



Global Office 365
Developer Bootcamp

Global Office 365 Bootcamps – Germany

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MVP ASP.NET/.NET

Max Melcher
MVP O365

Nicki Borell
MVP O365

Stefano Tempesta
MVP O365



Ben Abt

Ben is Lead Consultant focused on Cloud Development at [Alegri International Services](#) in Stuttgart, Germany.

He is a specialist in cloud and IoT architectures, focused on the mechanical engineering and energy industry.

Ben runs the largest german speaking C# forums [mycsharp.de](#) and hosts the Azure Usergroup Stuttgart.

Since 2015 he is Microsoft MVP for Visual Studio and Development Technologies (former ASP.NET/.NET)

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Nicki Borell

Microsoft MVP on Office Server & Services

Nicki is the founder and the head behind the label "Xperts at Work" co-founder of Experts Inside and partner of atwork GmbH Austria.

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LinkedIn: /in/nicki-borell-135b0384/

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Max Melcher

Max (Microsoft MVP) is a Principal Consultant working at [Alegri International Services](#) in Munich, Germany. Max is a specialist in SharePoint technologies focused on search, social computing, web content management and collaboration. Max has led SharePoint implementations for Dax 30 companies since 2009. Max's free time is spent on twitter mostly with a good coffee in his hands.

Twitter: [@maxmelcher](#)

Blog: <https://melcher.it>

Email: Maximilian.Melcher@alegri.eu



Stefano Tempesta

Microsoft MVP on SharePoint Development.

Born Italian, naturalized British, living in Switzerland.

Interests: Office 365, Dynamics 365, A.I. related technologies.

Twitter: [@stefanotempesta](https://twitter.com/stefanotempesta)

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

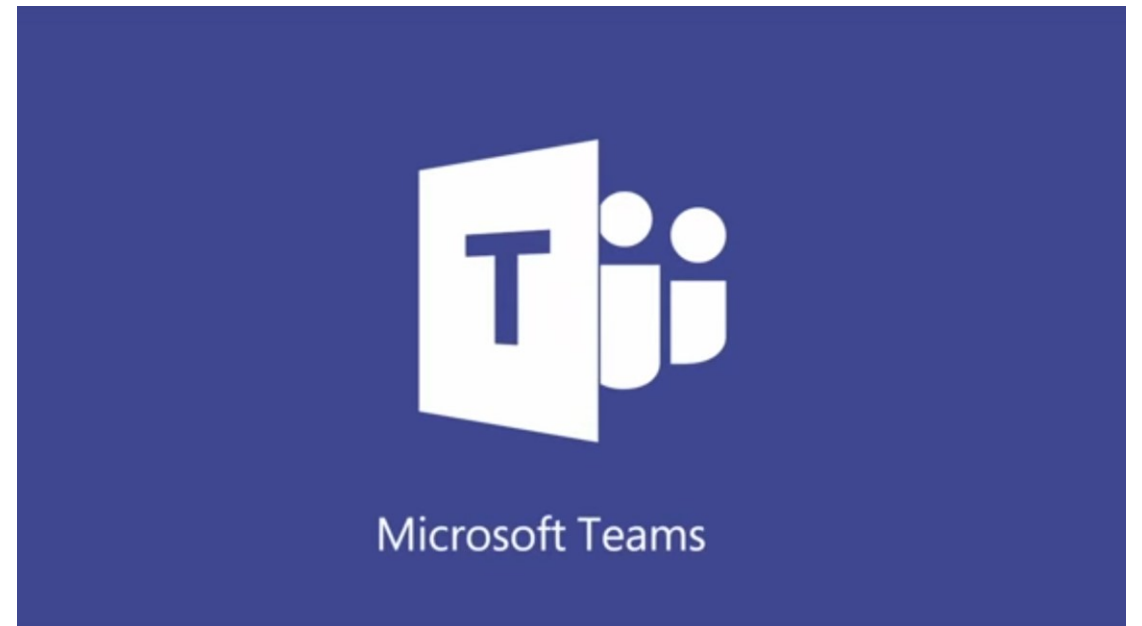


Agenda

Time	Topic / Activity	Speaker
9:30	Welcome, Introduction, Setup	Max & Nicki
10:00	Introduction to Microsoft Teams	Nicki
10:45	Coffee	
11:00	Advanced integration scenarios in Microsoft Teams	Max
12:00	Lunch	
14:00	Programming the Microsoft Bot Framework	Max
16:30	Sharing & Networking	

... And who are You?

- Short **Intro & Background**
- Today's **expectations**
- MS Teams **experiences**





Enjoy the Bootcamp

Introduction to Microsoft Teams



What is Teams?



Different groups have different needs



Chat-based
Workspace



Mail &
Calendar



Voice, Video
& Meetings



Co-Creating
Content



Sites & Content
Management



Enterprise
Social

Today's Challenges

Siloed Apps

Friction across applications – multiple logins, difficulty sharing and discovering information

Wasted Time

Context switching between different apps drains attention and time

Shadow IT

Incomplete toolset can lead to inconsistent security, compliance and risk

Office 365: Designed for the unique workstyle of every group



**Chat-based
Workspace**
Microsoft Teams



**Mail &
Calendar**
Outlook



**Voice, Video
& Meetings**
Skype



**Co-Creating
Content**
Office 365 ProPlus



**Sites & Content
Management**
SharePoint



**Enterprise
Social**
Yammer

Office 365 Groups

Complete Solution

Office 365 addresses the breadth of collaboration needs across your company

Integrated Experiences

Office 365 Groups and Microsoft Graph enable integrated collaboration experiences

Security and Compliance

Office 365 delivers the security, compliance and manageability required in today's workplace

Category Leader



**Chat-based
Workspace**
Microsoft Teams

Introducing
**Microsoft
Teams**



**Mail &
Calendar**
Outlook

**Undisputed
leader** in mail
and calendar



**Voice, Video
& Meetings**
Skype

100M meetings
each month



**Co-Creating
Content**
Office 365 ProPlus

Co-authoring
across desktop,
mobile, web



**Sites & Content
Management**
SharePoint

190M end users



**Enterprise
Social**
Yammer

85% of Fortune
500

Chat-based workspace in Office 365



Chat for today's teams

Communicate in the moment and keep everyone in the know



A hub for teamwork

Give your team quick access to information they need right in Office 365



Customizable for each team

Tailor your workspace to include content and capabilities your team needs every day.



Security teams trust

Get the enterprise-level security and compliance features you expect from Office 365.

Chat for today's teams

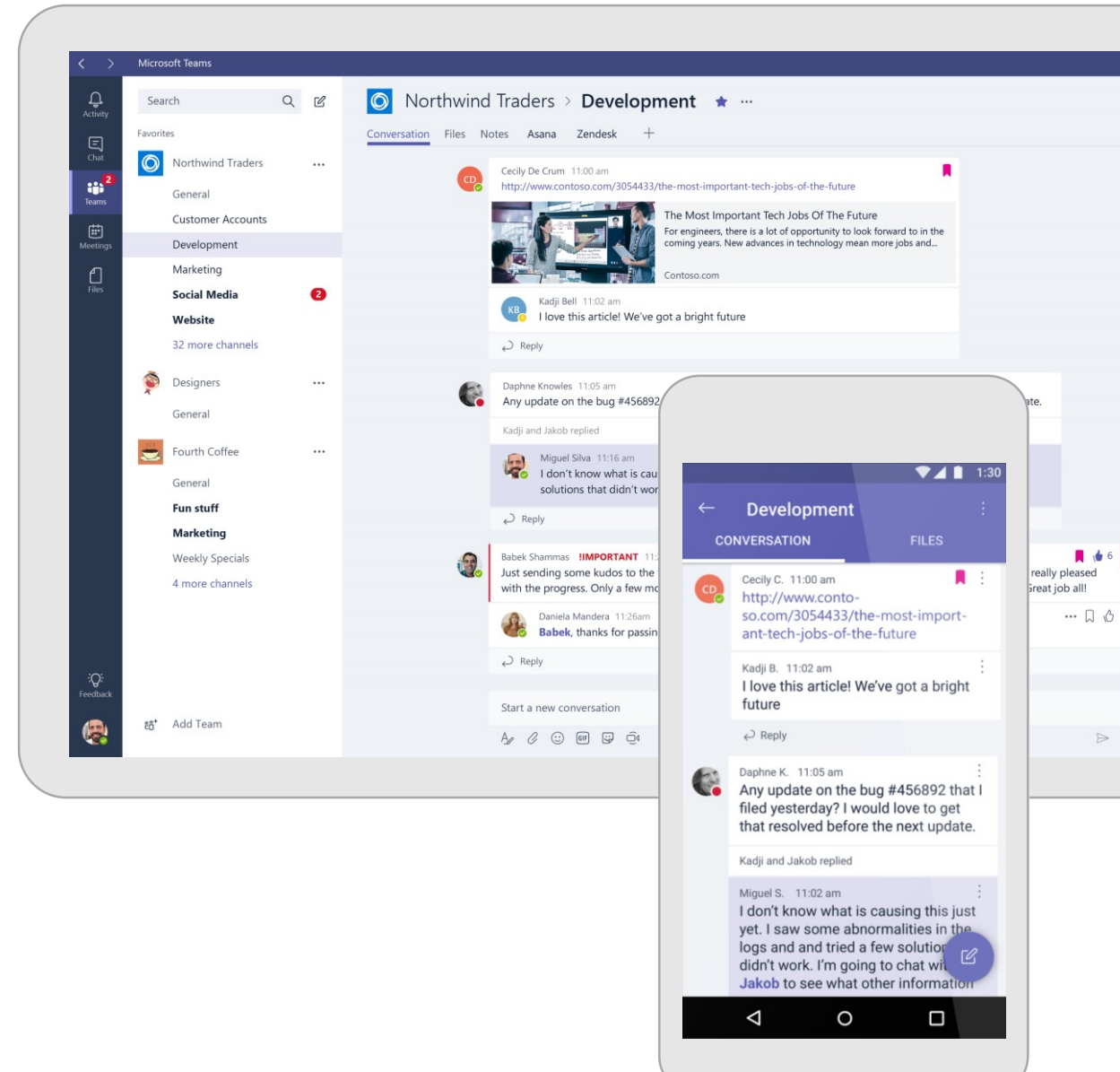
People can see content and chat history anytime

Team chats and activities are visible to the entire team

Use private chats for small group conversations

Mobile access on Android, iOS and Windows Phone

First wave of external guest access coming end of CYQ2



A hub for teamwork

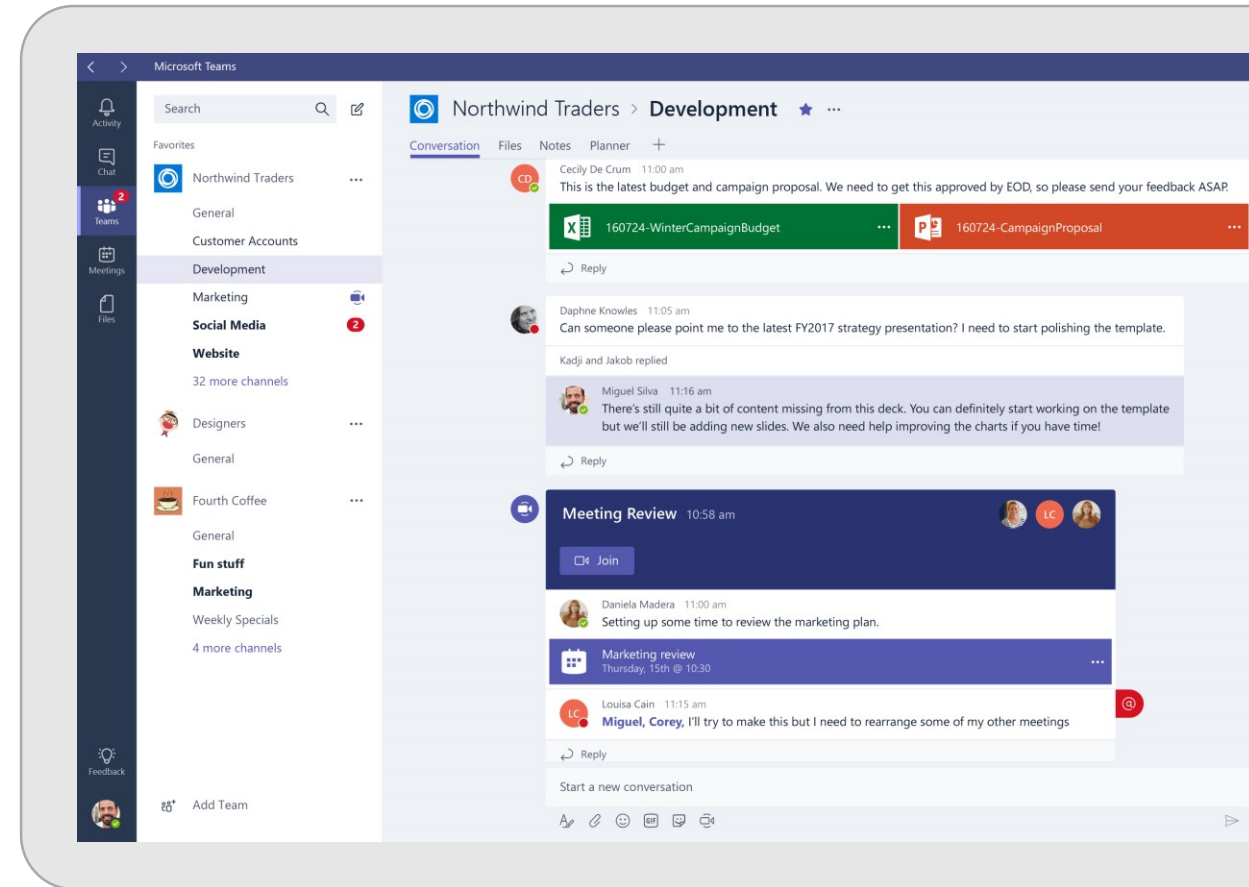
Chat, content, people, and tools live in a team workspace

Voice and video meetings right within Microsoft Teams

Built-in access to SharePoint, OneNote and Planner

Work with Office and other documents right in the app

Audio and video calling on mobile



Demo

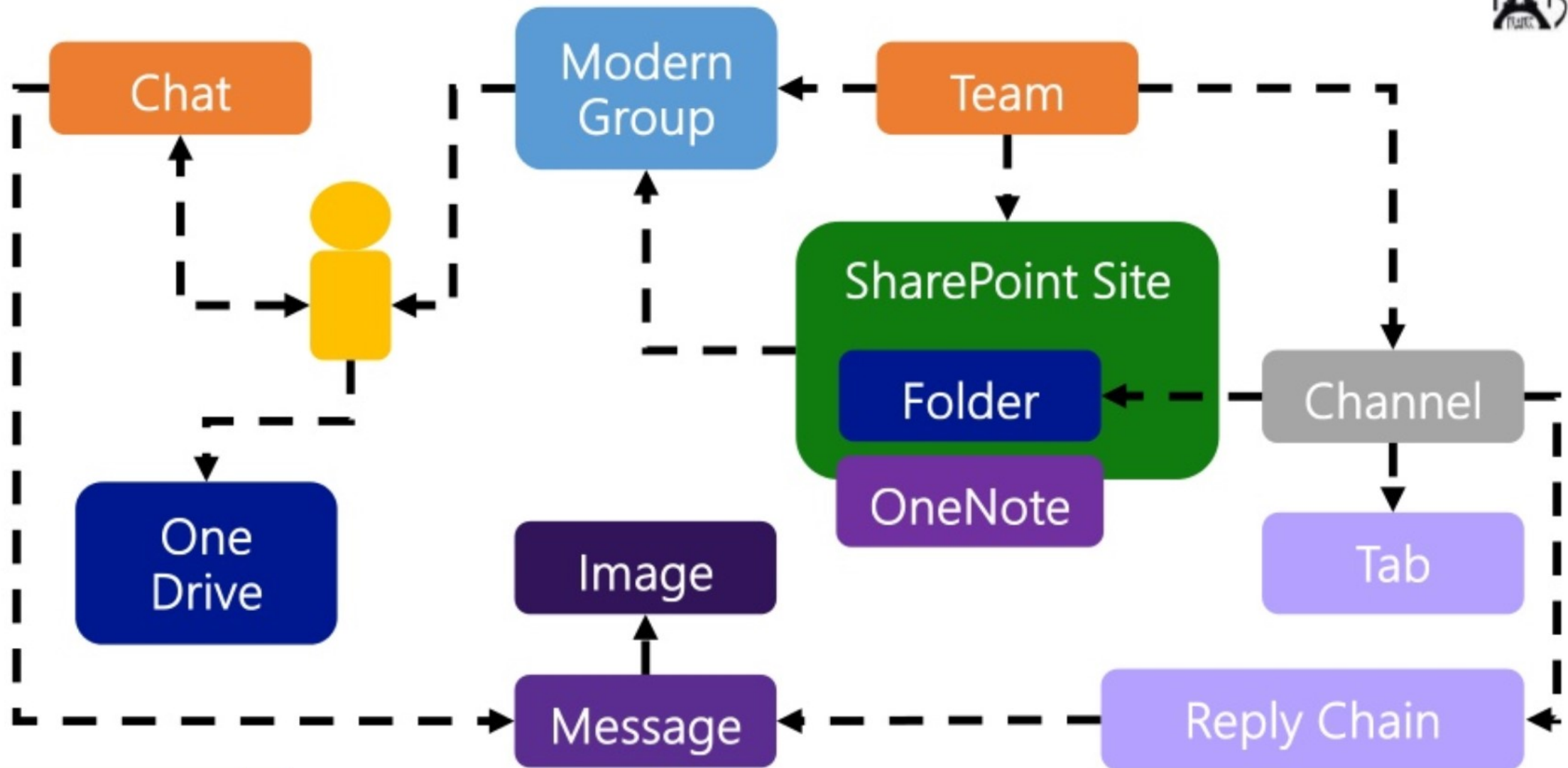
*(stop showing us slides,
give us the CODE!!!!)*



Talk is cheap. Show me the code.

(Linus Torvalds)

Teams Conversations Logical Architecture



Developer opportunity

Users

100M+
monthly active
commercial
Office 365 users

35%
growth in O365
commercial seats

90%
of Fortune
500 have the
Microsoft Cloud

Data

4T+
emails sent
with Office 365

3B
minutes of
Skype calls daily

2B+
meetings created
per month

Intelligence

8T+ nodes in the Microsoft Graph

Ecosystem momentum

Apps

15K+ new apps created to connect to O365 monthly

Usage

> 250K

centralized add-in
deployments

400%

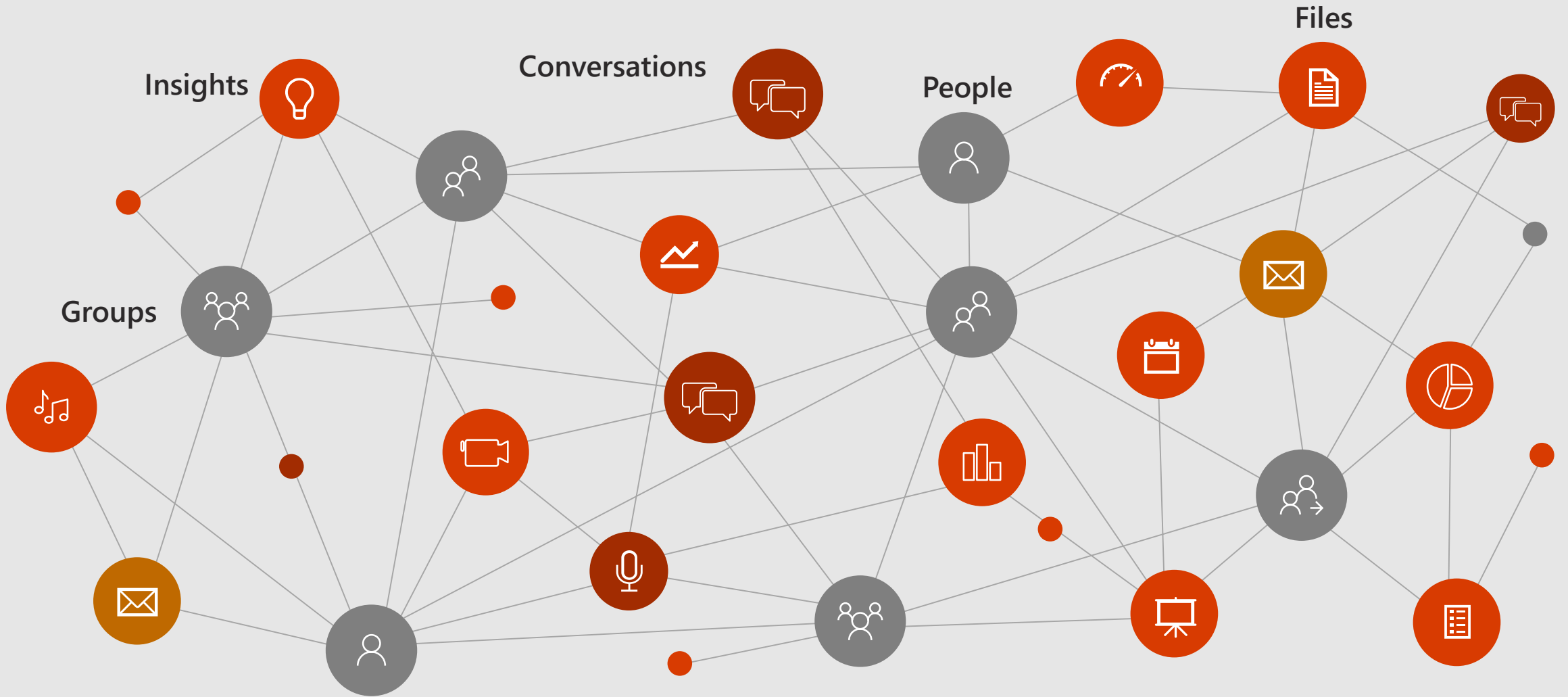
growth in share of users
with 3rd-party app

> 200%

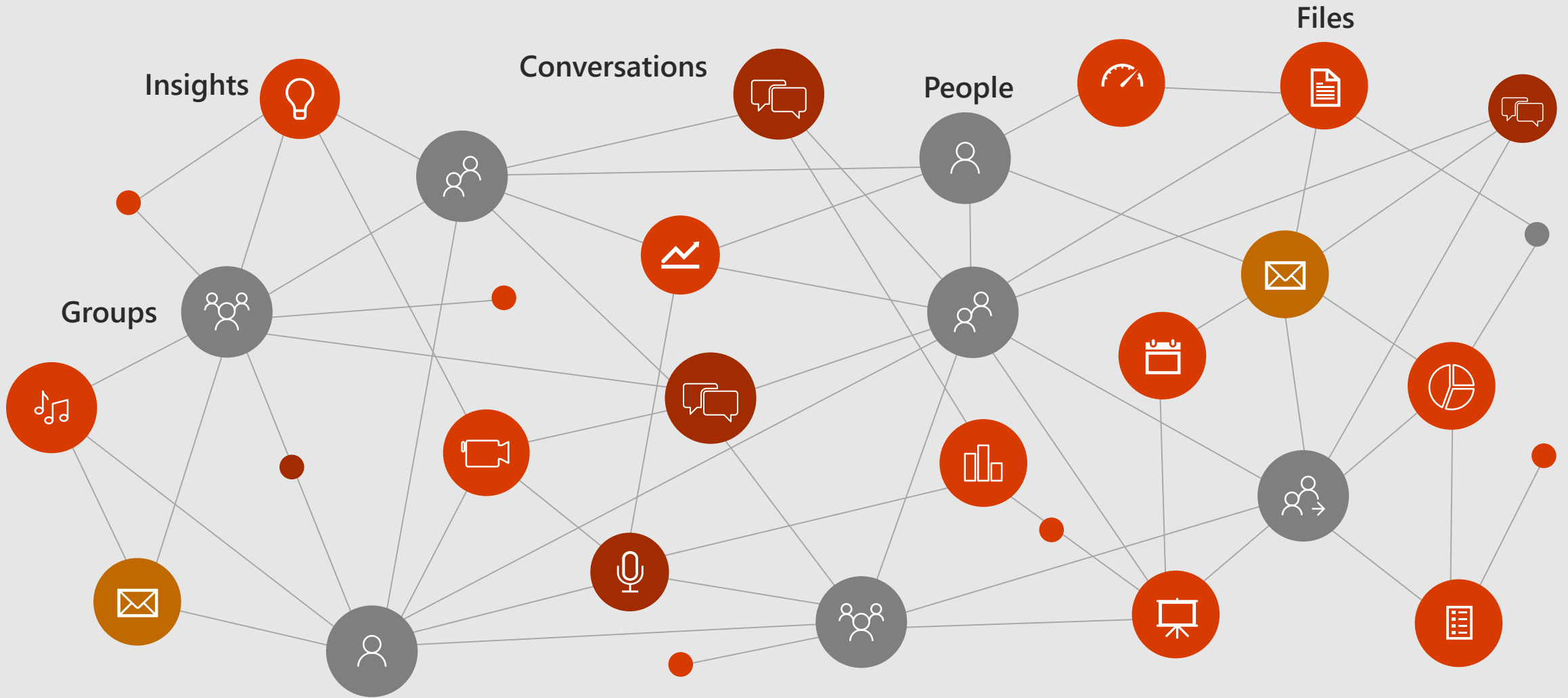
increase in monthly active users of 3rd party
Microsoft Graph applications in last year

Office 365 Platform

Microsoft Graph



Microsoft Graph



Office 365 Platform

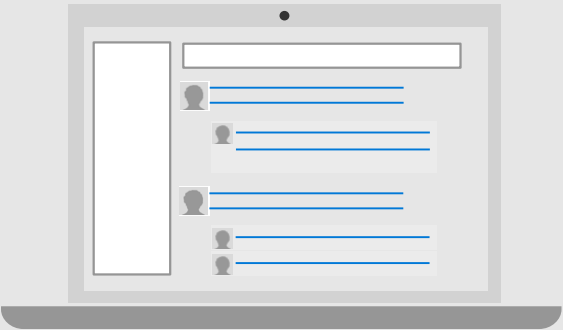
Extensions

Office
Canvases

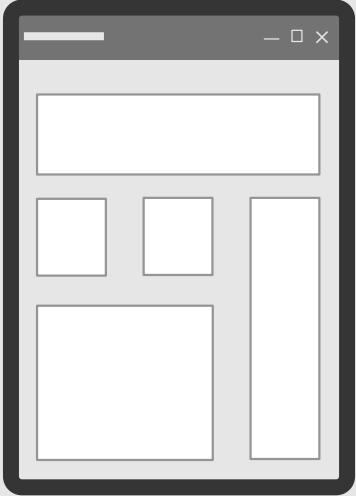
Documents



Conversations

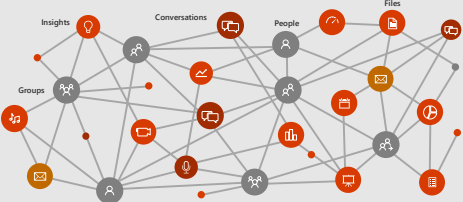
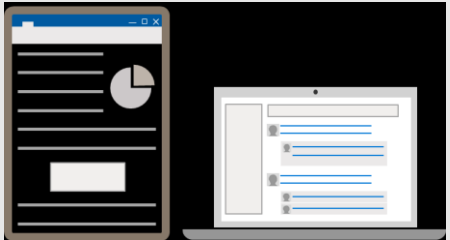


Pages



Standalone web, device,
and service apps

Embedded canvases



 Microsoft Graph

Office 365 Platform

Extensions

Common across canvases

Action

Task pane

Dialog box

Event

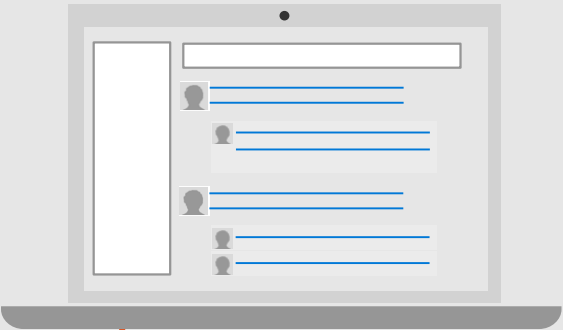


Documents



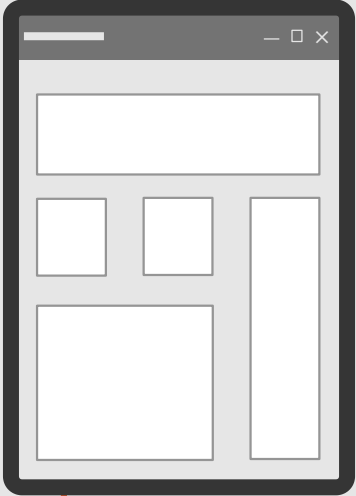
Data import
Dictionaries

Conversations



Bot
Connector

Pages



Navigation
Branding

Canvas
specific
extensions

Office 365 Platform

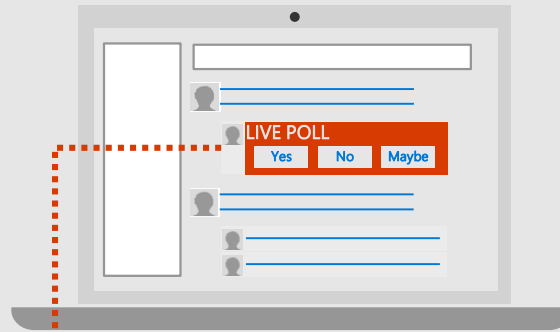
Extensions

Office
Canvases

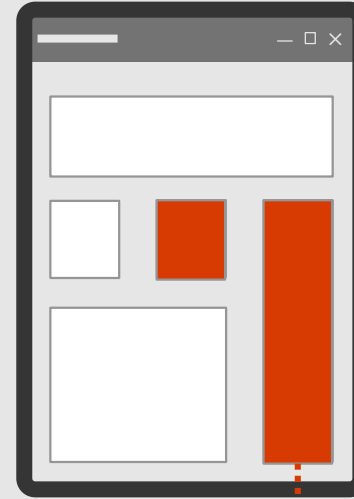
Documents



Conversations



Pages



Simple text

Declarative
markup

Declarative +
actions

Declarative +
dynamic data

Controls +
HTML + JS

HTML + JS

Images
Messages

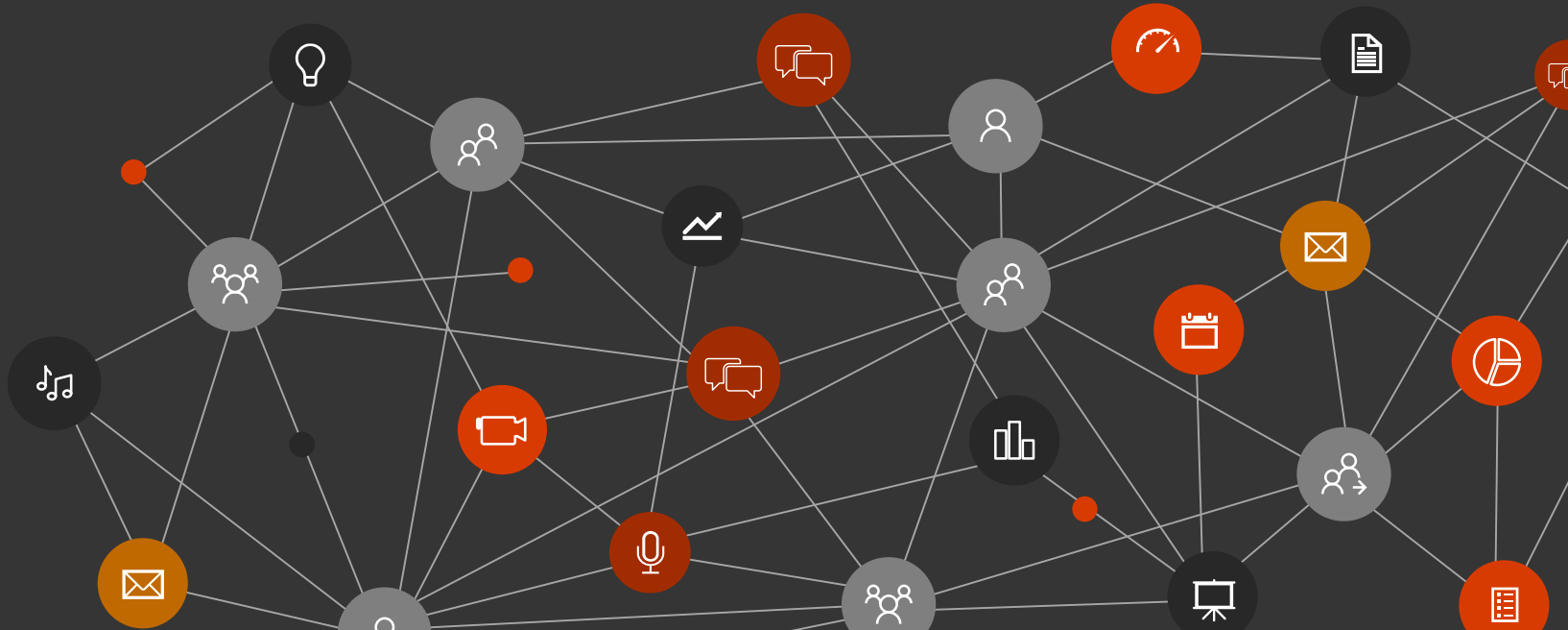
Static cards

Actionable
messages

Fabric React
based UX
SPFx

Content add-ins
Web parts

Microsoft Graph





Build smarter apps by connecting to Office services

The core data that drives a business is accessible through the Microsoft Graph

Rich context

Is this person out of the office?
Who is their manager?
Where do they need to be next?
What documents have they been working on recently?

Deep insights

What documents are most interesting to this person?
What's the best time for this group of people to meet?
Who should this person contact for info on this topic?

Real-time updates

Reschedule meeting when a conflict appears
Notify owner when a file is modified
Continue a process immediately after approval mail is received

Emerging Microsoft Graph patterns



Smart Pickers



Graph-Connected Devices

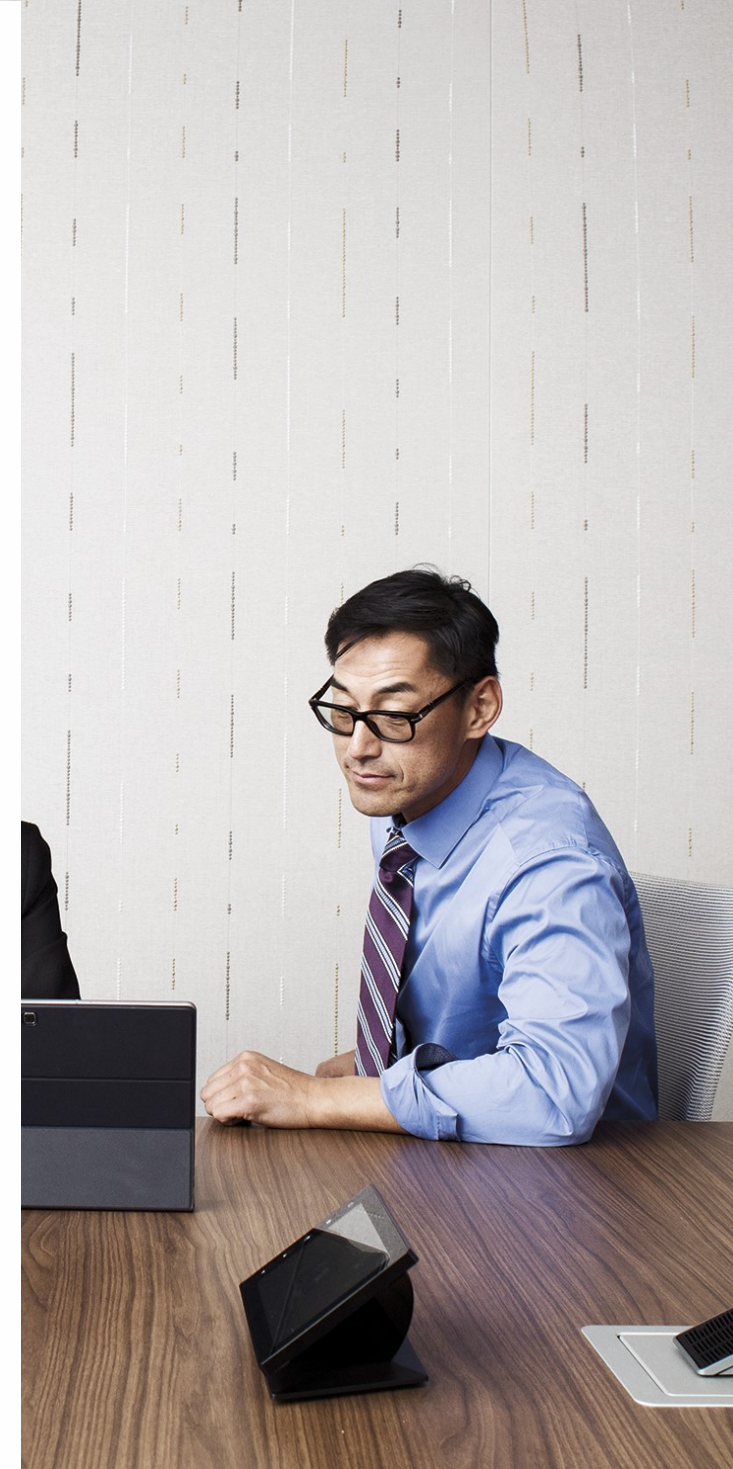


Graph-Powered Bots

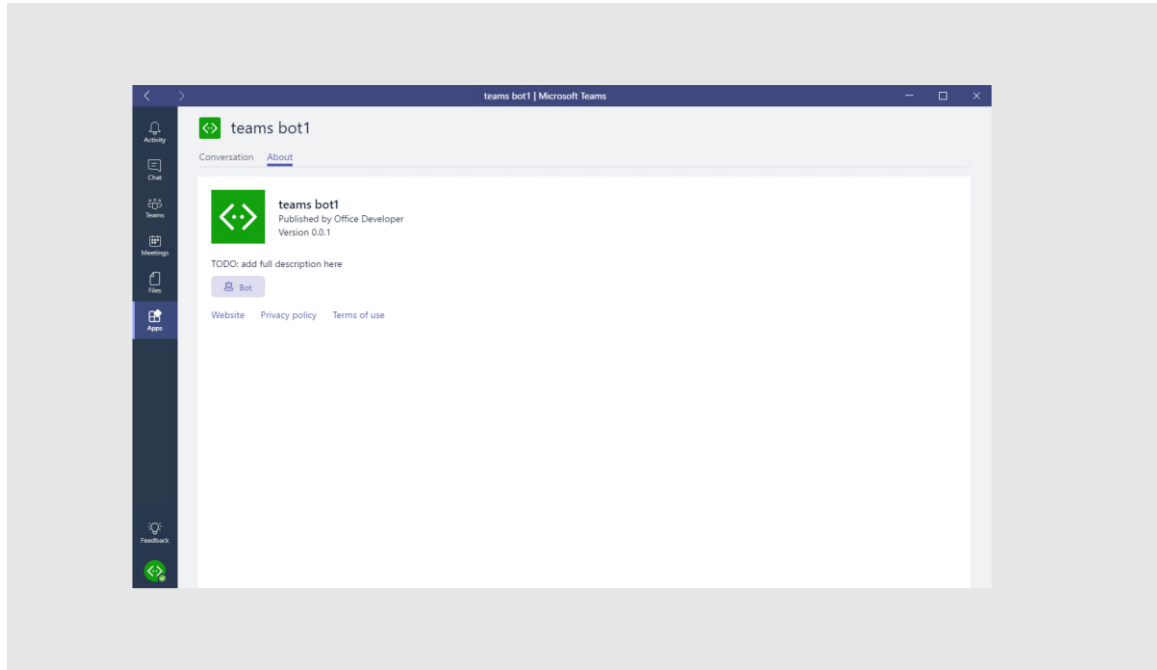


Intelligent Business Process

... and MORE



Teams extensibility options



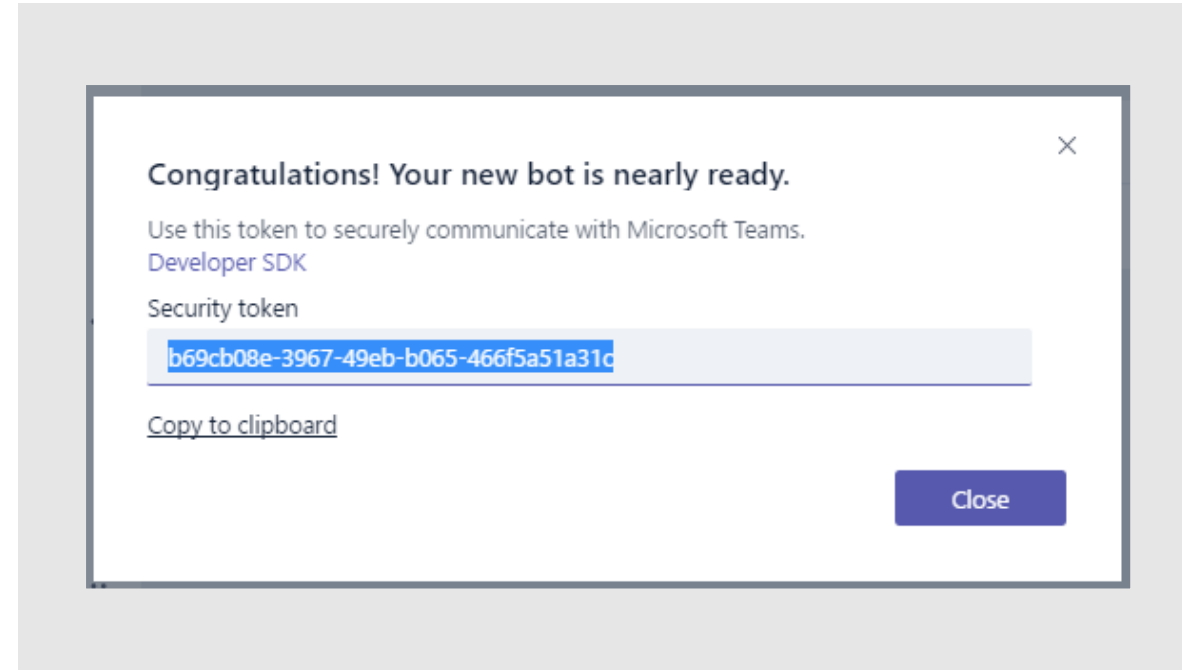
Microsoft Teams App

Tabs

Bots

Compose extensions

Connectors



Custom Bot

Receive & reply to messages

What is a Teams App?

Package of services available to users in the contexts (or “scopes”) that make the most sense.

Services

Tabs

Bots

Compose extensions

Connectors

Scopes

Personal (App bar)

Team (Channel)

Package (deployment)

Sideload (one Team)

Office Store

Why create a Teams App?



Immersive experience

The platform places content and conversations side by side.



Tabs and conversations

Tabs give your app a dedicated canvas that allows people to jump between conversations and your experience.



Customizable cards

Cards let you surface important tasks, information, and reminders in actionable ways.



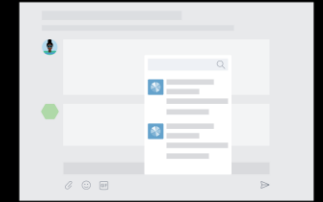
Bot framework

The Bot framework offers a natural language UX that can interact with your services.



Instant notifications

The activity feed displays notifications for your users.



Compose extensions

Compose Extensions are quick and easy shortcuts to key components of your service.

LET'S CODE
TOGETHER!

Lab: <https://melcher.it/s/9t>

How to create a Teams App

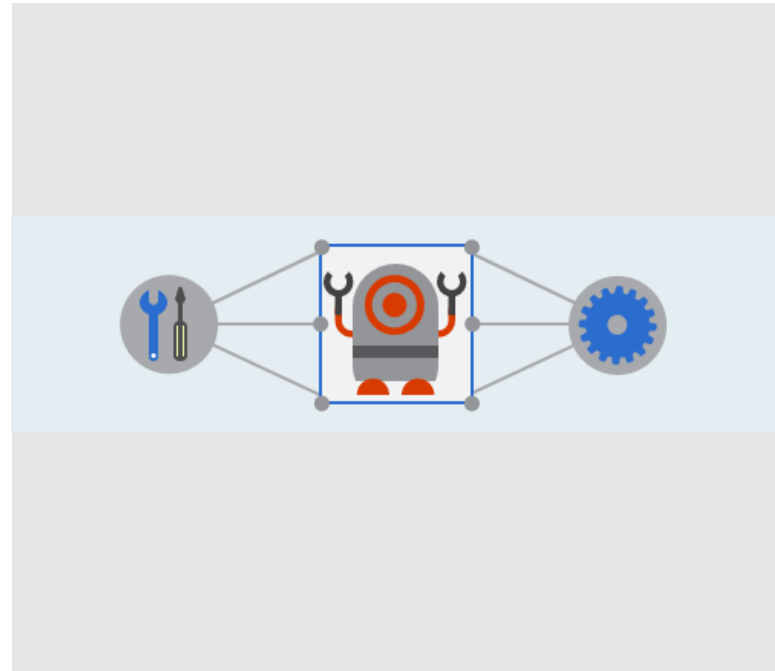


Develop components

HTML

TypeScript / JavaScript

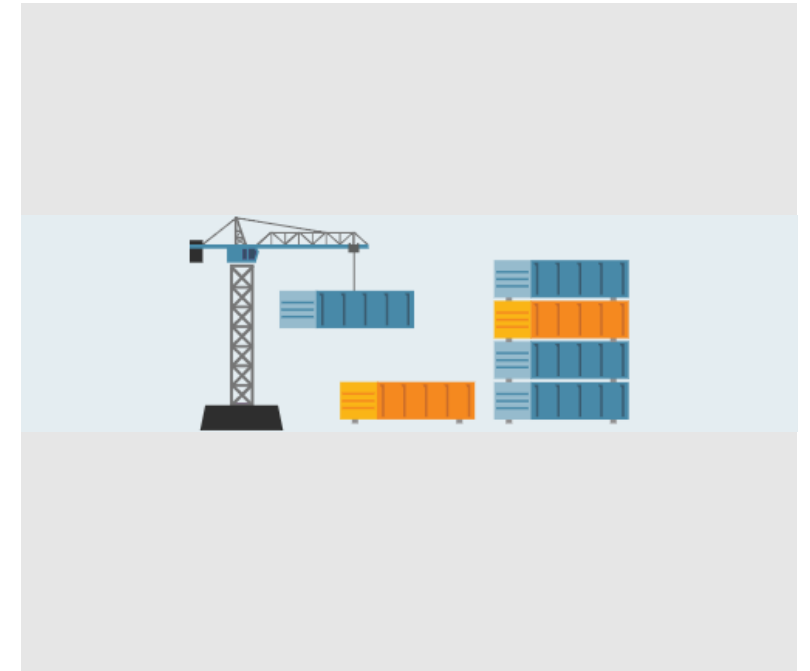
.NET



Integrate with Teams

Microsoft Teams JavaScript Library

Bot Builder SDK - Node.js & C#



Package and deploy

Host web pages and services

Create and package manifest

Sideload/publish package

Advanced integration scenarios in Microsoft Teams



Programming the Microsoft Bot Framework

Stefano Tempesta, Microsoft MVP



Bot Framework

Bot Framework Components

Bot Framework Portal & Channels

<https://dev.botframework.com>

Bot Builder SDK

<https://aka.ms/bf-bc-vstemplate>

Bot Framework Channel Emulator

<https://emulator.botframework.com>

Bot Framework Channel Inspector

<https://aka.ms/bf-channel-inspector-learnmore>

Programming Bot Framework

Programming Languages

- Bot Builder SDK for .NET
- Bot Builder SDK for Node.js
- REST API (Azure Bot Service)

<https://github.com/stefanotempesta/botframework>

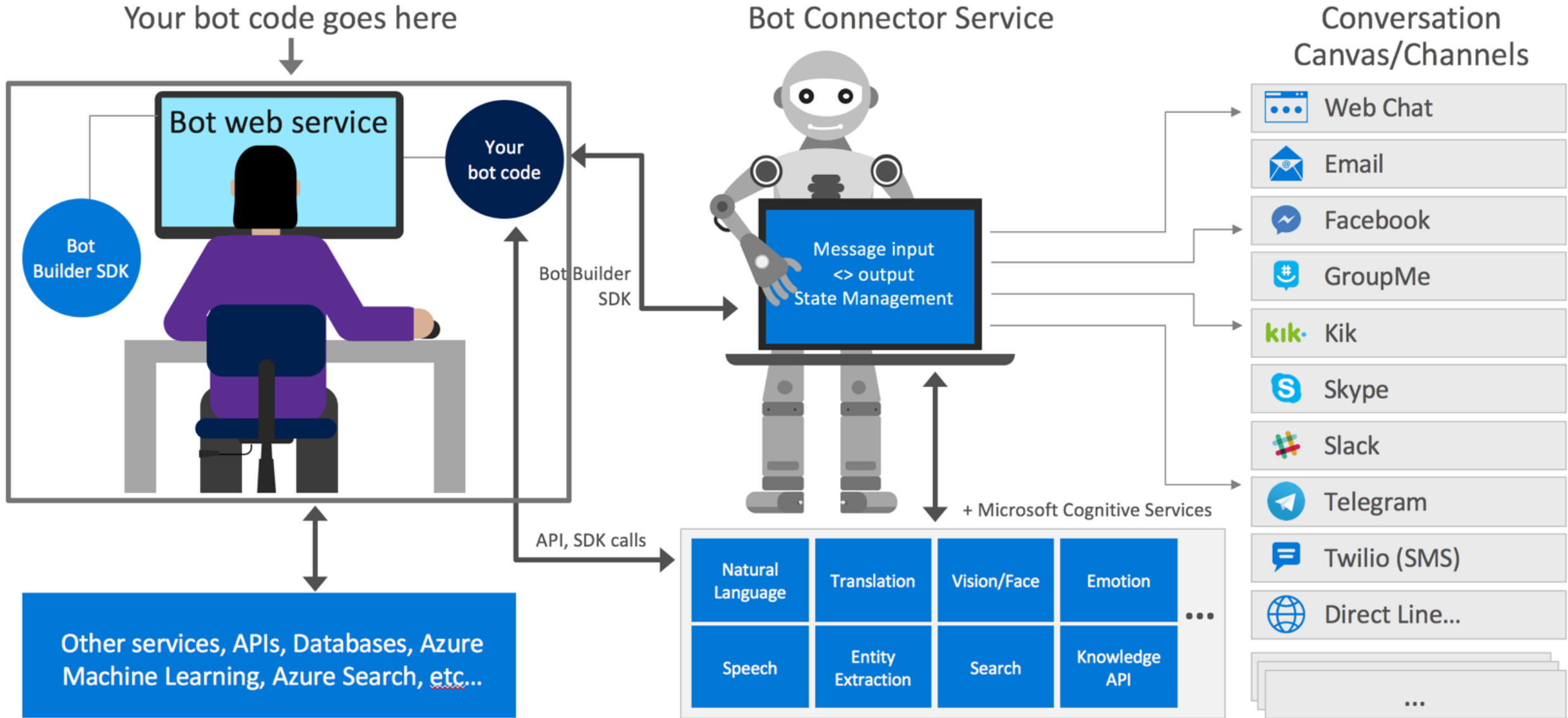
Programming Approaches

- FormFlow
- Dialogs
- JSON Schema

- Q&A Maker <https://qnamaker.ai>
- LUIS <https://www.luis.ai>

Core Concepts

- **Bot Application**
- **Channel**
- **Activity**
- **Message / System**
- **FormFlow**
- **Dialog**
- **State**
- **Rich Cards**
- **Entities**
- **Global Handlers**
- **Security**



Interactions



Hello user, how can I help you?



Hello! How can I help you?

Orders

Products

Help



Do you confirm this booking?

Yes

No

Actually... what was the time of that movie again?



How can I help you today?

Which movies are showing this week?

Hello?

Which movies are showing this week?

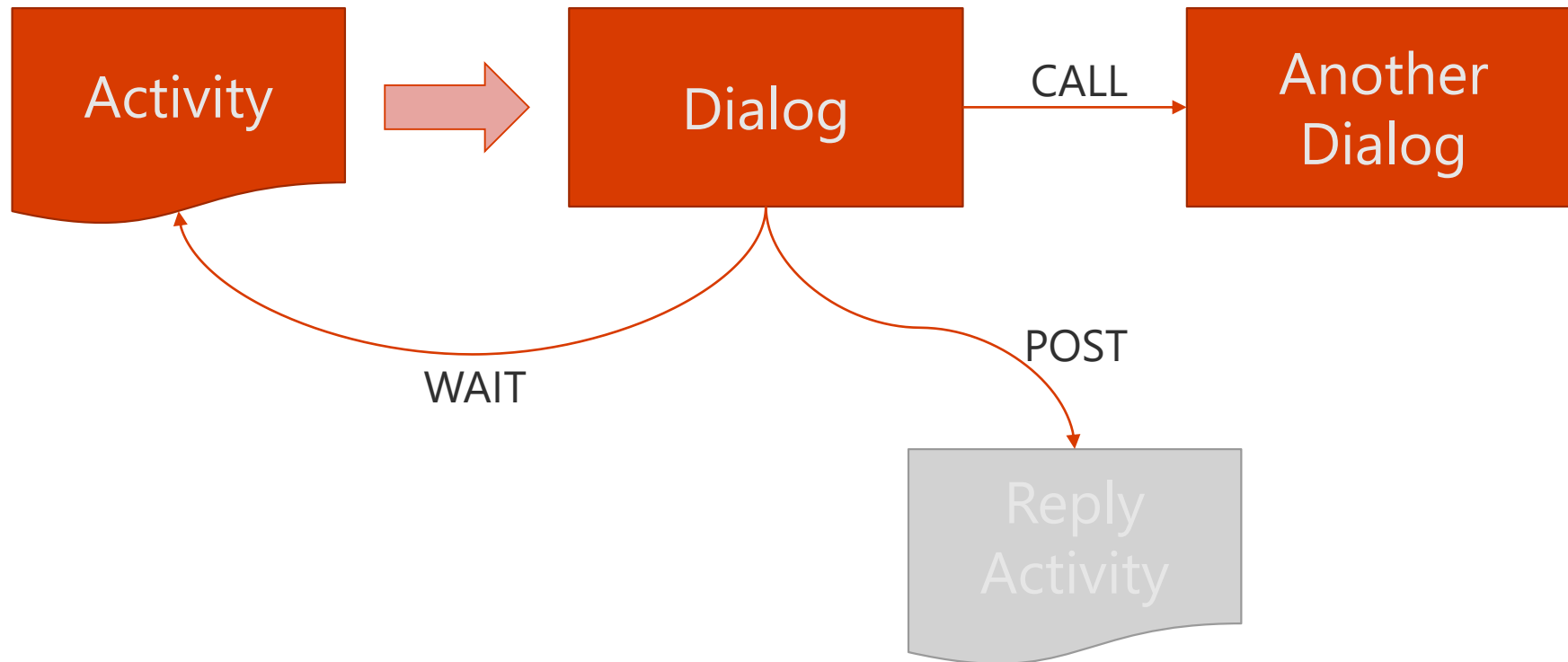
Hey bot, are you there?

FormFlow

- Chain → From → Do
- Properties
- Enumerations
- (Optionally) Fluent BuildForm
 - Add custom messages
 - Dynamic values
 - Field Validation
 - Confirmations


Dialogs

```
public class RootDialog : IDialog<object>
```



Rich Cards

- Suggested Actions
- Attachments
- Hero card
- Thumbnail card
- Video / Audio / Animation card
- Receipt card
- SignIn card
- Adaptive card



Welcome to Kiligate
What experience would you like to do?

Hiking

Wildlife Safari

Cultural and Tribal Excursions

Adaptive Cards

<http://adaptivecards.io/>

- Body
- Actions
- Speak
- BackgroundImage



Microsoft.AdaptiveCards

Version: Latest stable 0.5.1

Install

Options

Description

This library implements classes for building and serializing adaptive card objects

Version: 0.5.1

Author(s): Microsoft

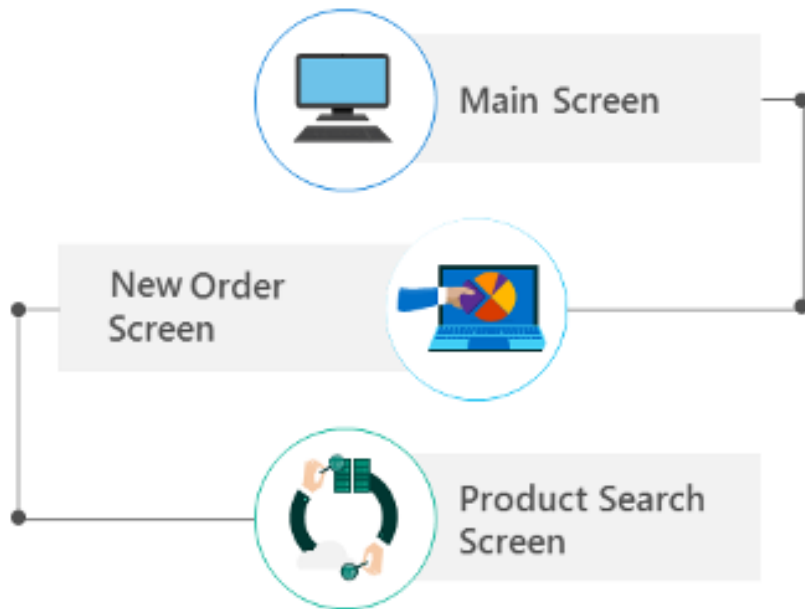
License: <https://github.com/Microsoft/AdaptiveCards/blob/master/LICENSE>

Date published: Sunday, September 17, 2017 (9/17/2017)

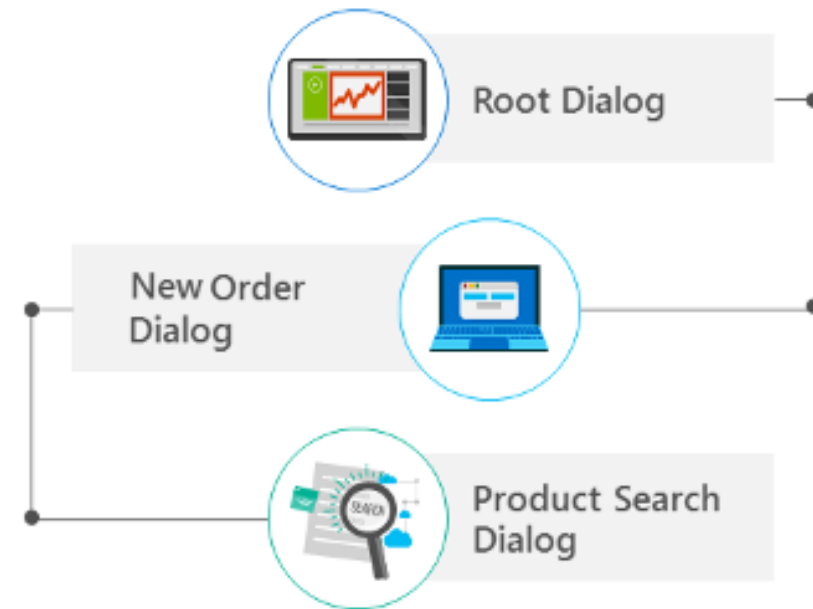
Project URL: <http://adaptivecards.io/>

Dialog Flow

TRADITIONAL APPLICATION



BOT



State Management

- **User Data**
- **Conversation Data**
- **Private Conversation Data**


StateClient

- **Dialogs automatically store state**
 - Bot Connector State Service
- **CosmosDB or Azure Table Storage**


JSON Schema

<http://json-schema.org/>

- JSON FormFlow
- References & Imports
- Templates
- Properties

 Microsoft.Bot.Builder.FormFlow.Json

Version:

 Options

Description

Microsoft Bot Builder extension for specifying a guided FormFlow dialog using an extended JSON Schema. Most of the annotations are declarative but you can also include C# code fragments that are dynamically compiled.

Version: 3.1.3

Author(s): Microsoft

Date published: Wednesday, May 10, 2017 (5/10/2017)

Smarter Bots

- Q&A Maker
- LUIS (Language Understanding Intelligent Service)
- **Cognitive Services**
 - Image and video understanding
 - Speech recognition and conversion
 - Text Analytics
- **Bing Spell Check**
- **Web Search**

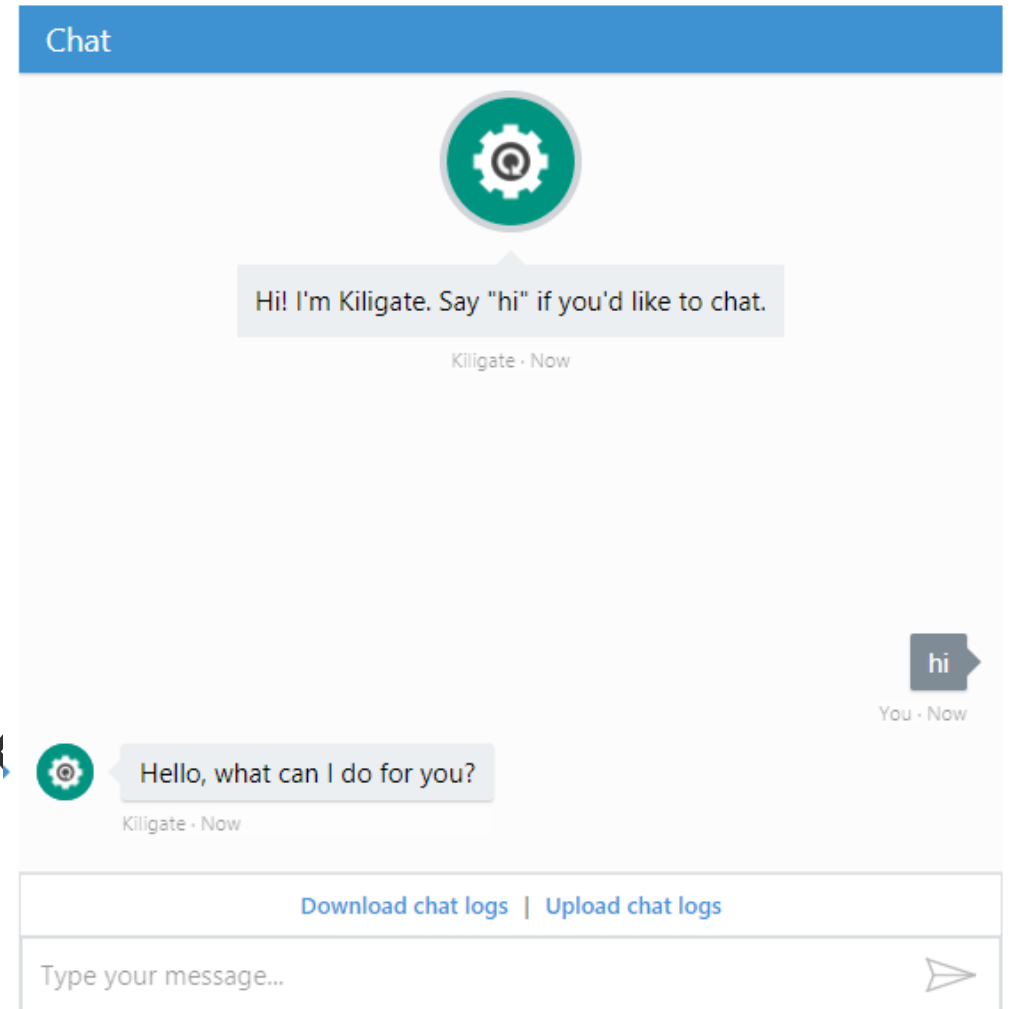
Advanced programming of Bots with LUIS and Cognitive Services



Q&A Maker

<https://qnamaker.ai>

- Knowledge Base (Q&A)
- Train & Publish
- Alternative phrasing
- Best match
- No need to use Bot Framework

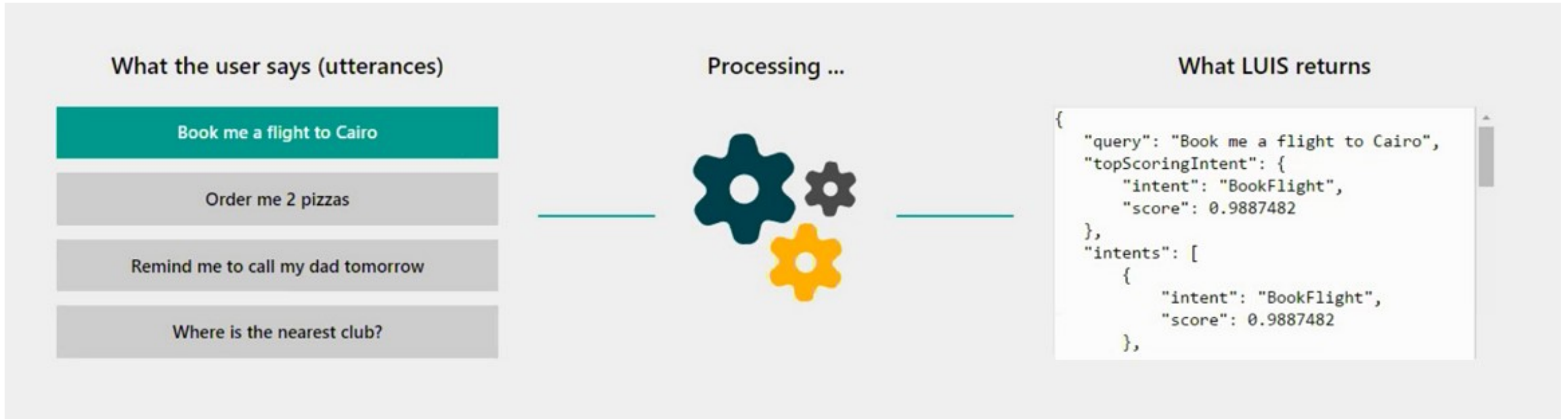


LUIS

<https://www.luis.ai>

- Intent
- Utterance

- Entity (Custom and Prebuilt)
- Domain
- Train & Publish



Security

- Registration

```
<configuration>
  <appSettings>
    <!-- update these with your BotId, Microsoft App Id and your Microsoft App Password-->
    <add key="BotId" value="YourBotId" />
    <add key="MicrosoftAppId" value="" />
    <add key="MicrosoftAppPassword" value="" />
  </appSettings>
```

- Authentication

[BotAuthentication]

```
public class MessagesController : ApiController
```

Call to action

Share your feedback on Bootcamp at <https://aka.ms/o365devbootcampfeedback>

Join Office 365 developer program
<https://dev.office.com/devprogram>
to leverage all resources for Office 365
development learning

Build applications on Office 365 platform

Attend MVP led local community events to
continue learning on Office 365 development

