

Can Analysis and Data Help in Reputation Management?

Chatbots: How AI is changing the way we interact with information

...and how we can use them in media monitoring!

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What is a chatbot? – a brief history

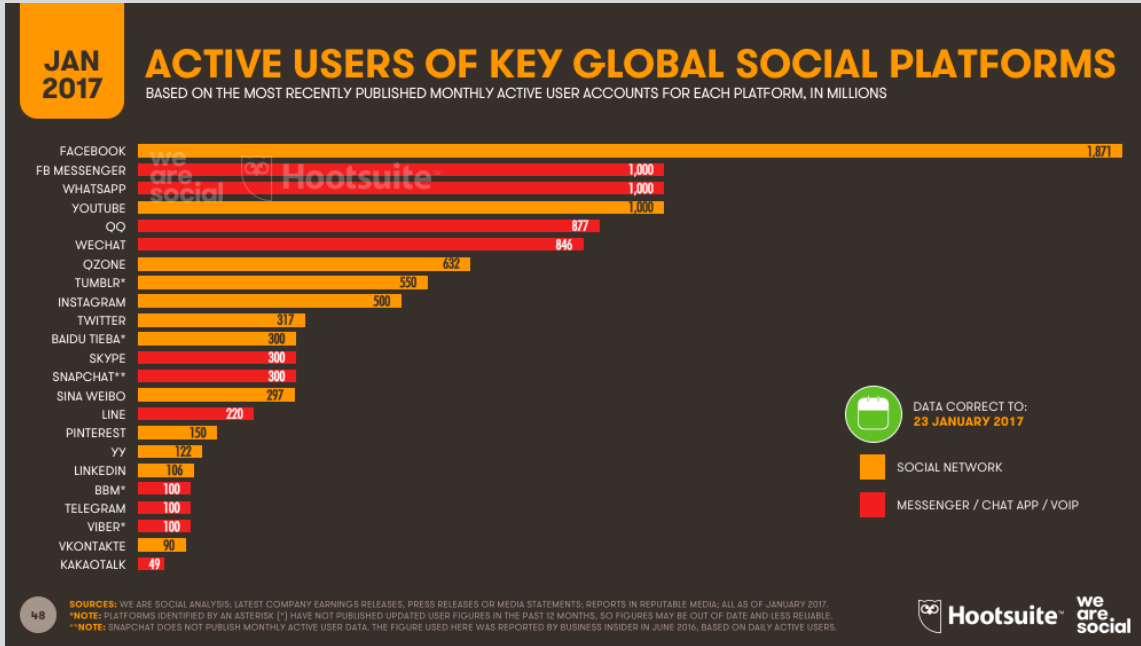
- A chatbot is a computer program which conducts a **conversation** via **auditory** or **textual** methods (wikipedia)
- **Eliza** (1966, Joseph Weizenbaum, MIT Artificial Intelligence Laboratory)
 - Interaction was created by **scripts**, the most famous being ROGER, a simulated psychotherapist
 - Used **pattern matching and substitution techniques** to simulate conversation
 - The input is read and inspected for the presence of a **keyword** (or phrases)
 - If keyword is found, the sentence is transformed based on a **rule** associated with the keyword
 - If keyword is not found, a content-free remark is given or an earlier transformation is retrieved
 - Example
 - **Input:** It seems that you hate me
 - **Rule:** (Any Words) (you) (Any Words) (me)
 - **Decomposition:** (1) It seems that (2) you (3) hate (4) me
 - **Transformation Rule:** (What makes you think I) (3) (you)
 - **Output:** What makes you think I hate you?
 - **Weak AI**, no sapience or logical reasoning, could not discuss with true understanding

What is a chatbot? – a brief history

- **SmarterChild** (2001, ActiveBuddy Inc)
 - AOL Instant Messenger and Windows Live Messenger
 - added **natural language comprehension functionality** to the increasingly popular instant messaging and SMS platforms
 - instant access to news, weather, stock information, ...
- **Siri** (2010), **GoogleNow** (2012), **Amazon Alexa** (2015), **Microsoft Cortana** (2015)
- **Bot platforms** -> **WeChat** (2011), **Facebook Messenger** (2016), **Slack**, **Skype**,
- You can order an Uber, send money, book flights, find information via chatting with bots.

What changed during the last few years?

- Messaging platforms got **very** popular and their users spend a lot of time using them!



What changed during the last few years?

- Messaging platforms got **very** popular and their users spend a lot of time using them!
- Messaging becomes a **new platform for applications – chat apps**
- **Current technology** allows chatbots to:
 - Better understand users
 - Personalize the user's experience
 - Build relationships
- **Paradigm shift:** Let's design applications not visually, but with **stories**
- Visual UIs transform to **conversational** using a chatbot that:
 - Receives **user input**
 - Determines **user intentions**
 - Parses input and does **business logic** to fulfill the request
 - Provides **output**

User input

- **Text messaging** – use a keyboard to converse with the chatbot
- **Voice communication** - requires speech to text engines (Siri, Google Now, Amazon Echo,) to provide the corresponding text.

Understanding user's intentions

- **Intent** – understanding the intentions of the end user
 - **Casual** intent – Hi, Aloha, yes, yes please, bye
 - **Business intent** – an intent that directly maps to your offer (*Give me today's news about Microsoft*)
- **Entities**
 - **Metadata** included in a user intent – *Microsoft, today, news*
 - Date/time, location, keywords, ...
- Training **Natural Language Processing / Understanding engines**
 - **Train** with lots of chat messages describing the same intent
 - Please provide me Microsoft news from the last day
 - I need today's news about Microsoft
 -
 - **Discuss** with the bot and **measure** success
 - **Retrain** if needed

Fulfill the request and provide output

- Call an API to **get relevant data, provide the relevant services...**
 - Using all the metadata that have been identified
 - and if applicable using metadata from previous sentences
- ...possibly taking into account sentiment, bot personality etc....
- Provide the **output** to the user, using **text** or **text to speech** engines

Why?

- A few reasons why chatbots are **disruptive** for multiple industries
 - **Search** becomes integrated in messaging platforms via chatbots
 - **Mobile Applications** transform into chatbots in a messaging platform
 - **Messaging can move** social behavior from a **social platform** to a messaging one
- Chatbots can provide **personalized** information/services/experience
 - In **real time, effortlessly**, using a platform that the user is already **familiar** with
 - Allowing the user to **share information** to its colleagues by the click of a button (using skype for business, slack etc)
 - While also allowing for communication using our **natural language**

Media monitoring service through a chatbot – DataScouting's approach

- **Media monitoring company**
 - Provide a **new delivery method** for your customers, for reports and raw media monitoring information
 - **Minimal integration effort**
- **End User**
 - **No need for any installation**, just say hi to a chatbot in any of the big messaging platforms that you are familiar with
 - Get **alerts, reports** and **aggregated information** about your media monitoring content
 - **Search** for any information that you want based on any metadata available (taking into account of course user permissions or any other limits)

