CONVERSATION LOG

MODULE CODE: ISYS30221

MODULE NAME: ARTIFICIAL INTELLIGENCE 202021 FULL YEAR

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CONTENT

Chapters   Page No.

Chapter 1 – Stage 1 (Rule Based and Similarity Based Component)

```
Welcome to Bloom: the ultimate site to purchase the best quality flowers and vases
My name is Dahlia and I am going to be your virtual assistant today.
Type in 'HELP' for more information and 'EXIT' to quit.
Alright then let's get started. Ask me any questions
User: HELLO
Dahlia: Hi there
User: WHO ARE YOU
Dahlia: It's Dahlia here
User: What is this site about
Dahlia: this site is all about fresh flowers and good quality vases that you can purchase online.
User: are all the flowers fresh
Dahlia: all the flowers are brought fresh from the garden near our delivery houses.
User: I WANT ROSES
Dahlia: Great! Which color - Red, Pink or White?
User: are there yellow roses
Dahlia: i am sorry but we do not have yellow roses.
User: WHAT IS A LILY
Dahlia: Lilium is a genus of herbaceous flowering plants growing from bulbs, all with large prominent flowers.
User: is my feedback helpful
Dahlia: my name is dahlia.
User: can i use credit card for paying?
Dahlia: you can pay by your credit or debit card
User: I WOULD LIKE TO GET SOME VASES
Dahlia: Great! Which kind of vases do you want - cube, classic or bud?
User: EXIT
Dahlia: Sad to see you go
```

The above conversation has taken place in real life exactly in the preceded order. This screenshot shows that all the conversations made here have a mix between the rule based and the similarity based components.

Here is a breakdown of the user's input:

HELLO	**Rule- based question**	**The chatbot was successful in answering all the questions by matching the queries to the rules in the .aiml file and the statements in the .csv file.**
WHO ARE YOU	**Rule- based question**	
what is this site about	**Similarity-based question**	
are all the flowers fresh	**Similarity-based question**	
I WANT ROSES	**Rule- based question**	
Are there yellow roses	**Similarity-based question**	
WHAT IS A LILY	**Rule- based question**	
Is my feedback helpful	**Similarity-based question**	
Can I use credit card for paying?		
I WOULD LIKE TO GET SOME VASES		

Chapter 2 – Stage 2 (Image Classification Component)

The first 5 pictures are single images that has been uploaded by the user and then predicted by the chatbot.

```
Welcome to Bloom: the ultimate site to purchase the best quality flowers and vases
My name is Dahlia and I am going to be your virtual assistant today.
Type in 'HELP' for more information and 'EXIT' to quit.
Alright then let's get started. Ask me any questions
User: CAN YOU PLEASE TELL ME IF U HAVE THE PRODUCT THAT I AM LOOKING FOR
Dahlia: Sure. Upload the image here:
```
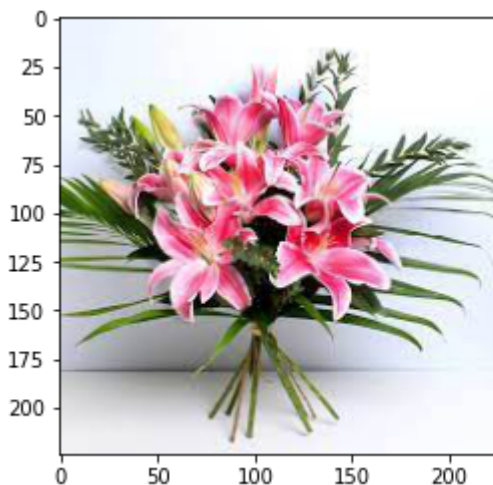Choose files   1.jpg

- **1.jpg**(image/jpeg) - 10678 bytes, last modified: 26/03/2021 - 100% done

```
Saving 1.jpg to 1.jpg
This is a Pink Lily
```


Correct Prediction

```
User: CAN YOU PLEASE TELL ME IF U HAVE THE PRODUCT THAT I AM LOOKING FOR
Dahlia: Sure. Upload the image here:
```
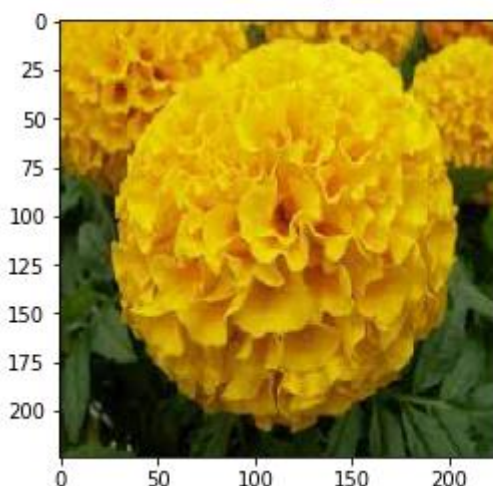Choose files   7.jpg

- **7.jpg**(image/jpeg) - 8120 bytes, last modified: 26/03/2021 - 100% done

```
Saving 7.jpg to 7.jpg
This is a Yellow Marigold
```


Correct prediction

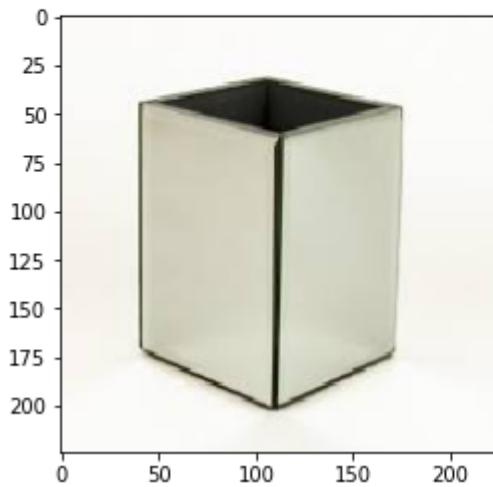User: CAN YOU PLEASE TELL ME IF U HAVE THE PRODUCT THAT I AM LOOKING FOR
Dahlia: Sure. Upload the image here:
Choose files 5.jpg
- **5.jpg**(image/jpeg) - 3220 bytes, last modified: 26/03/2021 - 100% done
Saving 5.jpg to 5.jpg
This is a Bud Vase

Incorrect prediction

Right answer should be: Cube Vase

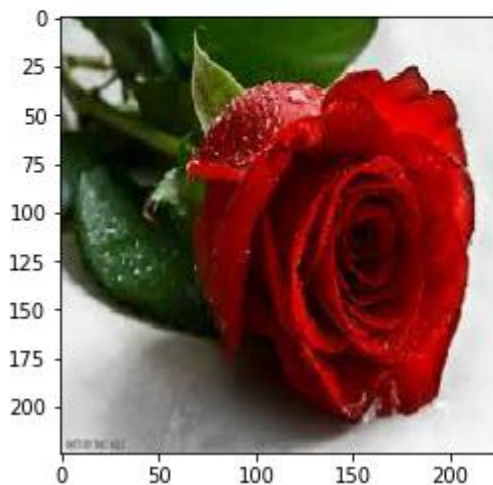User: CAN YOU PLEASE TELL ME IF U HAVE THE PRODUCT THAT I AM LOOKING FOR
Dahlia: Sure. Upload the image here:
Choose files r.jpg
- **r.jpg**(image/jpeg) - 7094 bytes, last modified: 25/03/2021 - 100% done
Saving r.jpg to r.jpg
This is a Red Rose

Correct prediction

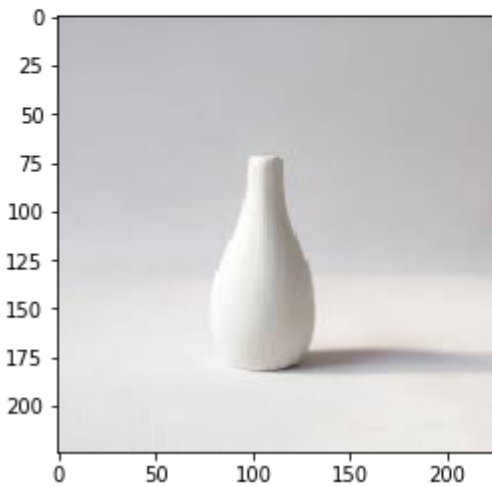User: CAN YOU PLEASE TELL ME IF U HAVE THE PRODUCT THAT I AM LOOKING FOR
Dahlia: Sure. Upload the image here:
Choose files 6.jpg
- **6.jpg**(image/jpeg) - 1974 bytes, last modified: 26/03/2021 - 100% done
Saving 6.jpg to 6.jpg
This is a Bud Vase

Correct prediction

The next 5 image classifications are multiple image classifications. The user had uploaded a number of images together which has then been predicted by the chatbot.

User: CAN YOU PLEASE IDENTIFY THESE PRODUCTS FOR ME
Dahlia: Let me check ...
Choose files 5 files
- **5.jpg**(image/jpeg) - 1526 bytes, last modified: 26/03/2021 - 100% done
- **4.jpg**(image/jpeg) - 3023 bytes, last modified: 26/03/2021 - 100% done
- **3.jpg**(image/jpeg) - 9598 bytes, last modified: 26/03/2021 - 100% done
- **2.jpg**(image/jpeg) - 5810 bytes, last modified: 26/03/2021 - 100% done
- **1.jpg**(image/jpeg) - 5222 bytes, last modified: 26/03/2021 - 100% done
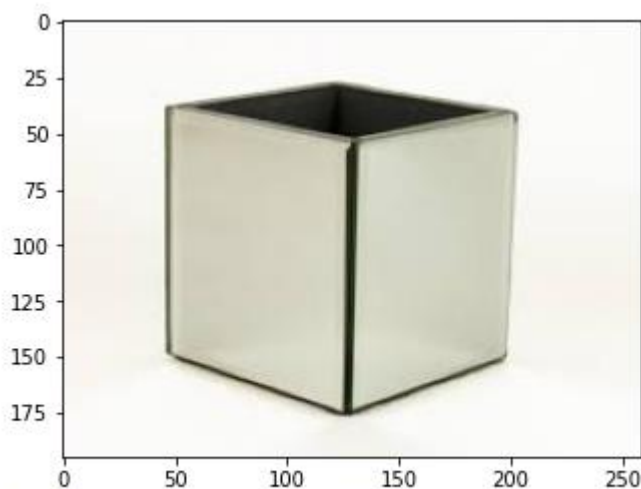Saving 5.jpg to 5 (1).jpg
Saving 4.jpg to 4.jpg
Saving 3.jpg to 3.jpg
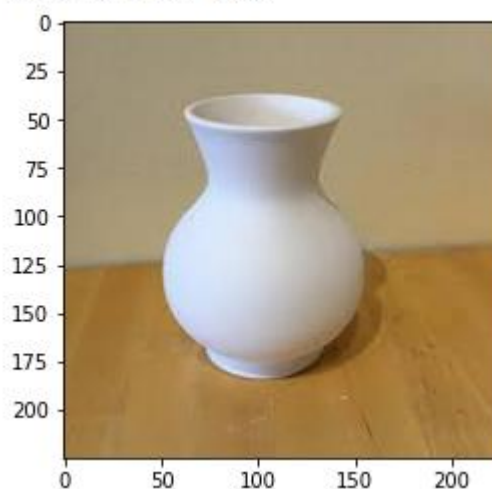Saving 2.jpg to 2.jpg
Saving 1.jpg to 1 (1).jpg

All the five images that has been selected by the user first gets uploaded and saved in the memory of the chatbot
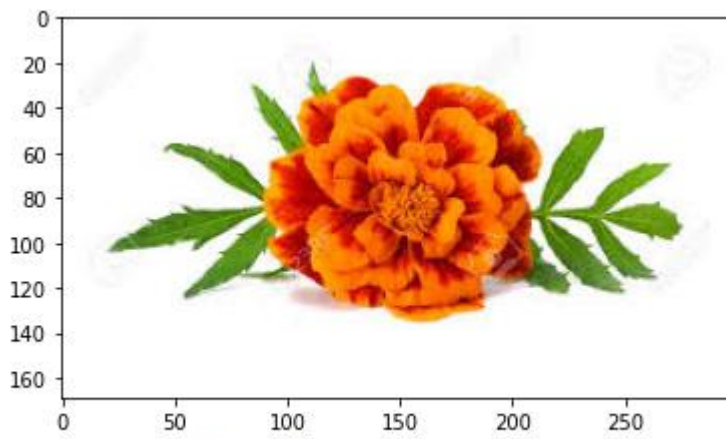

This is a Bud Vase
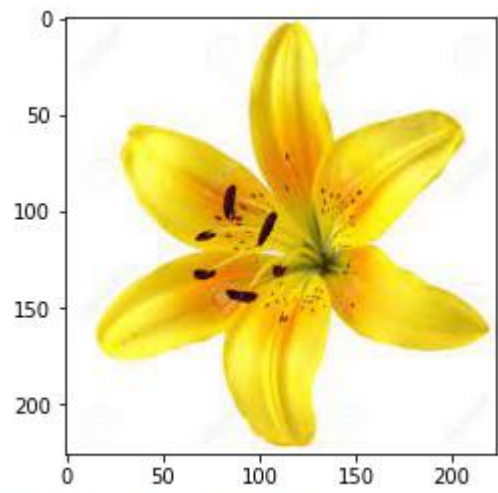
Incorrect prediction
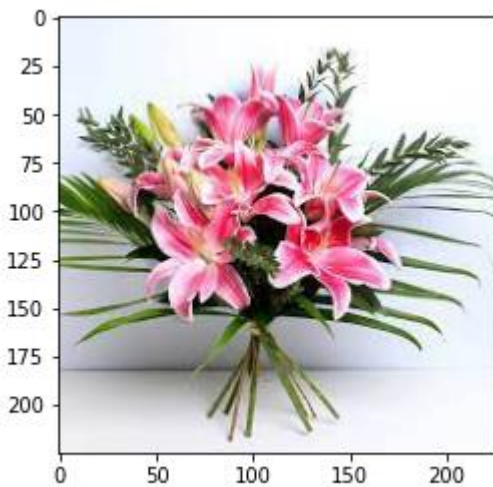
This is a Bud Vase

Correct prediction

This is a Yellow Lily

This is a Yellow Lily

This is a Pink Lily

Out of the 5 uploaded images, the chatbot was able to predict 3 correctly .

Chapter 3 – Stage 3 (Logical Knowledgebase Component)

The next set of conversations were based on a logic base.

Welcome to Bloom: the ultimate site to purchase the best quality flowers and vases
My name is Dahlia and I am going to be your virtual assistant today.
Type in 'HELP' for more information and 'EXIT' to quit.
Alright then let's get started. Ask me any questions
User: I KNOW THAT ROSE IS SHRUB
Dahlia: OK, I will remember that ROSE is SHRUB
User: CHECK THAT ROSE IS FLOWER
Dahlia: Incorrect.

> Even though rose is a shrub it might not be necessarily a flower. It wasn't mentioned

User: I KNOW THAT LILY IS WHITE
Dahlia: OK, I will remember that LILY is WHITE
User: CHECK THAT ROSE IS WHITE
Dahlia: Incorrect.

> It was given to the bot that Lily is white. However, it wasn't mentioned if rose can be

User: CHECK THAT LILY IS RED
Dahlia: Incorrect.
User: CHECK THAT LILY IS WHITE
Dahlia: Correct.
User: CHECK THAT ROSE IS SHRUB
Dahlia: Correct.

> The query matched the pattern and the answer was correct.

User: I KNOW THAT MARIGOLD IS HERB
Dahlia: OK, I will remember that MARIGOLD is HERB
User: CHECK THAT MARIGOLD IS HERB
Dahlia: Correct.

> The query matched the pattern and the answer was correct.

User: I KNOW THAT ROSE IS HERB
Dahlia: This is not right according to my knowledge.
User: EXIT
Dahlia: Sad to see you go

> That 'rose is a herb' is a globally incorrect statement. Hence, an appropriate answer was given.

Chapter 4 – Stage 4 (Cloud Based Multilingual Component)

The chatbot is capable of identifying queries and translating them in 10 different languages. Of the 10 languages the conversation in 5 diffrent languages has been presented here. These statements in the various languages has been translated using google translate and the answers provided by the bot has also been checked and verified from google translate. The bot is capable of answering most of the questions correctly. The conversations includes a mix of rule-based and similarity-based questions and the bot mostly classifies and answers them correctly. The table below shows the different languages and their codes in which the conversation has taken place:

Language	Language Code(based on Azure translations)
Bengali	bn
Hindi	hi
Punjabi	pa
French	fr
Italian	it

```
Welcome to Bloom: the ultimate site to purchase the best quality flowers and vases
My name is Dahlia and I am going to be your virtual assistant today.
Type in 'HELP' for more information and 'EXIT' to quit.
Alright then let's get started. Ask me any questions
User: এই সাইটটি কি সম্পর্কিত
Dahlia: এই সাইটটি তাজা ফুল এবং ভাল মানের পাত্র সম্পর্কে যা আপনি অনলাইনে কিনতে পারেন।
User: তুমি কে
Dahlia: আমি ডালিয়া
User: লিলি কি
Dahlia: আমাদের গোলাপী লিলিও আছে।
User: সব ফুল টাটকা
Dahlia: সব ফুল আমাদের ডেলিভারি হাউসের কাছে বাগান থেকে তাজা আনা হয়।
User: আমার মতামত সহায়ক
Dahlia: আমার নাম ডালিয়া।
User: সাহায্য
Dahlia: আমি দুঃখিত! আমি তোমাকে বুঝতে পারছি না
User: EXIT
Dahlia: Sad to see you go
```

Conversation in Bengali

```
Welcome to Bloom: the ultimate site to purchase the best quality flowers and vases
My name is Dahlia and I am going to be your virtual assistant today.
Type in 'HELP' for more information and 'EXIT' to quit.
Alright then let's get started. Ask me any questions
User: यह साइट किस बारे में है
Dahlia: यह साइट ताजा फूलों और अच्छी गुणवत्ता वाले फूलदान के बारे में है जिसे आप ऑनलाइन खरीद सकते हैं।
User: आपके हे कोन
Dahlia: हम अपनी वेबसाइट को बेहतर बनाने के लिए आपकी प्रतिक्रिया का उपयोग करते हैं।
User: एक लिली क्या है
Dahlia: लिलियम बल्ब से उगने वाले जड़ी-बूटियों के फूल वाले पौधों का एक जीनस है, सभी बड़े प्रमुख फूलों के साथ।
User: सभी फूल ताजे हैं
Dahlia: सभी फूल हमारे वितरण घरों के पास बगीचे से ताजा लाया जाता है ।
User: हाथ बटाना
Dahlia: मुझे क्षमा करें! मैं तुम्हें समझ में नहीं आता
User: EXIT
Dahlia: Sad to see you go
```

Conversation in Hindi

```
Welcome to Bloom: the ultimate site to purchase the best quality flowers and vases
My name is Dahlia and I am going to be your virtual assistant today.
Type in 'HELP' for more information and 'EXIT' to quit.
Alright then let's get started. Ask me any questions
User: ਇਸ ਸਾਈਟ ਬਾਰੇ ਕੀ ਹੈ
Dahlia: ਇਹ ਸਾਈਟ ਤਾਜ਼ੇ ਫੁੱਲਾਂ ਅਤੇ ਵਧੀਆ ਗੁਣਵੱਤਾ ਦੇ ਫੁੱਲਦਾਨਾਂ ਬਾਰੇ ਹੈ ਜਿੰਨ੍ਹਾਂ ਨੂੰ ਤੁਸੀਂ ਔਨਲਾਈਨ ਖਰੀਦ ਸਕਦੇ ਹੋ।
User: ਤੂੰ ਕੋਣ ਹੈ
Dahlia: ਤੁਹਾਡਾ ਕੀ ਹਾਲ ਹੈ।
User: ਇੱਕ ਲੀਲੀ ਕੀ ਹੈ
Dahlia: ਮੇਰਾ ਨਾਮ ਦਹਿਲੀਆ ਹੈ।
User: ਮੈਨੂੰ ਗੁਲਾਬ ਚਾਹੀਦਾ ਹੈ
Dahlia: ਸ਼ਾਨਦਾਰ! ਕਿਹੜਾ ਰੰਗ - ਲਾਲ, ਗੁਲਾਬੀ ਜਾਂ ਸਫੈਦ?
User: ਮਦਦ ਕਰੋ
Dahlia: ਸਤਿ ਸ਼੍ਰੀ ਅਕਾਲ! ਮੈਂ ਦਲੀਆ ਹਾਂ, ਇੱਥੇ ਚੈਟਬੋਟ। ਮੈਂ ਤੁਹਾਨੂੰ ਸਾਡੀ ਸਾਈਟ 'ਤੇ ਫੁੱਲ ਅਤੇ ਫੁੱਲਦਾਨ ਖਰੀਦਣ ਲਈ ਮਾਰਗ-ਦਰਸ਼ਨ ਕਰਦਾ ਹਾਂ। ਤੁਸੀਂ ਉਪਲਬਧ ਵਿਕਲਪਾਂ ਵਿੱਚੋਂ ਚੋਣ ਕਰ ਸਕਦੇ ਹੋ ਅਤੇ ਏਥੇ ਆਪਣੇ ਭੁਗਤਾਨ
User: EXIT
Dahlia: Sad to see you go
```

Conversation in Punjabi

```
Welcome to Bloom: the ultimate site to purchase the best quality flowers and vases
My name is Dahlia and I am going to be your virtual assistant today.
Type in 'HELP' for more information and 'EXIT' to quit.
Alright then let's get started. Ask me any questions
User: De quoi parle ce site
Dahlia: ce site est tout au sujet des fleurs fraîches et des vases de bonne qualité que vous pouvez acheter en ligne.
User: qui es-tu
Dahlia: C'est Dahlia.
User: qu'est-ce qu'un lis
Dahlia: Le lilium est un genre de plantes herbacées à fleurs qui poussent à partir de bulbes, le tout avec de grandes fleurs proéminentes.
User: toutes les fleurs sont-elles fraîches
Dahlia: toutes les fleurs sont apportées fraîches du jardin près de nos maisons de livraison.
User: aider
Dahlia: Salut! Je suis Dahlia, le chatbot ici. Je vous guide pour acheter des fleurs et des vases sur notre site. Vous pouvez choisir parmi les options disponible
User: EXIT
Dahlia: Sad to see you go
```

Conversation in French

```
Welcome to Bloom: the ultimate site to purchase the best quality flowers and vases
My name is Dahlia and I am going to be your virtual assistant today.
Type in 'HELP' for more information and 'EXIT' to quit.
Alright then let's get started. Ask me any questions
User: di cosa parla questo sito
Dahlia: questo sito è tutto di fiori freschi e vasi di buona qualità che è possibile acquistare online.
User: tu chi sei
Dahlia: Io sono Dahlia
User: cos'è un giglio
Dahlia: Lilium è un genere di piante erbacee che crescono da bulbi, tutti con grandi fiori prominenti.
User: sono tutti i fiori freschi
Dahlia: tutti i fiori vengono portati freschi dal giardino vicino alle nostre case di consegna.
User: Aiuto
Dahlia: Ciao! Sono Dahlia, il chatbot qui. Ti guida a comprare fiori e vasi sul nostro sito. Puoi scegliere tra le opzioni disponibili ed effettuare i tuoi pagame
User: EXIT
Dahlia: Sad to see you go
```

Conversation in Italian

Apart from these languages the bot is also capable of translating in Assamese, Greek, Odia, Japanese and Arabic.

Chapter 5 – Extra Features (Speech Recognition, Handwriting Recognition and Emotion Classification from text)

I have tried to implemented some other features provided by Microsoft Azure in my chatbot based on it's theme.

The chatbot is capable of speech recognition. Here is a list of 5 conversations between the user and the bot where the user have recorded and uploaded a .wav file and the bot had recognized the statement made and has given appropriate answers.

Choose files | what is this site about.wav
- **what is this site about.wav**(audio/wav) - 594044 bytes, last modified: 24/03/2021 - 100% done
Saving what is this site about.wav to what is this site about.wav

▶ 0:03 / 0:03 ——————— 🔊 ⋮

The voice file is uploaded

The query is recognized

The answer is provided

What is the site about?
Dahlia: this site is all about fresh flowers and good quality vases that you can purchase online.
User: CAN YOU PLEASE IDENTIFY THIS VOICE RECORDING FOR ME
Choose files | What is a lily.wav
- **What is a lily.wav**(audio/wav) - 585844 bytes, last modified: 24/03/2021 - 100% done
Saving What is a lily.wav to What is a lily.wav

▶ 0:03 / 0:03 ——————— 🔊 ⋮

What is a Lily?
Dahlia: Lilium is a genus of herbaceous flowering plants growing from bulbs, all with large prominent flowers.
User: CAN YOU PLEASE IDENTIFY THIS VOICE RECORDING FOR ME
Choose files | Who are you.wav
- **Who are you.wav**(audio/wav) - 577648 bytes, last modified: 24/03/2021 - 100% done
Saving Who are you.wav to Who are you.wav

▶ 0:03 / 0:03 ——————— 🔊 ⋮

Who are you?
Dahlia: This is Dahlia
User: CAN YOU PLEASE IDENTIFY THIS VOICE RECORDING FOR ME
Choose files | is my feedb…k helpful.wav
- **is my feedback helpful.wav**(audio/wav) - 585852 bytes, last modified: 24/03/2021 - 100% done
Saving is my feedback helpful.wav to is my feedback helpful.wav

▶ 0:03 / 0:03 ——————— 🔊 ⋮

Is my feedback helpful?
Dahlia: my name is dahlia.
User: CAN YOU PLEASE IDENTIFY THIS VOICE RECORDING FOR ME
Choose files | help.wav
- **help.wav**(audio/wav) - 458858 bytes, last modified: 24/03/2021 - 100% done
Saving help.wav to help.wav

▶ 0:02 / 0:02 ——————— 🔊 ⋮

Help.
Dahlia: Hi! I am Dahlia, the chatbot here. I guide you to buy flowers and vases on our site. You can choose from
User: EXIT
Dahlia: Sad to see you go

The chatbot has utilised the handwriting recognition feature of Microsoft Azure to identify handwritten queries and provide an appropriate answer. The next 5 conversations demonstrate that:

```
Welcome to Bloom: the ultimate site to purchase the best quality flowers and vases
My name is Dahlia and I am going to be your virtual assistant today.
Type in 'HELP' for more information and 'EXIT' to quit.
Alright then let's get started. Ask me any questions
User: CAN YOU PL Z IDENTIFY THIS HANDWRITTEN QUERY FOR ME
[Choose files]  i-want-roses.jpg
• i-want-roses.jpg(image/jpeg) - 27068 bytes, last modified: 25/03/2021 - 100% done
Saving i-want-roses.jpg to i-want-roses.jpg
I WANT ROSES
Dahlia: Great! Which color - Red, Pink or White?
User: CAN YOU PL Z IDENTIFY THIS HANDWRITTEN QUERY FOR ME
[Choose files]  are-all-the-fl...ers-fresh.jpg
• are-all-the-flowers-fresh.jpg(image/jpeg) - 36506 bytes, last modified: 25/03/2021 - 100% done
Saving are-all-the-flowers-fresh.jpg to are-all-the-flowers-fresh (1).jpg
ARE ALL THE FLOWERS FUE
Dahlia: all the flowers are brought fresh from the garden near our delivery houses.
User: CAN YOU PL Z IDENTIFY THIS HANDWRITTEN QUERY FOR ME
[Choose files]  what-is-a-lily.jpg
• what-is-a-lily.jpg(image/jpeg) - 30648 bytes, last modified: 25/03/2021 - 100% done
Saving what-is-a-lily.jpg to what-is-a-lily.jpg
WHAT IS A LILY
Dahlia: Lilium is a genus of herbaceous flowering plants growing from bulbs, all with large prominent flowers.
User: CAN YOU PL Z IDENTIFY THIS HANDWRITTEN QUERY FOR ME
[Choose files]  what-is-this-site-about.jpg
• what-is-this-site-about.jpg(image/jpeg) - 32602 bytes, last modified: 25/03/2021 - 100% done
Saving what-is-this-site-about.jpg to what-is-this-site-about (1).jpg
WHAT IS THIS SITE ABOUT
Dahlia: this site is all about fresh flowers and good quality vases that you can purchase online.
User: CAN YOU PL Z IDENTIFY THIS HANDWRITTEN QUERY FOR ME
[Choose files]  who-are-you.jpg
• who-are-you.jpg(image/jpeg) - 29376 bytes, last modified: 25/03/2021 - 100% done
Saving who-are-you.jpg to who-are-you (1).jpg
WHO ARE YOU
Dahlia: how are you.
User: EXIT
Dahlia: Sad to see you go
```

The file is uploaded.

The handwritten query is recognized.

An answer is provided.

An example of a handwritten query is given below:

what is this site about?

The chatbot has utilised the sentiment analysis feature of Microsoft Azure, to understand and analyse the sentiment of a customer's review. The 5 conversations below demonstrate that:

```
Welcome to Bloom: the ultimate site to purchase the best quality flowers and vases
My name is Dahlia and I am going to be your virtual assistant today.
Type in 'HELP' for more information and 'EXIT' to quit.
Alright then let's get started. Ask me any questions
User: I WANT TO WRITE A REVIEW
Dahlia: Sure. Please type in your review ...
Review: This site was very helpful.
1 : This is a positive comment. (0.9552197456359863)
User: I WANT TO WRITE A REVIEW
Dahlia: Sure. Please type in your review ...
Review: All the flowers bought were very ugly.
1 : This is a negative comment. (0.0773460865020752)
User: I WANT TO WRITE A REVIEW
Dahlia: Sure. Please type in your review ...
Review: I don't think I would recommend buying flowers from here.
1 : This is a negative comment. (0.23012444376945496)
User: I WANT TO WRITE A REVIEW
Dahlia: Sure. Please type in your review ...
Review: I would come back here all the time.
1 : This is a positive comment. (0.8260035514831543)
User: I WANT TO WRITE A REVIEW
Dahlia: Sure. Please type in your review ...
Review: I thought that the flowers were fresh but weren't big enough.
1 : This is a positive comment. (0.7863619923591614)
User: EXIT
Dahlia: Sad to see you go
```

Review is written.

Type of sentiment is analysed and printed and a score has been given.