



创新交互方式， 全新用户体验

Conversation as a Platform

丁煜恒

微软（中国）有限公司
开发体验和平台合作事业部

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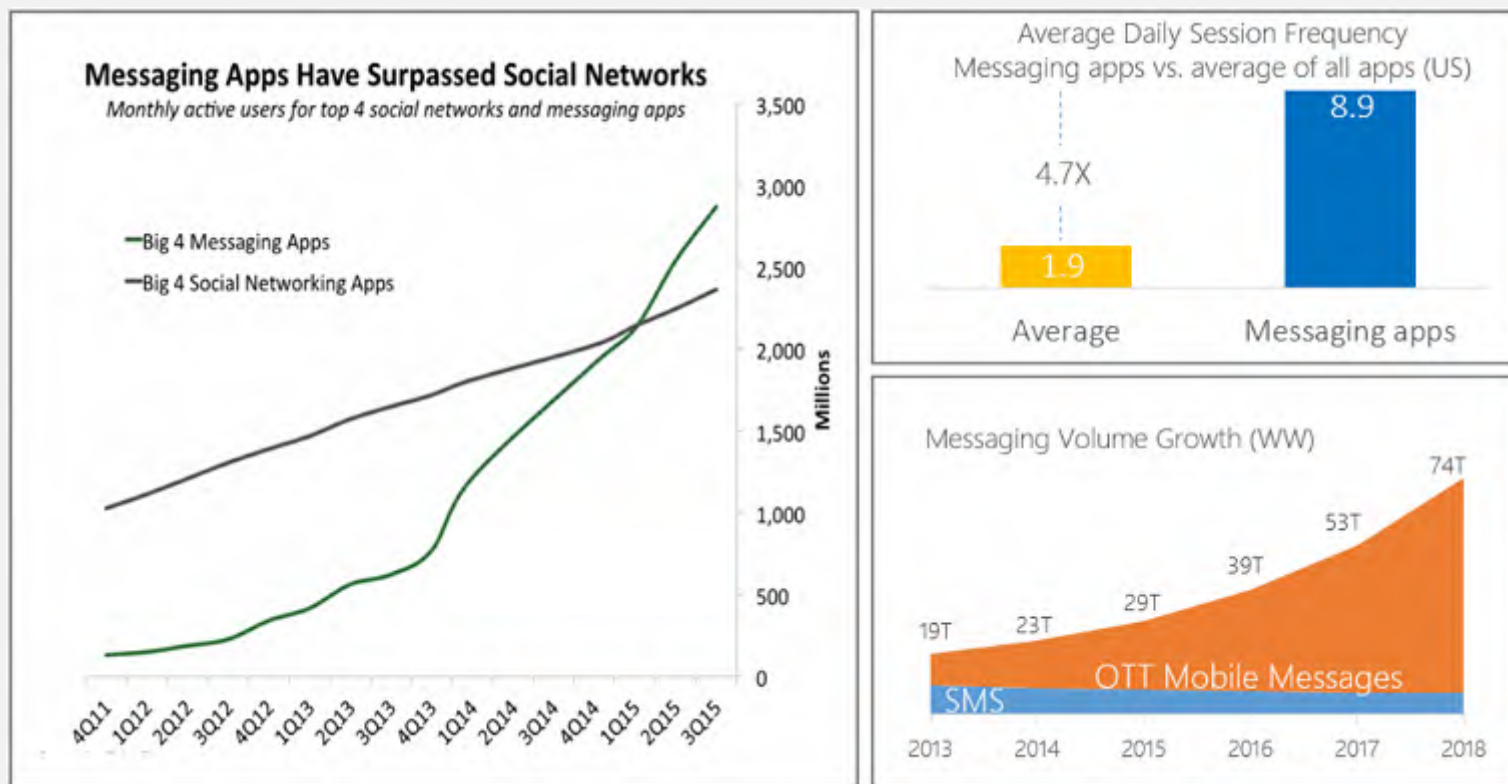
世界和技术正在经历又一次转型

– 微软CEO, Satya Nadella



对话服务已经成为人们的生活一种主要习惯之一

消息应用呈现出快速增长的态势



Source: BI Intelligence, Portio Research

对话即平台

Conversation as a Platform



用户

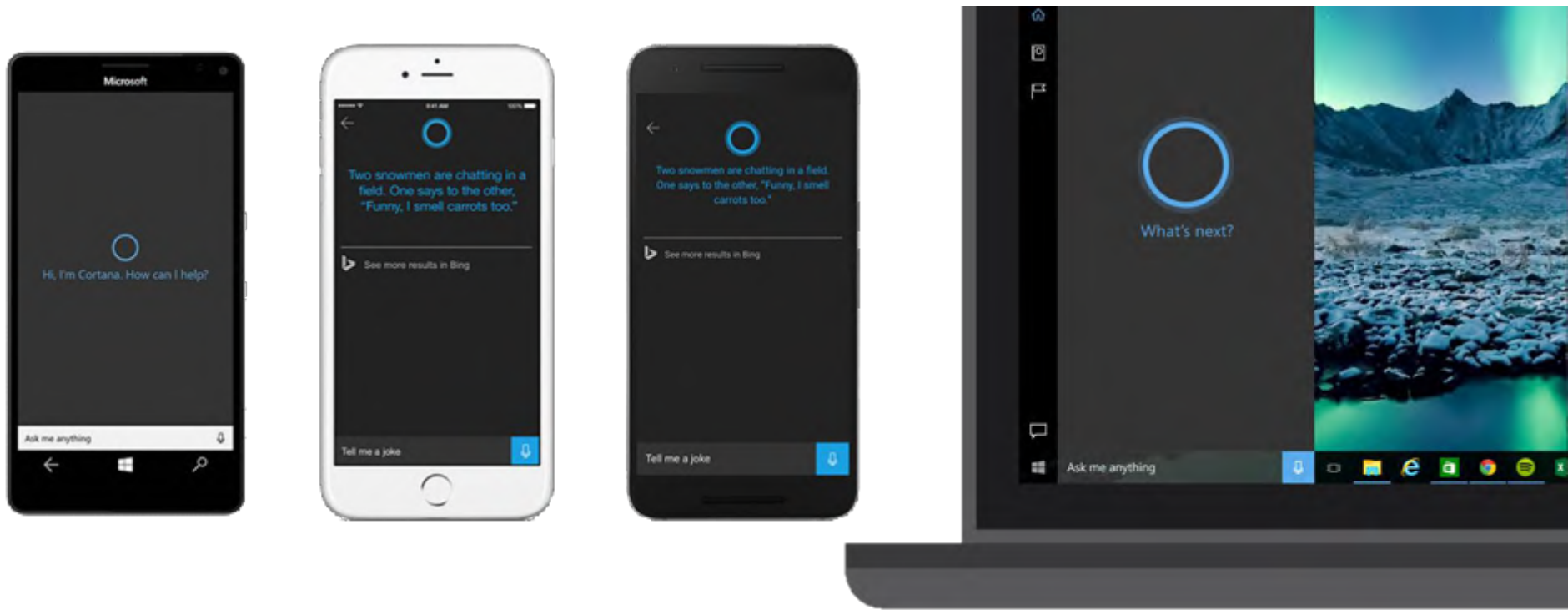


数字助理



聊天机器人

Cortana—跨平台的个人助手，如你所愿

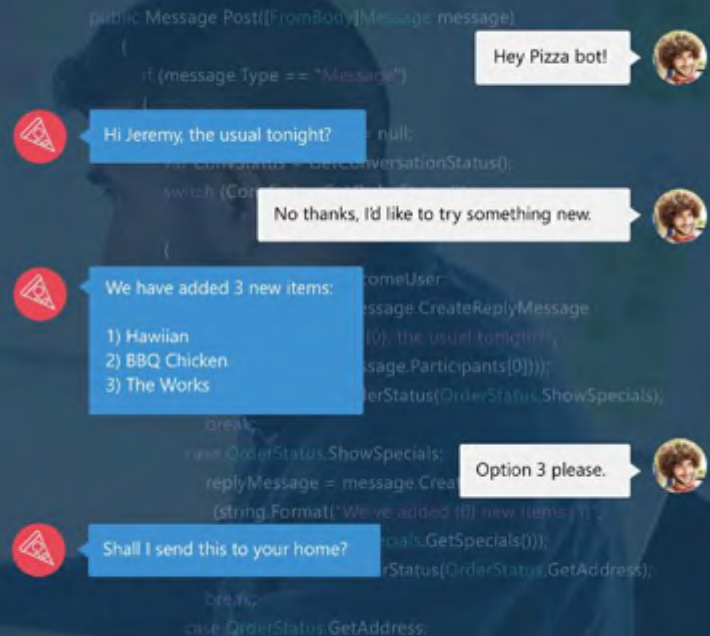


Microsoft Bot Framework

Your bots — wherever your users are talking.

Build and connect intelligent bots to interact with your users naturally wherever they are, from text/sms to Skype, Slack, Office 365 mail and other popular services.

Get started



www.botframework.com

Bot 框架

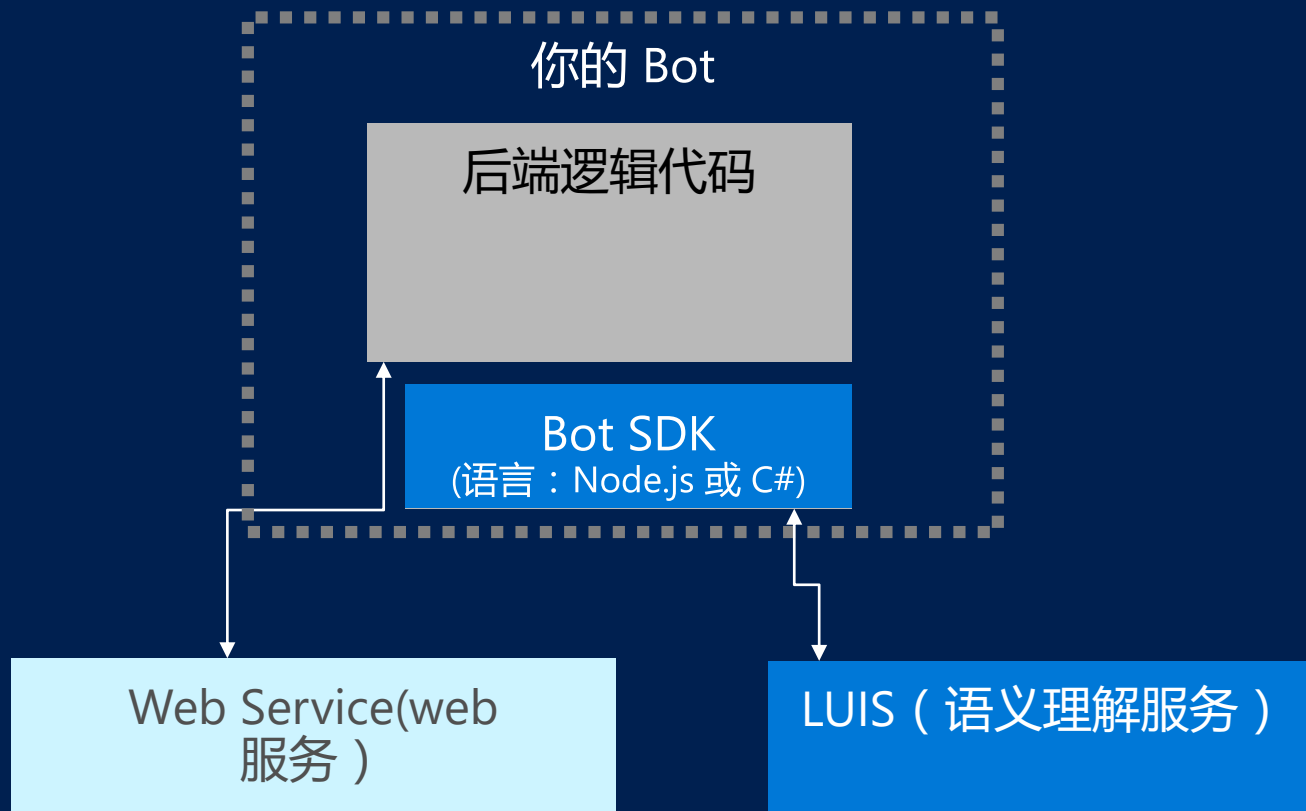
Bot 框架是微软提供的服务 也是一个SDK.

Bot 框架是微软提供编写bot机器人的众多技术之一

其他技术: LUIS(语义理解), Speech APIs(语音识别技术), 认知服务, more



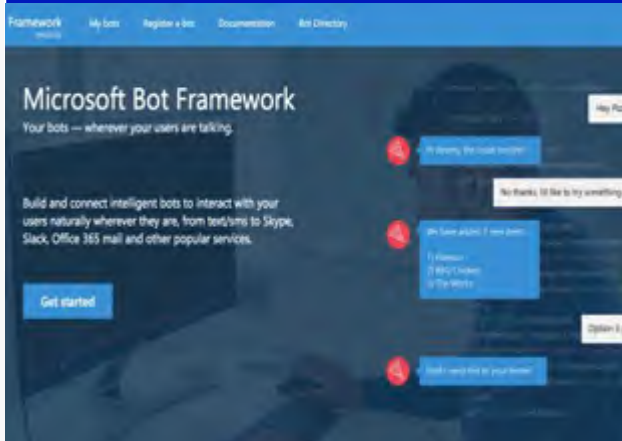
www.botframework.com



Microsoft Bot 框架的组成部分

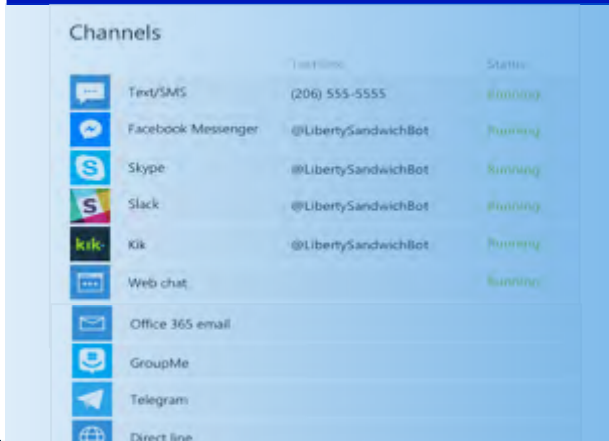
Bot Developer SDKs

Open source SDKs make it possible to bring your bot to life in minutes



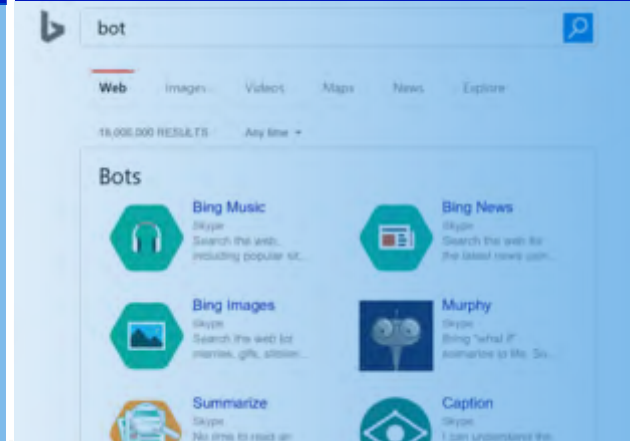
Bot Connector

Connect your bot to any or all of the top conversational experiences to reach >1B users



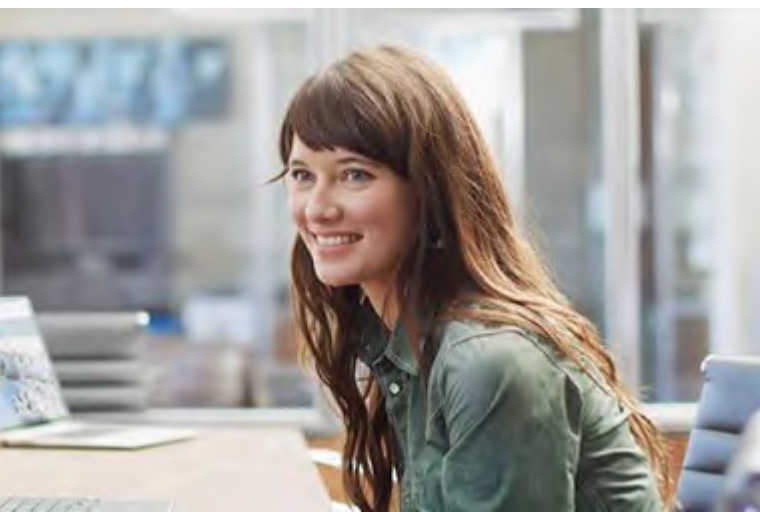
Bot Directory

Make your bot discoverable via Bing, Cortana and other Microsoft surfaces



微软 认知服务

利用世界领先的人工智能技术，
让您的应用更具人性化



视觉

从面部感官到感觉，让您的对话机器人了解图像、视频和情绪



语音

把语音转换为文本或把文本转换为语音；
了解您的意图，翻译语言，过滤噪音以及识别说话者



语言

教您的对话机器人理解自然语言指令，解析复杂的文本以及了解用户情绪



知识

从网络、学术界或您自己的数据积累中融合丰富的知识



搜索

通过必应API的强大功能访问数十亿网页、图片、视频和新闻

微软认知服务

视觉



图片中是什么？

计算机视觉



目录

人: 1 张脸

成年人 / 活泼的？

错误 / 正确

主色



重色



语音



为我导航去El Gaucho的路径

语音转换为文字 & 文字转换为语音



将文本转换为语音

将语音转换为文本

提取用户的意图

语言



显示今日的
日常事件

自然语言处理

意图: 展现事件
内容: 日常事件
日期: 今日

知识



我的库存中销量最好的产品

知识搜索服务

这些是最佳搜索结果:



搜索



搜索'自然的照片'

必应搜索

这是我为您找到的:





计算机视觉 API

图像分析

基于所输入图像的视觉内容分析出图像的视觉特征

光学字符识别

在图像中检测并识别文本

生成缩略图

生成高品质和高存储效率的缩略图



图片分析



图片类型:

Clip Art Type 0 Non-clipart
Line Drawing Type 0 Non-Line Drawing
Black & White Image False

图片内容:

Adult Content False
Adult Score 0.18533889949321747
Faces [{ "age": 27, "gender": "Male", "faceRectangle": { "left": 472, "top": 258, "width": 199, "height": 199 } }]
Tags [{ "name": "water", "confidence": 0.9996442794799805 },
{ "name": "sport", "confidence": 0.9504992365837097 },
{ "name": "swimming", "confidence": 0.9062818288803101, "hint": "sport" },
{ "name": "pool", "confidence": 0.8787588477134705 },
{ "name": "water sport", "confidence": 0.631849467754364, "hint": "sport" }]

图片色值:

Dominant Color Background White
Dominant Color Foreground Grey
Dominant Colors White
Accent Color



光学字符识别

- 扫描图片
- 含有文本的图片
- 纹理致密的位置信息





人脸识别 API

人脸检测

检测图片中的人脸并识别属性

人脸验证

核对两张人脸是否属于同一个人

相似人脸搜索

从多张人脸中找出与所查人脸相似的人脸

人脸分组

根据识别的人脸进行分组

人脸辨识

查询某张人脸，与提供的数据中的何人相匹配



人脸识别 API



检测

"faceRectangle": {"width": 193, "height": 193, "left": 326, "top": 204}

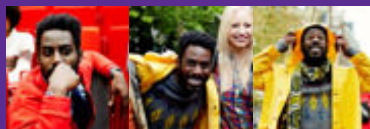
...

属性特征

"attributes": { "age": 42, "gender": "male",

"headPose": { "roll": "8.2", "yaw": "-37.8", "pitch": "0.0" }}

分组



辨识

Jasper Williams

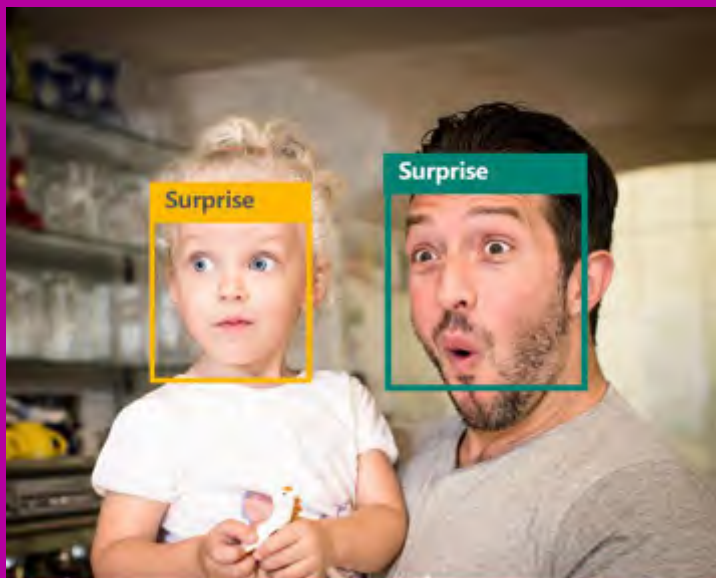


情感识别 API

识别情感
基于面部表情来检测感情



情感识别 API



人脸检测

"faceRectangle": {"width": 193, "height": 193, "left": 326, "top": 204}

...

情感指数

"scores": { "anger": 5.182241e-8,
"contempt": 0.0000242813,
"disgust": 5.621025e-7,
"fear": 0.00115027453,
"happiness": 1.06114619e-8,
"neutral": 0.003540177,
"sadness": 9.30888746e-7,
"surprise": 0.9952837}



语音API

语音识别 (语音转文本)
将语音转换为文本

语音输出(文本转语音)
将文本合成语音

说话者ID & Diarisation



声纹识别 API

声纹验证
检测两个声音是否来自于同一个人

声纹辨识
辨识出谁正在说话



拼写检查 API

微软最先进的拼写检查算法，以云平台为基础
检测及识别多种拼写错误

在上下文语境中识别常用名称错误
能更正上下文中的同形同音异义词及其他难以识别的错误

与时俱进
支持不断涌现的新生品牌名称及其他创造性表达式



拼写检查 API



A new service from **microso ft!**

Microsoft



Director **stephen**
Spielberg should use it
in the next AI movie!

Steven



Our service is like **lyft**
for word processing!

Lyft

检查单个词语或者整个句子

“Our engineers developed this four you!”

Corrected Text: “four” → “for”

标识错误并提供修改建议

```
"spellingErrors": [  
  {  
    "offset": 5,  
    "token": "gona",  
    "type": "UnknownToken",  
    "suggestions": [  
      { "token": "gonna" }  
    ]  
  }  
]
```





语言理解智能服务

理解用户所说的话
使用来自Bing和Cortana的预构的模型或者
自己创建的模型



语言理解智能服务

用交互的特征来减少贴标签的工作

使用可视化来测量和提升性能

与语音识别服务的无缝集成

几个样例就足以搭建自己的应用，并自主学习

定义概念

提供样例

部署

主动学习



BOT4BOT

- Dashboard
- Intents
- Entities
- Features
- Train & Test
- Publish App

← Back to App list

Dashboard (App Id: 99388c6e-152b-4719-9490-884718842758)

Facts & statistics about the app's data and the received endpoint hits at any period of time ... [Learn more](#)

App status

Last train: Mar 15, 2017 5:02:32 PM Last published: Mar 15, 2017 5:20:57 PM

Intent Count

10 / 80

Entity Count

2 / 30

Prebuilt Entity Count

0 / 8

Labeled Utterances Count

71

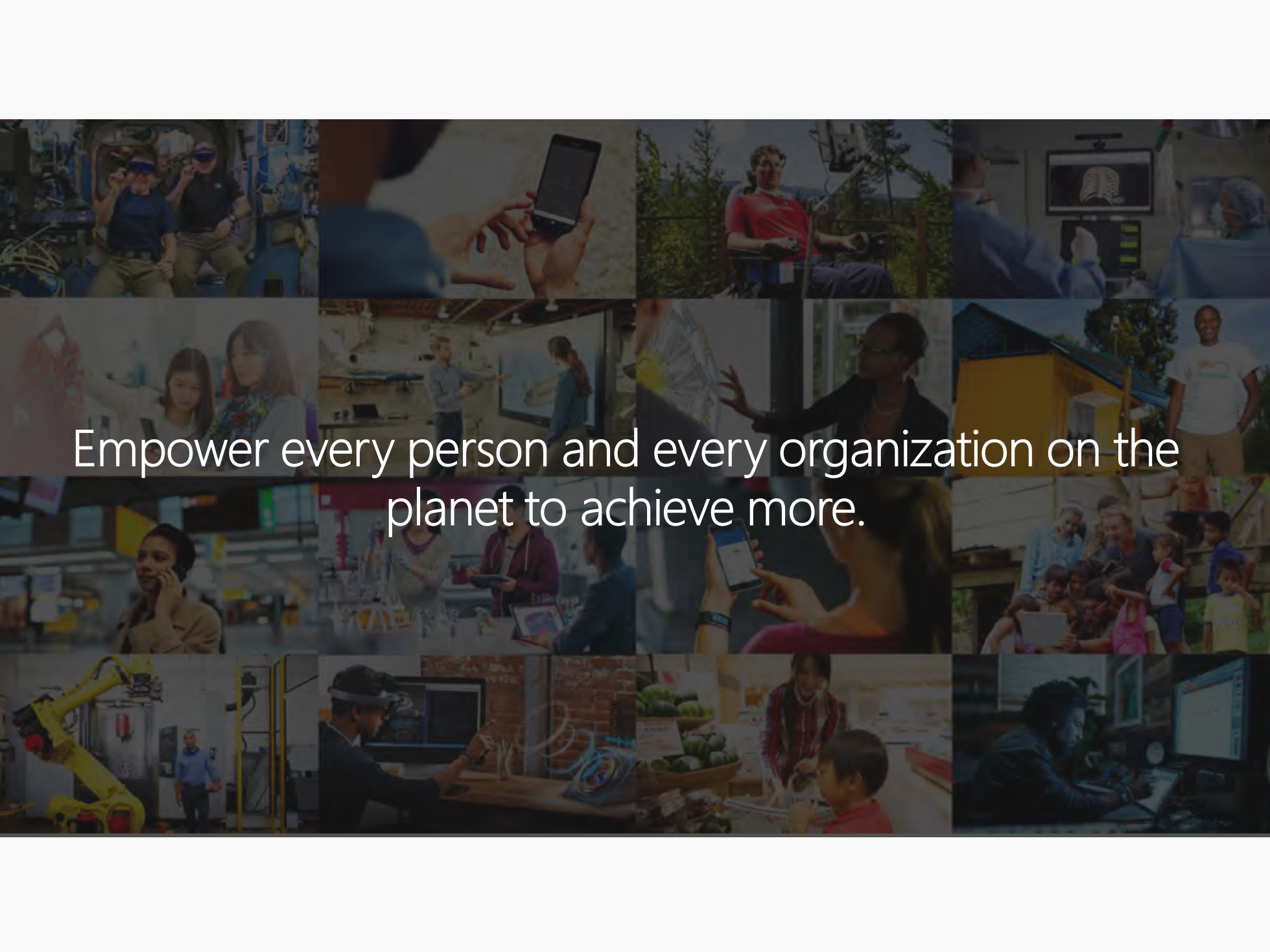
Endpoint Hits Per Period
PER DAY (LAST WEEK)

No endpoint hits or utterances to show.

Total Endpoint Hits
SINCE APP CREATION

593

[View details](#)

A collage of 15 images arranged in a 3x5 grid, each depicting a different scene of human achievement and technological advancement. The images are: 1. Two astronauts in a space station. 2. Hands holding a smartphone. 3. A man in a red shirt sitting in a chair outdoors. 4. A medical professional in a lab coat pointing at a screen showing a 3D model of a human lung. 5. Two women looking at a laptop. 6. A man pointing at a large screen in a classroom or meeting. 7. A woman gesturing while talking. 8. A man standing next to a yellow container. 9. A woman talking on a mobile phone. 10. A group of people working together at a table with laptops. 11. A person holding a smartphone. 12. A group of children and adults outdoors. 13. A yellow robotic arm in a factory. 14. A man wearing a VR headset. 15. A man and a child looking at a laptop.

Empower every person and every organization on the planet to achieve more.



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