



Global AI On Tour, New Zealand

17th June, 2020

#GlobalAIOnTour

Build AI Bots for next wave of computing

Arafat Tehsin

Microsoft MVP (AI)
Technical Consultant, Velrada

 @arafattehsin  github.com/arafattehsin



Agenda



- What are Bots?
 - Why and Why Now?
 - Digital Transformation
- Microsoft Conversational AI Spectrum
- Bot Framework Composer
 - Language Understanding
 - Language Generation
 - Adaptive Expressions

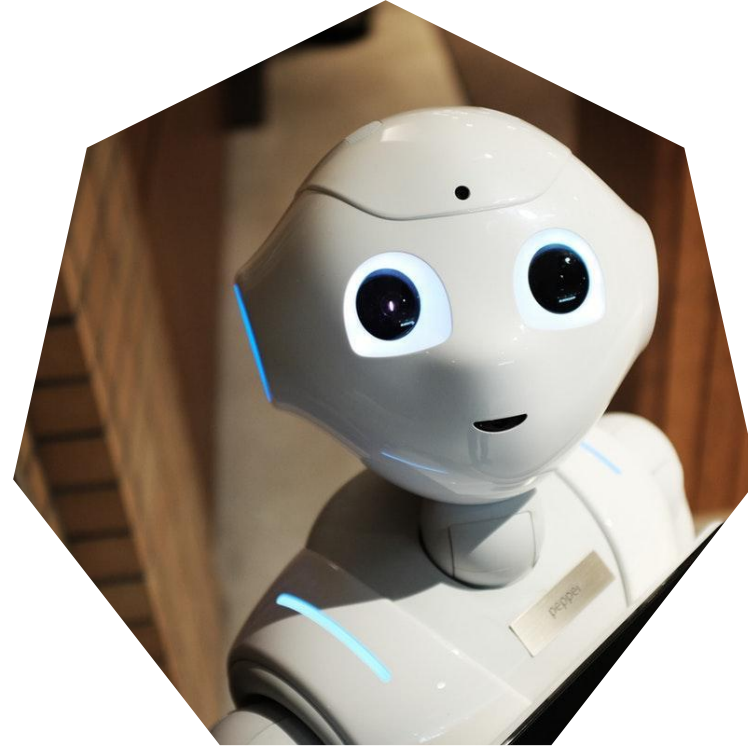
“Bots are the new apps”

Satya Nadella



What are Bots?

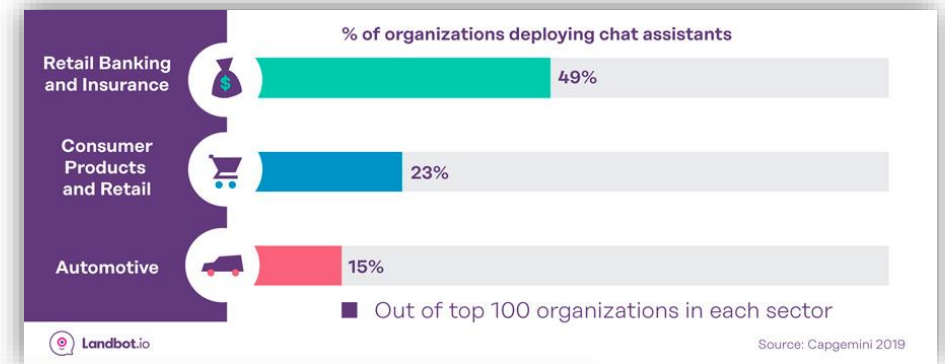
- Bots are services (powered by rules) that people interact with through conversation and messaging apps
- New user interface paradigm



Why Bots and Why Now?



“Bots / Agent Interfaces are the top 3rd trend for Digital Technology in 2020^[1]” – Gartner



Google Trends

Digital Transformation

Customer Services

FAQs
Appointment
Booking
Troubleshooting
Customer
Onboarding / KYC

Retail / Shopping

Recommend
Products
Tickets Booking
Shopping

In-House Support

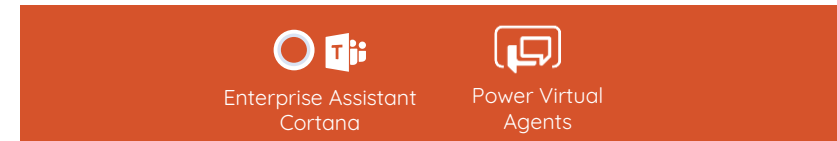
Meeting Room
Find the right
domain expert
HR – Booking
leaves, fault
reporting

Business Leaders say chatbots have increased their sales by 67% - Inside Intercom

Microsoft Conversational AI

Software as a service, SaaS solutions

To enable out-of-the-box Conversational AI services for key solutions



Solution accelerators and templates, PaaS

To extend and enable key Conversational AI solutions



Pre-trained AI, Cognitive Services

To add and customize language, speech, knowledge & vision



Managed Bot Service, Azure Bot Service

To accelerate building, management and deployment of conversational AI



Popular open source frameworks, Bot SDK on GitHub

To fully integrate and customize your solution, with any AI technology



Language Understanding (LU)

- Core component of Bot Framework Composer
- Adds natural language capabilities to your bot through LUIS / Recognizers
- Supports LG format
- Auto-train the language model from within Bot Framework Composer

Expected responses (intent: TrackFlight)

- i want to know the status of flight from {Source=Manchester}
- let's track the flight to {Destination=Brisbane}
- what's the update flight {FlightNumber=AT 437}
- can you please update me about the status of {FlightNumber=911}
- flight to {Destination=bahrain} {FlightNumber=AT-123}
- {FlightNumber=AT 219}
- has the flight {FlightNumber=AT 372} {FlightNumber=AT 372}
- i want to track ek {FlightNumber=234}
- i want to track flight {FlightNumber=AT573}
- is flight from {Source=london} to {FlightNumber=bahrain}
- please book a flight from {Source=london} to {Destination=Brisbane}
- tell me about {FlightNumber=AT 124} to {Destination=Brisbane}
- tell me about {FlightNumber=at 810}

Language Generation (LG)

- Multiple variations of a response without having to write any complex code
- Separate business logic from presentation
- Rich response such as Adaptive Cards support

Name	Responses
#WelcomeUser	<ul style="list-style-type: none">- Welcome to AMA Airlines. I'm currently responsible for the general questions and answers and flight status. Please let me know how may I help you today?- Hello! It looks like we're interacting for the first time. I'm AMA Airlines Bot. I am responsible for your general questions and flight statuses. How may I help you today?

Hello! It looks like we're interacting for the first time. I'm AMA Airlines Bot. I am responsible for your general questions and flight statuses. How may I help you today?



Type your message

Adaptive Expressions

- Expressions to evaluate the user's input or bot's response
- Range of pre-built functions
- Available to be used within Language Generation templates

Property ?

conversation.FlightDetails.FlightNumber

Value ?

=toUpper(@FlightNumber)

Branch: if/else

Branch: If/Else

Two-way branch the conversation flow based on a condition.

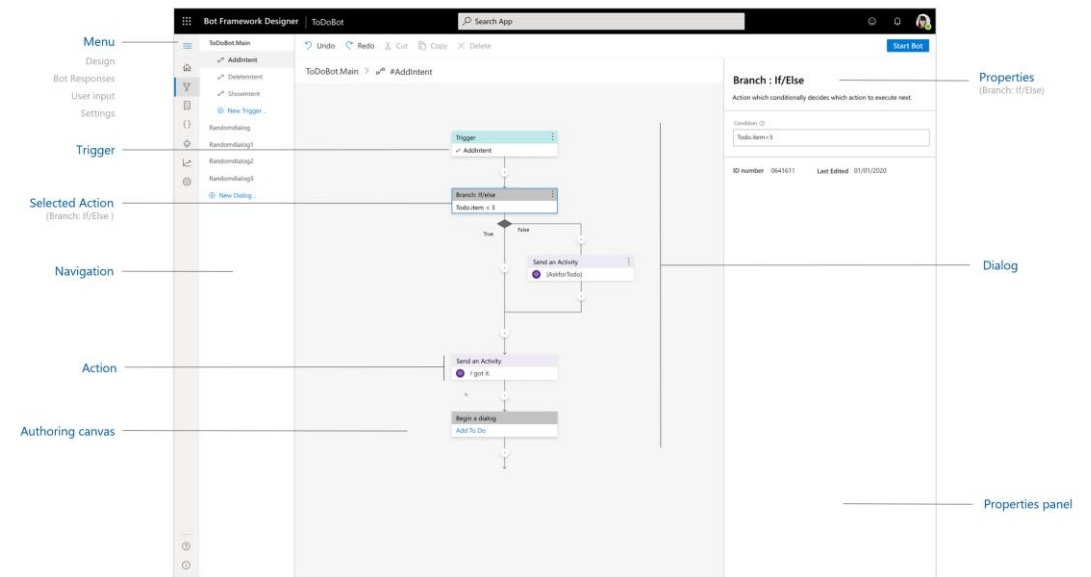
[Learn more](#)

Condition ?

=length(conversation.FlightDetails.FlightNumber) > 0

Bot Framework Composer

- Opensource development tool
- Visual Authoring Canvas (Drag & Drop) and Visualizing the conversational flow
- Language understanding (NLU) in context of conversation authoring
- Tools to train and manage dialog components (including NLU and QnA)
- Author Bot responses (powered by Language generation and templating system)
- A ready-to-use bot runtime



Pre-requisites

- Bot Framework Composer (<https://docs.microsoft.com/en-us/composer/setup-yarn>)
- Bot Framework Emulator (<https://github.com/Microsoft/BotFramework-Emulator/releases/>)
- Azure Trial Subscription (<https://azure.microsoft.com/en-gb/offers/ms-azr-0044p/>)

Need Help?

- Bot Framework Composer Docs (<https://docs.microsoft.com/en-us/composer/introduction>)
- Build a Flight Tracker with Bot Framework Composer (<https://www.arafattehsin.com/build-a-flight-tracker-using-bot-framework-composer-part-1/>)
- Publish a Bot Framework Composer Bot on Azure (<https://www.arafattehsin.com/bot-framework-composer-publish-azure-resources/>)

Bot Framework Composer

Demo



Never stop learning...



- **Learn Bot Framework** (<https://docs.microsoft.com/en-us/learn/paths/create-bots-with-the-azure-bot-service/>)
- **Bot Framework Composer** (<https://docs.microsoft.com/en-us/composer/introduction>)
- **LUIS** (<https://www.luis.ai>)
- **Bot Framework Community** (<https://www.github.com/botbuildercommunity>)
- **My Blog** (<https://www.arafattehsin.com/blog>)

Thank you!



Any Questions?

Feel free to connect with me:

@arafattehsin

[linkedin.com/in/arafattehsin](https://www.linkedin.com/in/arafattehsin)

arafat@outlook.com

Any Questions?

You can find me at:

@arafattehsin

arafat@outlook.com

