

Data Security And Privacy Of Chatbots



@electrobabe

Background



Women And Code

**WOMEN
&&
CODE**

Chatbots Agency

chat bots agency

Chatbots

Can I book a room tonight?

Hi James. We have a room available tonight- room rate \$219+tax.



Hyatt Regency Hotel
San Francisco

HYATT



What are Chatbots?

A chatbot is a computer program or an “artificial intelligence” which conducts a conversation via auditory or textual methods



Integrated



Virtual Agent



Accessible



Always available

Chatbots are new!



IDG NEWS SERVICE

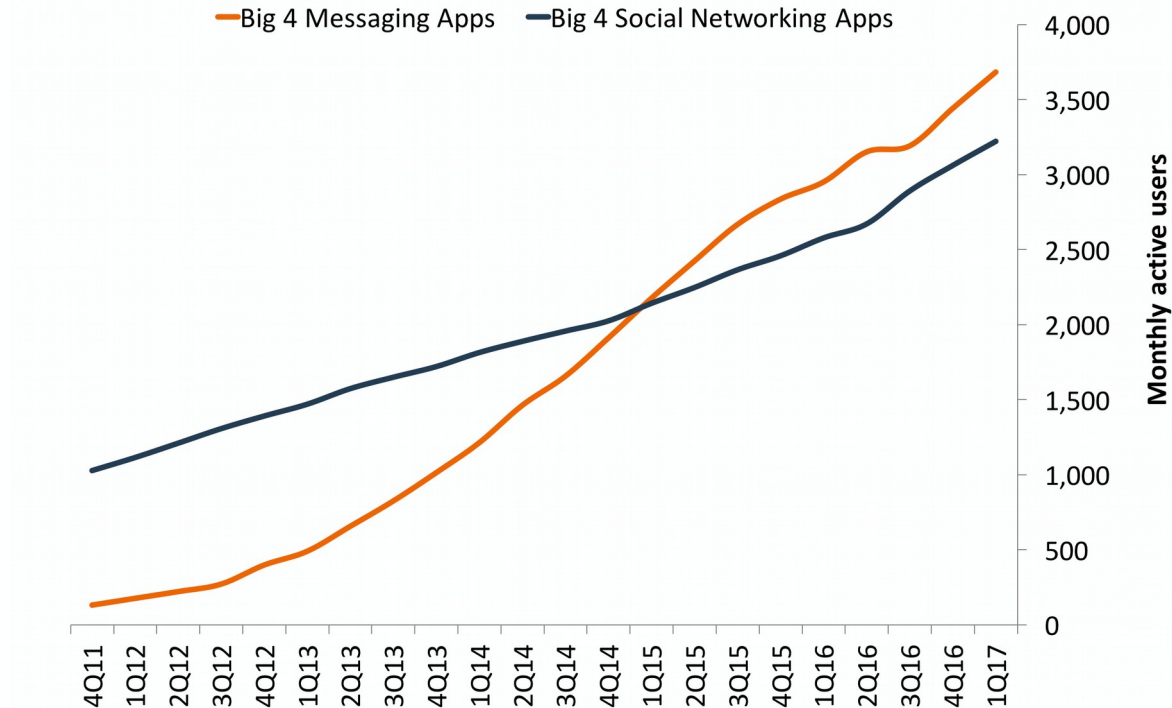
Mark Zuckerberg
CEO, Facebook

Chatbots are new?

Messaging > Social Media

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

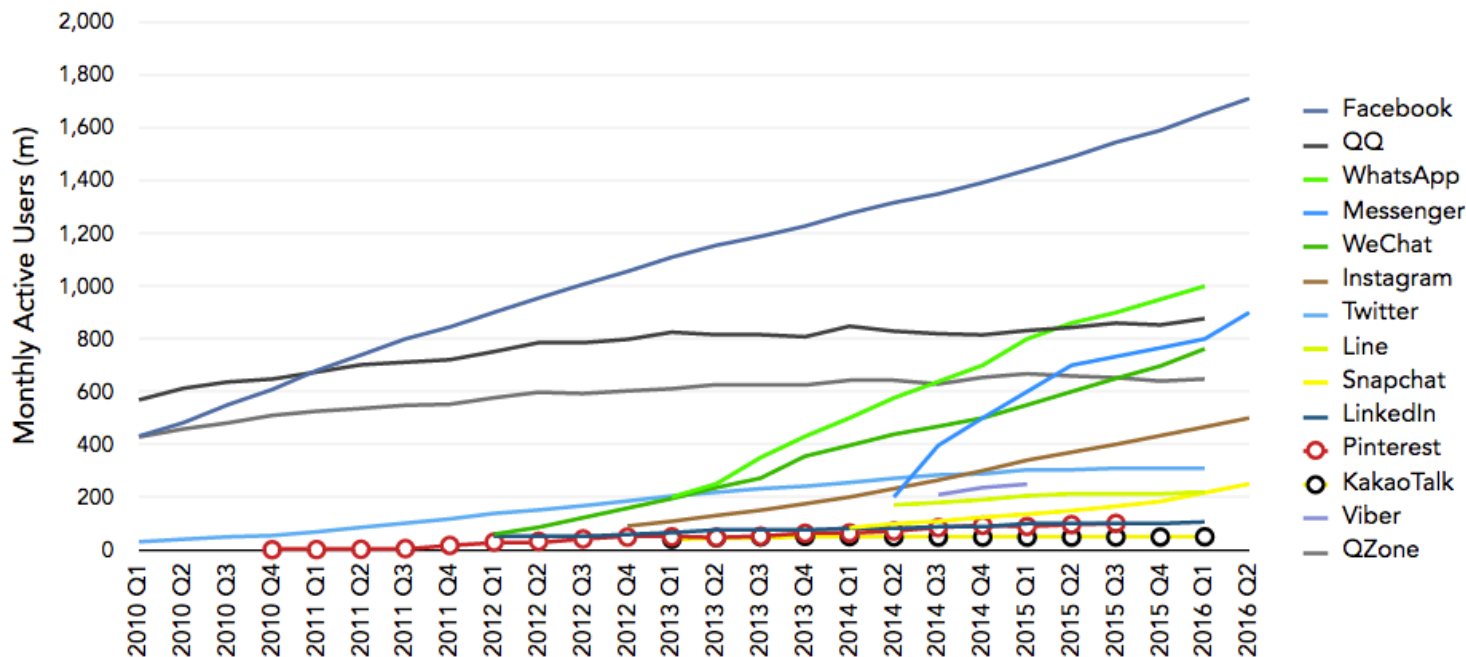
Source: Companies, Apptopia, TechCrunch, BI Intelligence estimates, 2017

BI INTELLIGENCE



Messaging Apps

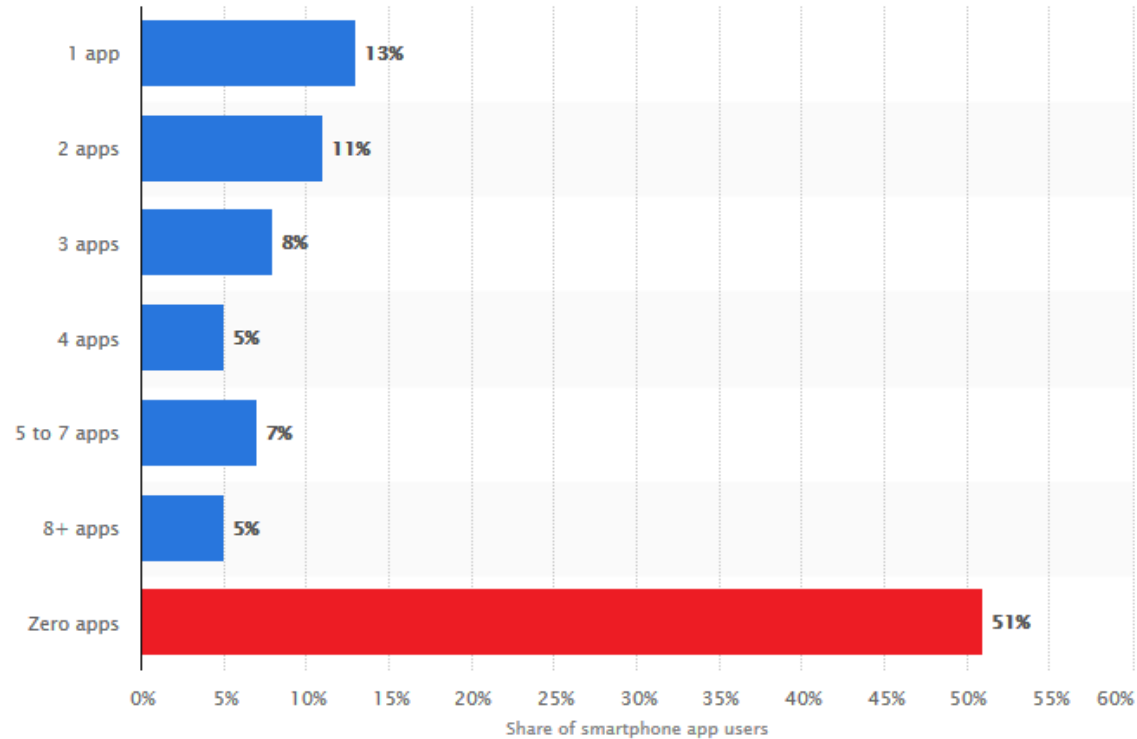
Growth of Global Social & Messaging Apps



Source: Based on information contained in reports, press releases and other documents filed by these Social and Messaging App Companies with the U.S. Securities and Exchange Commission ("SEC") as well as materials disclosed on the websites of such Social and Messaging App Companies ("Reports"). ARK Investment Management LLC analyzed and internally ranked the social and messaging apps based on information in those Reports.

App Downloads pro Monat

Number of app downloads per month of smartphone users in the United States as of June 2017



Usetime von Messaging Apps

Average Time Spent per User per Day
in Top Messaging Apps
Android Phone, December 2015

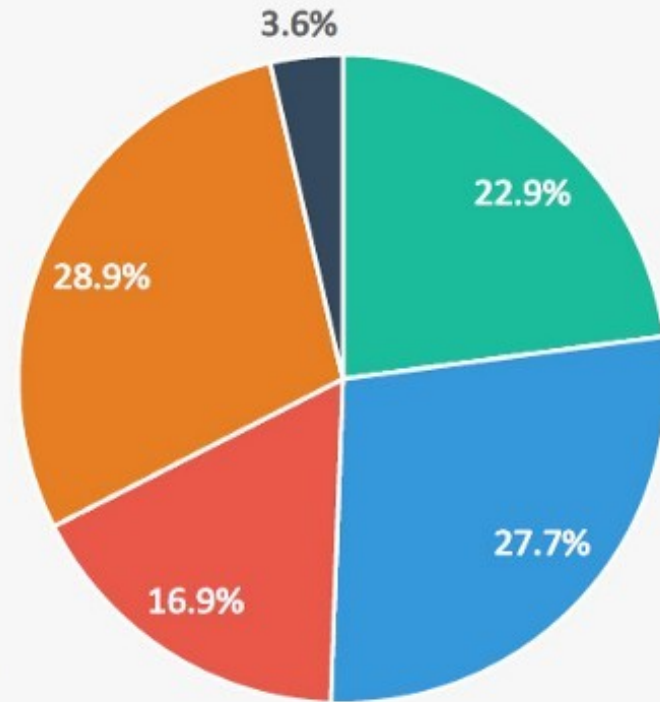


compare USA: 2015: 9 mins / day – 2018: 14 mins / day

Service Expectations

A business should **respond to me** 24 hours a day, 7 days a week

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

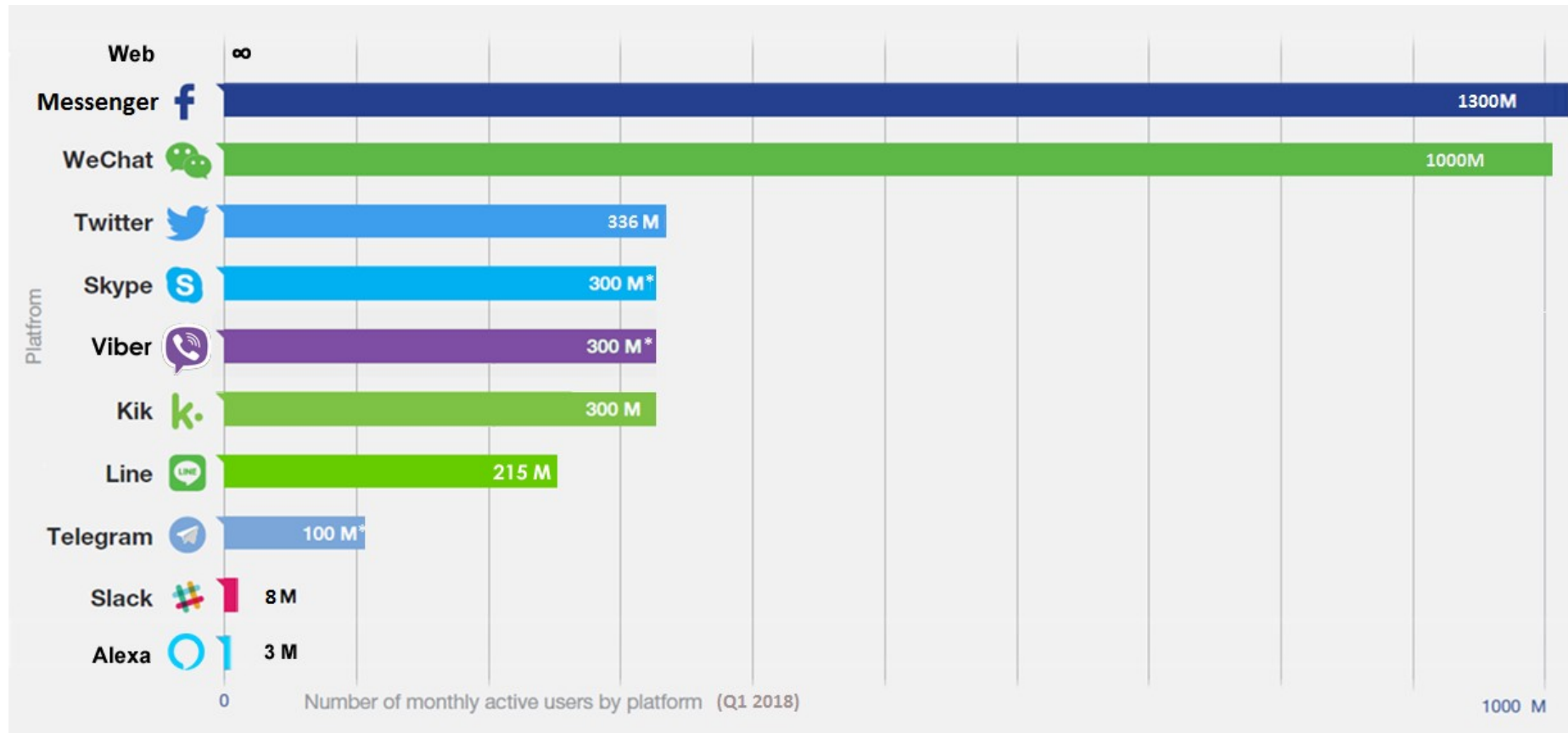


Ubisend "2016 Mobile Messaging Report" ubsd.co/mobile

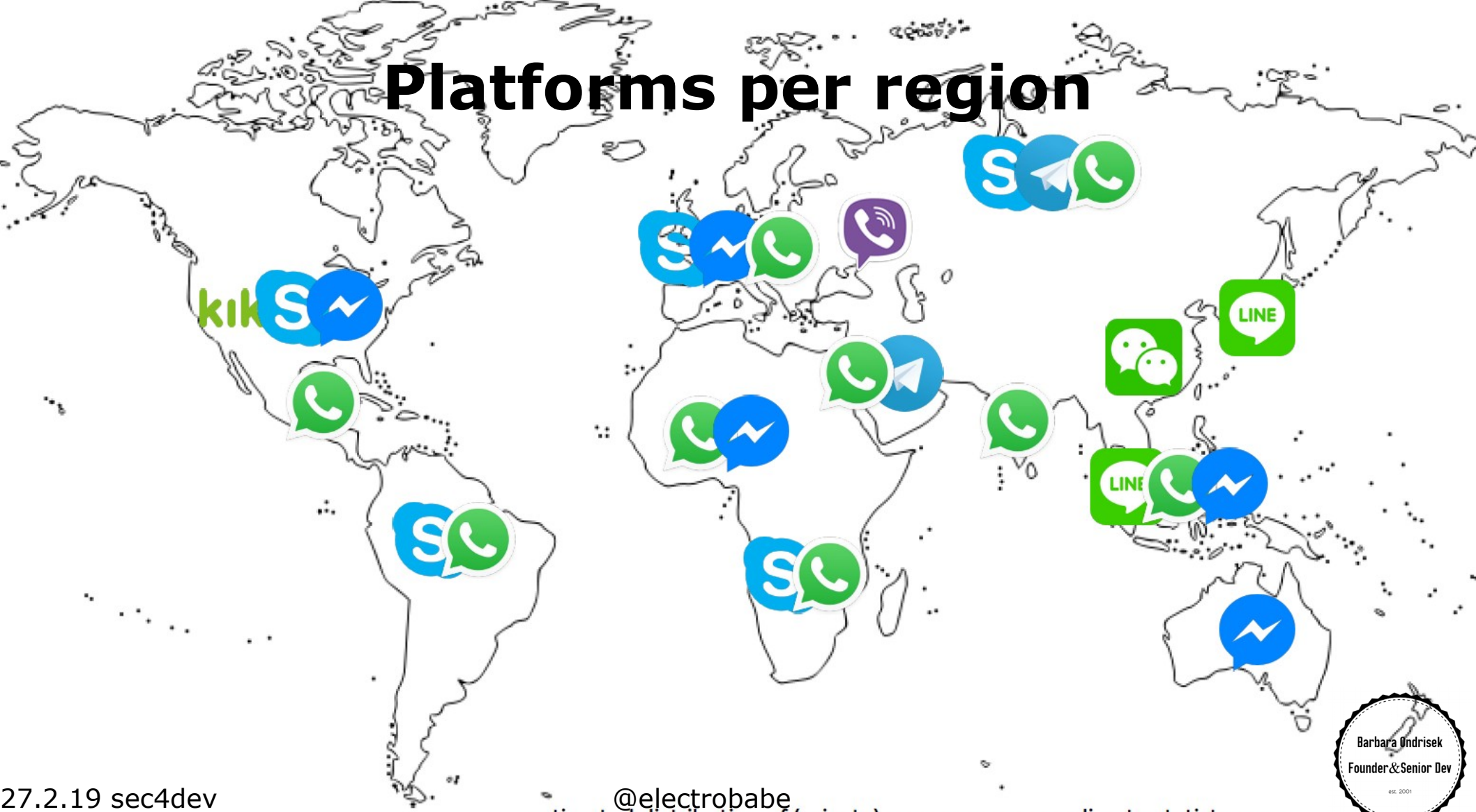
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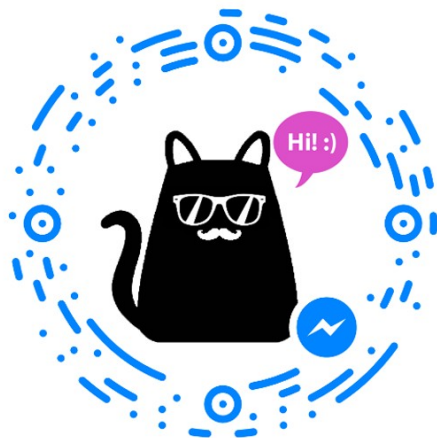


Platforms



Platforms per region



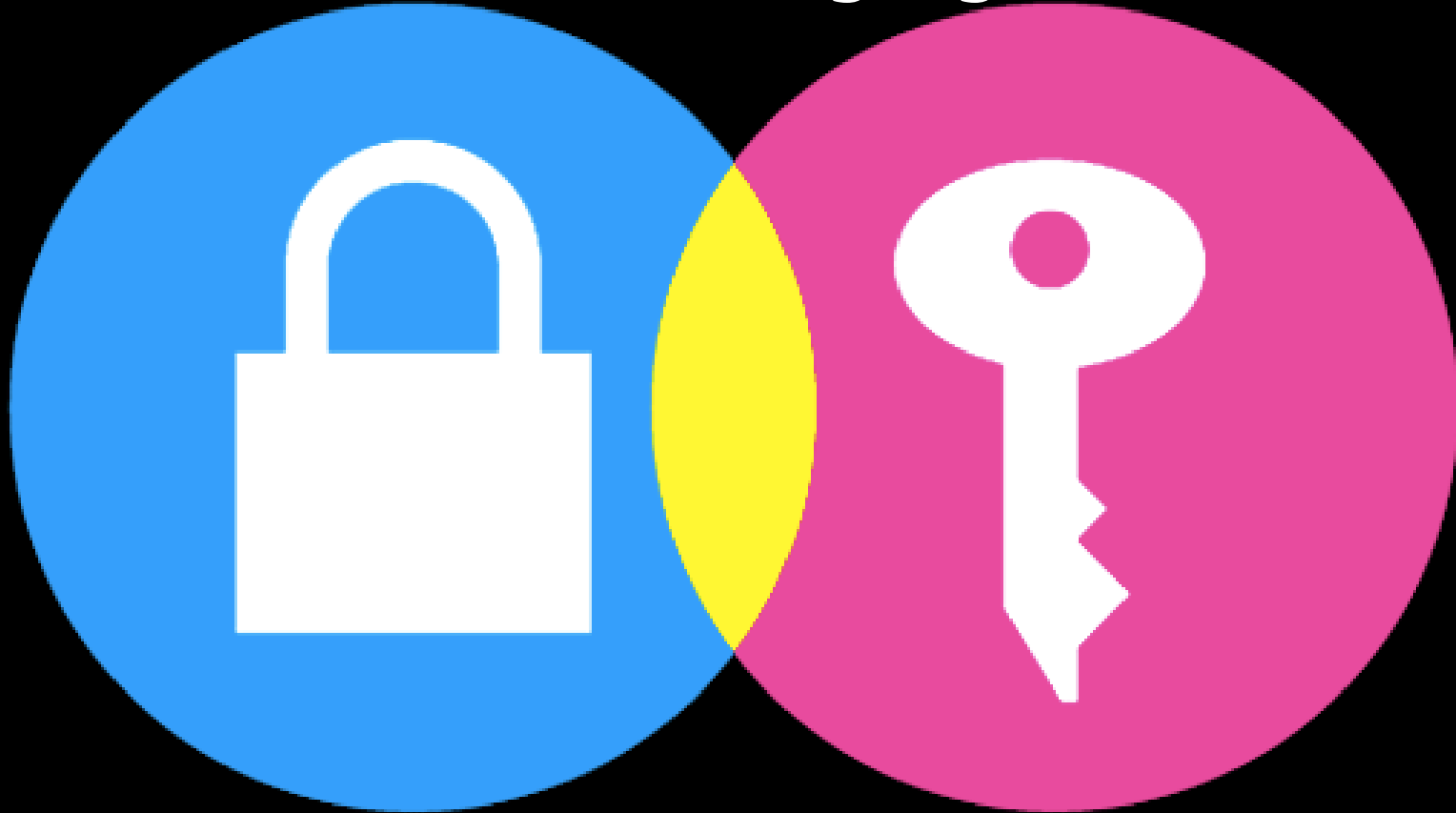


Mica, the Hipster Cat Bot

Discover the best places near you!

<https://hipstercatbot.com> - office@hipstercatbot.com

EFF's Secure Messaging Scorecard



	Encrypted in transit?	Encrypted so the provider can't read it?	Can you verify contacts' identities?	Are past comms secure if your keys are stolen?	Is the code open to independent review?	Is security design properly documented?	Has there been any recent code audit?
Facebook chat							
Google Hangouts/Chat "off the record"							
iMessage							
Kik Messenger							
QQ							

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Signal / RedPhone							
Skype							
Telegram							
Viber							
WhatsApp							
27.2.19 sec4dev			@electrobabe				Barbara Ondrisek Founder & Senior Dev Feb 2021

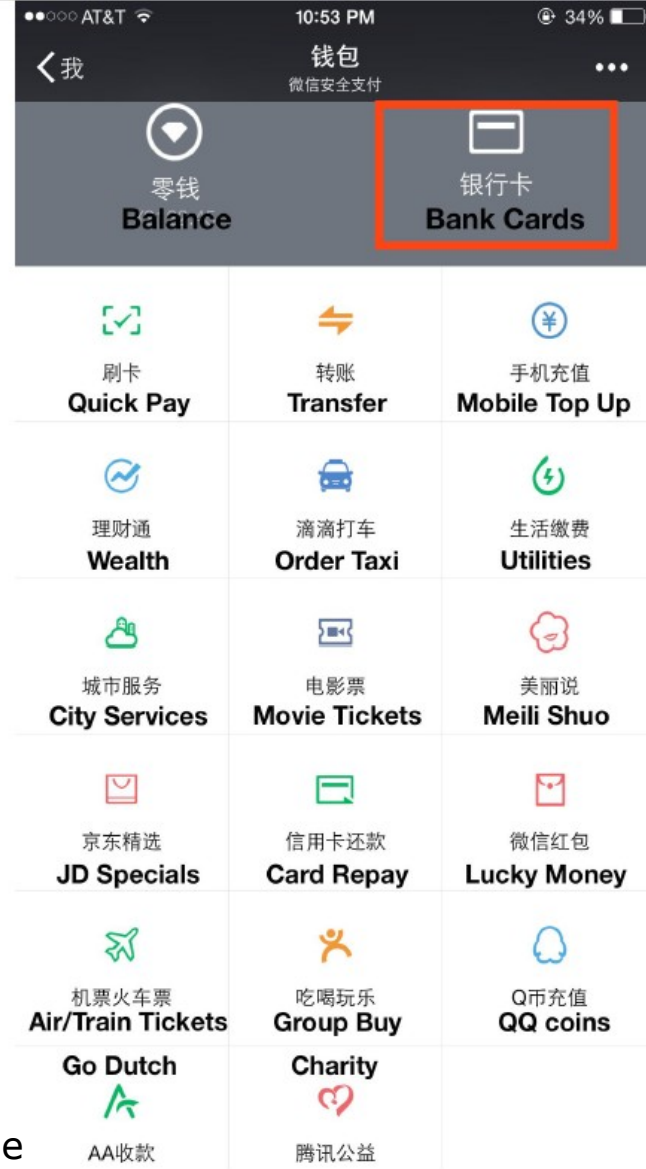
Digital Communications Protocols

	Security & Privacy										
	Active	TLS	Open Client	Open Server	On Premise	Anonymous	E2E Private	E2E Group	E2E Default	E2E Audit	FIDO1 / U2F
Threema	TRUE	CLAIMED	FALSE	FALSE	FALSE	TRUE	CLAIMED	CLAIMED	CLAIMED	FALSE	FALSE
Whatsapp	TRUE	CLAIMED	FALSE	FALSE	FALSE	FALSE	CLAIMED	CLAIMED	CLAIMED	FALSE	FALSE
iMessage	TRUE	CLAIMED	FALSE	FALSE	FALSE	FALSE	CLAIMED	CLAIMED	CLAIMED	FALSE	FALSE
MS Teams	TRUE	CLAIMED	FALSE	FALSE	TRUE	TRUE	CLAIMED	CLAIMED	CLAIMED	FALSE	FALSE
Facetime	TRUE	CLAIMED	FALSE	FALSE	FALSE	FALSE	CLAIMED	CLAIMED	CLAIMED	FALSE	FALSE
Line	TRUE	CLAIMED	FALSE	FALSE	FALSE	FALSE	CLAIMED	CLAIMED	CLAIMED	FALSE	FALSE
Viber	TRUE	CLAIMED	FALSE	FALSE	FALSE	FALSE	CLAIMED	CLAIMED	CLAIMED	FALSE	FALSE
Allo	TRUE	CLAIMED	FALSE	FALSE	FALSE	FALSE	CLAIMED	CLAIMED	FALSE	FALSE	TRUE
Facebook	TRUE	CLAIMED	FALSE	FALSE	FALSE	FALSE	CLAIMED	CLAIMED	FALSE	FALSE	TRUE
Skype	TRUE	CLAIMED	FALSE	FALSE	FALSE	FALSE	CLAIMED	FALSE	FALSE	FALSE	FALSE
Kakaotalk	TRUE	CLAIMED	FALSE	FALSE	FALSE	FALSE	CLAIMED	FALSE	FALSE	FALSE	FALSE
Hangouts	TRUE	CLAIMED	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
Zoom	TRUE	CLAIMED	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Slack	TRUE	CLAIMED	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Reddit Chat	TRUE	CLAIMED	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
Twitch	TRUE	CLAIMED	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Instagram	TRUE	CLAIMED	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Snapchat	TRUE	CLAIMED	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Steam	TRUE	CLAIMED	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
WeChat	TRUE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Kik	TRUE	CLAIMED	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
BBM	TRUE	CLAIMED	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
IMO	TRUE	CLAIMED	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
QQ	TRUE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE

<https://docs.google.com/spreadsheets/d/1-UIA4-tslROBDS9IqHalWVztqZo7uxlCeKPQ-8uoFOU/edit#gid=0>

Your personal data





Cloud-based AI Engines

What do bots know?

	First Name	Last Name	Username	Pic	Age	Gender	Timezone	Country	Locale	GPS Location
FB Messenger	✓	✓	✓*	✓	✓*	✓	✓	✓*	✓	✓*
Skype	✓		✓	✗	✗	✗	✗	✗	✗	✗
WeChat	✗	✗	✓	✗	✗	✗	✗	✗	✗	✗
Telegram	✓	✓	✓	✓	✗	✗	✗	✗	✗	✓*
KIK	✓	✓	✓	✓	✗	✗	✗	✗	✗	✗
Slack	✗	✗	✓	✓	✗	✗	✗	✗	✗	✗

Personality Profiles



Thanks For Chatting!



Any Questions?

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name ☺

twitter

blog