

# ChatBot

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WordPress  
& ChatBot



*Josephine*



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Cenatis  
Gourmetessen zum kleinen Preis

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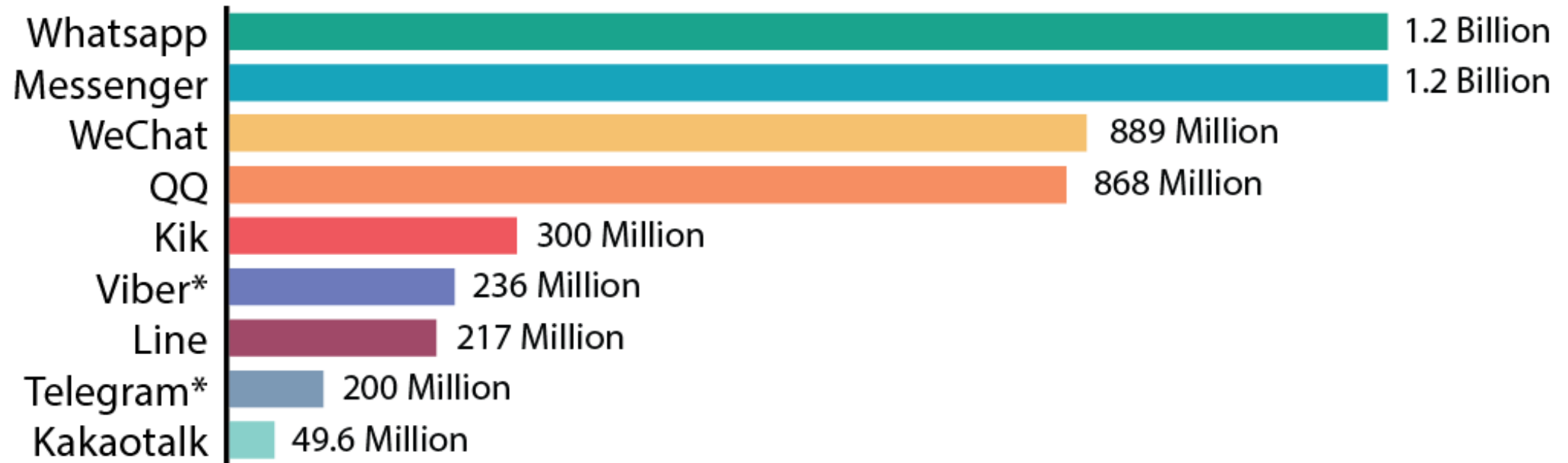
- Why should we pay more attention to messaging apps?
- Why invest in messaging apps?
- How messaging apps benefit business?
- How ChatBot can help?
- What is a Bot and ChatBot? How does it work?
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Why should we pay more attention to messaging apps?

46% of all smartphone sessions include a social media or messaging app as one of the first three apps launched.

6 of Top 10 most used apps globally are messaging apps

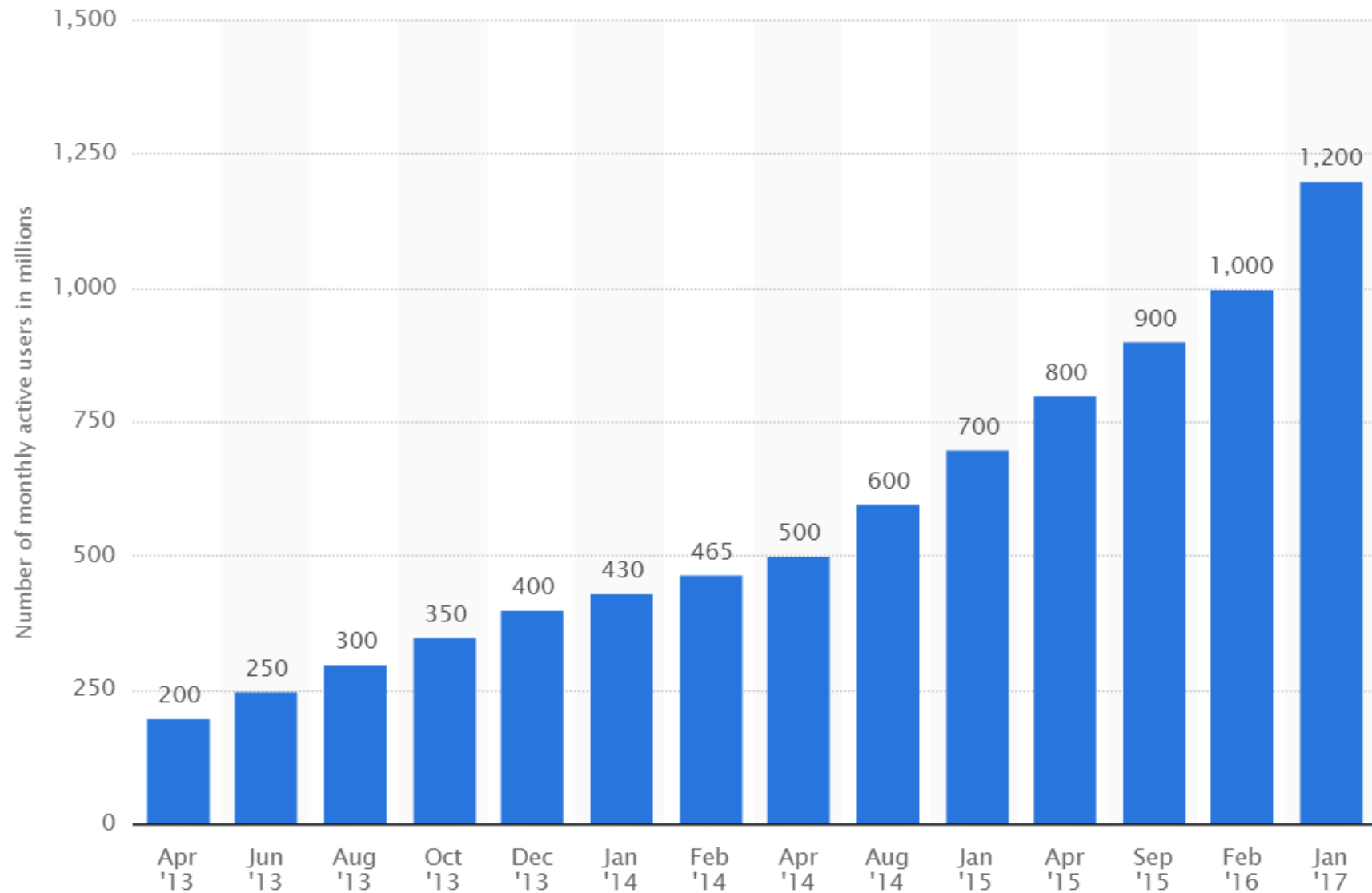
## Messaging apps have over 5 billion monthly users worldwide



\*Have not released updated MAU numbers to date for 2017

Sources: Motley Fool, TechCrunch, China Channel, Tech in Asia, Statista

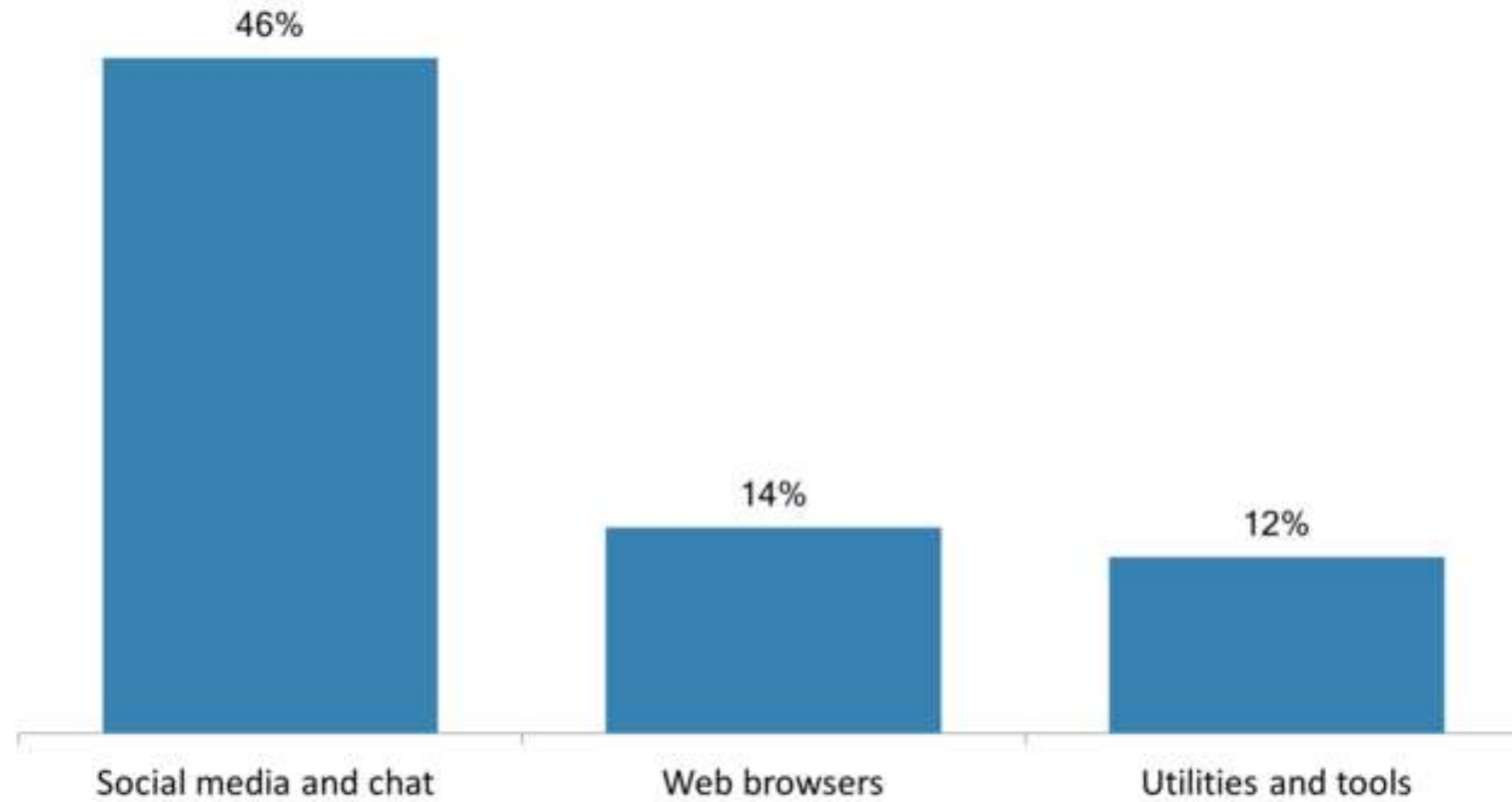
## Number of monthly active WhatsApp users worldwide from April 2013 to January 2017 (in millions)





## Share Of All First Apps Opened

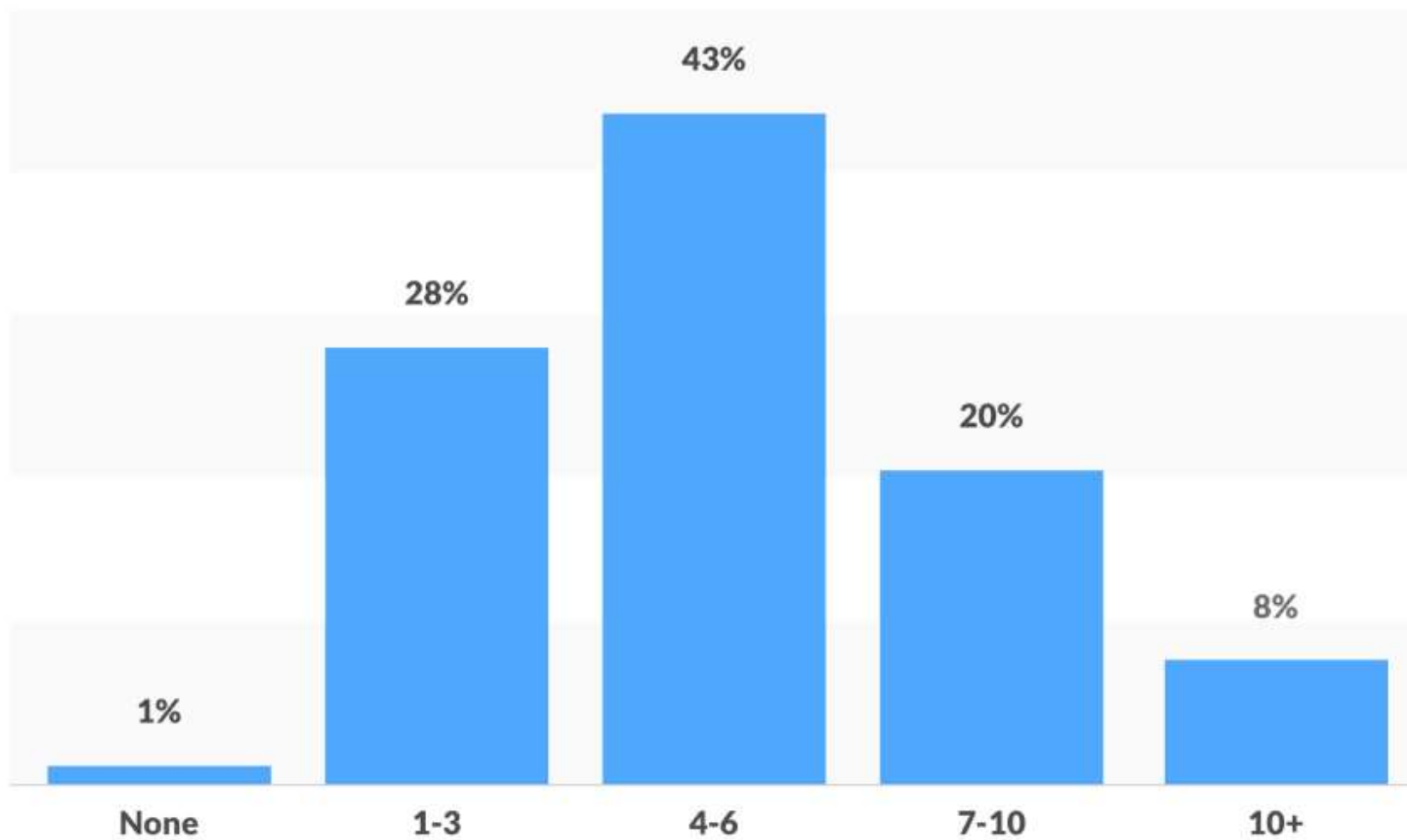
*US, by app category*



Source: Verto Analytics, 2018

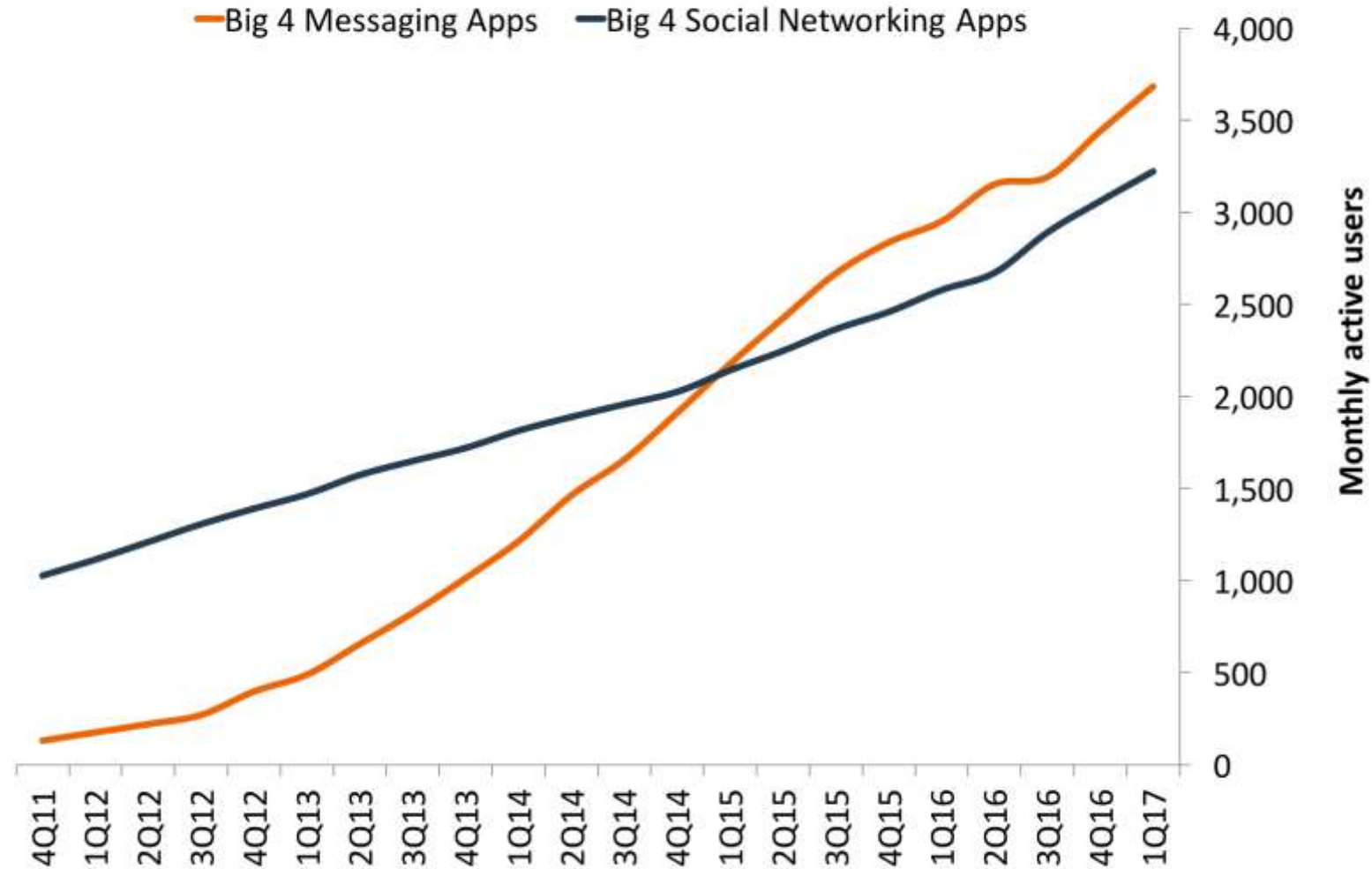
BI INTELLIGENCE

## Number of Apps Used, Daily



# Messaging Apps Have Surpassed Social Networks

Global monthly active users for the top 4 messaging apps and social networks,  
In millions



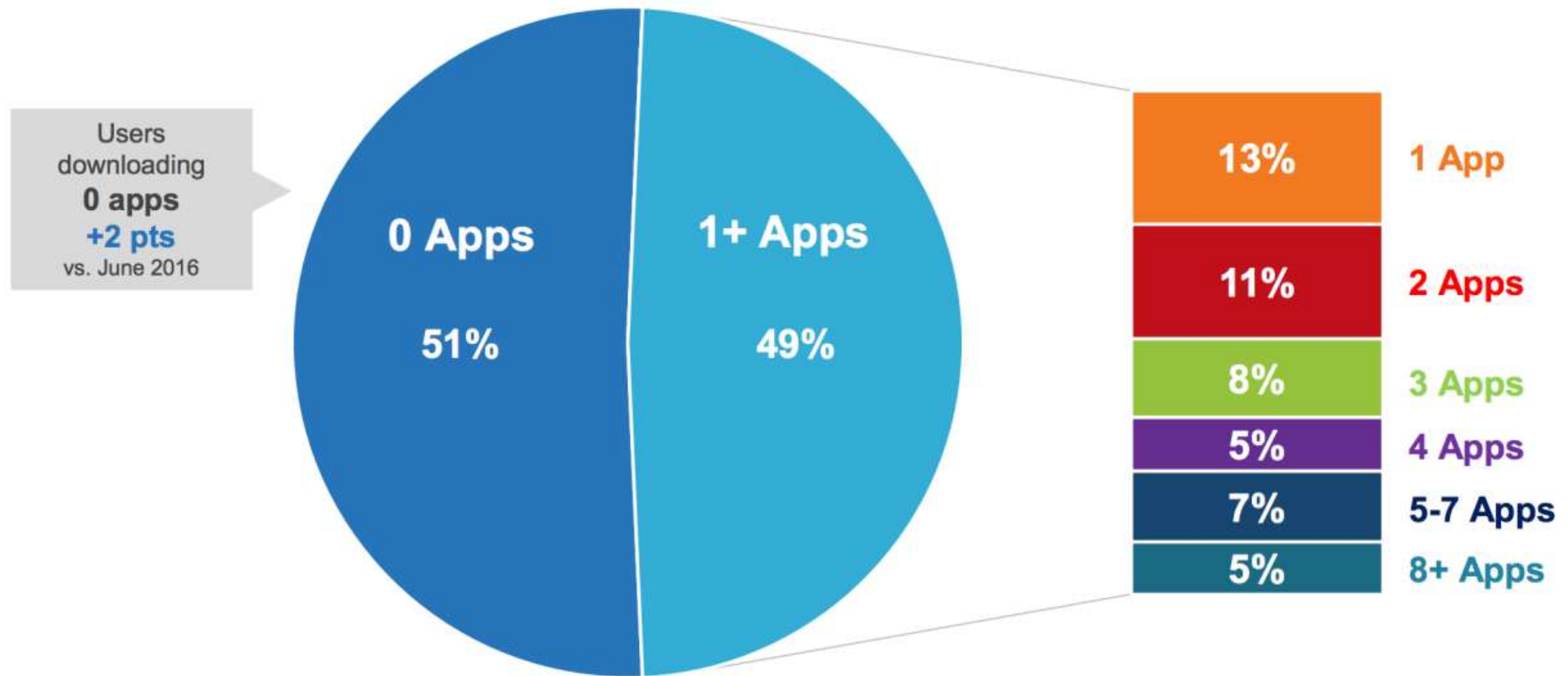
Note: Big 4 messaging apps are WhatsApp, Messenger, WeChat, Viber.  
Big 4 social networks are Facebook, Instagram, Twitter, LinkedIn  
Source: Companies, Apptopia, TechCrunch, BI Intelligence estimates, 2017

BI INTELLIGENCE

- There are 1.3 Billion Facebook Messenger Active Monthly Users using the platform for gaining more information on products and speaking with suppliers!
- There are 65 Million Business Pages on Facebook.

## Smartphone Users' Number of App Downloads Per Month

Source: comScore MobiLens, U.S., Age 13+, 3 Month Average Ending June 2017

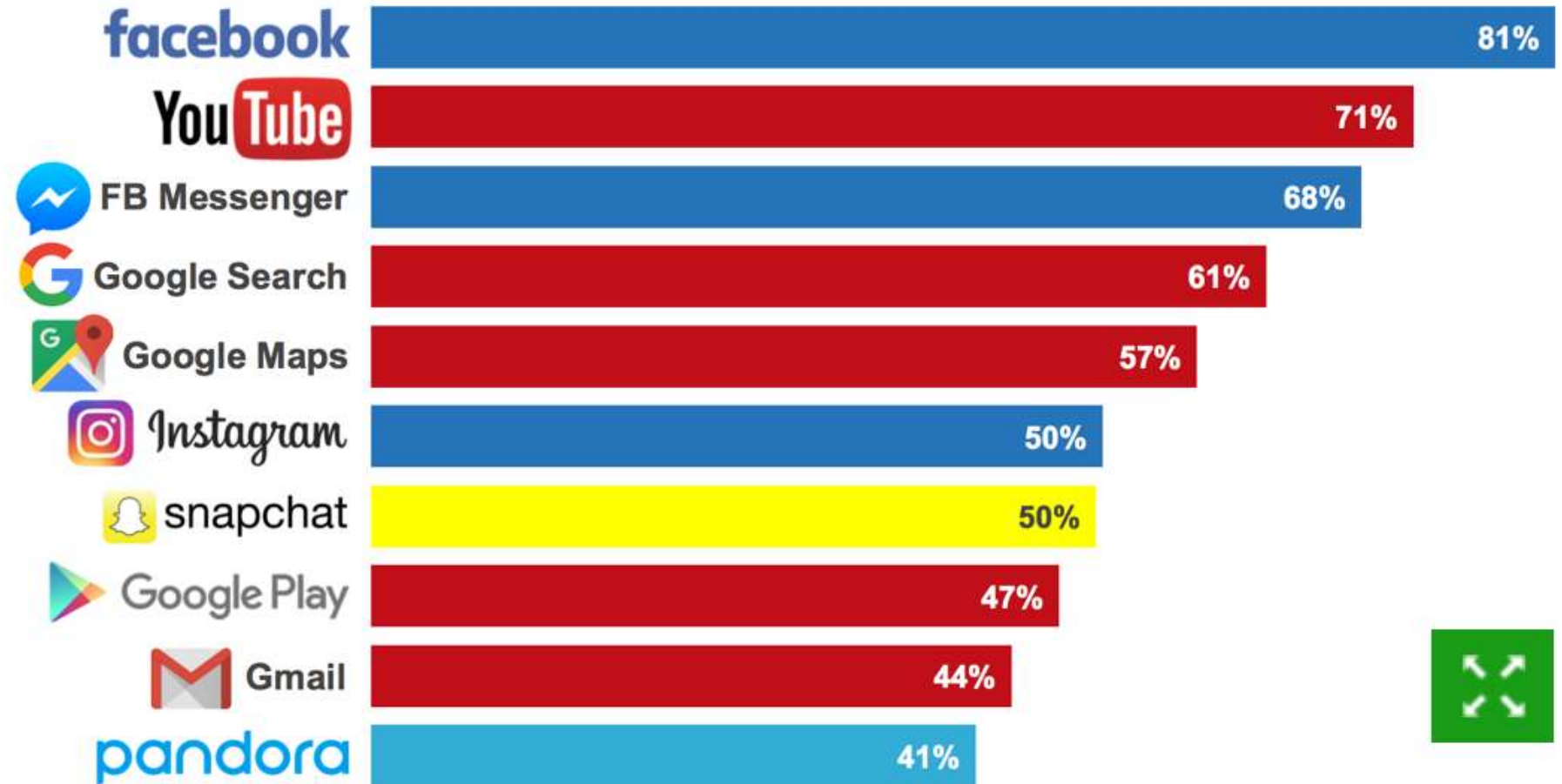


## Top 10 Mobile Apps by Penetration of App Audience

Source: comScore Mobile Metrix, U.S., Age 18+, June 2017

Facebook

Google



Why invest in messaging apps?



**65%**

Consumers prefer using a messaging app when contacting a business<sup>2</sup>



**50%**

Consumers would make a purchase through a messaging app<sup>2</sup>



Over **50%**

Customers expect a business to be open 24/7<sup>3</sup>



**90%** of businesses use Facebook to respond to service requests<sup>4</sup>

The average messaging conversation is **66%** longer than the average page conversation<sup>4</sup>

**10 Hours:** The average time it takes for a company to respond to a message<sup>4</sup>



Already **30,000**  
bots on  
Facebook & Kik<sup>5</sup>

Chatbots could save  
**\$174 Billion**  
across Insurance,  
Financial Services,  
Sales, and  
Customer Service<sup>6</sup>

How messaging apps benefit business?

Engage in detailed correspondence with clients:

- Being available all the time,
- Give a quick and relevant response/guidance,
- Filter data
- Store data,
- Analyze data,
- Retrieve data for future sessions
- Make a personalize profile according to your clients preferences
- Offering products and services according to client preferences
- Making payment in messaging app!

How ChatBot can help?

ChatBots suggest effective solutions for Building up an effective customer care program.

# Maintaining customer lifetime value by:

- Being available 24/7
- Offering targeted promotions to audience,
- Providing a consistent and personalized brand experience,
- Making announcement,
- Gathering users feedback,
- Generating reports,
- Saving data & retrieving it,
- Building up customer profile,
- Providing online payment gateways for online shops.

What is a Bot and ChatBot?

# What is a Bot

- Bots are programs that run continuously, formulate decisions, act upon those decisions without human intervention, and are able adapt to the context they operate in (Tsvetkova et al.,2017).
- The most advanced bots are powered by artificial intelligence, helping it to understand complex requests, personalize responses, and improve interactions over time.



# What is a “ChatBot” ?

- Chatbots are a form human-computer dialog system which operates through natural language via text or speech.  
(Deryugina, 2010; Sansonnet et al., 2006).

# What other names you can suggest for a ChatBot?

- A Virtual Assistant?
- An Assisting Conversational Agent?
- A Conversational Interface ?
- A Digital Assistant ?
- An AI Assistant ?
- A Well Organized Customer Service Method ?
- An AI-powered conversational interfaces?
- An AI to converse with users?
- An Avatar.
- A Smart Conversational Agent?
- A Chat-Agents?

# What do you predict you would use a ChatBot for?

- Getting a quick answer in an emergency?
- Resolving a complaint or problem?
- Getting detailed answers or explanations?
- Finding a human customer service assistant?
- Making a reservation (e.g. restaurant or hotel)?
- Paying a bill?
- Buying a basic item?
- Getting ideas and inspiration for purchases?
- Adding yourself to a mailing list or news service?
- Communicating with multiple brands using one program?



Hello there, TiBot here. Ask me something about date and time!

Ask something...



# POSSIBILITIES WITH CHATBOTS

## SOME OF THE AREAS IN WHICH CHATBOTS CAN HELP

What's my checking  
account balance?



I'd like to order  
TV service

I'd like to book airfare and a hotel



I'd like to report a power outage

Where on campus is the dining hall  
and what times does it close?



Schedule my food delivery  
for ½ hour from now

I'd like to pay my  
parking ticket



I'd like to submit an  
insurance claim

What time is the next bus?



How much vacation time  
have I accrued?

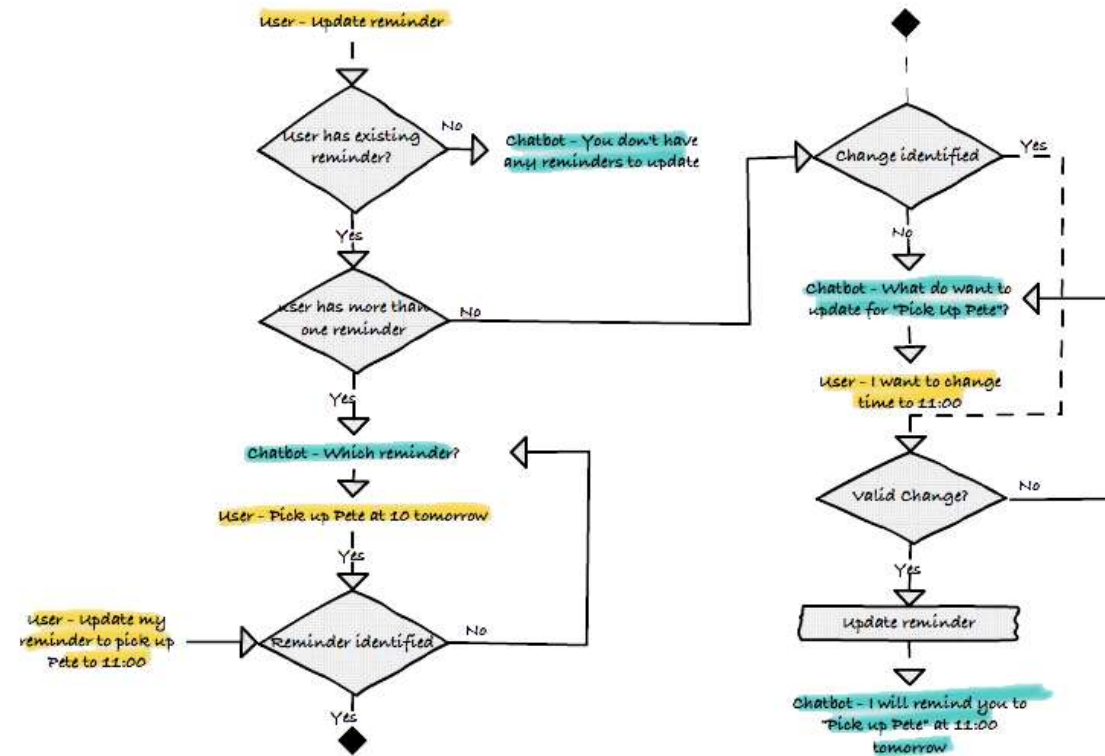
Turn down the lights in the  
room by 50%



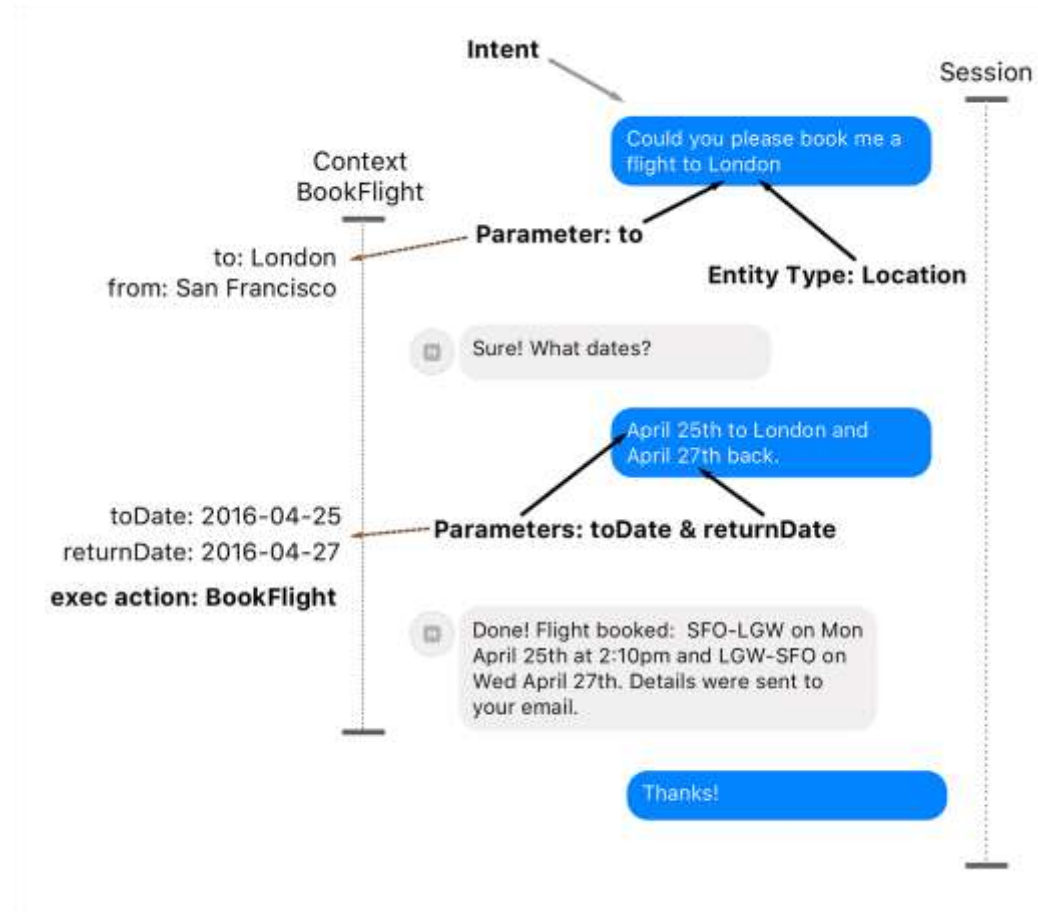
Are these shoes in stock  
online/near me?

# Types of ChatBots

## 1. Flow-oriented ChatBot:

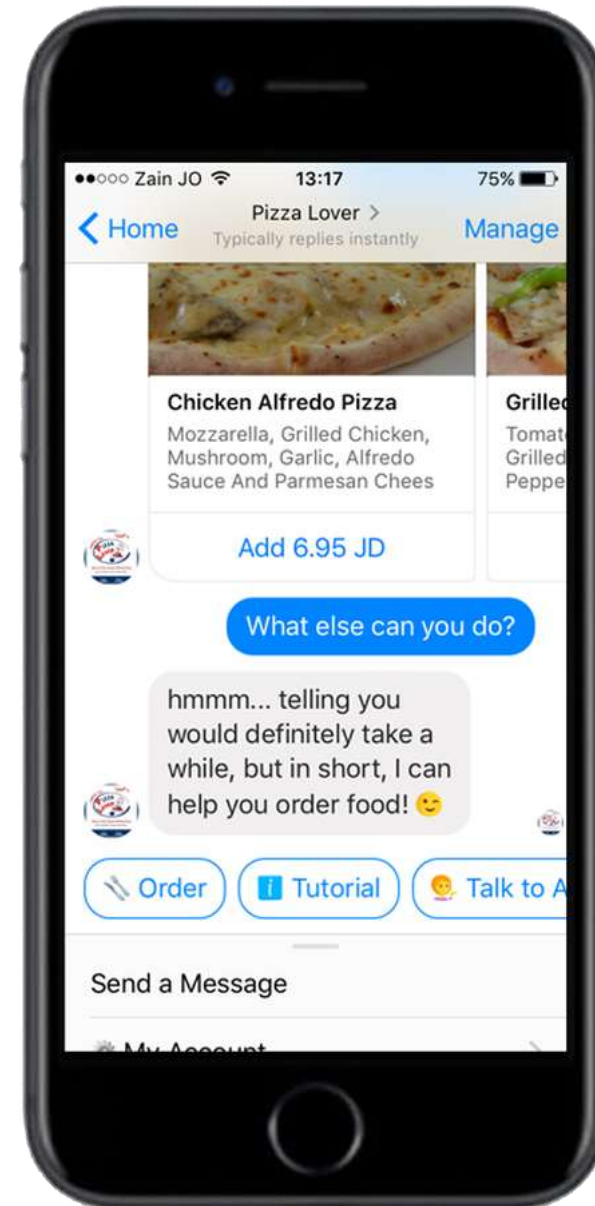


## 2. Artificially Intelligent ChatBot:

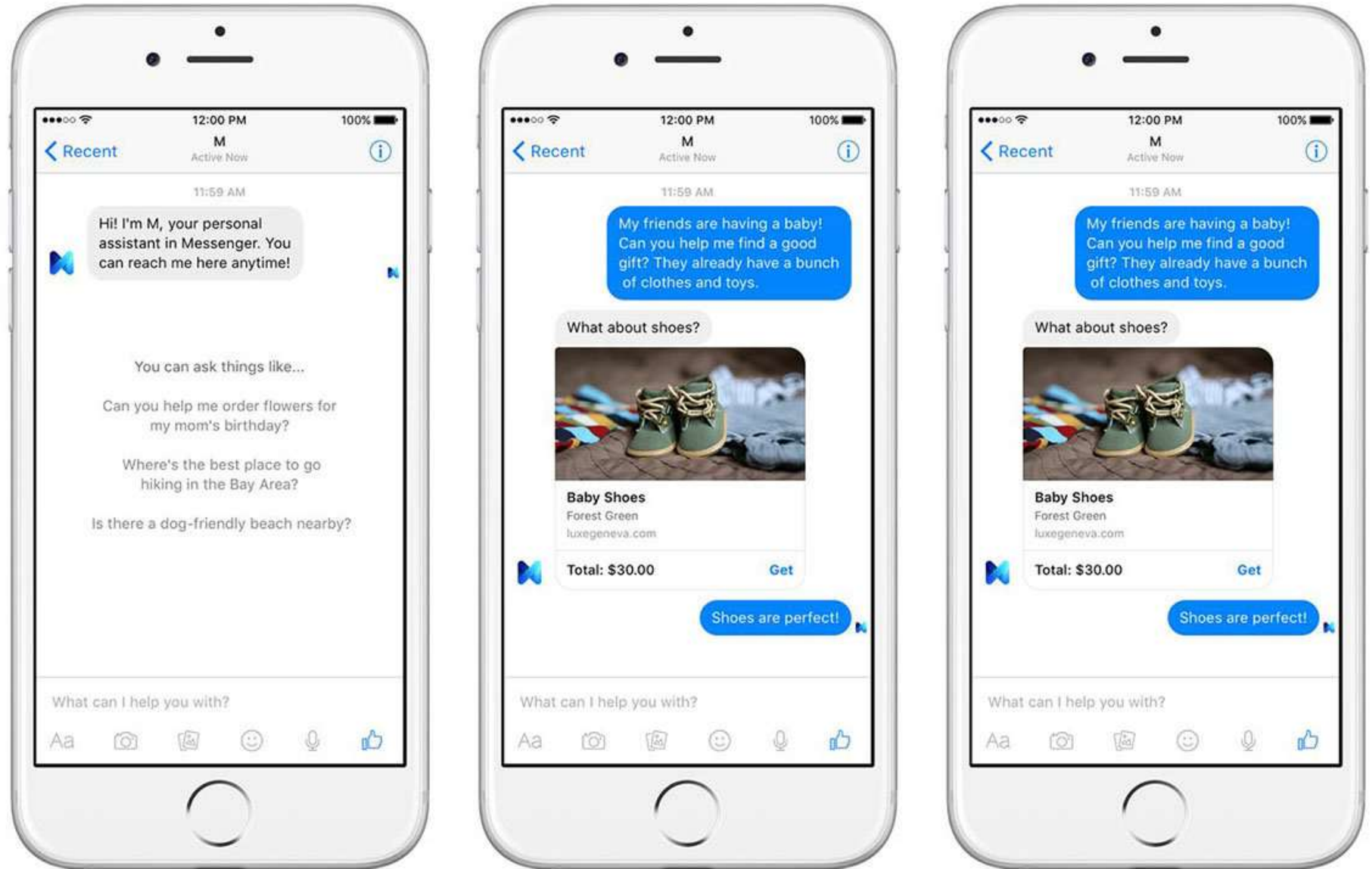




### 3. Hybrid ChatBot:



#### 4. Human supported bots:



# Example of an egregious conversation

- The resulting customer frustration may not surface in easily detectable ways such as the appearance of all caps, shouting to a speech recognizer, or the use of profanity or extreme punctuation.

Customer: *I got 2 quotes for the flight ticket, but i'm wondering what the details of each ticket are?*

Agent: *Please select "Buy" next to the ticket you'd like to purchase.*

Customer: *No, I don't want to buy yet till I know the details of the flights.*

Agent: *If you're in the process of renting a car, please continue with by clicking "Next"*

Customer: *Are you a real person?*

Agent: *I am a digital assistant. I've been trained to answer questions about travels. Ask me any questions you have.*

Customer: *I asked a specific question and you gave me a random answer about car rental which I'm not interested in.*

Agent: *I'm not trained on that yet, but I'm still learning. You may want to rephrase your question and try again.*

Customer: *This service is pointless , can i talk to a real live person?*

Agent: *We don't currently have live agents to chat with on-line.*

# Salvage the Conversation!

## Front-End

- Being able to automatically detect such conversations, either in real time or through log analysis, could help to improve ChatBot quality. If detected in real time, a human agent can be pulled in to salvage the conversation.

## Back-End

- Analysis of egregious conversations can often point to problems in training data or system logic that can be repaired.

# How ChatBot can help your businesses?

- 24 hour service
  - Getting an instant response
  - Answer to simple questions
  - Easy communication
  - Complaints resolved quickly
  - A good customer experience
- 
- Detailed/Expert answers?
  - Answers to complex questions?
  - Friendliness and approachability?
- 
- History recorded! For quality check!!
  - Brilliant for FAQ !!

# What type of Businesses use Chatbot?

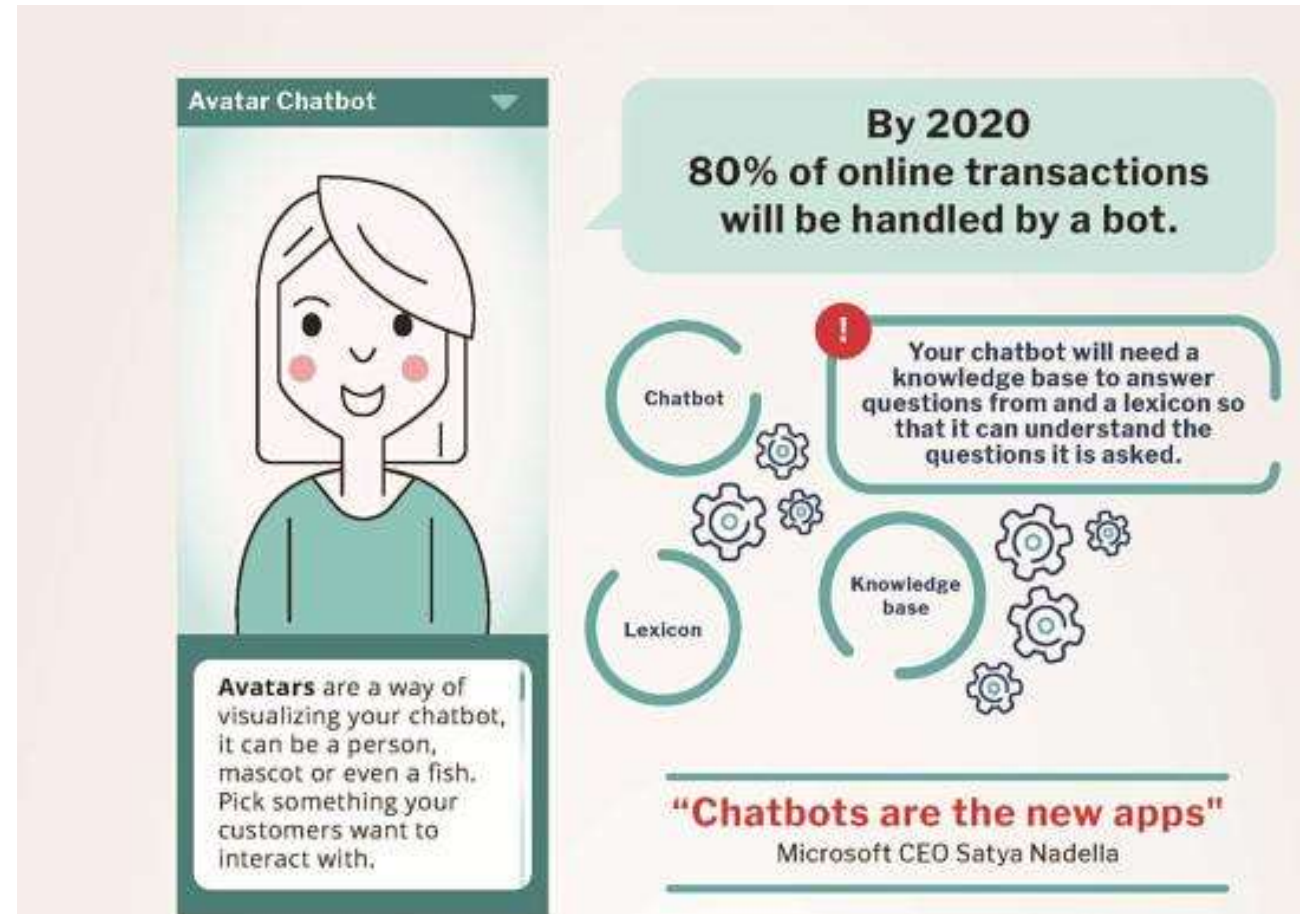
- **Universities** - Chatbot increases student registrations leads by an average of 100% for sales and email campaigns.
- **Shops and eCommerce** –
- **Cars** - ChatBot generates up to 200% more automotive leads for sales teams and email campaigns.
- **Medical and Clinics** - Clinics, medical and healthcare services generate up to 200% more contact requests from potential clients using chatbots.
- **Travel and Holidays** - ChatBot captures fresh leads from potential customers and answers visitors questions online.
- **Software and IT** - ChatBot helps with instant answers at the site and increases online conversion by up to 30%.
- **Insurance and Finance** - ChatBot generate up to 200% more leads from websites offering insurance, credit, finance, and loans.
- **Businesses and Professionals** - ChatBot helps businesses and professionals to generate more leads from the website 24/7 even when you are away.
- **Government and Institutions** - ChatBot helps with instant answers at the site. ChatBot increases consultations requests by an average of 100%.



Credit Suisse expects that this ChatBot technology will reduce the number of calls to the compliance call center by 50 %.

The Oracle logo is displayed in white capital letters on a red rectangular background.

- 48 percent of brands have implemented automation technologies in sales, marketing and customer service, with another 40 percent planning to do so by 2020.
- 80% of businesses plan to use ChatBots by 2020.
- ChatBots will power 85% of Customer Service interactions by the year 2020.
- The ChatBots market is estimated to grow from USD 703.3 Million in 2016 to USD 3,172.0 Million by 2021.







Web  
1995's



Apps  
2005's



Intelligent Assistant  
2015's

# CHATBOTS & AI: TWO TYPES OF ENGAGEMENT

## TASK ORIENTED (DECLARATIVE)

- Think of a more robust, interactive FAQ.
- Most common type of chatbot... so far
- User-initiated queries with automated responses and conversational menus
- Uses Natural Language Processing, but not much Machine Learning
- Integrates with backend systems of record
- Highly specialized & structured interactions
- Most useful in the Support and Service industries



## DATA-DRIVEN & PREDICTIVE (CONVERSATIONAL)

- Similar to Amazon's Alexa or to Google Assistant
- Can monitor data, intent, & even initiate conversation; is contextually aware!
- Personalized based on user profile and past user behavior
- Uses Natural Language Processing & Machine Learning
- Predictive Intelligence and analytics based on collected data across use cases Integrates with Big Data sources

*Artificial intelligence (AI) is the key for a comprehensive  
bot that talks to you almost like humans do.*

# ChatBot and AI

- Artificial intelligence (AI) is a branch of computer science and a technology aimed at developing the theories, methods, algorithms, and applications for simulating and extending human intelligence. Modern AI enables going from an old world-where people give computers rules to solve problems-to a new world-where people give computers problems directly and the machines learn how to solve them on their own using a set of algorithms.
- AI allowing organizations to interpret, understand, and forecast customer behaviors as never before.
- Artificial Intelligence (AI) algorithms will play a pivotal role in transforming business intelligence into a fully predictive probabilistic framework.
- AI will be able to radically transform or automate numerous functions within companies, from pricing, budget allocation, fraud detection and security.

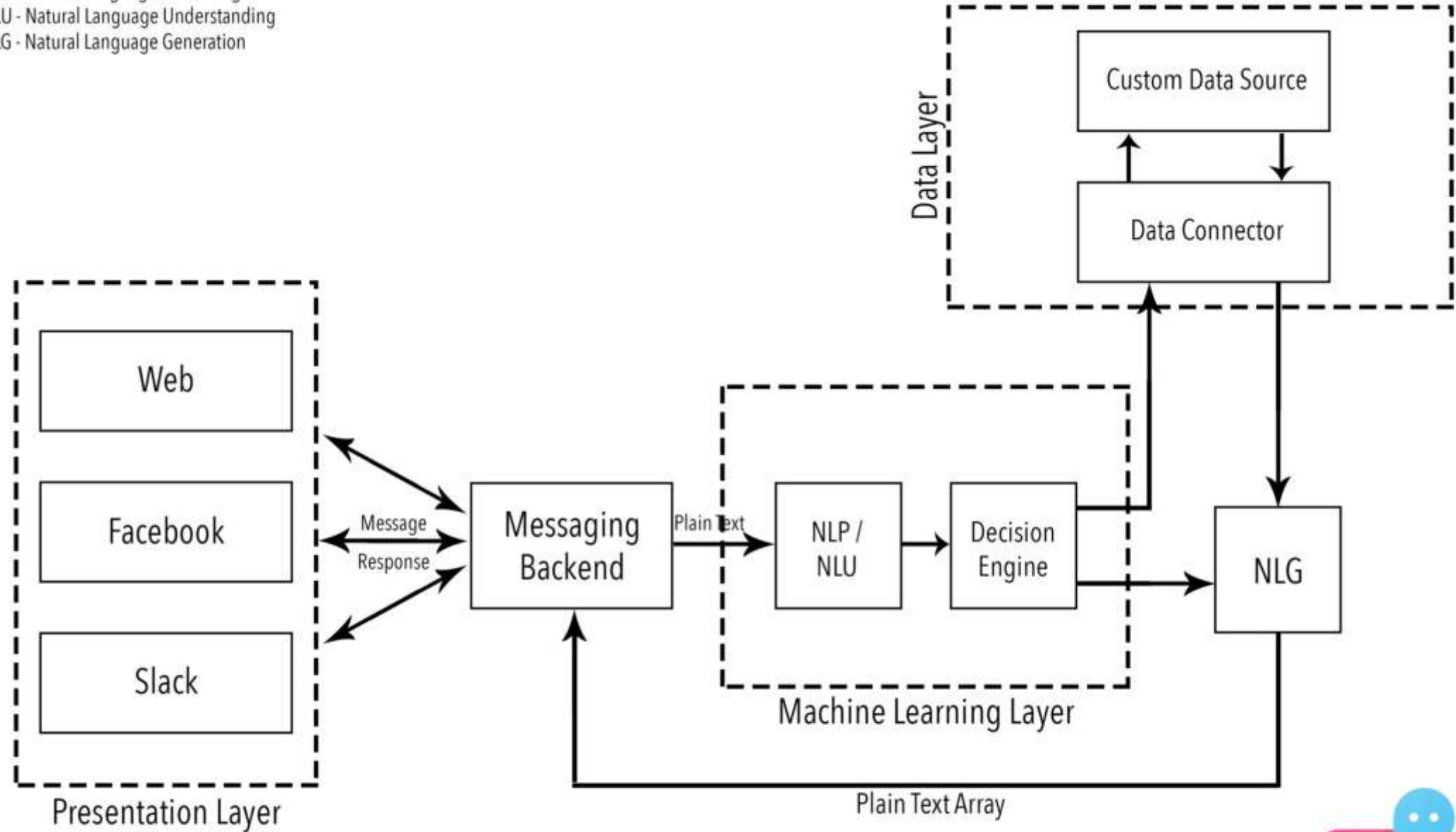
# NLP in Chatbot

- ChatBots are the most prolific examples of **Natural Language Processing** systems.
- These are computer software which can talk to users in natural language (via written and/or verbal methods).
- Adopting the users' information, such as preference, social role, etc., into conversational models reasonably, while users' profiles play a significant role in the procedure of conversations by providing the implicit contexts.
- Personalized response ranking task , incorporating user profiles into the conversation model.

# NLP, NLU, NLG

1. NLP, or **Natural Language Processing** is a blanket term used to describe a machine's ability to ingest what is said to it, break it down, comprehend its meaning, determine appropriate action, and respond back in language the user will understand.
2. NLU, or **Natural Language Understanding** is a subset of NLP that deals with the much narrower, but equally important facet of how to best handle unstructured inputs and convert them into a structured form that a machine can understand and act upon. While humans are able to effortlessly handle mispronunciations, swapped words, contractions, colloquialisms, and other quirks, machines are less adept at handling unpredictable inputs.
3. NLG, or **Natural Language Generation**, simply put, is what happens when computers write language. NLG processes turn structured data into text.

Key:  
NLP - Natural Language Processing  
NLU - Natural Language Understanding  
NLG - Natural Language Generation



# What happens when you send a bot a message? And Asking a for a product?

- Using Natural Language Processing (*what happens when computers read language. NLP processes turn text into structured data*), the machine converts this plain text request into codified commands for itself.
- Now the ChatBot throw this data into a decision engine, since in the bots mind it has certain criteria to meet to exit the conversational loop, notably, the quantity of product that you want.
- Using Natural Language Generation (*what happens when computers write language. NLG processes turn structured data into text*), much like you did with your mother the bot asks you how much of said product you wanted.
- This array of responses goes back into the messaging backend and is presented to you in the form of a question. You tell the bot you want, for example, 1 litre and we go back through NLP into the decision engine.
- The bot now analyzes pre-fed data about the product, stores, their locations and their proximity to your location. It identifies the closest store that has this product in stock and tells you what it costs.
- It then directs you to a payment portal and after it receives confirmation from gateway, it places your order for you, and voila in one to two business days, you have 1 litre of requested product.



# Why having ChatBot on social media is important?

- When it comes to social media, the best response is a quick response. Even if it is just to acknowledge that a request is being managed, brands need to make customers feel their request is a top priority.

# Top 5 Chatbot Functions

- **Collect Data** - Don't lose the data on your chatbot's interactions!
- **Subscribe** - Giving your customers the option to subscribe can benefit you in several ways!
- **Variables** - With the ability to present different outcomes and use different words to provide an answer, it will make your chatbot a conversationalist that can deal with everyone.
- **Connect to a Live Agent** - Offering a ChatBot to your customers will provide a 24/7 channel of service.
- **Target and Engage** - Execute the marketing campaign, and let the ChatBot target, engage and represent what you have to offer.

## Pros and Cons of Sponsored Chatbot Messages

# Pros:

- 1). Earn bigger profit
- 2). Engage more interaction
- 3). Grow your user base
- 4). You can send them the message anytime, day or night
- 5). It won't cost you anything, it's free
- 6). It's automated, you don't need to type the message yourself
- 7). It can reach more at once
- 8). You know that it will be received
- 9). It's instant messaging
- 10). Immediate responses

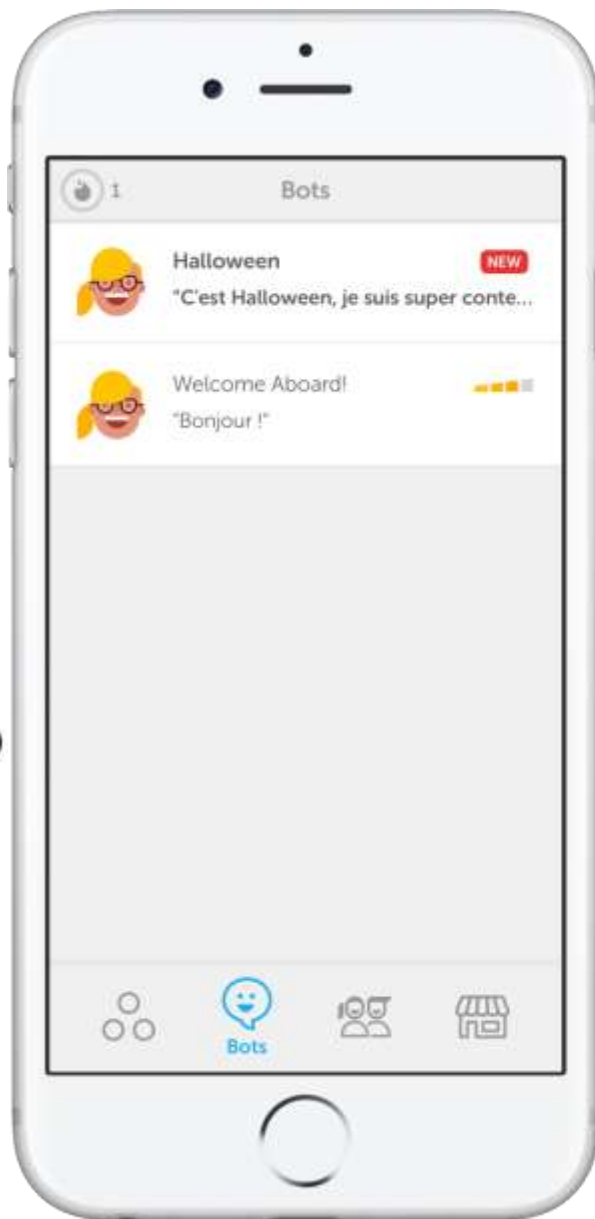
# Cons:

- 1) you need to monitor the behavior, so you don't lose the users that you have
- 2) Send the message at the wrong time in different time zones
- 3) You need to check if the messages are they ethical
- 4) Possibility for the users to block your chatbot
- 5) Sending too many messages may result in a bad experience for the user
- 6) Bad review
- 7) Attract spammers
- 8) Target the wrong audience
- 9) Lose the purpose of the chatbot
- 10) Harm your brand

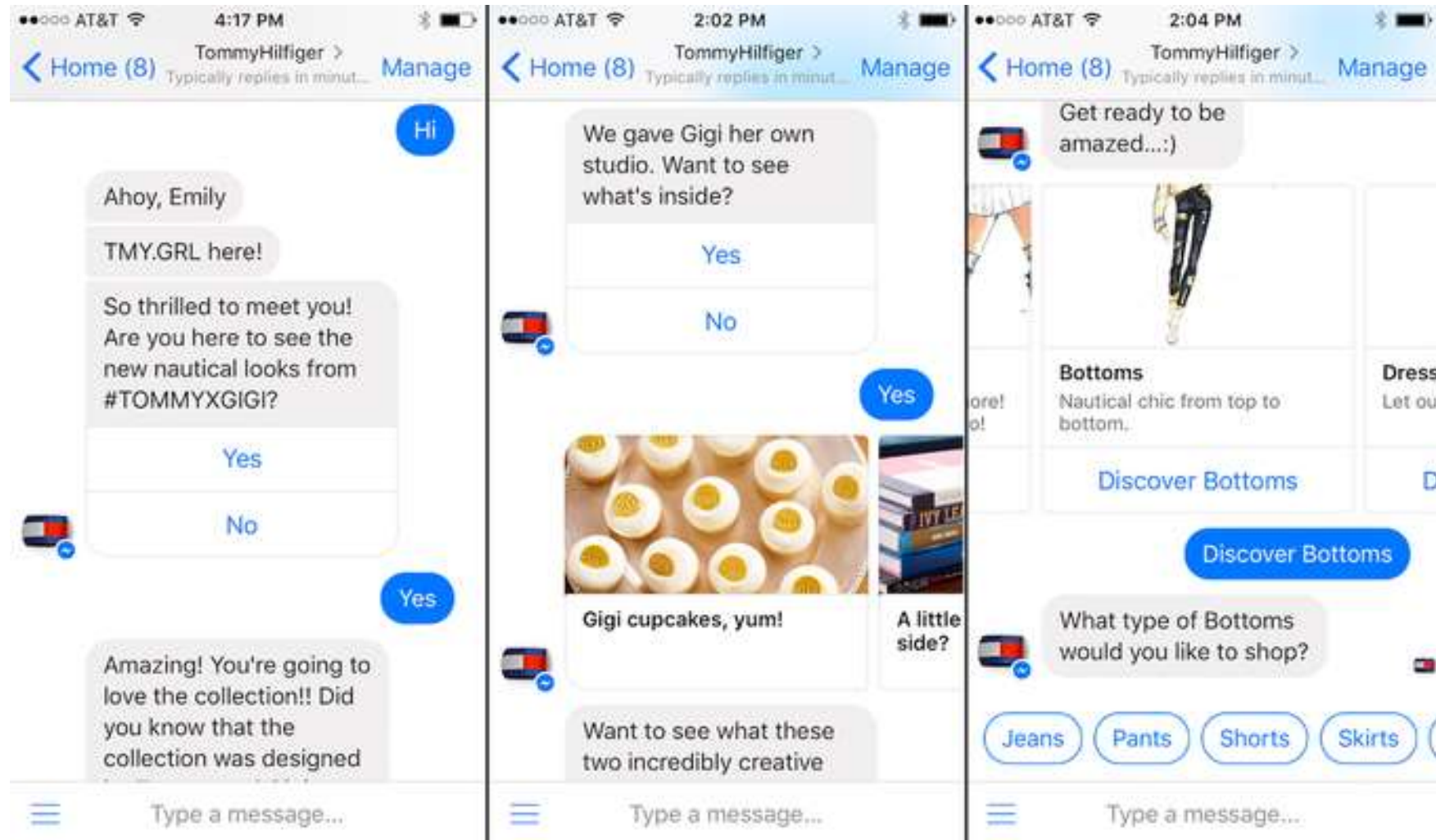
# Successful examples of ChatBots



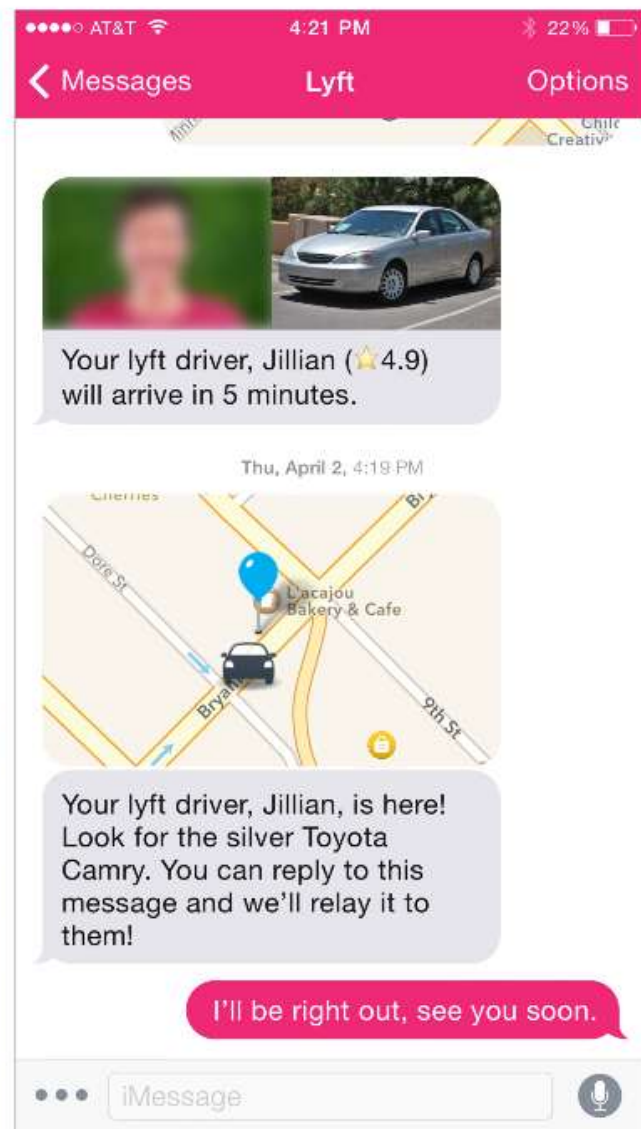
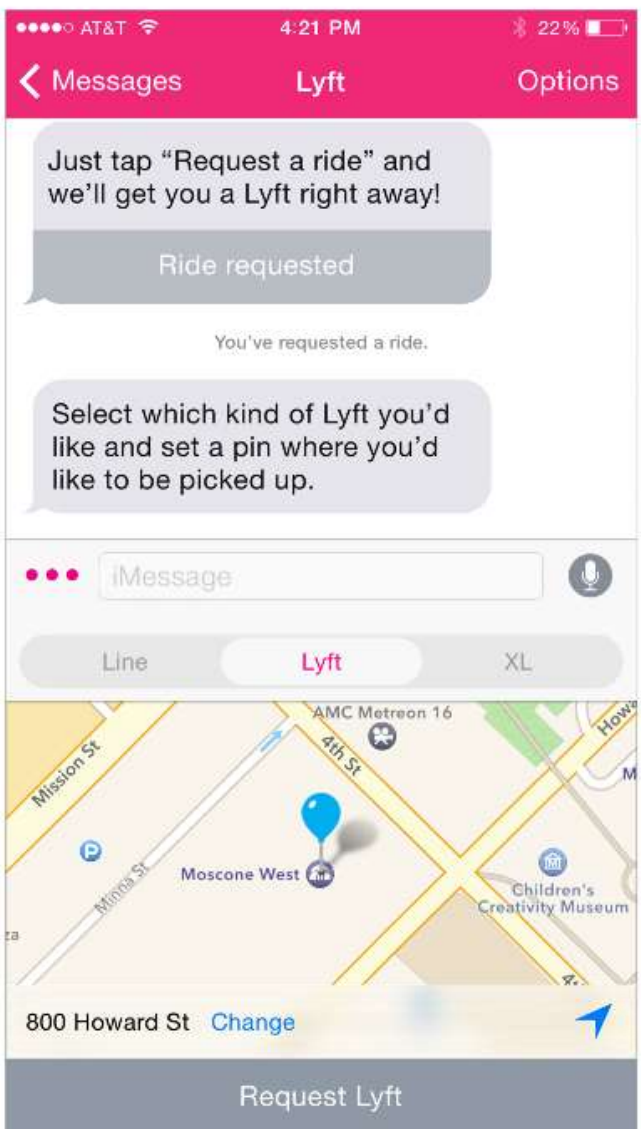
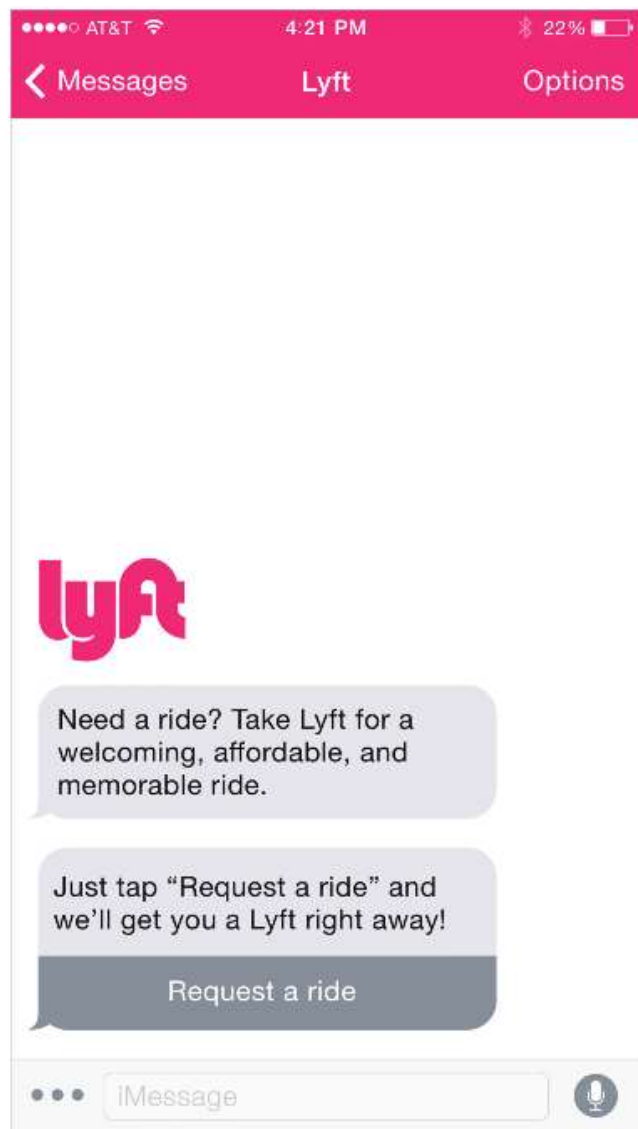
duolingo



# HOW FASHION BRANDS USE CHATBOTS TO SHINE

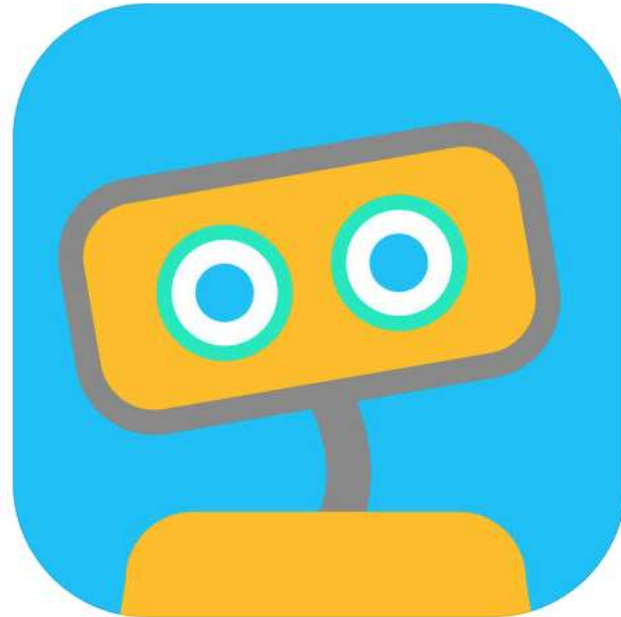








# A Stanford Researcher Is Pioneering a Dramatic Shift in How We Treat Depression



**Woebot** 12+

Ready to listen 24/7

Woebot Labs Inc

★★★★☆ 32 Ratings

Free

### Track your mood

Each week I'll show you how your mood changes on a graph so you can see what's up



### Give you insight

I can find patterns that are hard for humans to see



### Teach you stuff

I've got lots of techniques from Cognitive Behavioral Therapy that I can share with you



### Help you feel better

It's true, some nice people at Stanford showed I could help with that



### Be there 24/7

I don't actually sleep ever so I'm always delighted to hear from you



### Learn from you over time

So the more we chat, the better I get to know you



Thank you for your precious time