

SMARTBRIDGE INTERNSHIP

PROJECT REPORT

PROJECT TITLE: *AI POWERED NEWS SEARCH ENGINE*

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Table of Contents

1. Introduction 3

a.Overview

b.Purpose

2. Literature Survey 3

a.Existing Problem

b.Proposed Solution

3. Theoretical Analysis 4

a.Block Diagram

b.Hardware/Software Designing

4. Experimental Investigations 5

5. Flowchart 11

6. Result 13

7. Advantages and Disadvantages 15

8. Applications 15

9. Conclusion 15

10.Future Scope 15

11.Bibliography 15

1.INTRODUCTION:

1.1 OVERVIEW:

AI powered news search engine is a news bot. It enables the user to get the news easily just by texting with a bot. It is build to be available for the users from all over the country. The news bot here is enabled with the use of Artificial Intelligence to make the searching process more easier.

1.2 PURPOSE:

The development of ***AI powered news search engine*** is to be build using *IBM Cloud watson assistant, Node RED starter*. The purpose of the project is to enable the user to use the news search engine powered by AI.

2.LITERATURE SURVEY:

2.1 EXISTING PROBLEM:

All current news applications can be confusing for the average person, with multiple functions and exaggerated design, these applications still do not meet the demand of the latest news users and often get results from the past days, weeks and months, which confuses the user only. Also, there is no way in these apps to know what the approximate feeling of the audience is regarding the article or news topic, which makes it less interactive and easy to use.

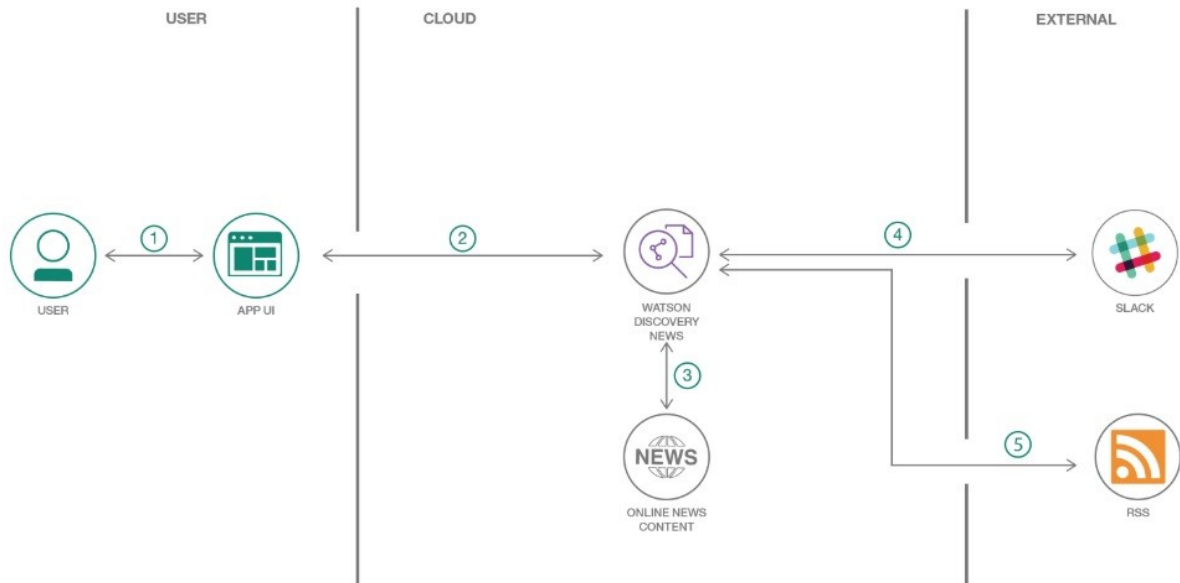
2.2 PROPOSED SOLUTION:

Discovery service available in the ***IBM cloud***, creating a web app to get the latest news results is fast and hassle-free. When integrated with ***Node-Red Flow***, the ***IBM Discovery Service*** can create a simple, engaging, organized user interface that provides users with relevant news articles as Discovery Service continuously crawls the web for the latest news to provide. By adding ***sentimental analysis***, we make the user interface more interactive and easier to understand.

3.THEORETICAL ANALYSIS:

3.1 BLOCK DIAGRAM:

Flow



The block diagram that shown above tells user interacts with the user interface created through the *Node-red* application that investigates a relevant topic about which he would like to receive news. The user interface integrated with the discovery service will use the service to present the most recent and relevant news articles, corresponding to what the user searched for. Since *slack* is also integrated with *discovery*, we can use our own bot and ask it to search for news by typing in the keyword and the bot searches for news articles related to it.

3.2 HARDWARE/SOFTWARE DESIGNING:

- Building a Server Side Application using **Node-RED**
- Using the pre-built *Watson Discovery News* collection
- Accessing the Watson Discovery Service through the **Discovery API**
- Using the *Slack interface* to query the data
- Pushing news alerts out to web notification
- Deploying the app on **IBM Cloud**

4. EXPERIMENTAL INVESTIGATIONS:

4.1 SETTING UP THE ENVIRONMENT:

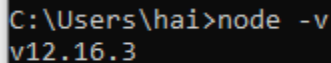
4.1.1 Installing Git:

Install *Git* on Windows. The most official build is available for download on the Git website.

4.1.2 Installing Node.js:

Node.js is a run-time environment which includes everything you need to execute a program written in *JavaScript*. It's used for running scripts on the server to render content before it is delivered to a web browser.

After installing it, verify the installation using the cmd prompt by entering ***node -v*** command. It will produce the *version of the installed node-red*.



```
C:\Users\hai>node -v
v12.16.3
```

4.1.3 Installing Node-RED:

Node-RED is a programming tool for wiring together hardware devices, APIs and online services in new and interesting ways. Installing Node-RED as a global module adds the command *node-red* to your system path.

1. `npm install -g --unsafe-perm node-red`

Adding A collection of Node-RED nodes for IBM Watson services

1. `npm install node-red-node-watson`

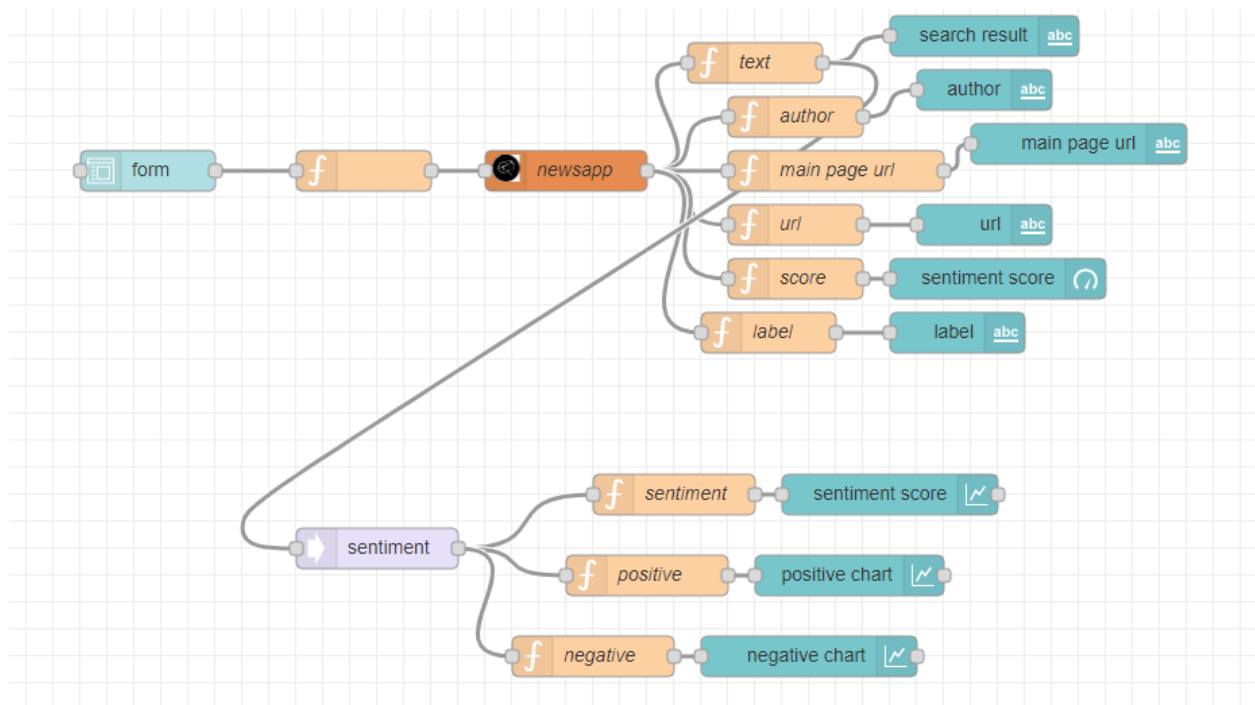
Adding node-red-dashboard module:

This module provides a set of nodes in Node-RED to create a live data dashboard quickly.

1. `npm install node-red-dashboard`

4.4 Creating App user interface using Node-red:

We can able to access the node-red from the IBM cloud platform. Once we created the account in Node-red, it takes to the node-red portal and we have to integrate the nodes in that by *dragging and dropping* from the pre-defined ***palettes*** or can be downloaded from the ***json files***. The flow of the node is thus formed will be as follows:



Nodes used:

1. Form node
2. Function node
3. Text node
4. Sentiment node
5. Gauge node
6. Chart node
7. Discovery node

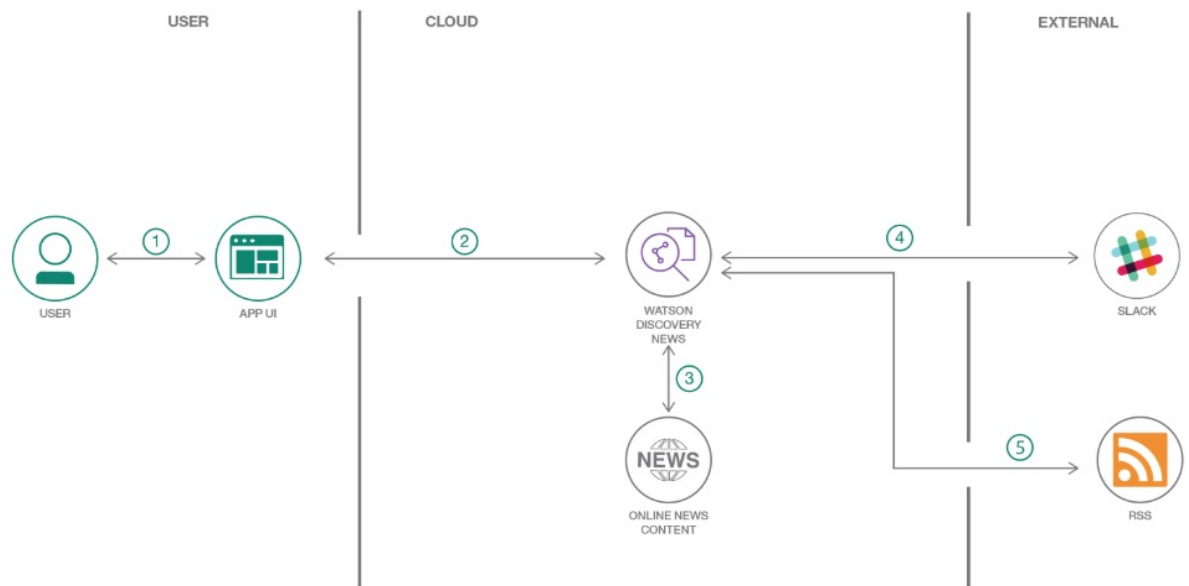
4.5 Integrating Watson discovery service with UI:

After building the Node-red flow like the one shown above, we have to code each of the *function nodes* to perform the desired function based on its usage to the flow.

Discovery node is the most important node as it is *integrating* the Watson Discovery service to the node-red by *adding service credentials* into the discovery node as shown below ,

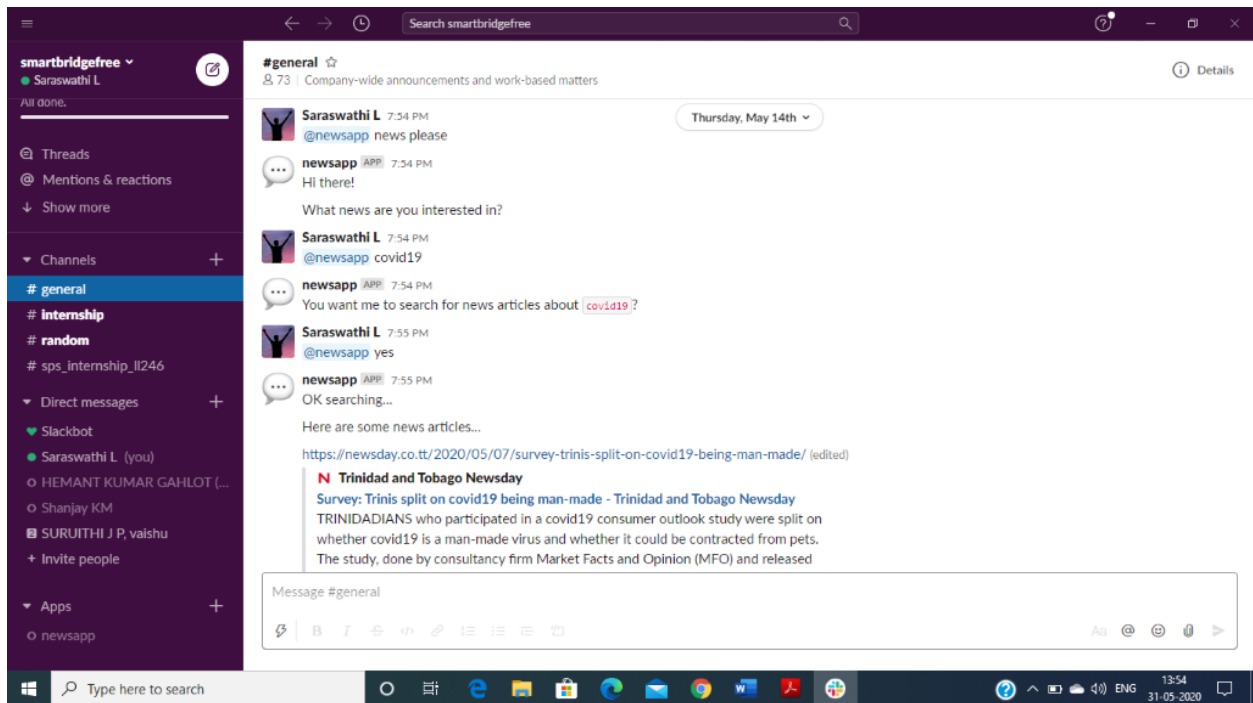
5. FLOWCHART:

Flow



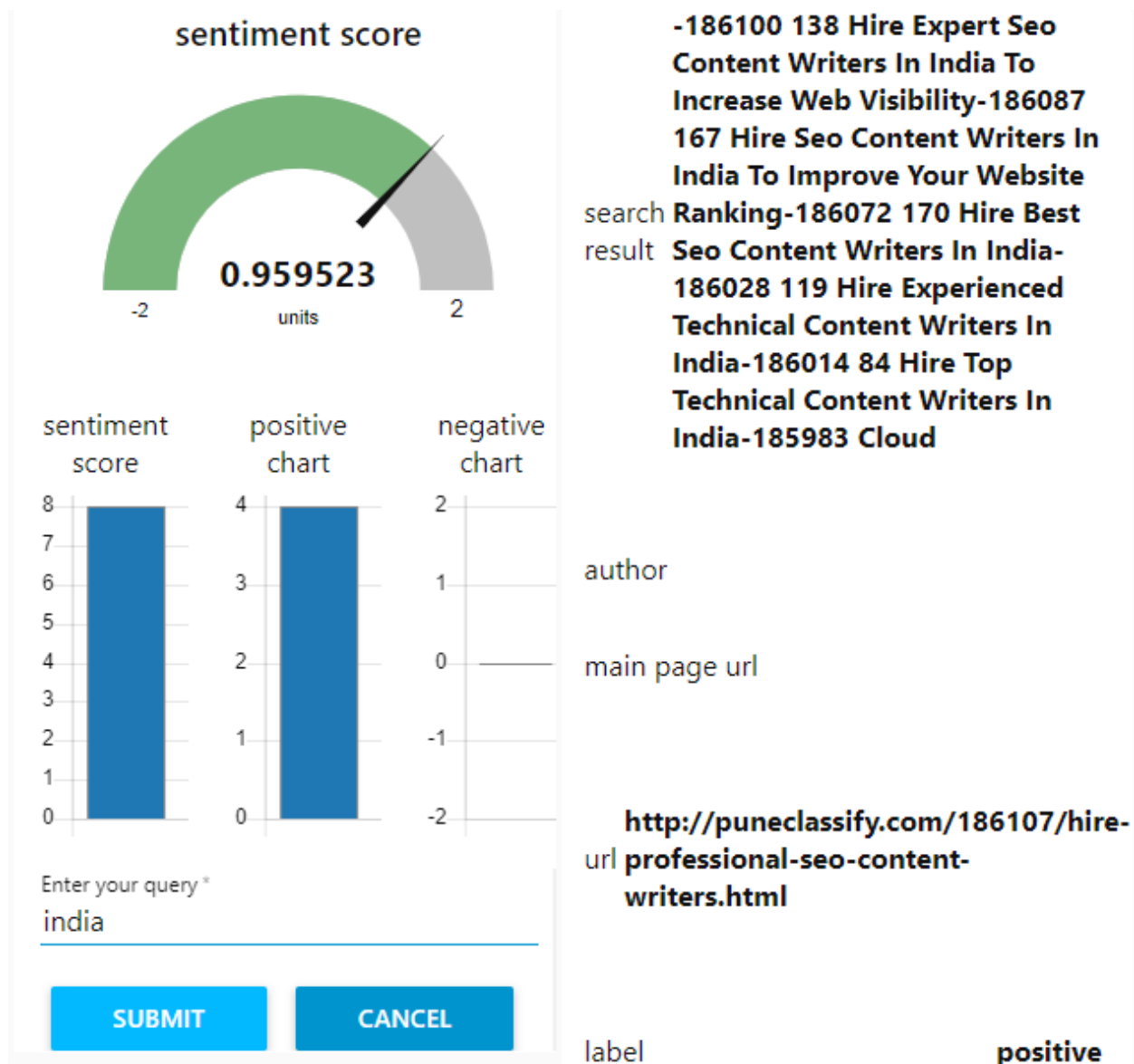
6. RESULT:

Bot on slack:



User Interface of Node-red flow:

The UI shown is the result of the node red flow. Here, the *main page url* and *author* are empty because the news here produced do not have any specified author or main url. SO it displays only the *current URL*.



7. ADVANTAGES AND DISADVANTAGES:

- The web application provides interactive sentiment analysis.
- It can be accessed through more than one platform that is through slack.
- It collects and delivers the most recent data.
- It does not have additional features like storing news history.
- It does not provide a stand-alone app rather uses a web application.

8. APPLICATIONS:

- This web applications can be used by any user in need of accurate and fast results.
- Can be used by firms and organizations.
- Can be used in stock market to make predictions.

9. CONCLUSION:

This project gives some basic working knowledge of the Watson Discovery Service and showed you how to use Discovery along with JavaScript and Node.js to build your own news mining web application. It also gives in sight into real-world applications of AI and helps us understand Slack better.

10. FUTURE SCOPE:

- The web application can be integrated with cloud and made into a mobile app to use it on-the-go.
- Additional sentiments can be added in the UI.
- Related and trending news topics can be shown to the user.

11. BIBLOGRAPHY:

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<https://www.ibm.com/cloud/get-started>

<https://www.ibm.com/watson/products-services>

<https://nodered.org/>

<https://gtihub.com/ibm/watson-discovery-news>

GITHUB URL FOR PROJECT LINK:

<https://github.com/sachulaksh/News-Search-App>

