BUILDING ACTIONS FOR GOOGLE ASSISTANT

A presentation by Adrian Muntean

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https://github.com/AdrianMuntean/actions-on-google-meetup

Rundown

Topics to be Covered

- What is this all about?
- History and context
- First start: building an action without coding
- Deep dive: build a small interaction app

WHAT IS THIS ALL ABOUT?

Built in functionality

"How tall is the Eiffel Tour?"

"Weather"

"Whats on my calendar today?"

Control TV

Make calls

Send text messages

Extended functionality

...

WHAT IS THIS ALL ABOUT?

Smart speaker Smart display

Google Home

Google Home Hub

Phone app

Android

IOS

Other hardware

Cars

Headphones

History and context

INITIAL START

The Google Assistant initially debuted in May 2016 as part of Google's messaging app Allo.

Actions on Google platform launched in December 2016

In February 2017 it began to be deployed on other Android devices

In April 2017 a SDK was released and it allows other hardware to run the assistant

History and context

THE COMPETITION WAS THERE

Siri was released as an app in February 2010 and acquired by Apple 2 monts later

Cortana was demonstrated for the first time in 2013

Amazon announced Alexa alongside the Echo in November 2014

Why should I build an app for this?

Google community program

- Google t-shirt
- $200 monthly Google Cloud credit

Build something different

- Other ways of building the app

Other

...

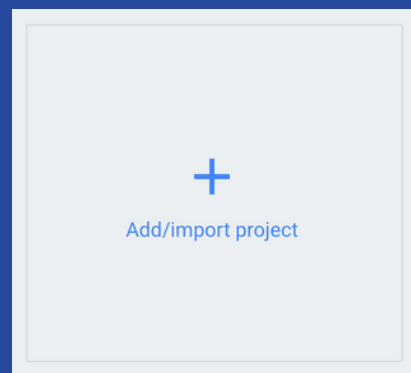# FIRST START

No real coding

https://developers.google.com/actions/ ->
https://console.actions.google.com

+
Add/import project

Templates ⑦
Get started easily by uploading
a Google spreadsheet

Trivia ⑦
Create your own trivia game show
putting your friends, family, and other
Assistant users in the hot seat

Personality quiz ⑦
Build a personality quiz that rewards
survey takers by assigning an
enlightening (or quirky) classification
based on their answers

Flash cards ⑦
Help your friends or study group
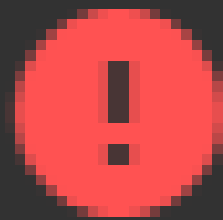learn new concepts and test their
knowledge with flash cards

EXAMPLE

Medicine Trivia

https://assistant.google.com/u/1/services/a/uid/000000ec4e
eb0cff?hl=en&pageId=none

Medicine Trivia

Failed to submit action template.

Deep dive

Moving away from the simple stuff

HOW IT WORKS?

Action

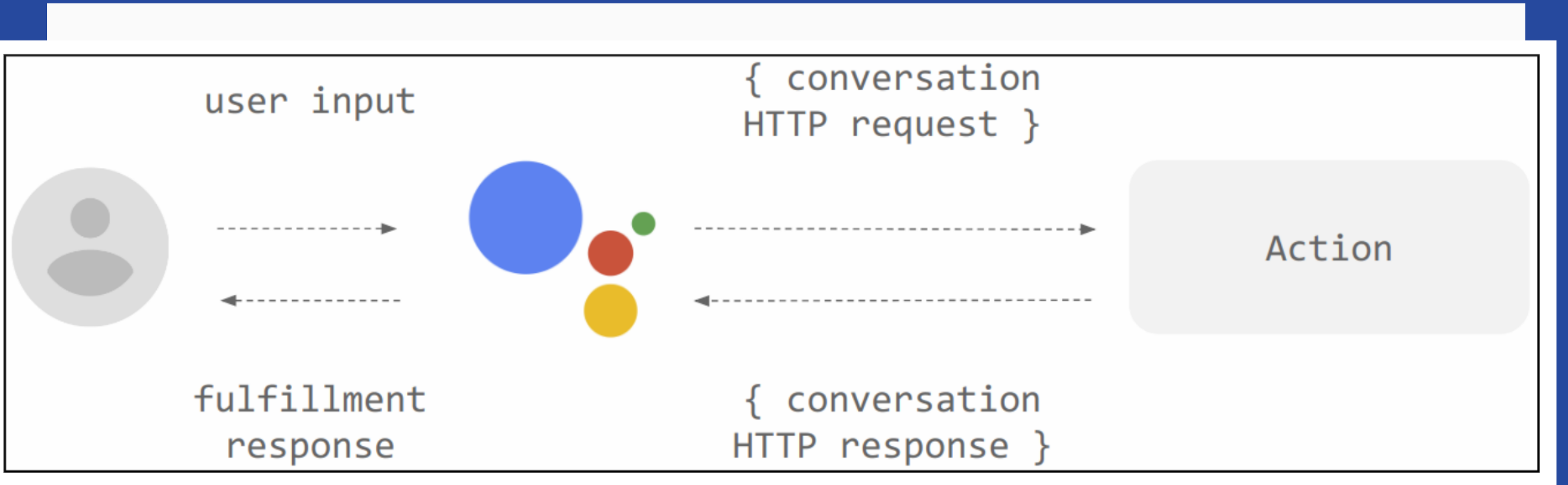Entry point

HOW IT WORKS?

HOW IT WORKS?

Action — Entry point

Intent — An underlying goal or task the user wants to do

Fulfillment — A service that handles the intent

HOW IT WORKS?

user input

{ conversation HTTP request }

Action

fulfillment response

{ conversation HTTP response }

HOW IT WORKS?

Action

Intent

Fulfillment

DEEP DIVE

Setup in Google console

https://developers.google.com/actions/ ->
https://console.actions.google.com

+

Add/import project

No Actions yet

You haven't created any actions yet. Click the button below to add the first one.

ADD YOUR FIRST ACTION
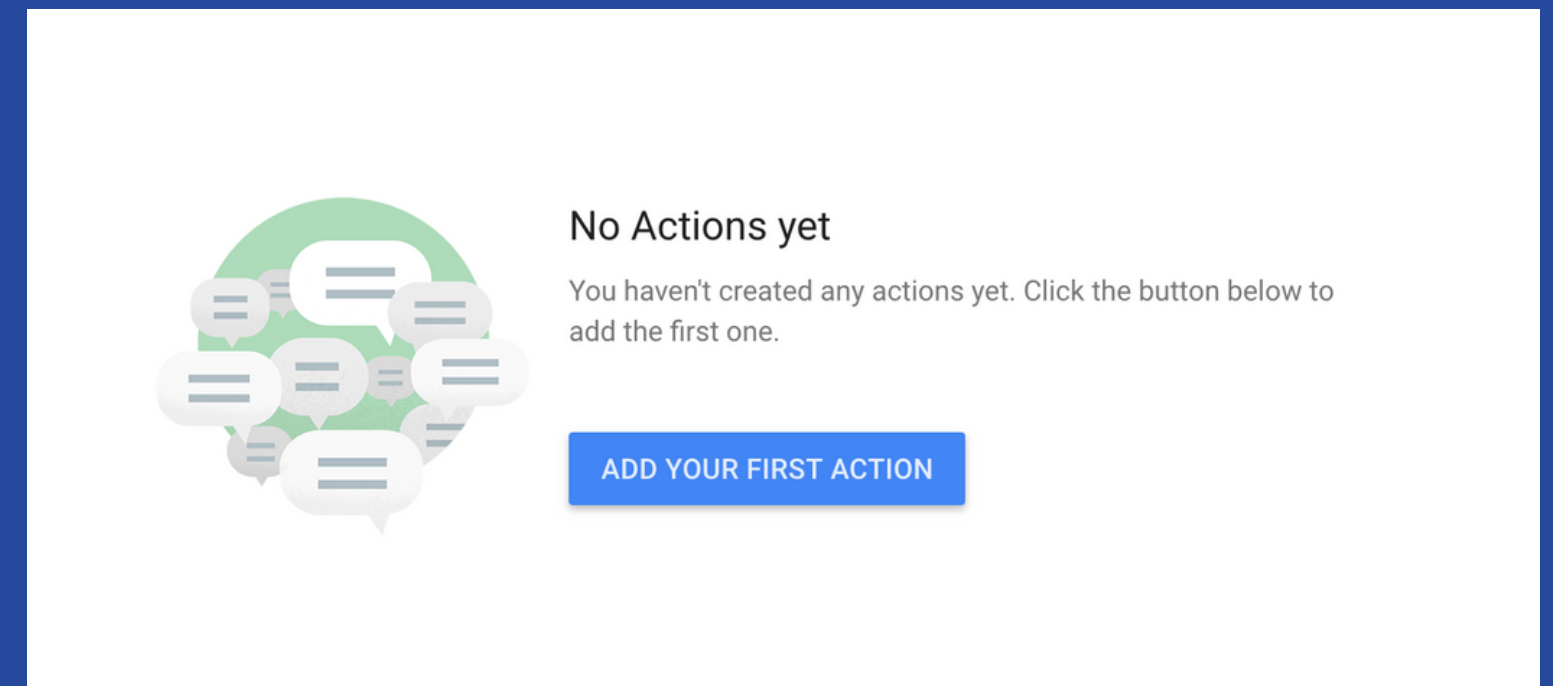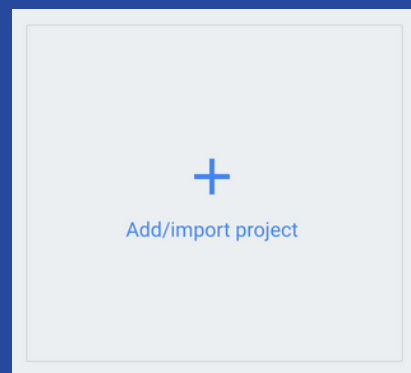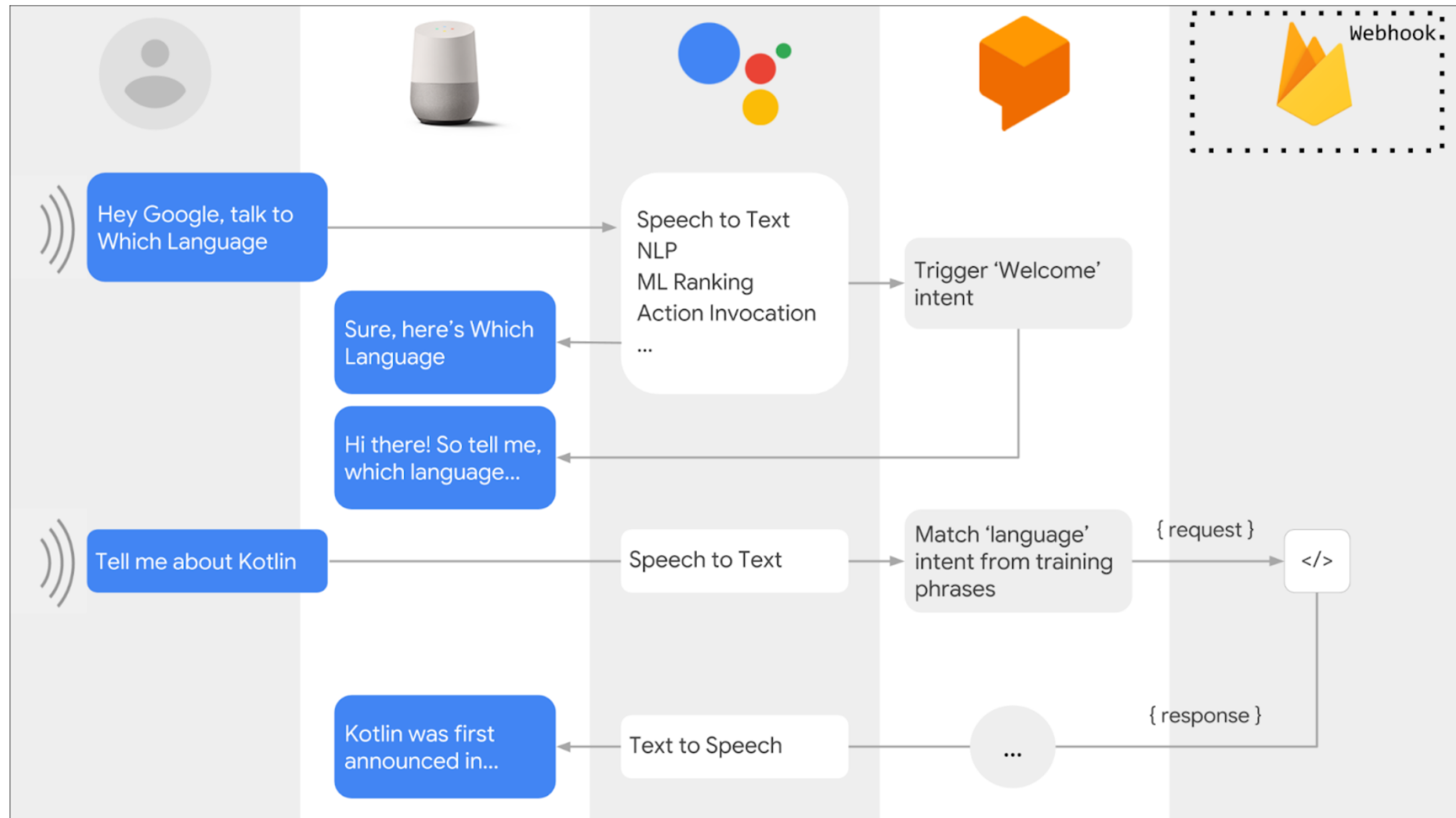
DIALOGFLOW INTEGRATION

- ## Dialogflow is a web-base service for processing user input
- ## Dialogflow is provided by Google to handle NLU
- ## When creating actions the developer can provide their own NLU solution

DIALOGFLOW INTEGRATION

Webhook

Hey Google, talk to Which Language

Speech to Text
NLP
ML Ranking
Action Invocation
...

Trigger 'Welcome' intent

Sure, here's Which Language

Hi there! So tell me, which language...

Tell me about Kotlin

Speech to Text

Match 'language' intent from training phrases

{ request }

</>

Kotlin was first announced in...

Text to Speech

...

{ response }

DEEP DIVE

Hands on

https://console.dialogflow.com

CREATE

Welcome intent

Fallback intent

Test

KEY TERMS

Parameters	Values that you want to extract

Dialogflow intent	An object that maps user utterances to your agent's responses

Dialogflow webhook (fulfillment)	Code that responds to an HTTP request

DEEP DIVE

Hands on - add a new intent

https://console.dialogflow.com

CREATE INTENT

Add training phrases

Action and parameters

Fulfillment

DEEP DIVE

Hands on - implement a webhook

https://console.dialogflow.com

⚡ Fulfillment

Use the inline editor

Copy

DEPLOY

Next stop.
Next time

This was just a beginning

- More advanced conversational action
- Create sound effects with SSML
- Store session data
- Create deep links

Challenge

- Build an action that counts the days until a holiday (Christmas, Easter etc)
- Build a trivia game

RESOURCES

- **https://github.com/actions-on-google/**
- **https://developers.google.com/actions/**
- **https://dialogflow.com/**
- **https://medium.com/swlh/chapter-6-how-to-build-a-google-home-app-with-dialogflow-overview-4549d92d8d6a**