

ITIS-6177

System integration

Final project

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API Name- Computer Vision with Microsoft Azure for text extraction (OCR) endpoint and image understanding the endpoint.

Tools, Languages and Frameworks Used-

- **Node js** - For implementing the API
- **Npm** - For dependencies in node js application
- **Digital Ocean** - For deploying the project
- **Swagger** - For API documentation and testing
- **Git** - For code evaluation
- **Google docs** - For documentation.

Introduction-

The API of Computer Vision with Microsoft Azure provides AI algorithms for text extraction and for processing and understanding images by returning information about the visual features of the image.

Swagger Base Url-

<http://137.184.41.42:3000/api-docs/#/>

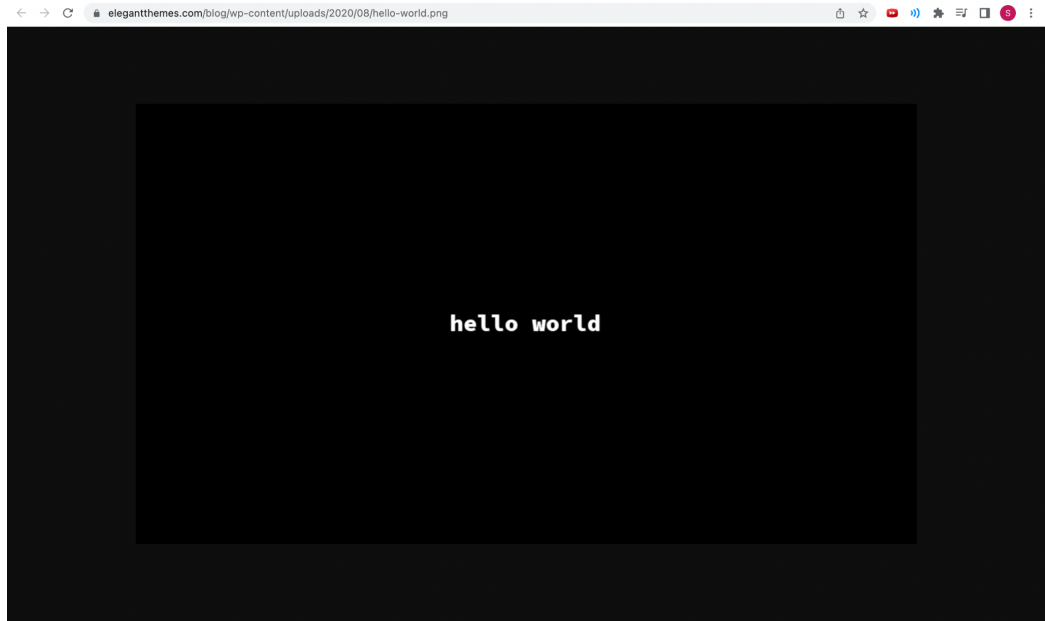
API's-

My project contains 2 API's for the following:

1. Text Extraction

- It is a POST API, which can read English text from the given image which can be done by providing the link to an online image in the imageURL provided.
- The response is a JSON as a text that is identified from the image. If there is no text identifying then the response will be the message given.
- Swagger URL:
http://137.184.41.42:3000/api-docs/#/default/post_api_v1_readText
- Screenshots:

Input image-



Swagger output-

default

POST /api/v1/readText

This api can be used to read english text in a given image. Just pass the image URL of an online image of a printed or handwritten and you will receive an output with the corresponding details. For Example try passing this image url <https://www.elegantthemes.com/blog/wp-content/uploads/2020/08/hello-world.png>

Parameters Try it out

Name	Description
imageUri required	
string	https://www.elegantthemes.com/blog/wp-con
(formData)	

Responses Response content type: application/json

Curl

```
curl -X POST "http://137.184.41.42:3000/api/v1/readText" -H "accept: application/json" -H "Content-Type: application/x-www-form-urlencoded" -d "imageUri=https%3A%2F%2Fwww.elegantthemes.com%2Fblog%2Fwp-content%2Fuploads%2F2020%2F08%2Fhello-world.png"
```

Request URL

```
http://137.184.41.42:3000/api/v1/readText
```

Server response

Code Details

200

Response body

```
[{"hello_world"}]
```

Response headers

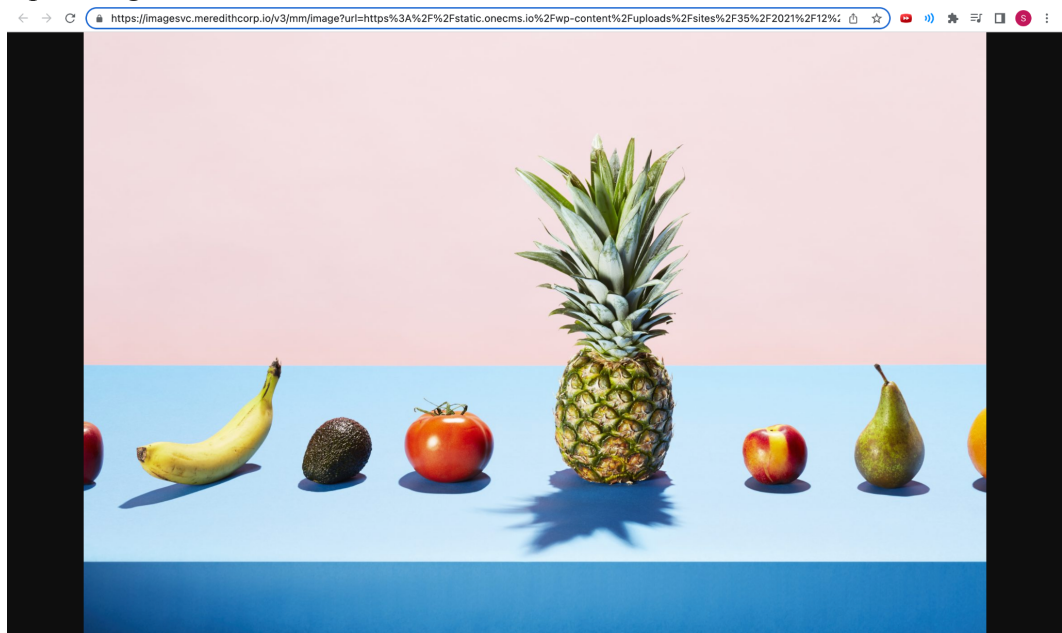
```
access-control-allow-headers: Origin,X-Requested-With,Content-Type,Accept,Authorization
access-control-allow-origin: *
connection: keep-alive
content-length: 15
content-type: application/json; charset=utf-8
date: Sun, 01 May 2022 21:17:54 GMT
etag: W/"f-mmmN/QJpbey/SBR+sqhgkTldi"
keep-alive: timeout=5
x-powered-by: Express
```

Responses

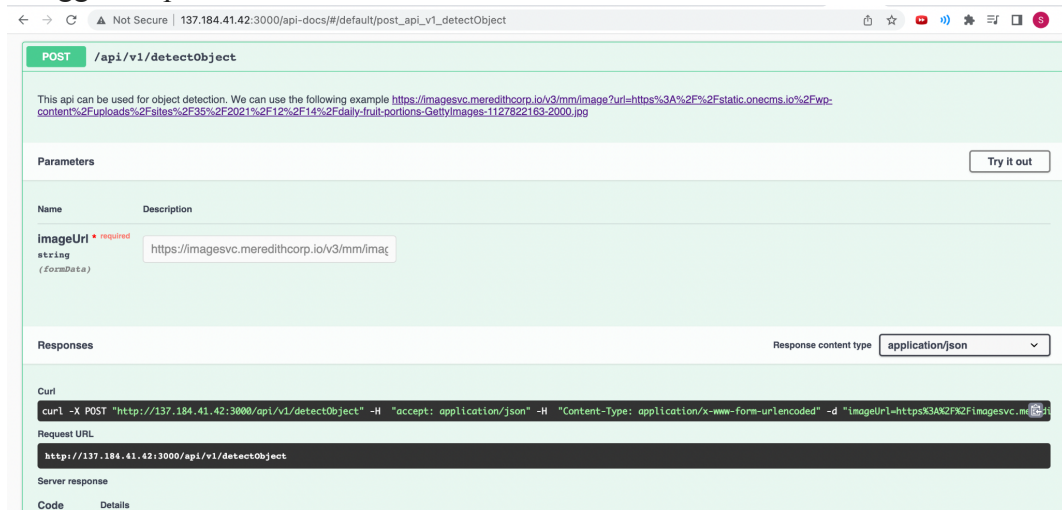
Code	Description
200	Everything is alright
400	Client side error
500	Server side error

2. Object Detection by understanding the image

- It is a POST API, which can be used to detect the objects from the given image which can be done by providing the link to an online image in the imageUrl provided.
- The response is a JSON of the objects in the image. If there is no text identifying then the response will be the message given.
- Swagger URL:
http://137.184.41.42:3000/api-docs/#/default/post_api_v1_detectObject
- Screenshots:
Input image-



Swagger output-



200

Response body

```
[
  "Fruit",
  "Fruit",
  "Fruit",
  "Fruit",
  "Fruit",
  "Pear",
  "Pear",
  "Pineapple",
  "Banana"
]
```

Response headers

```
access-control-allow-headers: Origin,X-Requested-With,Content-Type,Accept,Authorization
access-control-allow-origin: *
connection: keep-alive
content-length: 68
content-type: application/json; charset=utf-8
date: Sun, 01 May 2022 21:31:36 GMT
etag: W/"44-GnJeeGj12yKaj0PnaIqPvZu6U"
keep-alive: timeout=5
x-powered-by: Express
```

Responses

Code	Description
200	Everything is alright
400	Client side error
500	Server side error

Source Code(Git link)-

<https://github.com/ShivaniVarmaG/ITIS-6177-Final-Project->

Reference-

<https://azure.microsoft.com/en-us/services/cognitive-services/computer-vision/>

<https://docs.microsoft.com/en-us/azure/cognitive-services/computer-vision/>

<https://docs.microsoft.com/en-us/azure/cognitive-services/Computer-vision/overview-image-analysis>