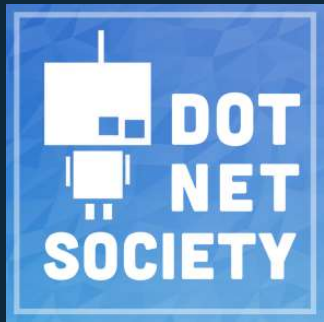


# DotNet Society Hour-of-Code





# Build-a-Bot Workshop 1: Understanding Chatbots





# Hello!

## I am Martius

I am here because I love to share about cool new technologies 😊

You can find me at @martiuslim on Telegram or GitHub

Join our Microsoft Student Community Telegram chat  
@ <http://tinyurl.com/smudotnet>

These slides can be found @  
<https://github.com/martiuslim/build-a-bot>





# Hour-of-Code: Build-a-Bot



## ◇ > Understanding Chatbots <

- ◇ JavaScript & Node.js
- ◇ Microsoft Bot Framework
- ◇ Git
- ◇ Azure





# Understanding Chatbots

- ◇ What is a chatbot?
- ◇ Why should you care?
- ◇ How can we take part?



A decorative graphic on the left side of the slide consists of a cluster of hexagons in various shades of blue and cyan. Some hexagons contain white icons: a lightbulb, a thumbs-up, a smartphone, a magnifying glass, and a gear. A network of small circles and lines is also visible. A large cyan hexagon in the center of this cluster contains the white number '1'.

1

# Chatbots?

What is a chatbot, exactly?



# Chatbots

A chatbot is a service, powered by rules and sometimes artificial intelligence, that you interact with via a chat interface.





# Chatbot Services

- ◇ Could be functional (FAQ bots, Shopping bots)
- ◇ Could be for fun (Trivia bots, game bots)
- ◇ Could be anywhere (Facebook messenger, Telegram, Skype, etc)

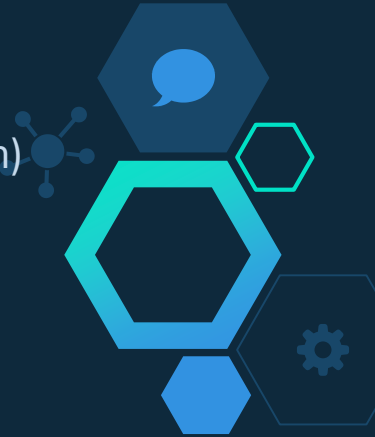






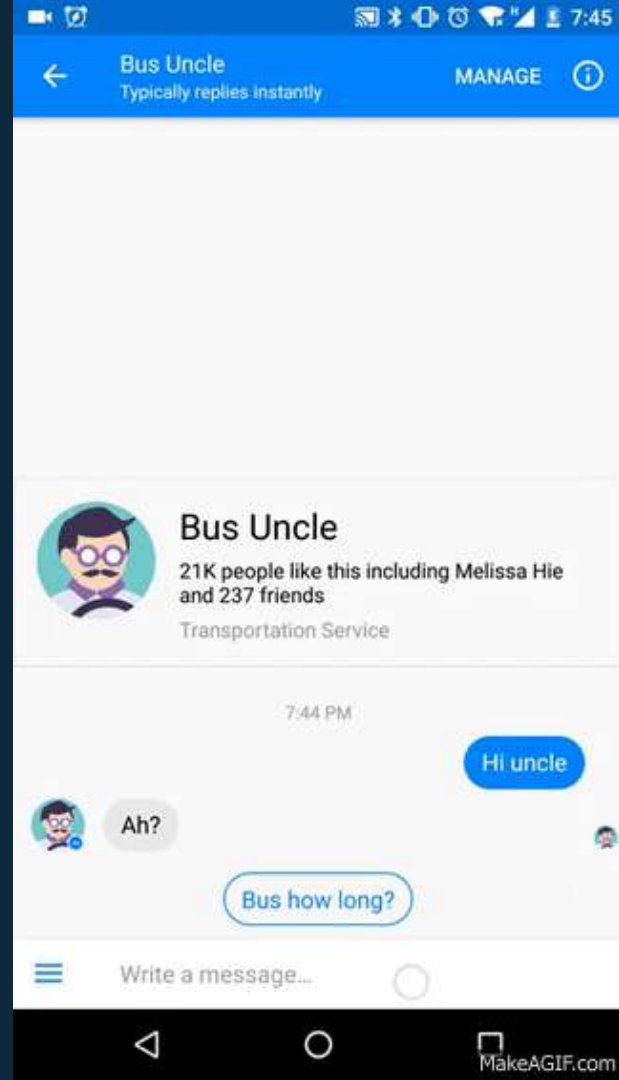
# Some cool bots

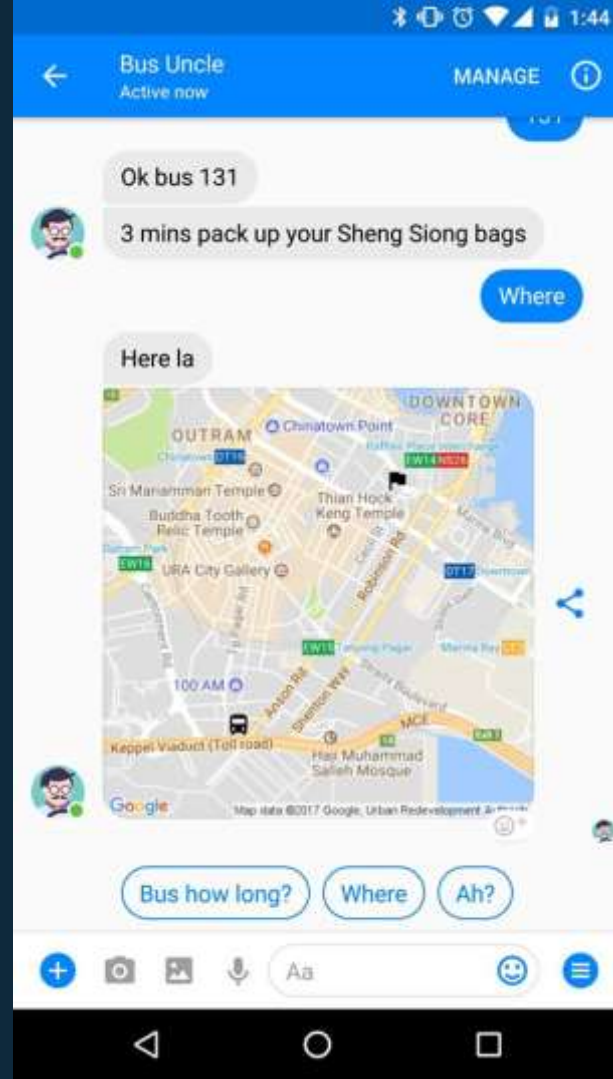
- ◇ SG Bus Uncle (<https://www.facebook.com/sdbusuncle/>)
- ◇ TaxiBot (<https://www.facebook.com/TaxiBotsg/>)
- ◇ SGCoinBot (@sgcoinbot on Telegram)
- ◇ And of course.. DotNetBot! (@smumspbot on Telegram)





“How long more do I have  
to wait for bus 65?” –  
Abhilash Murthy







CountMeIn Bot

bot

SEND MESSAGE

#### Info

This bot will help you create polls where friends can leave their names.

Username: @countmeinbot



# Even more bots

◇ <https://bots.botframework.com/>

◇ <https://storebot.me/> (Telegram)

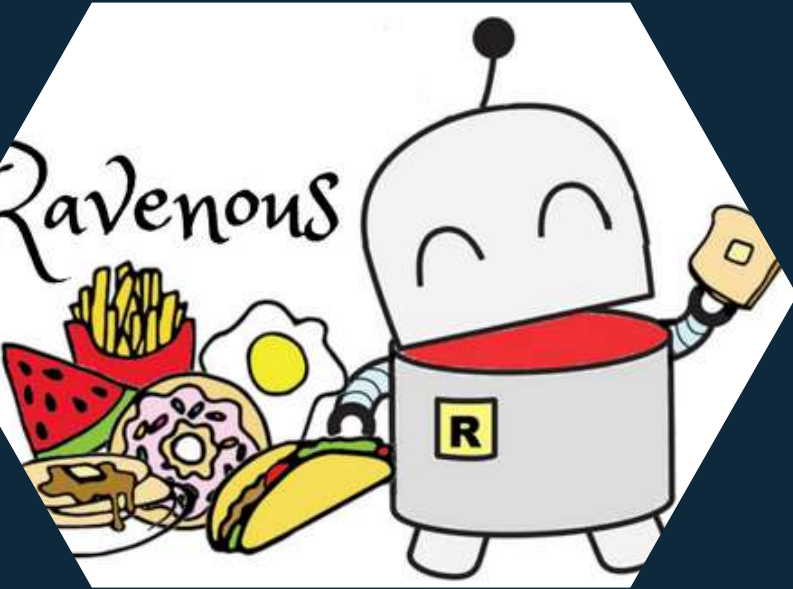




# Bots are Services

- ◇ They are created to solve problems
- ◇ Enhance user experience (UX)
- ◇ A digital revolution for both consumers and businesses





# Team Ravenous & EvBot

EvBot is an event assistant chatbot that helps both the event organizer and participants through attendance taking, creating surveys and tracking survey responses, broadcasting information and reminders to participants and more!



A decorative graphic on the left side of the slide consists of a cluster of hexagons in various shades of blue and teal. Some hexagons contain white icons: a lightbulb, a thumbs-up, a smartphone, a magnifying glass, and a gear. A network of small dots and lines is also visible. A large, central hexagon in a gradient of blue and teal contains the white number '2'.

2

# So what?

Why you should care about the chatbot revolution.



## Top stories

Don't Wait. Here's Why You Should Get in the Chatbot War Now.

Entrepreneur · 1 day ago


Levi Strauss' chatbot helps jeans buyers find the right fit

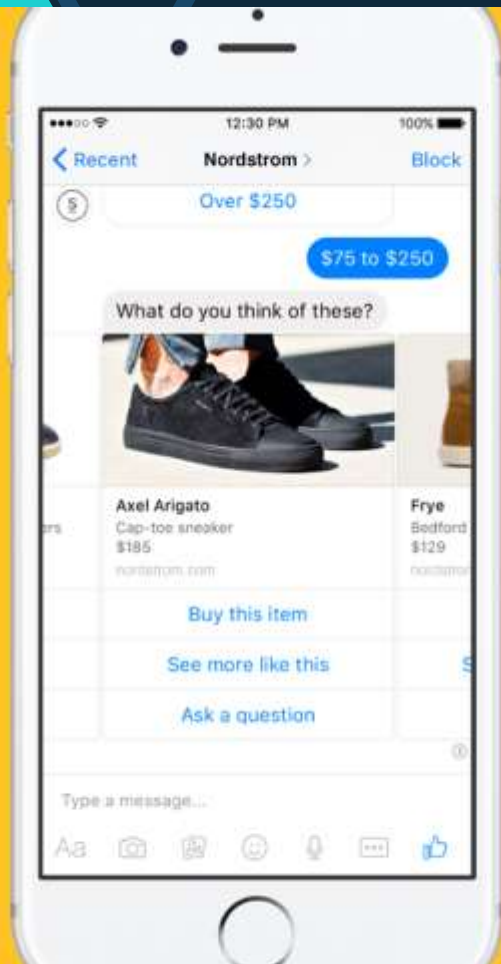
Retail Dive · 2 days ago

Depressed but can't see a therapist? This chatbot could help

WatertownDailyTimes.com · 4 hours ago


→ [More for chatbot](#)






# NORDSTROM





## Examples of Chat Bots

Buying shoes isn't the only thing chatbots can be used for. Here are a couple of other examples:

- Weather bot. Get the weather whenever you ask.
  - Grocery bot. Help me pick out and order groceries for the week.
  - News bot. Ask it to tell you when ever something interesting happens.
  - Life advice bot. I'll tell it my problems and it helps me think of solutions.
  - Personal finance bot. It helps me manage my money better.
  - Scheduling bot. Get me a meeting with someone on the Messenger team at Facebook.
  - A bot that's your friend. In China there is a bot called Xiaoice, built by Microsoft, that over 20 million people talk to.
- 



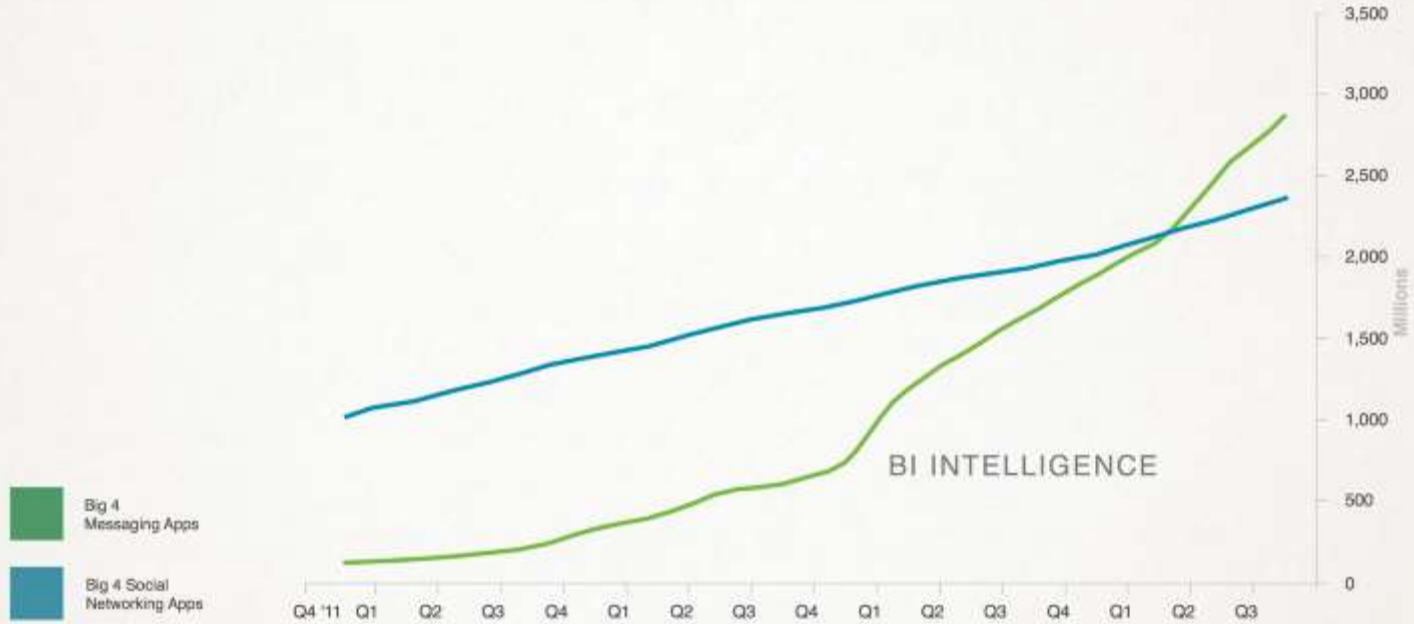
> 100,000

Chatbots developed on Facebook Messenger



## MESSAGING APPS HAVE SURPASSED SOCIAL NETWORKS

Monthly active users for top 4 social networks and messaging apps



Source: Companies, BI Intelligence



# Chatbots can help your business



**Improve speed**

**Better  
customer  
service**

**Improve  
success rate**





# And the best parts?

## **Accessible**

Chatbots leverage on your favourite messaging platforms. You don't need to install any new apps.

## **Simple**

A good chatbot will be straight to the point and get you to what you need as quickly as possible.

## **Personal**

A *smart* chatbot will rub some of its personality off on you and be able to engage you more than plain text ever will.

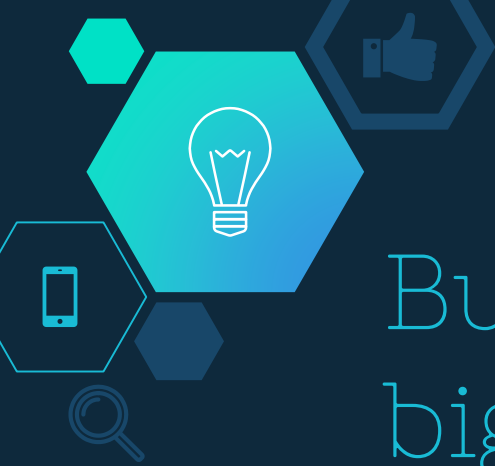




3

# Oh no! FOMO??

How you can avoid the *fear-of-missing-out* and be part of this exciting age.



# Building the next big ~~thing~~ bot

- ◇ Not all about coding!
- ◇ All about the User Experience (UX)
- ◇ Plan well and execute well





Start by defining



**Timeline**

**Success  
Outcome**

**Goals**





# Plan your..

## User Experience

Does your bot solve my problem as painlessly as possible? Does it recognize my intentions before I have to tell it?

## Tools

What are you using to build your bot? By writing code or using no-code platforms?

## Metrics

How do you measure your bot's success? Define your metrics then implement a way to track them.



# then execute!

## **Keep your bot dumb (in the beginning)**

Don't rush to implement Natural Language Processing. Start by making your bot do one thing and make sure it does it well.

## **Iterative sprints**

There will never be a perfect time to release your bot. Start small, release it early and make incremental improvements.

## **Analytics**

How do you know if your customers are happy with your bot? Are your customers getting frustrated at a certain point?



# Chatbots part 2

A technical introduction to  
chatbots





# Chatbots:

- ◇ A web API (Application Programming Interface) with typically 1 endpoint
- ◇ Usually needs to be coded differently to be deployed on different platforms
- ◇ Designed for human interaction





# DotNetBot

A chatbot built by the SMU Microsoft Student Community, for the SMU Microsoft Student Community.







# Tools:

- ◇ Visual Studio Code
- ◇ JavaScript & Node.js
- ◇ Microsoft Bot Framework
- ◇ Git
- ◇ Microsoft Azure





# Introducing: Visual Studio Code



- ◇ Lightweight code editor with powerful features
- ◇ Has many useful extensions to aid development
- ◇ Built-in Git integration
- ◇ Free & Open source!





# Introducing: JavaScript



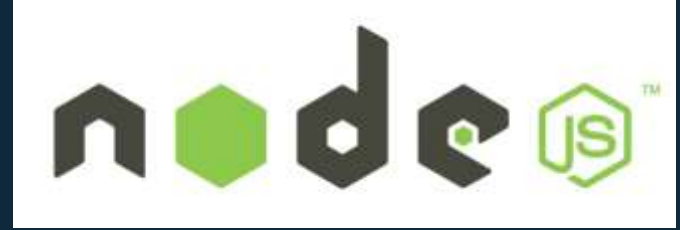
**JavaScript**

- ◇ Lightweight interpreted or JIT-compiled programming language
- ◇ Most well-known as the scripting language of the web





# Introducing: Node.js



- ◇ Asynchronous event driven JavaScript runtime
- ◇ Server-side platform for writing JavaScript applications
- ◇ Free & Open source!





# Introducing: Microsoft Bot Framework



- ◇ A relatively simple way to write bots that can be deployed on multiple platforms
- ◇ Able to build bots that support multiple types of interactions with users
- ◇ Free & Open source!





# Introducing: Git

- ◇ Distributed version control system
- ◇ Great for project and code management
- ◇ Free & Open source!





# Introducing: Microsoft Azure



- ◇ Microsoft's integrated cloud service
- ◇ Build, deploy and manage applications through a global network of datacenters
- ◇ Not open source but students get free credits, yay!





# DotNetBot

We welcome you to contribute @

<https://github.com/martiuslim/smu-dotnetbot>

- ◇ Code
- ◇ Documentation
- ◇ Feature requests or bug reports







# Thanks!

## Any questions?

You can find me at:

- ◇ @martiuslim (Telegram)
- ◇ martius.lim.2015@sis.smu.edu.sg





# Code!

## Learn JavaScript @ Codecademy

◇ <https://www.codecademy.com/learn/introduction-to-javascript>

