eYSIP2017

Title of the Project

Intern 1 Name
Intern 2 Name
Mentor Name
Duration of Internship: $22/05/2017 - 07/07/2017$

Project Name

Abstract

Give the brief introduction and overview of the project

Completion status

Give details for work/project completed successfully. If work is not complete, mention the details till which task is done.

Hardware parts

- List of hardware

- Detail of each hardware: Datasheet, page 5, Vendor link,

- Connection diagram

Software used

- List of software used

- Detail of software: version, download link,

- Installation steps

Assembly of hardware

Circuit diagram and Steps of assembly of hardware with pictures for each step

Circuit Diagram

Circuit schematic, simplified circuit diagram , block diagram of system

Step 1

Steps for assembling part 1

Step 2

Steps for assembling part 2

Step 3

Steps for assembling part 3

Software and Code

Github Repository with code and documentation: Link

Webhook(fulfillment) program:
JavaScript program that recieves user query data from DialogFlow engine, calls corresponding rest APIs of iot-platform and returns the response to DialogFlow.

natural-cron readableToCron.js:
JavaScript Library to convert normal English phrases into "Cron expressions". Visit here for more details.

Use and Demo

Final Setup Image

1. Connect the hardware device to power supply and make sure it is switched on.

2. Verify that device has active internet connection.

3. Make sure all the servers are started and working as explained in installation guide.

4. Use the assistant(Web assistant on iot-platform, Google actions simulator, DialogFlow simulator or Google assistant on handheld devie) to fire queries.

Future Work

What can be done to take this work ahead in future as projects.

Bug report and Challenges

Efficiency of Assistant:
Though efficiency of assistant has become quite good over the course of development, still the efficiency can be improved with more training.

Efficiency of natural-cron.js:
Building a program that will convert english phrases to desired cron expressions was a major challenge. Efficiency of natural-cron.js library can be consistantly improved over the course of time to handle complex phrases.

Challenges:

- Implementing OAuth2 token based authentication for login via Google Assistant

- Making the assistant dynamic to handle all devices and sensors

- Improving accuracy of dialogflow agent

- Implementing save and restore for blockly blocks

Bibliography

[1] Justin Jose, *Building Chatbots - A comparison of Rasa-NLU and Dialogflow*, https://www.linkedin.com/pulse/building-chatbots-comparison-rasa-nlu-dialogflow-justin-jose/

[2] DialogFlow, *Reference documentation for Google's DialogFlow engine*, https://dialogflow.com/docs/getting-started

[3] Blockly, *Reference documentation for Google's Blockly library*, https://developers.google.com/blockly/reference/overview