

Progress Presentation-I

e-Yantra Summer Internship-2018
eYSA
&
IFTTT for IOT

Team: Onkar J. Sathe
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Mentors: Omkar Manjrekar
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IIT Bombay

Overview of Project

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Team: Rath

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pan

Overview of Project

Overview of Task

Tasks
Accomplished

Challenges Faced

Future Plans

Thank You

eYSA:

■ Objective

- 1 Building a NLP based assistant to access eYantra IOT platform through text and voice control over the Web portal and through Google Assistant!
- 2 Developing flexible block based GUI for IFTTT rules as an alternative to conventional ways of writing rules using code/SQL.

■ Deliverables

- 1 The assistant should at least be able to perform all the frequent queries that take place on IoT platform.
- 2 User should see device data in the chat interface itself.
- 3 A web chatbot interface to be integrated with IoT Platform
- 4 Validations of IFTTT rules with minimization of Lambda functions.
- 5 Final application should show CRON rules being implemented for irrigation.

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Task.no	Task	Deadline
1	Understanding e-Yantra IoT Platform and its APIs	2 days
2	Getting familiar with Dialogflow and required programming languages	3 days
3	Gathering phrases to train the agent.	3 days
4	Adding entities and intents	3 days
5	Take actions on the output of phrases returned by API properly and ask for missing information if any	2 day
6	Testing this and the speech interface and retraining on more examples if required.	3 days

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Task.no	Task	Deadline
7	Develop a proper web interface to be integrable with IoT platform designing throughout the website.	2 days
8	Integration with E-Yantra platform and a demo application	1 day
9	Learning VueJs and component designing	4 day
10	Designing algorithm for converting UI bloks to lambda code with loose coupling	4 days
11	Testing and improving efficiency	1 days
12	Documentation	2 days

What we have done so far...

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- Understanding eYantra IoT Platform and its APIs
- Learning about DialogFlow & RasaNLU and how a virtual assistant works behind the scenes



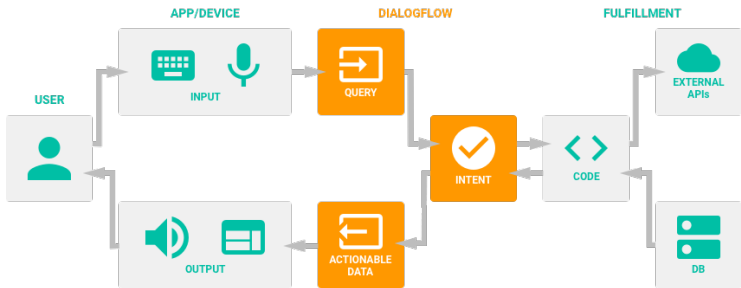
Dialogflow



- Understanding the working of AWS-IoT and connecting ESP8266-DHT sensor to it for testing of the assistant

What we have done so far...

- Teaching the assistant to talk and listen with Intents
- Webhook in JavaScript for providing data & rich UI responses



Flow of the IoT Assistant

What we have done so far...

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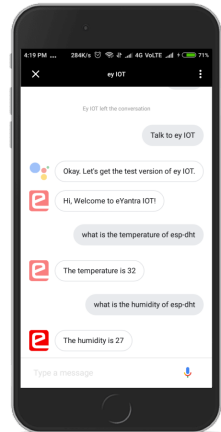
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Thank You

- Integrating the IoT assistant with Google Assistant
- Secure user authentication based on OAuth2 token system
- Authenticated user can access and control devcies & sensors on IoT platform anytime, from anywhere around the world through internet



Challenges faced and How we solved them...

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- Implementing OAuth2 Token based authentication between assistant and IoT Platform
- Teaching the assistant to understand IoT words & phrases like Sensor names, Units, Things and properties like temperature, humidity, etc

Future Plans

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- Integrating the assistant in IoT platform's website with chatbot UI
- Making the assistant dynamic enough to handle variety of devices & sensors with their properties
- Assistant will be able to handle other complex commands on IoT platform like Crons from natural language and generating Rules.
- Creating block based GUI for IF-This-Then-That Rules on IoT platform and converting them to code for proper linking with AWS Lambda

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THANK YOU !!!