

MICHIGAN STATE
UNIVERSITY

Alpha Presentation
Self-Service Support Chatbot for
Google Cloud
The Capstone Experience

Team Google

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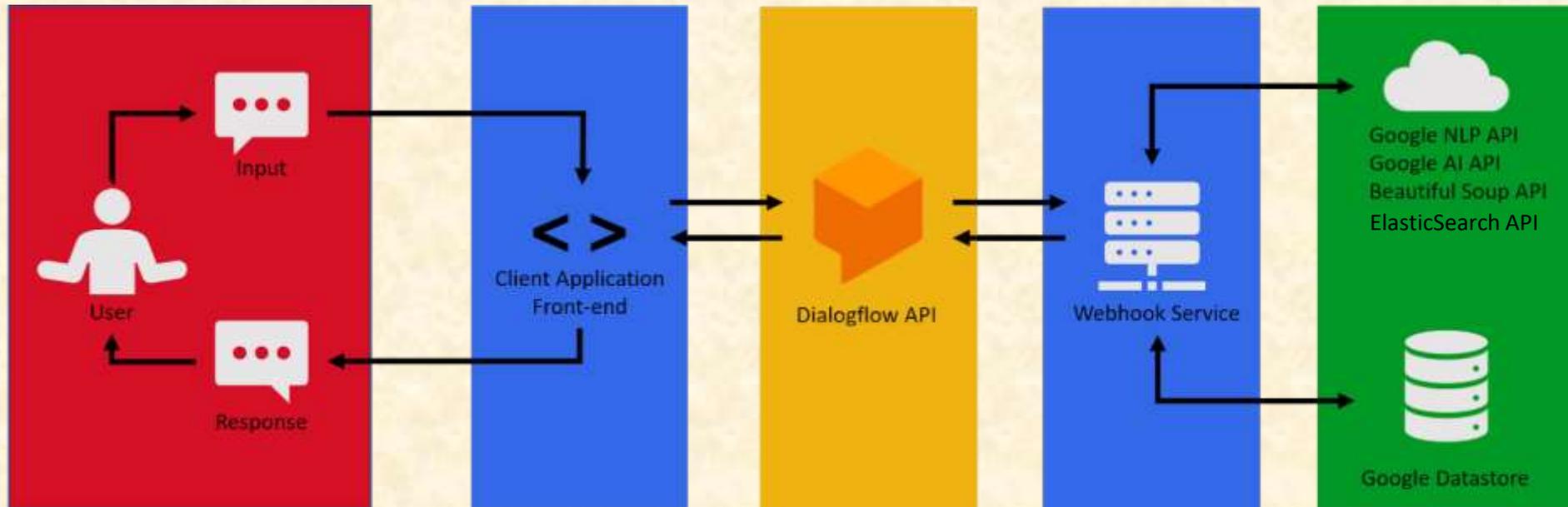
From Students...
...to Professionals

Project Overview

- 4 components:
 - Chatbot
 - Analytics Dashboard
 - Interrogator Script
 - AI Model
- Reduce time to issue resolution
- Provide insight on the usefulness of current documentation



System Architecture



Scraped Documents In Datastore

Entities + CREATE ENTITY IMPORT EXPORT DELETE Cloud Firestore in Datastore mode ?

QUERY BY KIND QUERY BY GQL

Kind FILTER ENTITIES

| <input type="checkbox"/> | Name/ID ↑ | Date | Keyword | Section | URI |
|--------------------------|---------------------|-------------------------------|--|---|--|
| <input type="checkbox"/> | id=4503643969552384 | 2020-10-18 (12:39:27.831) EDT | remove an instance from the instance group | gcloud | https://cloud.google.com/compute/docs/ins... |
| <input type="checkbox"/> | id=4504162653962240 | 2020-10-18 (13:23:39.632) EDT | manage your services | Fedora CoreOS | https://cloud.google.com/compute/docs/im... |
| <input type="checkbox"/> | id=4504387703537664 | 2020-10-18 (12:41:07.402) EDT | managed instance | API | https://cloud.google.com/compute/docs/ins... |
| <input type="checkbox"/> | id=4504464576741376 | 2020-10-18 (12:45:39.200) EDT | build highly available deployments | Stateful managed instance groups | https://cloud.google.com/compute/docs/ins... |
| <input type="checkbox"/> | id=4504529605230592 | 2020-10-18 (12:44:53.495) EDT | update all the vms | OS image upgrades for MIGs | https://cloud.google.com/compute/docs/ins... |
| <input type="checkbox"/> | id=4504587721506816 | 2020-10-18 (12:21:13.422) EDT | solutions | Solutions | https://cloud.google.com/compute/docs/im... |
| <input type="checkbox"/> | id=4504703383633920 | 2020-10-18 (12:53:03.312) EDT | permissions | Permissions | https://cloud.google.com/compute/docs/ins... |
| <input type="checkbox"/> | id=4505134591639552 | 2020-10-18 (12:32:09.169) EDT | update ubuntu operating systems | Ubuntu | https://cloud.google.com/compute/docs/im... |
| <input type="checkbox"/> | id=4505821249536000 | 2020-10-18 (13:14:34.124) EDT | tcp traffic | Sending email with Mailjet | https://cloud.google.com/compute/docs/tut... |
| <input type="checkbox"/> | id=4506037205860352 | 2020-10-18 (12:03:32.818) EDT | transfer files | Transferring files using the gcloud | https://cloud.google.com/compute/docs/ins... |
| <input type="checkbox"/> | id=4506220949929984 | 2020-10-18 (12:13:32.175) EDT | products and pricing | Products and pricing | https://cloud.google.com/compute/docs/dis... |
| <input type="checkbox"/> | id=4506958543454208 | 2020-10-18 (12:53:57.765) EDT | view startup agent logs | Viewing startup agent logs | https://cloud.google.com/compute/docs/co... |
| <input type="checkbox"/> | id=4507144636334080 | 2020-10-18 (12:57:54.415) EDT | turn on autoscaling | Scale-in controls with autoscaler mode | https://cloud.google.com/compute/docs/au... |
| <input type="checkbox"/> | id=4507377000775680 | 2020-10-18 (12:33:57.732) EDT | api | API | https://cloud.google.com/compute/docs/ins... |
| <input type="checkbox"/> | id=4508298573250560 | 2020-10-18 (12:41:38.943) EDT | scalable apps | Choosing regional managed instance groups | https://cloud.google.com/compute/docs/ins... |



Chatbot Conversation In DialogFlow

Hi! What did you break that brought you to me?

I'm having an issue with my instance

Is your issue with creating your instance, connecting to your instance, starting up your instance, network traffic to or from your instance being dropped, firewall rules, or is it due to something else?

Creating my instance

Did you receive an error?

Yes

What error did you receive?

notFound

See this document:
<https://cloud.google.com/compute/docs/troubleshooting/troubleshooting-instances#vm-not-created>

If you receive a notFound or does not exist in zone error when requesting new resources, it means that the zone does not offer the resource or machine type that you have requested. See Regions and zones to find out which features are available in each zone.

Would you like to submit a support ticket, exit, or ask another question?

I want to submit a support ticket

Do you want to open a support ticket or end our conversation?

support ticket

Okay I am sorry I could not help you. I will send you notes of our conversation that you can paste into a support ticket here:
<https://enterprise.google.com/supportcenter/managescases>



Interrogator Script Command and Results

```
hubrando@cloudshell:~/msu-spartan/interrogator-script (msu-spartan-289723)$ gcloud compute ssh hubrando@brandon-interrogator-script --zone=us-central1-a
Linux brando-interrogator-script 4.19.0-11-cloud-amd64 #1 SMP Debian 4.19.146-1 (2020-09-17) x86_64

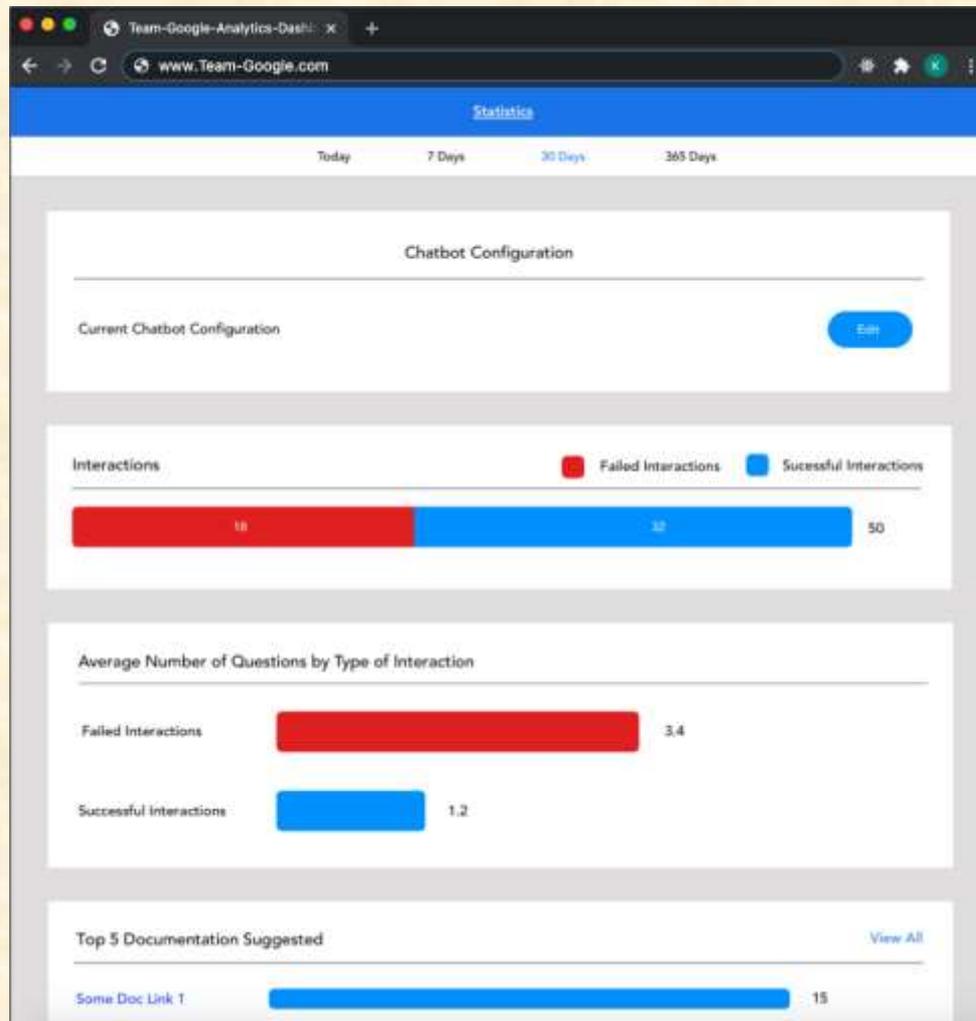
The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
Last login: Sun Oct 18 22:47:57 2020 from 35.226.215.11
hubrando@brando-interrogator-script:~$ ls
gee_output.txt
hubrando@brando-interrogator-script:~$ cat gee_output.txt
no traceroute in /usr/sbin or /bin relying on PATH
:echo ##### GEE #####
##### GEE #####
:grep -qw network
:echo
:[ 1 = 1 ]
:echo ### Network
### Network
:/sbin/ifconfig
ens4: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1460
    inet 10.128.0.4 netmask 255.255.255.255 broadcast 10.128.0.4
    inet6 fe80::4001:aff:fe80:4 prefixlen 64 scopeid 0x20<link>
    ether 42:01:0a:80:00:04 txqueuelen 1000 (Ethernet)
    RX packets 718 bytes 164589 (160.7 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 642 bytes 88254 (86.1 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 33 bytes 6722 (6.5 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 33 bytes 6722 (6.5 KiB)
```



Chatbot Configuration Dashboard



What's left to do?

1. Implement elastic search to help us go beyond the web scrapped solutions in regards to GCE issues
2. Implement the AI API model to train the suggestions offered by the bot
3. Ask for feedback from the customer
4. Functionality of the interrogator script



Questions?

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