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# THE ERA OF CONVERSATION

# A BIT OF HISTORY



# SOME MORE HISTORY





# BOTS! BOTS! BOTS!

*"Bots are like new applications that you can converse with."*

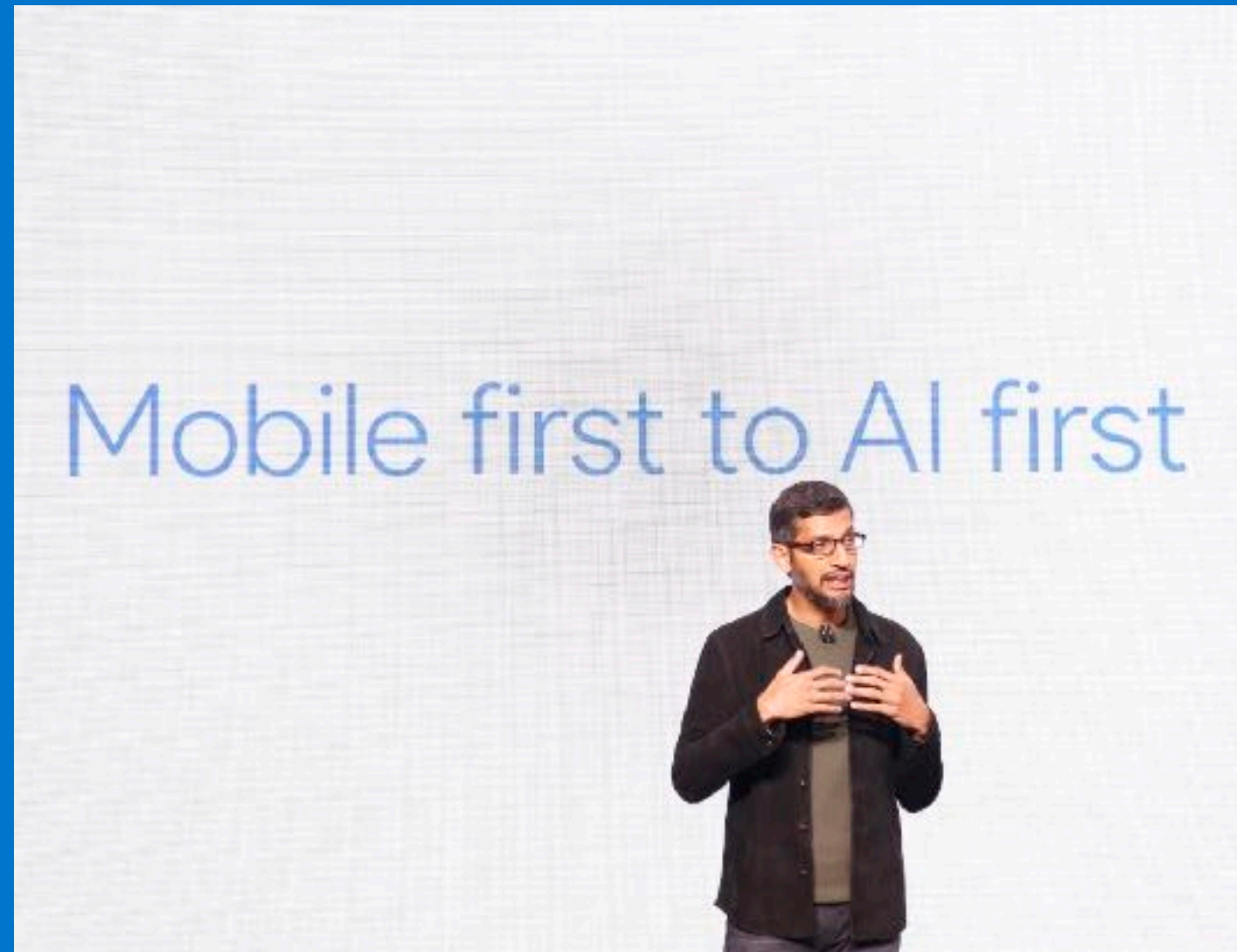
Satya Nadella,  
Microsoft



# AI FIRST

*"We will evolve in computing from a mobile first to an AI first world."*

Sundar Pichai, Google



WHY IS THIS HAPPENING TO ME

Why is this  
happening to  
me?





# WHY IS THIS HAPPENING TO ME

1. New era of computing
2. Boom of Artificial Intelligence
3. Advances in machine learning
4. Advances in language technologies  
(Text-to-speech, natural language processing, etc.)

# CONTEXTUAL COMMUNICATION

“*contextual communication* is the bidirectional transfer of information between two parties where both parties are aware of the relational, environmental, and cultural context of the exchange”



# OLD WEB APP FLOW

hello|

Send

tab



Special Meals



Vegetarian lacto-ovo

Hindu vegetarian

Vegan

Gluten-free

Kosher

Muslim

# CONVERSATIONAL INTERFACES



# CONVERSATIONAL INTERFACES



Tell Jokes



Answer Questions



Play Games



Make Stories

CogniToys Dino - <https://cognitoys.com>

# CONVERSATIONAL INTERFACES





I want a large  
pepperoni pizza



Sure. What kind of crust do  
you want:

1. Thin
2. Cheese
3. Thick



Cheese please!





Sure!

Hey, wanna  
meet up?



What's the address?

15 Bonhill Street



Request a ride?



Yes, get me a  
ride in 5 minutes



Your driver  
Alex will pick you up in 10 minutes.  
Look for a blue Mini



# CONVERSATIONAL INTERFACE

- Intuitive
- Accessible
- Productive

# MESSAGING PLATFORMS

- Slack
- Facebook Messenger
- Telegram
- WeChat
- Nexmo Stitch 🤗 (shameless plug)



# BOTS AT nexmo®

The Vonage®  
API Platform



**geekbot** APP 9:36 AM

What do you plan to ship this week?



**Alex Lakatos** 🏠 9:37 AM

- give the CityJS talk
- Stitch with Angular blog post
- host 2 meetups in the office



**geekbot** APP 9:37 AM

Go ship it!



**Zapier** APP 1:20 PM

New item Buffered: #VTCoders meetup attendees tonight are in for a treat : @Rabeb\_Othmani & @julielerman are going to talk about bots, azure functions, LUIS, APIs and a lot more goodness

<https://www.meetup.com/VTCode/events/248025786/>

Scheduled to tweet: Today at 3:38 pm



**Trellobot** APP 7:33 PM

Task:

talk to mark about push

was moved to: ✓

Task: talk to mark about push was moved to: ✓

Task: talk to mark about push is now ✓

# BOTS AT nexmo®

The Vonage®  
API Platform



**Productbot** APP 7:43 PM

Task: `talk to mark about push` is now



**Nexmo Releases** APP 12:10 AM

New [conversation-js-sdk](#) release published: [v0.1.20](#)

## # Changelog

All notable changes to this project will be documented in this file.

### ## [0.1.20]

#### ### Added

- Get notified when a new member is in ringing state in a Call
- Support for webpack and other bundle tools
- Changelog file

[Changelog file](<https://github.com/nexmo-inc/conversation-js-sdk/blob/master/CHANGELOG.md>)

#### ### Fixed

- Receiving Seen, delivered and delete events from iOS and Android

[Show more](#)

# NATURAL CONVERSATION AI

- DialogFlow (API.ai/Google)
- Wit.ai (Facebook)
- Microsoft BotFramework
- Motion.ai
- chatbots.io
- Converse AI
- landbot.io
- Recast.ai
- ManyChat
- Fluent.ai (Voice UI)

Set the temperature to 70° in my bedroom



intent = heating control  
temperature = 70°F  
where = master\_bedroom

Did you try... [What's the weather tomorrow in Palo Alto?](#) ↗



Your user

Set the temperature to 70° in my bedroom

Wit



Your app



# AIAAS

Artificial Intelligence as a Service - via @girlie\_mac



Small-Talk

en en-AU

Intents

Entities

Training <sup>[beta]</sup>

Integrations

Analytics <sup>[new]</sup>

Fulfillment

Prebuilt Agents

Small Talk

> Docs

> Forum



## Google Assistant

Build Actions for the Google Assistant to reach users through Google Home, Android phones, and more devices.

### INTEGRATION SETTINGS



Web Demo



Facebook Messenger



Slack



Viber



Twitter



Skype



Tropo (Text messaging)



Telegram





Hey Alex. From  
LGW as usual?



Hey, I want to  
book a flight



Yes, from  
Gatwick



Where are you going  
this time?

San Francisco



# KLM BOOKING BOT



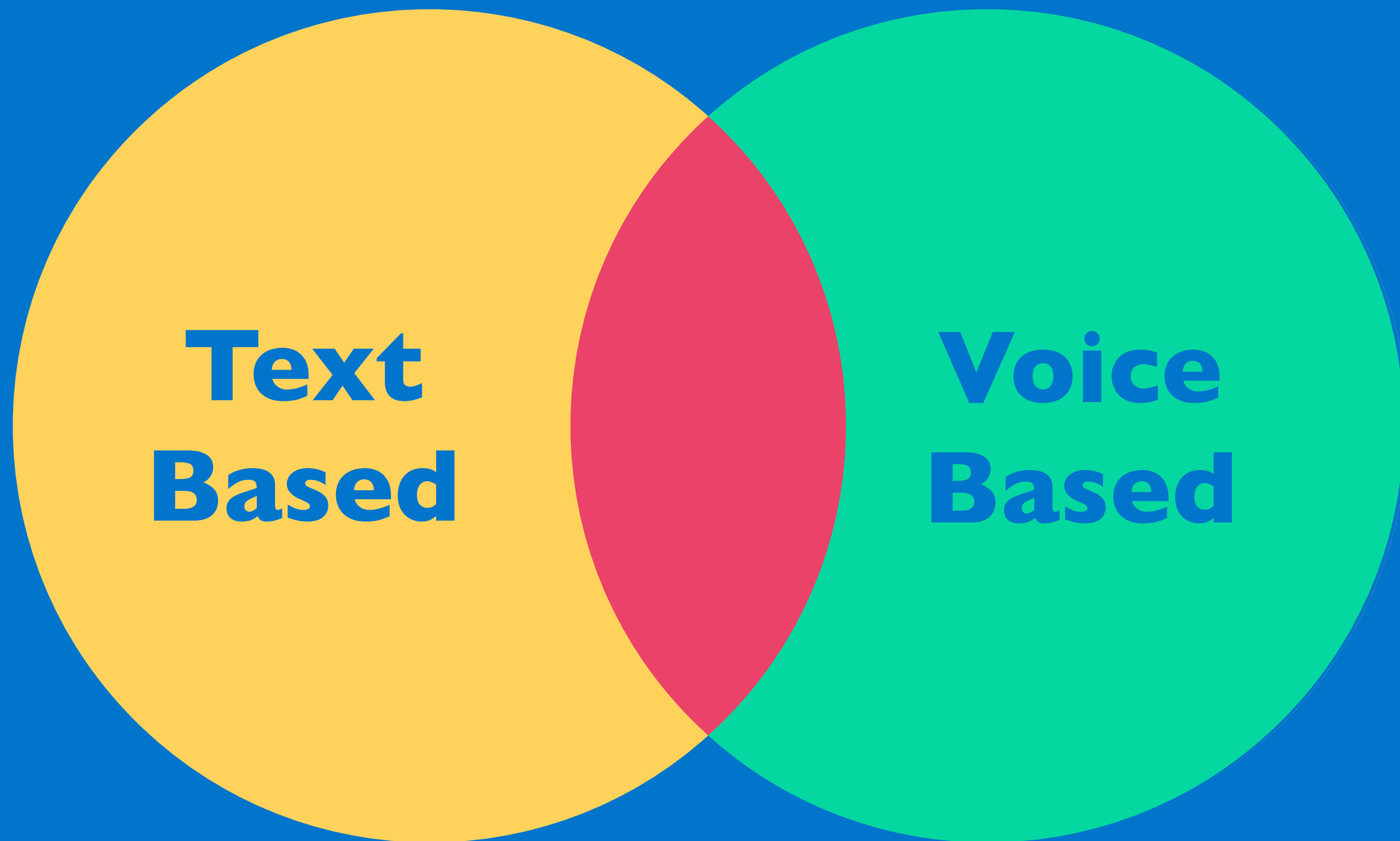
# NATURAL LANGUAGE PROCESSORS

Natural Language Processing &  
Cognitive platforms:

- IBM Watson
- Google Cloud Natural Language API
- Microsoft LUIS
- Amazon Lex
- Baidu UNIT



# CONVERSATIONAL INTERFACES



# VOICE EXPERIENCE

1. Make it smart.
2. Use a language that users understand and can relate to.
3. The capabilities of your tech
4. The structure of the information

# VOICE UX

Listening...



Listening...



Thinking...



# CONVERSATIONAL INTERFACES IN JAVASCRIPT

# WEB SPEECH API

#

## Speech Recognition API - UNOFF

Method to provide speech input in a web browser.

Usage

% of all users

Global

0% + 62.55% = 62.55%

unprefixed:

0%

Current aligned

Usage relative

Date relative

Show all

IE	Edge *	Firefox	Chrome	Safari	iOS Safari *	Opera Mini *	Chrome for Android	UC Browser for Android	Samsung Internet
			1 49						
			1 63		10.2				
		2 58	1 64		10.3				1 4
11	16	2 59	1 65	11	11.2	all	1 64	11.8	2 6.2
	17	2 60	1 66	11.1	11.3				
		2 61	1 67	TP					
			1 68						

Notes

Known issues (0)

Resources (8)

Feedback

MS Edge status: **Under Consideration**

Firefox status: **under-consideration**

1 Partial support refers to some attributes missing.

2 Firefox currently has a `media.webspeech.recognition.enable` flag in about:config for this, but actual support is waiting for permissions to be sorted out.



# WEB SPEECH API

```
toggleVoice() {  
  var SpeechRecognition = SpeechRecognition || webkitSpeechRecognition;  
  this.recognition = new SpeechRecognition();  
  
  this.recognition.lang = "en-US";  
  this.recognition.interimResults = false;  
  this.recognition.start();  
  
  this.recognition.addEventListener('result', (e) => {  
    let last = e.results.length - 1  
    let text = e.results[last][0].transcript  
    this.sendText(text, true)  
    this.recognition.stop()  
    this.recognition = null  
  });  
}
```

# WEB SPEECH API







#

## Speech Synthesis API - UNOFF

Usage % of all users  
Global 79.93%


A web API for controlling a text-to-speech output.

Current aligned Usage relative Date relative Show all

IE	Edge *	Firefox	Chrome	Safari	iOS Safari *	Opera Mini *	Chrome for Android	UC Browser for Android	Samsung Internet
			49						
			 63		10.2				
		58	 64		10.3				4
11	16	59	 65	11	11.2	all	64	11.8	6.2
	17	60	 66	11.1	11.3				
		61	 67	TP					
			 68						

Notes Known issues (1) Resources (8) Feedback

Samsung Internet for GearVR: In Development, release based on Chromium m53 due Q1/2017

 Speech Synthesis in Chrome since version 55 stops playback after about 15 seconds on Windows 7 & 10, and Ubuntu 14.04, possibly other platforms

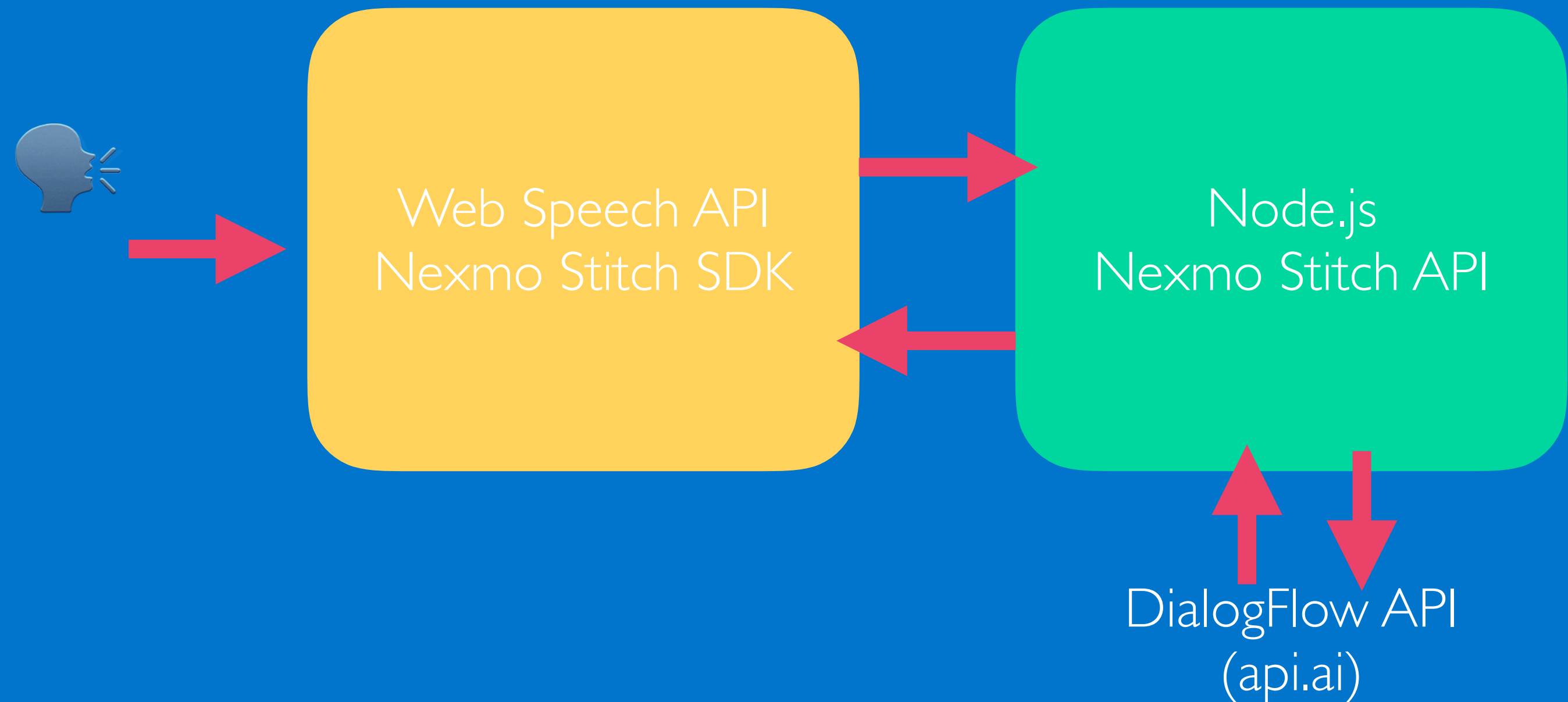
# WEB SPEECH API

```
let utterance = new SpeechSynthesisUtterance();  
  
utterance.text = response.result.fulfillment.speech  
utterance.rate = 5.5;  
utterance.pitch = 2;  
utterance.lang = "en-GB";  
  
speechSynthesis.speak(utterance)
```


# DEMO TIME!

Client


Server




# THINGS I USED - MDN



 MDN web docs  
moz://a

Technologies ▾References & Guides ▾Feedback ▾

Sign in 



## Web Speech API

 Languages [Edit](#) 

Jump to: [Web Speech Concepts and Usage](#) [Web Speech API Interfaces](#) [Examples](#) [Specifications](#) [Browser compatibility](#)


[Firefox OS permissions](#) [See also](#)

Web technology for developers >  
Web APIs > Web Speech API

Related Topics

▼ Interfaces

[SpeechGrammar](#)  
[SpeechGrammarList](#)  
[SpeechRecognition](#)  
[SpeechRecognitionAlternative](#)  
[SpeechRecognitionError](#)  
[SpeechRecognitionEvent](#)

 **This is an experimental technology**  
Check the [Browser compatibility table](#) carefully before using this in production.

The Web Speech API enables you to incorporate voice data into web apps. The Web Speech API has two parts: SpeechSynthesis (Text-to-Speech), and SpeechRecognition (Asynchronous Speech Recognition.)

## Web Speech Concepts and Usage

[https://developer.mozilla.org/en-US/docs/Web/API/Web\\_Speech\\_API](https://developer.mozilla.org/en-US/docs/Web/API/Web_Speech_API)



# NEXMO STITCH



## Nexmo Stitch Developer Preview

Build multi-platform applications with contextual communications



Nexmo Stitch

### In-App Messaging

Overview

JavaScript Guide

Android Guide

iOS Guide

API Reference



Nexmo Stitch

### In-App Voice

Overview

JavaScript Guide

Android Guide

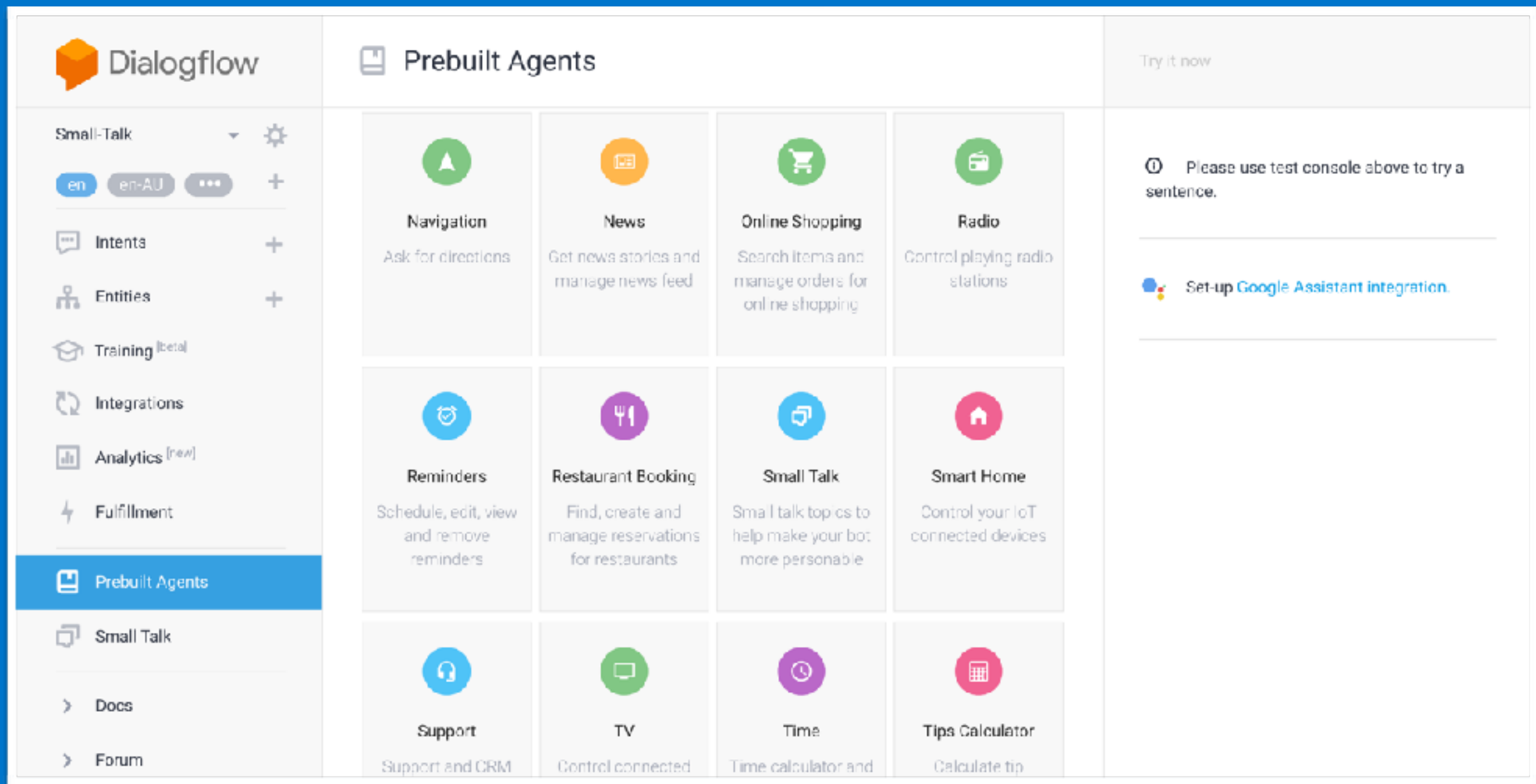
iOS Guide

API Reference



<https://developer.nexmo.com/stitch/overview>

# DIALOGFLOW (API.AI)



<https://dialogflow.com/>

CONVERSATIONAL INTERFACES  
ARE FOR HUMANS

A BOT INTERFACE SHOULD BE  
A HUMAN INTERFACE

# REMEMBER ME?

It looks like you're writing a letter.

Would you like help?

- ☒ Get help with writing the letter
- ☒ Just type the letter without help
- ☐ Don't show me this tip again



Clippy (1997 - 2007)

R.I.P.



THANKYOU

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