About Me

Developer | Author | Technophile
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- Android mobile app developer for the past 5+ years

- Worked primarily on developing B2C and B2B based applications

- Worked on cutting edge technologies including AI, AR & VR

- Involved in DevOps implementation since the past 2 years

- Working on integrating innovative technologies with DevOps

- Passionate about technology, meeting new people and sharing ideas! ☺

"Stay Hungry ! Stay Foolish !"

The world today ….

- Virtual meetings
- Work from home
- Social distancing
- Home Quarantine
- Evolving workspaces
- The "new normal"

Background

Agile development is winning
- Better quality
- Improved efficiency
- Predictability, flexibility and transparency
- Result oriented

Culture of continuous integration involves
- Fixing failed integrations on priority
- Making integration results visible
- Integrating often
- Applying best software engineering practices

Voice-first technologies are the next big thing
- Conversation is the best way to solve a problem
- Voice first is more natural
- Improved accessibility
- Future is bright

We all love data!

According to a report published by eMarketer, in 2020, there will be over 100M smartphone voice assistant users.

Gartner predicts 25% of Digital Workers will use virtual employee assistants daily by 2021. It also predicts that, by 2023, 25% of all employee interactions with applications will be via voice, up from under 3% in 2019.
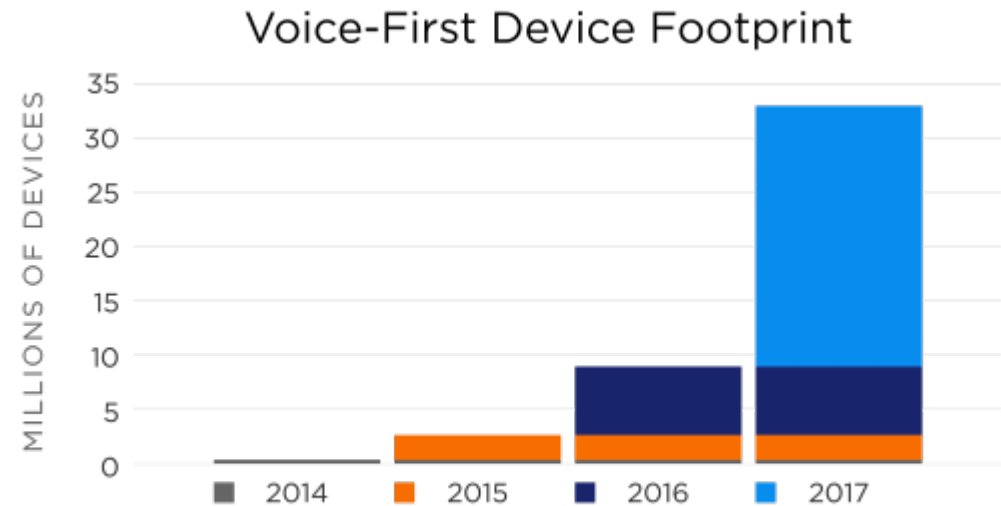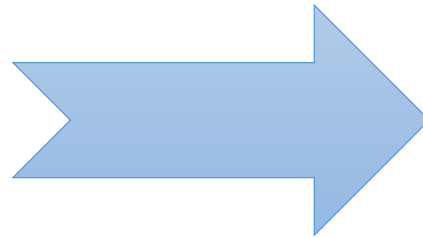

Source: https://bit.ly/33hRuVn

The Age-Old Problem!

Software Projects Involve -

- More complexity
- Working with multiple heterogeneous systems
- Large team size
- High learning curve

What Is Expected From Developers ?

- Write clean code
- Write test cases
- Identify or fix defects early
- Learn to be pro-active

THE RACE AGAINST TIME

- Shorter development life cycle
- Shorter deadlines
- Time to market

Information on the Go!

We all want that information can be accessed from anywhere –

- We create web portals or interactive dashboards to display all sorts of information.
- A lot of time and effort is involved
- Over the years it proves to be useless
- We need a better form of communication

We all try to seek answers to –

- When was the last build delivered ?
- How many test cases passed or failed?
- Was the last build successfully?
- What broke and what didn't ?

Challenges

- Dependency & communication among members within cross functional teams

- Time and cost metrics involved in developing reporting-based web portals

- Feedback and specific information retrieval without manual intervention

- Organizational culture and development methodology changes

- Personalization and user experience

Proposed solution

- Creating a voice-based communication interface that uses natural human language.

- Leveraging existing CI/CD framework that exposes RESTful APIs to monitor build status, generate reports and much more.

- Leveraging latest AI technology to communicate and create meaningful conversations with the end user.

- Provide instant feedback to queries without the need of a centralized web portal.
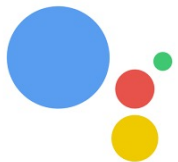
Architecture

Machine learning

Integration

Fulfillment

DialogFlow

process

trains

request

response

Intent matching

Webhooks

Webhook req

Relay response

Webhook resp

heroku

Webhook service

RESTful API's

Actions

Database

- List of jobs
- Start/stop build
- Build status
- Email report

Agent Jenkins

(End user)
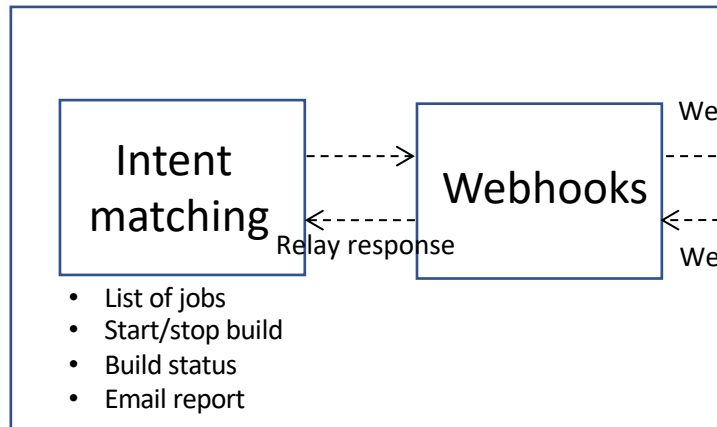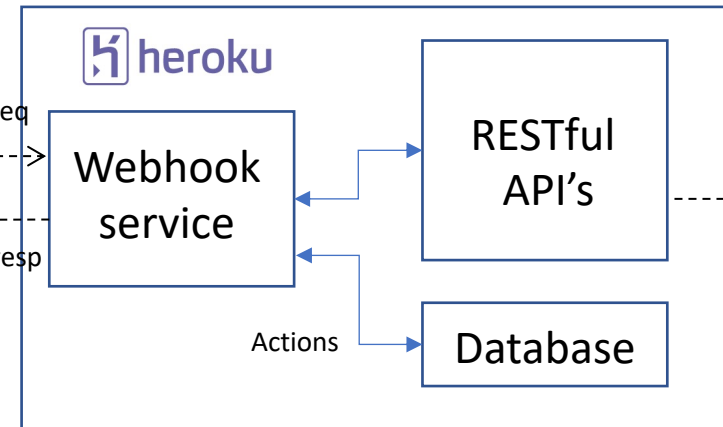
Link to download solution video and slides: https://rb.gy/gjkuab

Solution benefits

- Easily extendible to other CI/CD platforms and frameworks.

- Helps to obtain information easily using natural language.

- Allows user to remotely monitor status of applications without accessing a centralized portal.

- Quicker transition among team members in case of changes in software development methodologies.

- Voice first approach with user personalization.

Conclusion & future scope

- Voice interfaces are increasing at an exponential rate

- Smartphones & tablets are already personalized.

- Voice based applications enable consumers to use natural language to reduce manual effort, making it a lot faster to accomplish tasks.

- Better and more streamlined conversations

- Support for wearable devices?
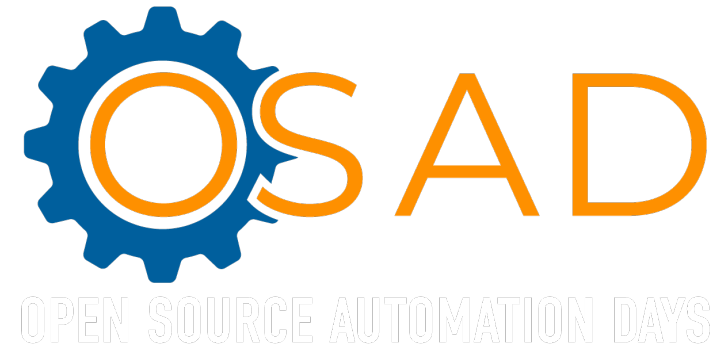
- Better security & user verification

FUTURE

References & links

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- https://voicebot.ai/2020/01/01/voice-ai-2020-predictions-from-46-voice-industry-pros/

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- https://cloud.google.com/dialogflow/docs/fulfillment-overview

- https://www.forbes.com/sites/ilkerkoksal/2018/02/01/voice-first-devices-are-the-next-big-thing-heres-why/#643339406873

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