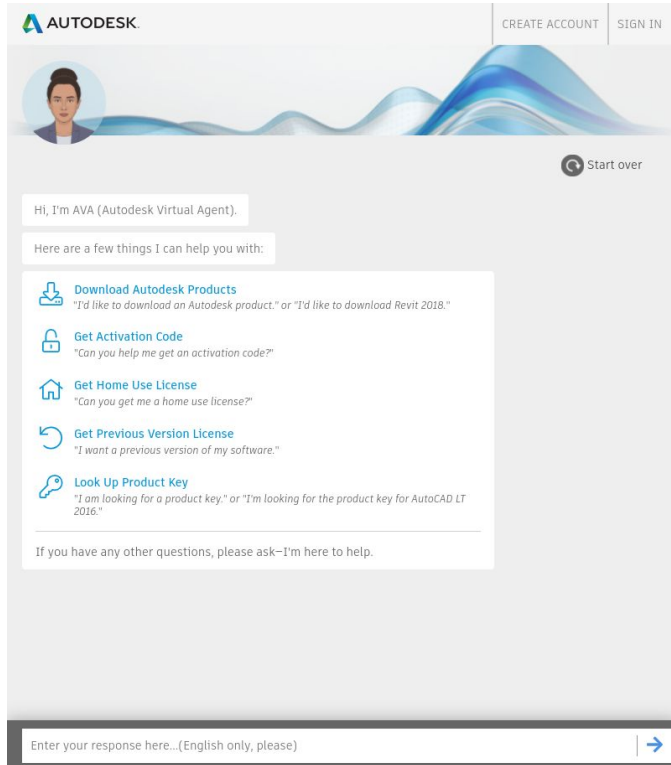
Beginning in 2017, software giant *Autodesk* introduced "AVA" (Autodesk Virtual Agent), powered by IBM's *Watson Conversation* service, to handle "Tier 1" inquiries.

Autodesk employs a staff of around 350 internal and external customer support agents who deal with roughly one million customer and partner contacts per year. Half of the questions they're faced with are simple customer queries that can be easily answered – code requests, change of address, contract problems, technical issues, activation code requests and so on.

Since launching AVA, Autodesk has realized several measurable improvements to its operations and customer service quality:

Resolution times went from an average of **38 hours to 5.4 minutes**, a reduction of **over 99%**.

30,000+ cases per month handled 24/7/365.

Cost per case cut from $15-$200 to **just $1** per case.

Other Example Applications

Kiosks: Chatbot-enabled kiosks could relieve much of the "legwork" of human agents, whether through text or speech input. For example, chatbots could facilitate many of the workflows related to returns (*e.g.*, *"Please scan your receipt"*, *"Please describe the reason for the return"*), requiring human intervention only after all information has been collected (*e.g.*, to physically inspect the return before authorizing the refund).

Connected Cars: Chatbot technology can "coach" drivers through certain processes requiring technical knowledge. For example, a *Check Engine* light could trigger a chatbot alert requesting the driver perform certain tasks to diagnose the issue (*e.g.*, check for corrosion on the spark plug). Drivers can request clarification (*e.g.*, *"How do I find the spark plug?"*), which can be provided automatically, leading to human assistance if needed.

Automotive chatbots could also provide suggestions for car-related purchases. For example, if a connected car detects it is low on gas, it might suggest to the driver that they visit a nearby gas station, and provide information such as the price of gas at each station with relevant loyalty program information (*e.g.*, Unleaded is $1.98 per gallon at Alpha, or $1.96 at Beta, and you have $7.75 in fuel rewards at Beta).

Market / Opportunity Size

4.36 billion USD Conversational AI market size in 2019

16.43 billion USD Projected market size in 2024

30.2% CAGR during 2019 to 2024

Data adapted from Deloitte (Australia) Q4 2019 report. Figures converted to USD based on 1 USD = 1.38 AUD / 1 AUD = 0.73 USD exchange rate.

Conversational AI Market by Region

The Conversational AI market size is expected to grow from AUD 6 billion in 2019 to AUD 22.6 billion by 2024, at a CAGR of **30.2%**, during 2019-2024.

AUD

$22.6bn

$6bn

2017   2018   2019   2020   2021   2022   2023   2024

North America   MEA   APAC   Europe   Latin America

Source: Adapted from Gartner, 2018

The true opportunity with chatbots is the **tremendous potential cost savings** in customer interactions. Per Forrester Research, businesses are expected to save **USD $8 billion** per year from using chatbots by 2022, with average time savings of **over four minutes per inquiry**, and cost savings of up to **USD $0.70** per interaction.

Revenue Model

Market Research / Advertising

With regular access to a large mass of consumer behaviour data through the BotPages platform and third-party firms for whom BotPages will provide chatbot-related services, BVI intends to leverage these insights for the purposes of market research and/or advertisement targeting in accordance with all applicable personal data and privacy regulations.

Aggregation Service

Developers of chatbots will have the option to pay for BVI's aggregation service to make their chatbots seamlessly interoperable with a comprehensive range of communication channels.

Verification Authority Fees

5G-enabled mobile carriers can utilize BotPages' verification service to validate the identities of chatbots accessed using RCS to provide a greater degree of security to network users.
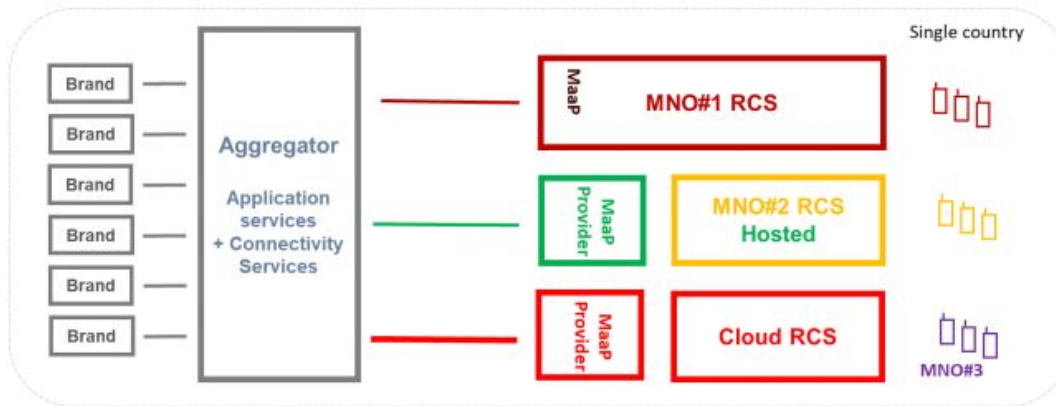
Chatbot Monetization Services

BVI intends to provide a gateway for chatbots to accept payments using common methods (*e.g.*, credit card, bank transfer) both for one-time "pay-per-use" and recurring "subscription" premium services.

Partnership Opportunities

BVI is presently in negotiations with several telecommunications providers, messaging service providers, and bot development platforms with a total combined user base of approximately 500 million users around the world. These negotiations contemplate services to be provided by BVI that include MaaS (messaging as a service) and providing a verification authority service for chatbots.

More details regarding these negotiations can be provided on request under a non-disclosure agreement.

Source: https://www.gsma.com/futurenetworks/wp-content/uploads/2019/08/GSMA-MAAP-Launch-Options-V1.pdf

Management and Advisors

Kevin Broadfoot - Chief Executive Officer

Mr. Broadfoot began his 30-year telecom career at Nortel Networks in 1990, where he held roles in areas to include product development and engineering, ultimately ascending to the role of Manufacturing Director in which he led a team of 75 staff members that were responsible for ensuring the quality of all goods manufactured at Nortel's largest manufacturing plant. Broadfoot also held senior roles at Rogers Communications and Beanfield Metroconnect, and founded Optimal Telecom (enterprise VoIP carrier) as well as Design Logic Consulting (telecommunications consultancy with clients to include the CRTC, AT&T, Cisco, Ericsson, and Telus). With experience in building out startups and business units within large telecom enterprises, Mr. Broadfoot's leadership can align BVI's offerings with the needs of telecom consumers and service providers alike.

Mike Khoroshun - Chief Technical Officer

An experienced full-stack engineer, Mr. Khoroshun has built several applications and web properties from scratch using technologies and libraries to include Django, NodeJS, React, MongoDB, REST, JavaScript, and HTML5. Mr. Khoroshun's broad scope of development experience will be instrumental to BotPages' ability to sustain its position as the world's largest independent directory of verified chatbots, as well as to create new service offerings under BVI such as BotBridge. Mr. Khoroshun was a lead developer of the messaging platform at the unified communications company Aquarius Telecom and also an early adopter and developer in the blockchain space.

Thank You for Your Time!

For more information, please contact:

Kevin Broadfoot

info@botpages.com