PROJECT SCOPE DOCUMENT

Project Summary:

The web is considered as the repository of huge volume of data and it is get generated every day. The firms make use of this data to gain understanding, strategies to make a plan as well as finding different kinds of opportunities. To make this scenario even better, enriched news data drives the application to provide faster responsive current events by making dynamic connections across the web.

Project Requirements:

The AI powered news search web application is to be created using Node-RED / Python Web App and the IBM Watson Discovery Service.

Functional Requirements:

- The user interacts with the app UI to request relevant news content.
- The Watson discovery service crawls the web to update its Discovery News collection.
- Push news alerts to web notification (RSS reader).
- User receives news based on slack search requests.

Technical Requirements:

- IBM Cloud platform
- IBM Watson services
- Slack with Watson discovery

Software Requirements:

- Browser – IE, Firefox, Chrome
- OS support – Windows
- Platform – IBM cloud

Project Deliverables:

AI powered news search web application using Watson discovery service

Project Team:

Developer - K.Renuka Devi

Project Schedule:

Start date – 28/04/20

End date – 26/05/20

Project Report

AI based NEWS search Application

1. INTRODUCTION

Today in this technological world searching for recent news is one of the primary task in day to day's life. The news can be gathered from many ways such as by reading newspapers, tuning our television for appropriate news channels, tuning our radios, through social media etc., But whether the news from these sources are true and accurate?. It's a big question mark. To find the solution to these problems, Artificial Intelligence (AI) plays a vital role. This project deals with the news searching methodology which is based on Artificial Intelligence.

1.1 Overview

The AI based news search application is based on the concept of artificial intelligence where the application opt to bring out the news based on the user requested query using Watson discovery of IBM. It also provides user the sentimental analysis of the extracted news. The application was deployed in IBM cloud so that the user can able to get the relevant and accurate news faster without any interruption.

1.2 Purpose

The News search application based on artificial intelligence tends to provide user the more accurate news based on their query. This application has been integrated with the Watson discovery so that it can ingest, normalize, enrich, and search our unstructured data (JSON, HTML, PDF, Word, and more) with speed and accuracy. Moreover it is based on AI so that the user can able to retrieve the data automatically rather than searching it manually. As a result this helps to saves time to search for appropriate news than traditional news search. This application also tested with the integration of slack with discovery so that the bot can able to retrieve the data in a more interactive manner.

2. LITERATURE SURVEY

2.1 Existing problem

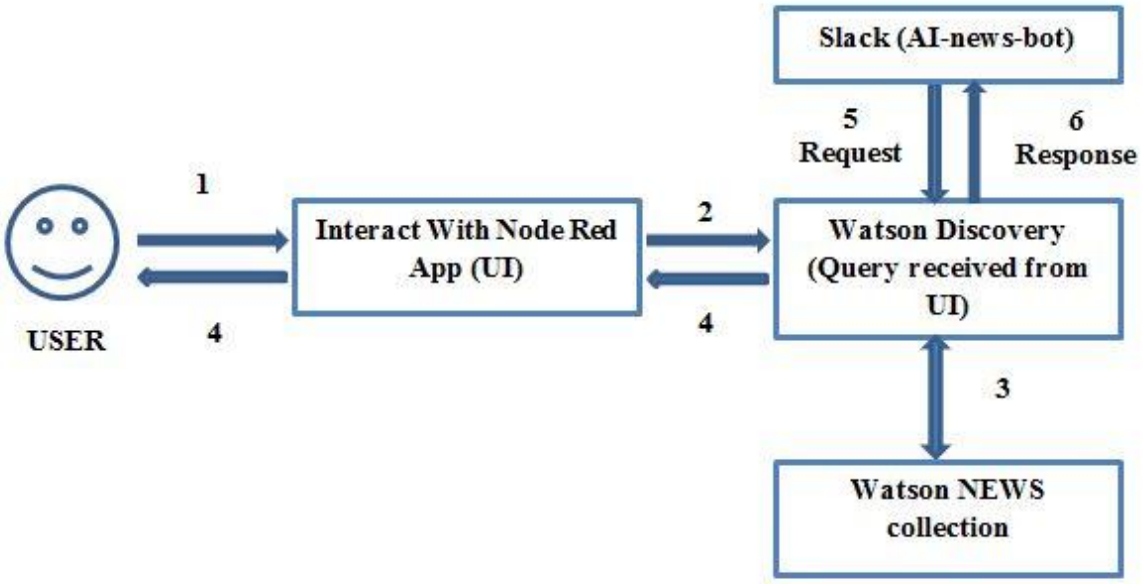
The news can be gathered from many ways such as by reading newspapers, tuning our television for appropriate news channels, tuning our radios, through social media etc., The user has been required to search manually from these sources to get the required information. It is often time consuming for the users to get the appropriate information.

2.2 Proposed solution

The technology often provides solution to any kind of unsolvable problems. In such a way that above mentioned problem will also be rectified by using the concept of Artificial Intelligence and Cloud technology. To get the most relevant information for user query, Watson discovery from IBM cloud plays a significant role in handling this situation. It crawls the data collection to provide the information and this prevents the user from searching it manually. This application has been deployed in IBM cloud so that it saves time for the user to search for the appropriate news that happening around the world. The user can able to get the news from anywhere and at any time.

3. THEORITICAL ANALYSIS

3.1Block diagram



1. The user interacts with the user interface (UI) created using Node-Red.
2. The query from the user sends to the Watson discovery of IBM cloud.
3. The Watson Discovery Service is continually crawling the web to update its Discovery News collection.
4. Watson discovery sends the requested news through the Node-Red app to the user.

5, 6. Watson discovery also responds to the Slack search requests through the AI-news-bot.

3.2 Hardware / Software designing

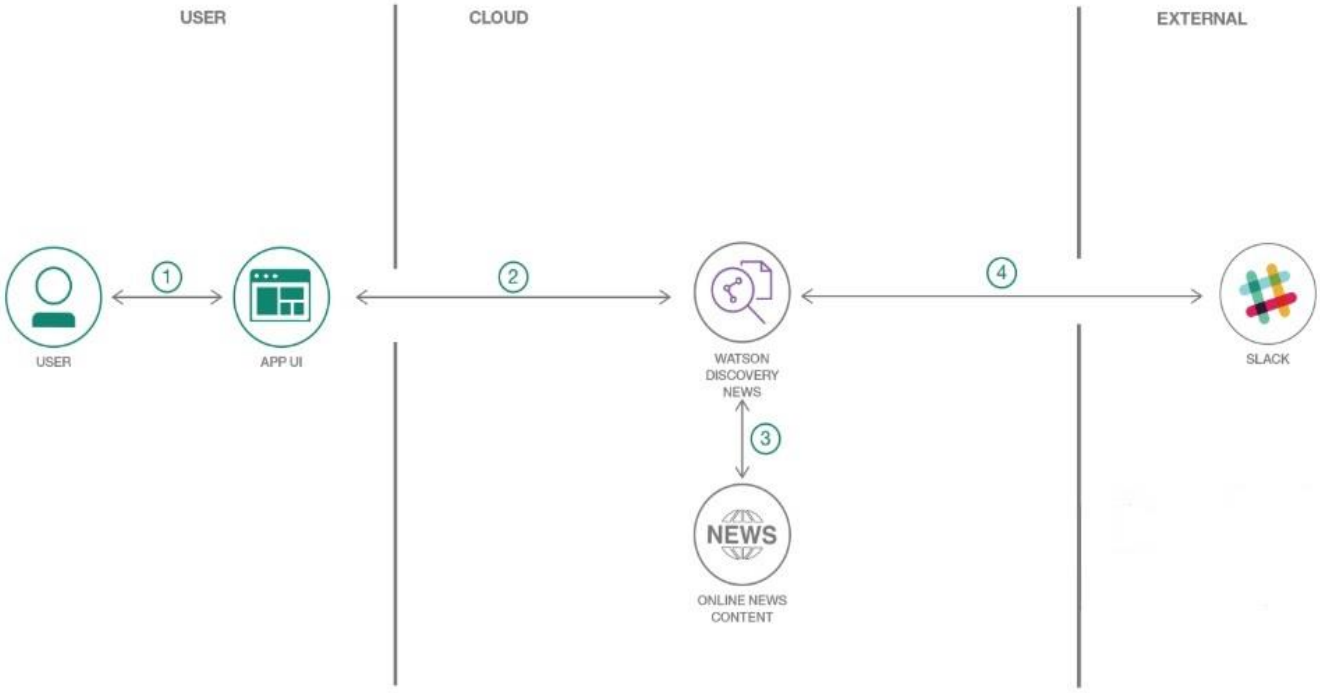
The AI-based News Search Application has been designed using Node-Red editor and the application has been deployed in the Cloud of IBM. Therefore this application is designed to run anywhere and at any time.

4. EXPERIMENTAL INVESTIGATIONS

The application is made to be deployed in IBM cloud so that it can able to request the information and respond to user at any time. The application utilizes Watson discovery in order to provide appropriate information to the user. This Watson discovery continually crawls the news collection to provide accurate news to the user requested query. Therefore this application was experimented using this method and it provides results of top news and it also gives user the sentimental analysis for the extracted news content.

Watson discovery also responds to the Slack search requests through the AI-news-bot. This AI-news-bot can give up to three news article to the user based on their search requests.

5. FLOWCHART



1. The user interacts with the app UI (Built with Node-RED) to request relevant news content.
2. The app sends user requests to Watson Discovery News.
3. The Watson Discovery Service is continually crawling the web to update its Discovery News collection.

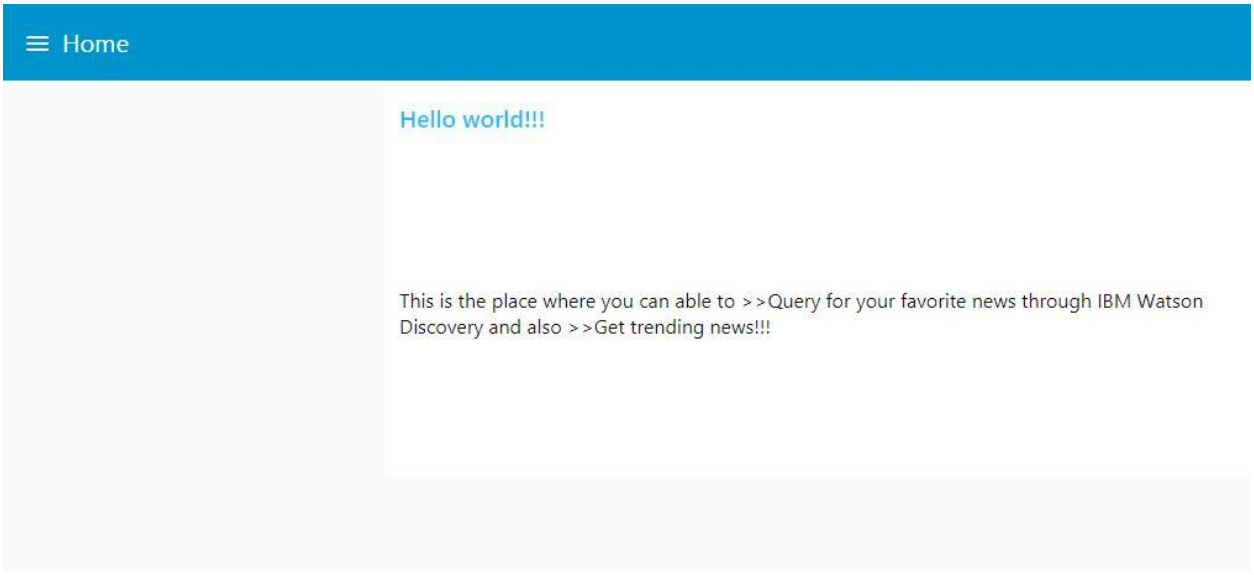
4. The Watson Discovery Service responds to Slack search requests.

6. RESULTS

The News search application which is based on Artificial Intelligence and cloud technology which aims to provide appropriate news articles based on the user requested query. This has been done by utilizing the concept of Watson discovery from IBM and it continually crawls the news collection to provide the news to the users rather than searching it manually. Initially the user sends the query to the Watson discovery and then the discovery gets the news from the collection and it provides to the users. This application also designed to respond to the slack search requests. The AI based news search application has been deployed in IBM cloud so that it can able to provide service to the user anywhere and at any time.

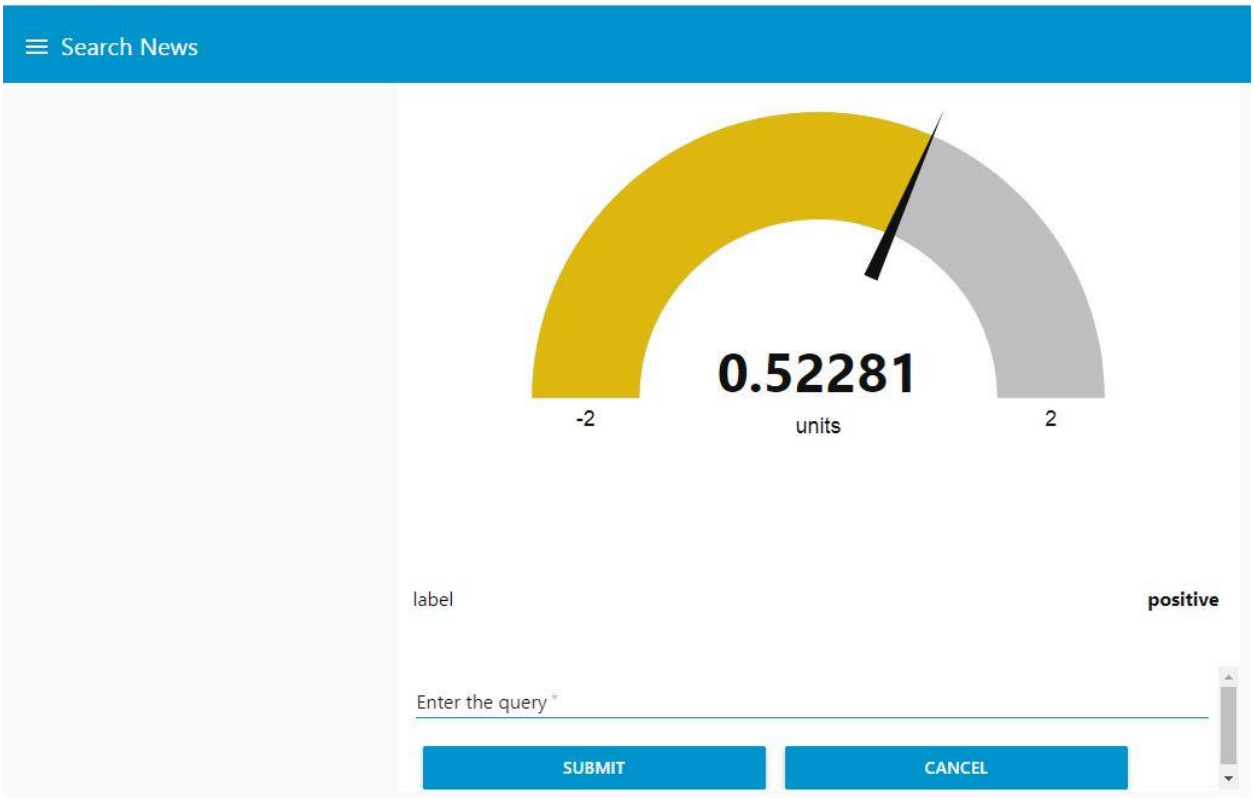
Moreover this application has been designed to provide the results automatically rather than searching them manually and it also reduces time to search for news articles and also it provides the sentimental analysis of the results.

HOME PAGE

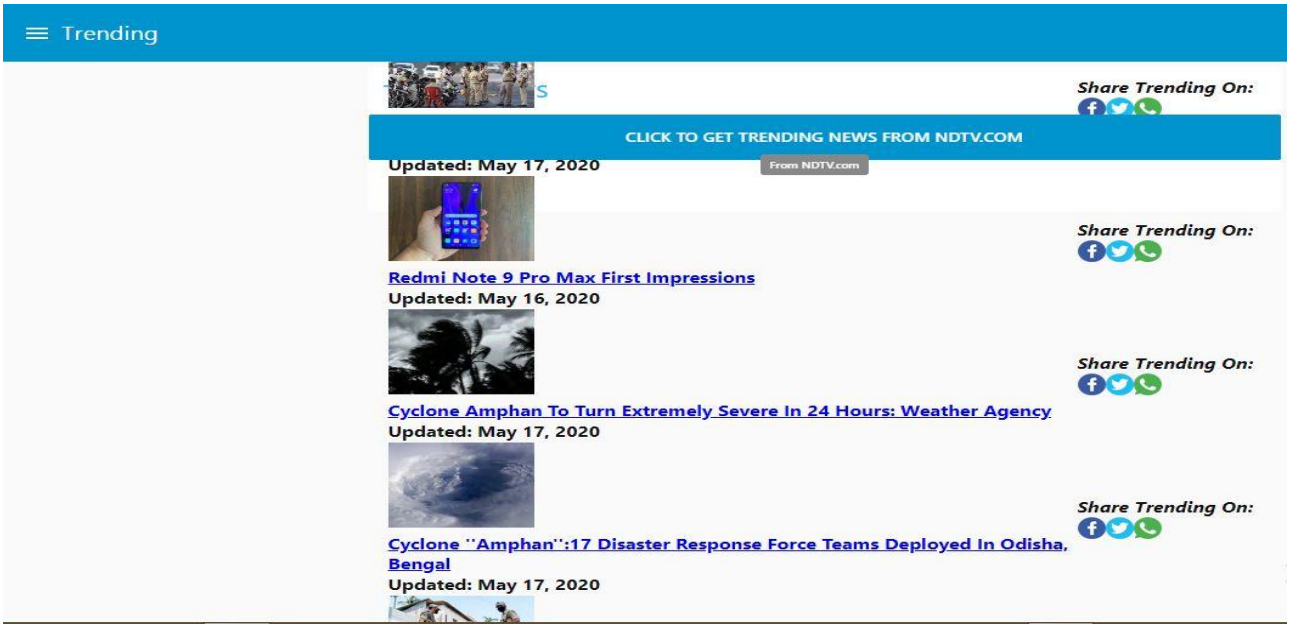


SEARCHNEWS

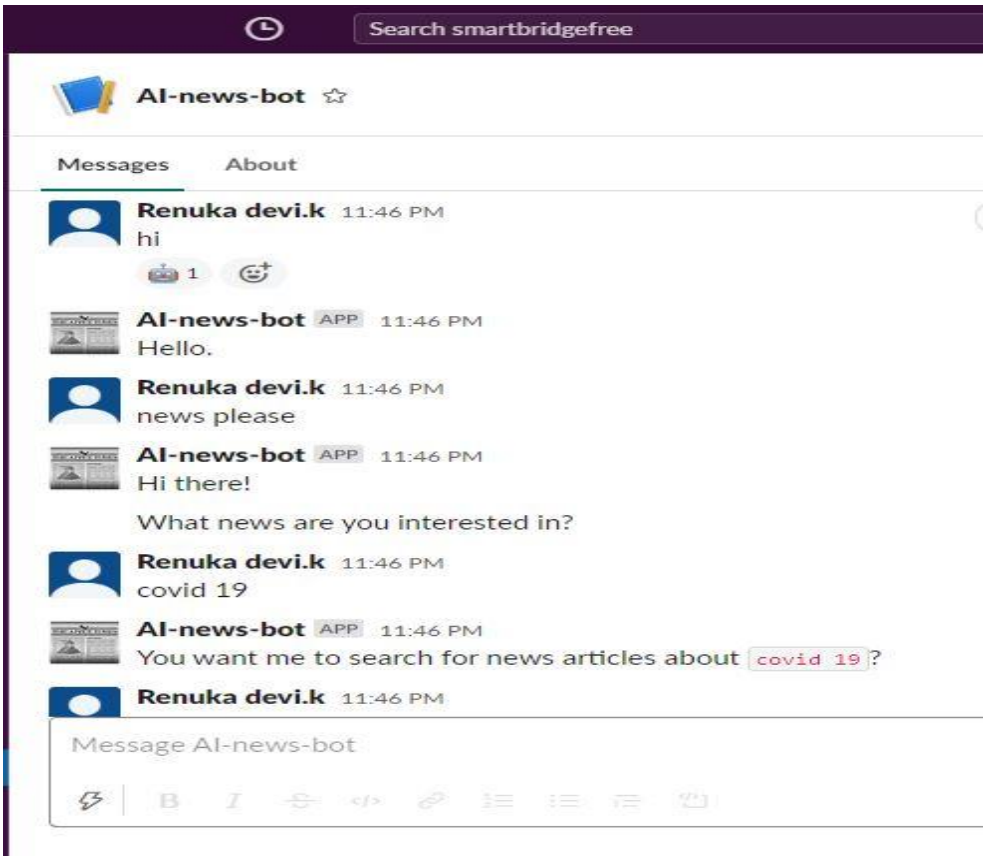

Search News
results
And Laxman, one of India's finest Test cricketers, is no exception. "I am not really a fan of this 4-day test cricket, 5 days fits perfect because it gets more results and reducing it the 4 days will not achieve the desired results according to me," he said on Cricket
main page url
https://www.cricketcountry.com/wp-content/uploads/2020/04/laxman-pti.jpg
url
https://www.india.com/sports/hussain-stresses-on-importance-of-pitch-quality-laxman-not-a-fan-of-four-day-tests-3999559/
Sentiment score
Positive score
Negative score

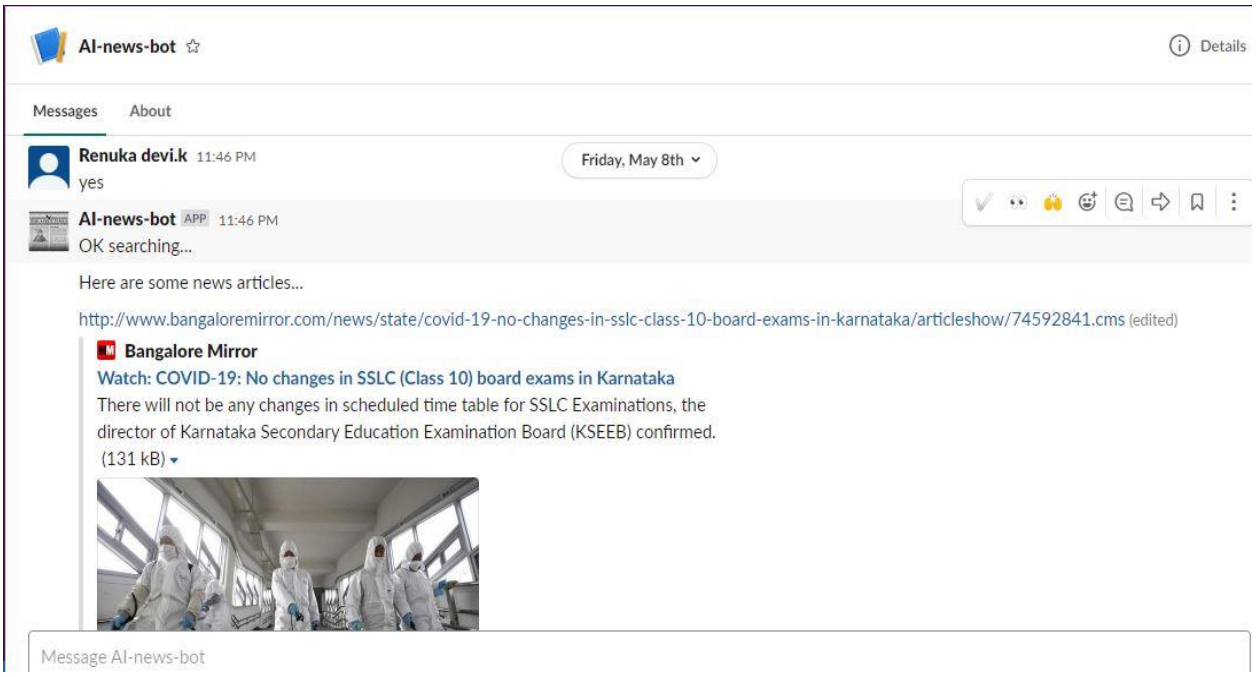

Search News
0.52281
-2
units
2
label
positive
Enter the query *
SUBMIT
CANCEL

TRENDINGNEWS



SLACK BOT (AI-news-bot)





URL of UI

https://node-red-olzul.mybluemix.net/ui

7. ADVANTAGES

- Able to retrieve the news articles more accurately and appropriately.
- Overcome the problem of searching the news manually.
- Reduces the time for searching the news based on specific topics.
- Deployed on cloud so that the user can access it any time.

DISADVANTAGES

- Requires network connection.
- Sometimes it doesn’t provide the recent news on the topic searched.

8. APPLICATIONS

- Used to retrieve the news based on the user requested query.
- Used to get trending news.

- Used to interact with the bot to retrieve the news.
- Used to access news on specific topic.

9. CONCLUSION

The web application has been created for searching the news which is based on artificial intelligence technology and cloud technology. The users can able to search the news by querying the Watson discovery through the user interface (UI) created using Node-Red editor. The Watson discovery which is incorporated into the node-red can able to crawl the news collection to provide the appropriate news to the users. The users can able to get the news through slack medium by utilizing a news bot called AI-news-bot that has been configured into it which also utilizes Watson discovery to retrieve the news. This helps users to request and get response in a more interactive manner. In a nutshell the AI based news search app is used to retrieve the news based on user requested query by utilizing the Watson discovery service from IBM cloud and also able to respond to the slack search requests.

10. FUTURE SCOPE

As a future perspective, we can also incorporate the text to speech technology to read out the news articles that has been retrieved to the users. This would make application more interactive and presentable to the users.

11. BIBILOGRAPHY

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4. https://www.ibm.com/watson/products-services
5. https://developer.ibm.com/articles/introduction-watson-discovery/
6. https://cloud.ibm.com/docs/services/discovery?topic=discovery-getting-started
7. https://cloud.ibm.com/docs/discovery?topic=discovery-query-concepts#querying-news
8. https://cloud.ibm.com/docs/services/discovery?topic=discovery-watson-discovery-news
9. https://www.youtube.com/watch?v=7YUTc4Cigc8&feature=youtu.be
10. “Programming with Node-Red” by Dogan Ibrahim.

APPENDIX

A. Source code

flow.json

[{"id":"6330d97e.877788","type":"tab","label":"Flow
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