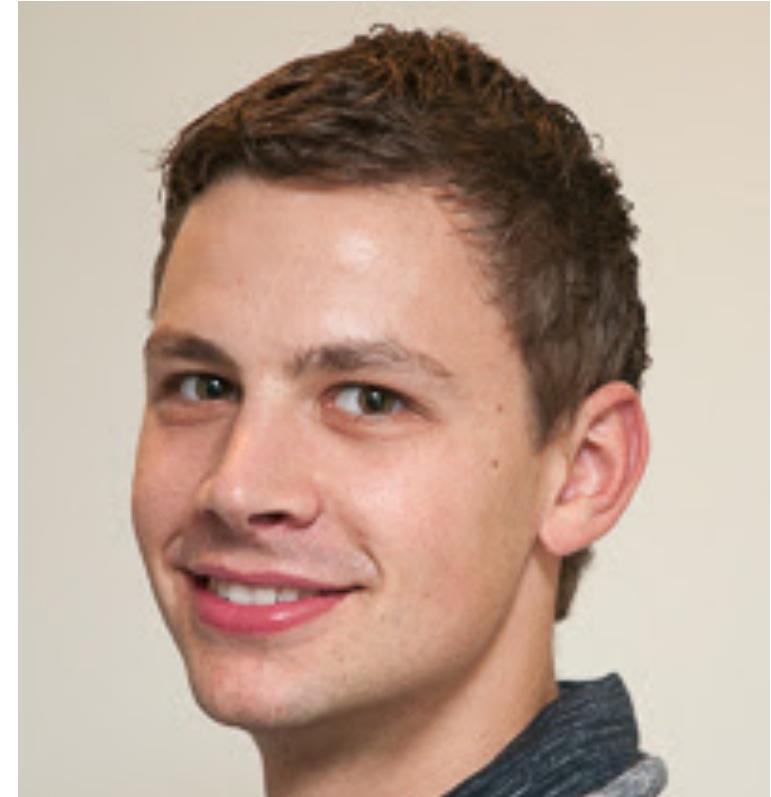


Keeping your head cool with a
serverless voice controlled fan

About me

- Full stack developer



Paco van Beckhoven

How it all started



The problem



<https://gifer.com/en/7UBY>

The problem

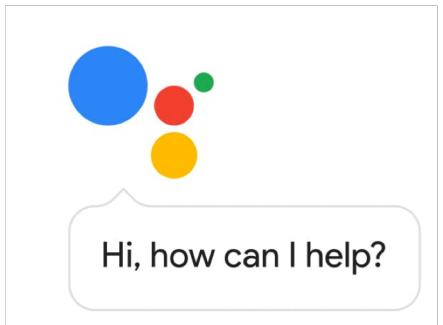


<https://gifer.com/en/96YO>

The problem



The goal



<http://i.imgur.com/f7dGct6.gif>

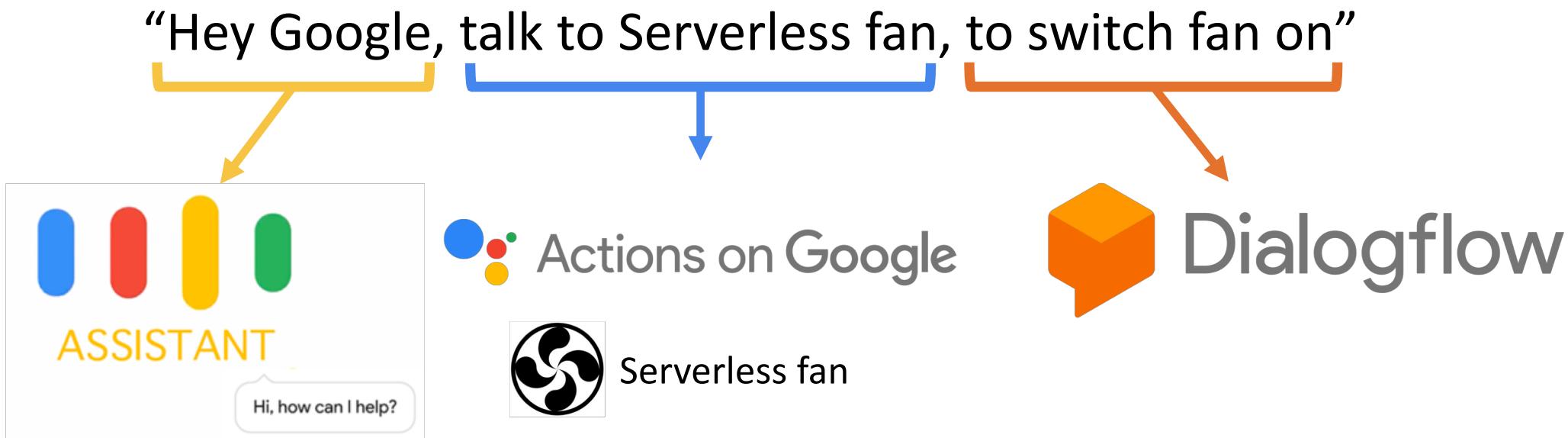
What do we need?

- Convert speech to actions
- A fan
- Something to control the fan
- Serverless

What is serverless?

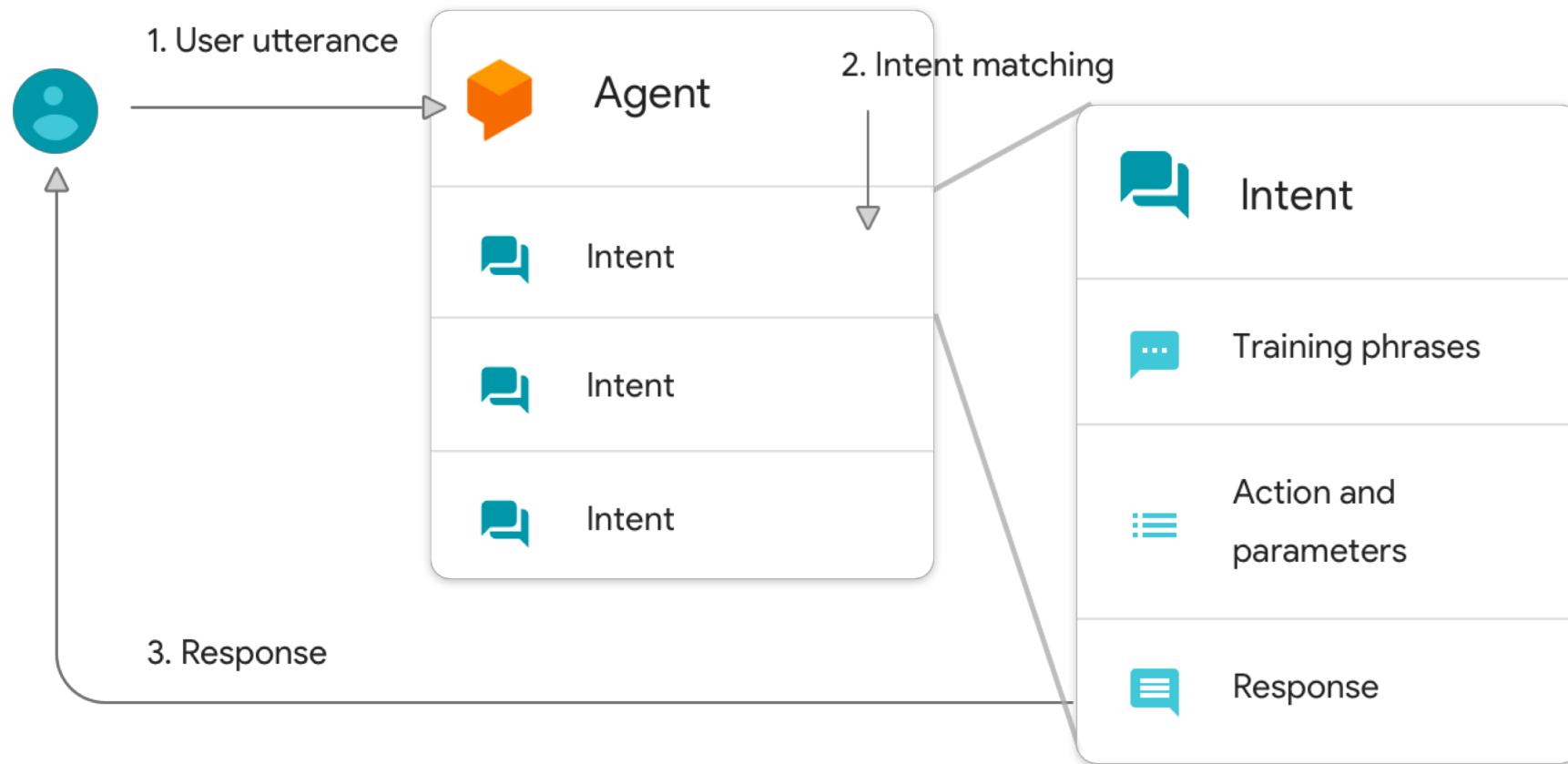
- Run code without managing/provisioning servers
- Backend as a Service (BaaS)
 - E.g., cloud databases, authentication services
- Functions as a Service (FaaS)
 - Small pieces of business logic

Converting speech to actions



Converting speech to actions

“Switch fan on”



Fulfilling the action

Webhook

DISABLED



Inline Editor (Powered by Cloud Functions for Firebase)

ENABLED



[index.js](#) [package.json](#)



```
1 // See https://github.com/dialogflow/dialogflow-fulfillment-nodejs
2 // for Dialogflow fulfillment library docs, samples, and to report issues
```

The Firebase function

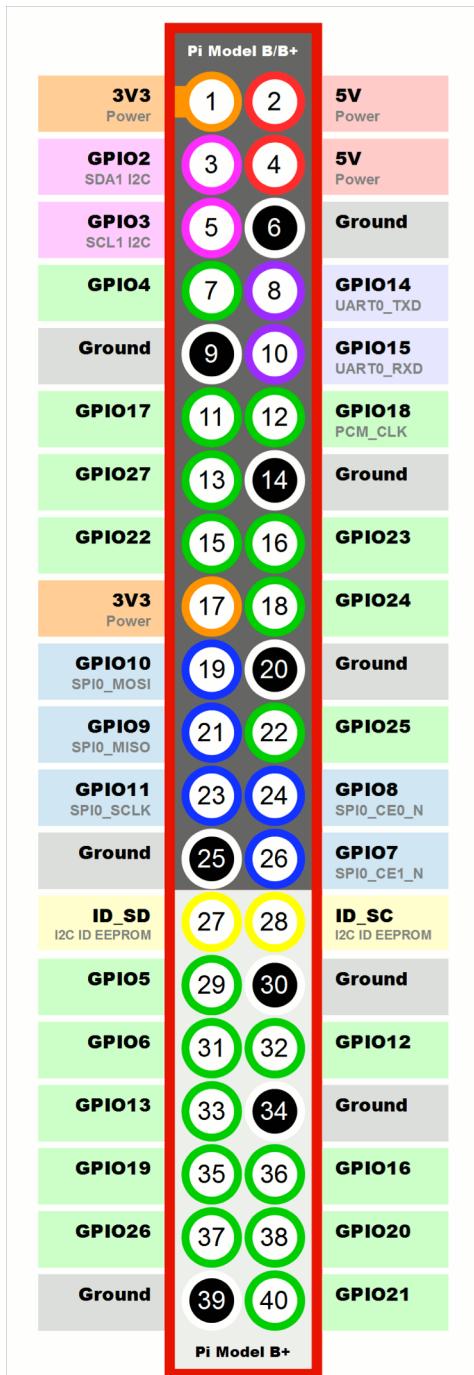
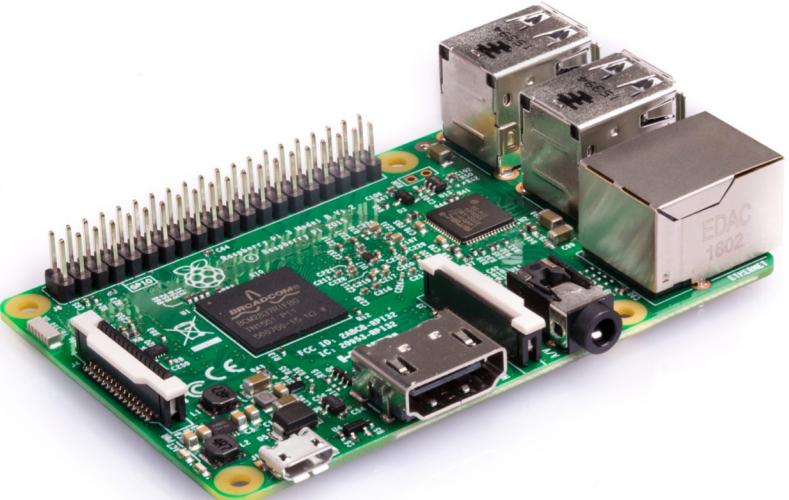
```
const functions = require('firebase-functions');
const {WebhookClient} = require('dialogflow-fulfillment');
```

```
exports.dialogflowFirebaseFulfillment = functions.https.onRequest((request, response) => {
});
```

The Firebase client

Controlling the fan

Raspberry Pi



Controlling the pins

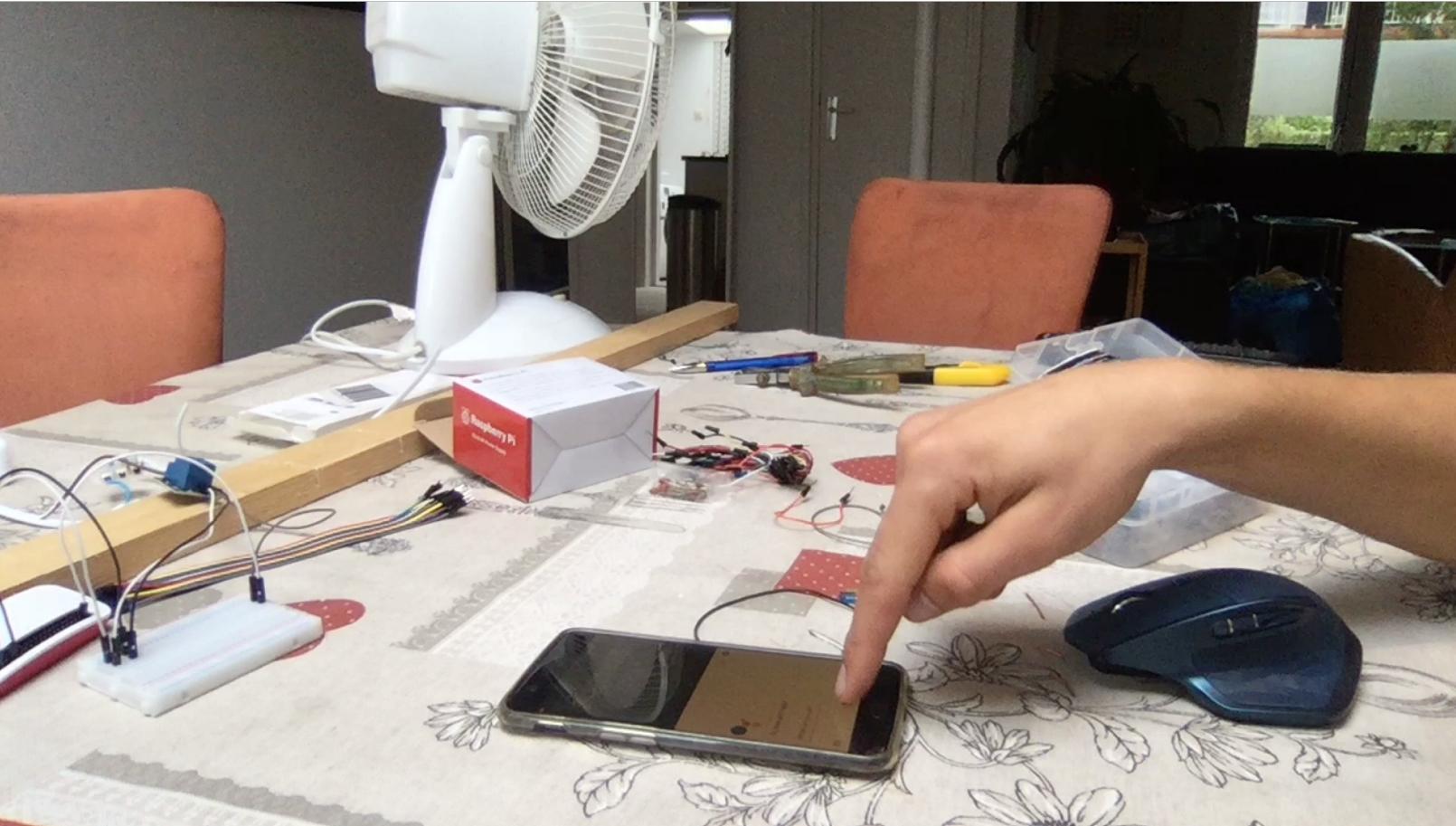
```
const rpio = require('rpio');

// Setup pin 40
rpio.open(40, rpio.OUTPUT, rpio.LOW);
// Turn the fan on
rpio.write(40, rpio.HIGH);
```

Recap

- Google Assistant
- Actions On Google
 - Serverless fan application
- Dialogflow
 - Switch_fan intent with the “turn” parameter
- Firebase
 - Cloud function and realtime database
- Pi
 - Firebase client
 - GPIO

Demo



Thank you!



<https://github.com/pacbeckh/serverless>

For slides and links