**ITIS 6177 System Integration Final Project**

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My project contains two API’s,

**1)Sentiment API-**

* It is a post API, designed to give the sentiment labels like negative, positive, neutral based on the confidence score. The confidence values ranges from 0 to 1 for the sentence provided.

|  |  |
| --- | --- |
| **Sentence provided** | **Returned value** |
| At least one positive sentence is provided as input and if the rest of the sentences are neutral. | Positive |
| At least one negative sentence is provided as input and if the rest of the sentences are neutral. | Negative |
| When there is one negative sentence and a positive sentence in the input. | Mixed |
| If all sentences are neutral. | Neutral |

* The response is an array of JSON objects, gives the returned value based on the input as mentioned in the above table and also returns the confidence scores accordingly.
* Swagger URL:

<http://142.93.11.22:3000/docs/>

* To execute in postman:

<http://142.93.11.22:3000/sentiment>

**2) Opinion API-**

* It is a post API, provides more granular information about the thoughts expressed in input text , it depicts the sentence sentiment by mining through appropriate word.
* The response is an array of JSON objects, gives the confidence scores for prominent words in the sentence and analyses the sentiment of the entire sentence.
* Swagger URL:

<http://142.93.11.22:3000/docs/>

* To execute in postman:

<http://142.93.11.22:3000/opinion>

**Execution in Swagger:**

Swagger is provided for documentation and for testing API’s.

Swagger link - <http://142.93.11.22:3000/docs/>

Below are the few sample inputs. The responses are sentiments and opinions respectively obtained through two different post APIs.

1)“I really like the new design of your house” – positive

Input:

Graphical user interface, text, application, email

Description automatically generated

Response:

In swagger for endpoint - /sentiment:

Text

Description automatically generated

Input:

Graphical user interface, text, application, Teams

Description automatically generated

Response:

In swagger for endpoint - /opinion:

Text

Description automatically generated

Shape, rectangle

Description automatically generated

“I’m not sure if I like the new design” - neutral  
Input:

Graphical user interface, text, application, email

Description automatically generated

Response:

In swagger for endpoint - /sentiment:

Text

Description automatically generated

Input:

Graphical user interface, text, application

Description automatically generated

Response:

In swagger for endpoint - /opinion:

Text

Description automatically generated with low confidence

Shape, rectangle

Description automatically generated

Shape, rectangle

Description automatically generated

“The new design is awful” - negative

Input:

Graphical user interface, text, application

Description automatically generated

Response:

In swagger for endpoint - /sentiment:

Text

Description automatically generated

Input:

Graphical user interface, text, application

Description automatically generated

Response:

In swagger for endpoint - /opinion:

Shape, rectangle

Description automatically generated

Shape, rectangle

Description automatically generated

Shape, rectangle

Description automatically generated

“Today was a good day. Had a bad mood” - mixed

Input:

Graphical user interface, text, application

Description automatically generated

Response:

In swagger for endpoint - /sentiment:

Text

Description automatically generated

Text

Description automatically generated

Input:

Graphical user interface, text, application

Description automatically generated

Response:

In swagger for endpoint - /opinion:

Shape, rectangle

Description automatically generated

Shape, rectangle

Description automatically generated

Shape, rectangle

Description automatically generated

**Execution in postman:**

Send a post request as http://142.93.11.22:3000/sentiment

Graphical user interface, text, application, email, Teams

Description automatically generated

Graphical user interface, text, application, email, Teams

Description automatically generated

Send a post request as http://142.93.11.22:3000/opinion

Graphical user interface, text, application, email, Teams

Description automatically generated

Graphical user interface, text, application, email, Teams

Description automatically generated

Graphical user interface, text, application, email, Teams

Description automatically generated

Graphical user interface, text, application, email

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**Tools, Languages and Frameworks Used-**

* **Node js** - For implementing the API
* **Digital Ocean** - For deploying the project
* **Npm** - For dependencies in node js application
* **Swagger** - For API documentation and testing
* **Azure** – Used as a vendor API
* **Git** - For version control
* **Google docs** - For documentation.

**References -**

**Azure documentation -**

[**https://azure.microsoft.com/en-us/services/cognitive-services/language-service/**](https://azure.microsoft.com/en-us/services/cognitive-services/language-service/)

**Sentiment Analysis documentation in Azure –**

[**https://docs.microsoft.com/en-us/azure/cognitive-services/language-service/sentiment-opinion-mining/overviewSource**](https://docs.microsoft.com/en-us/azure/cognitive-services/language-service/sentiment-opinion-mining/overview)

**Code -** [**https://github.com/sukhaboginiharika/SI-Final-Project-Sentiment-Analysis**](https://github.com/sukhaboginiharika/SI-Final-Project-Sentiment-Analysis)