IBM - NEWS TRACKER APPLICATION

PROJECT REPORT

Submitted by

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ANNA UNIVERSITY :: CHENNAI

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1.INTRODUCTION

1.1 Project Overview

We frequently feel that we need more than 24 hours a day to do everything on our calendar because our lives are so hectic these days. That's not realistic, but you can cut down on the time by reading the news differently than you usually do. Simply let us know what market news you're interested in to receive a daily sneak glance. Save time by reading only the content you choose to be pertinent. You can use this app to search for data on indices, commodities, currencies, future rates, bonds, and other topics.

1.2 Purpose

One of the most popular and essential products in our everyday lives is the newspaper. Reading newspapers has become one of the classic means of acquiring news in today's busy society. The news that's been updated the following morning is already out of date because news is produced every minute and disseminated via television, radio, and the Internet. Publishers of newspapers and magazines thus struggle to keep up with the pace. Publishers must adopt this because change is necessary.

3. LITRATURE SURVEY

2.1 Existing problem

Along with the findings from research and reports that have examined the problem, we have gathered all the pertinent drawbacks of the absence of news tracking statistics. This guide will provide you with an objective analysis of why the media reports bad news. We'll provide you a thorough and knowledgeable review of the topic as a whole.

2.2 Reference

S No.	Paper Title	Author (s)	Month / Year	Methods / Implementation Techniques	Resource Link
1.	News Keyword Extraction for Topic Tracking	Sungjick Lee, Han-joon Kim	Sept. 2008	Keyword extraction technique is used to extract main features in studies such as information retrieval, text categorization, topic detection, and document summarization. To extract keywords, TF-IDF (Term Frequency-Inverse Document Frequency) weighting model has been widely used.	https://ieeexplore.ieee.org/document/4624203
2.	Breaking News Detection and Tracking in Twitter	Swit Phuvipadawat, Tsuyoshi Murata	Mar. 2010	The breaking news can be categorized by a method to collect, group, rank and track breaking news from Twitter. To improve the similarity comparison for short-length messages, an emphasis is put on proper nouns. Reliability,popularity and freshness for the	https://ieeexplore.ieee.org/abstract/document/5616930

				ranking factors are used.	
3.	Learning approaches for detecting and tracking news events	Yiming Yang, Jaime Q. Carbonell, Ralf D. Brown	June 1999	Extending Supervised Learning and Unsupervised Clustering Algorithms to allow document classification based on content and temporal aspects of news events.	https://ieeexplore.ieee.org/abstract/document/784083
4.	Using Cloud Computing Capabilities – On the example of implementing a news application.	Olga Miknovich, Oksana Golubeva	2019	The possibilities of cloud computing technologies are considered on the example of the application implementation, which is a function that receives a news feed through the NewsApi service. The cloud computing model FaaS (Function as a Service), the Microsoft Azure cloud platform and the Azure Functions solution are used for implementation.	https://elib.psu.by/bitstream/123456789/31517/1/160-163.pdf

2.3 Problem Statement Definition

The majority of people rarely read the news until something really significant occurs in their area of interest or around the world. It is possible to get the information you need through traditional newspapers and news sources, but it takes a lot of time and is not practical everywhere. Users of the News Tracker Application may quickly scan news stories that are tailored to their interests.

Who does the problem affect?	People who are employed, students and anyone else who are generally busy and don't have time to keep up with the daily news
What are the boundaries of the problem?	News recommendations are not tailored to each user's interests.
What is the issue?	People don't follow the news since it takes too long and can't keep their interest
When does this issue occur?	When the news is overrun with intricate and pointless information regarding the occurrences.
Where is the issue occurring?	In print and television, as well as other traditional media
Why is it important that we fix the problem?	People could catch up on everyday events without spending a lot of time if this issue could be fixed.

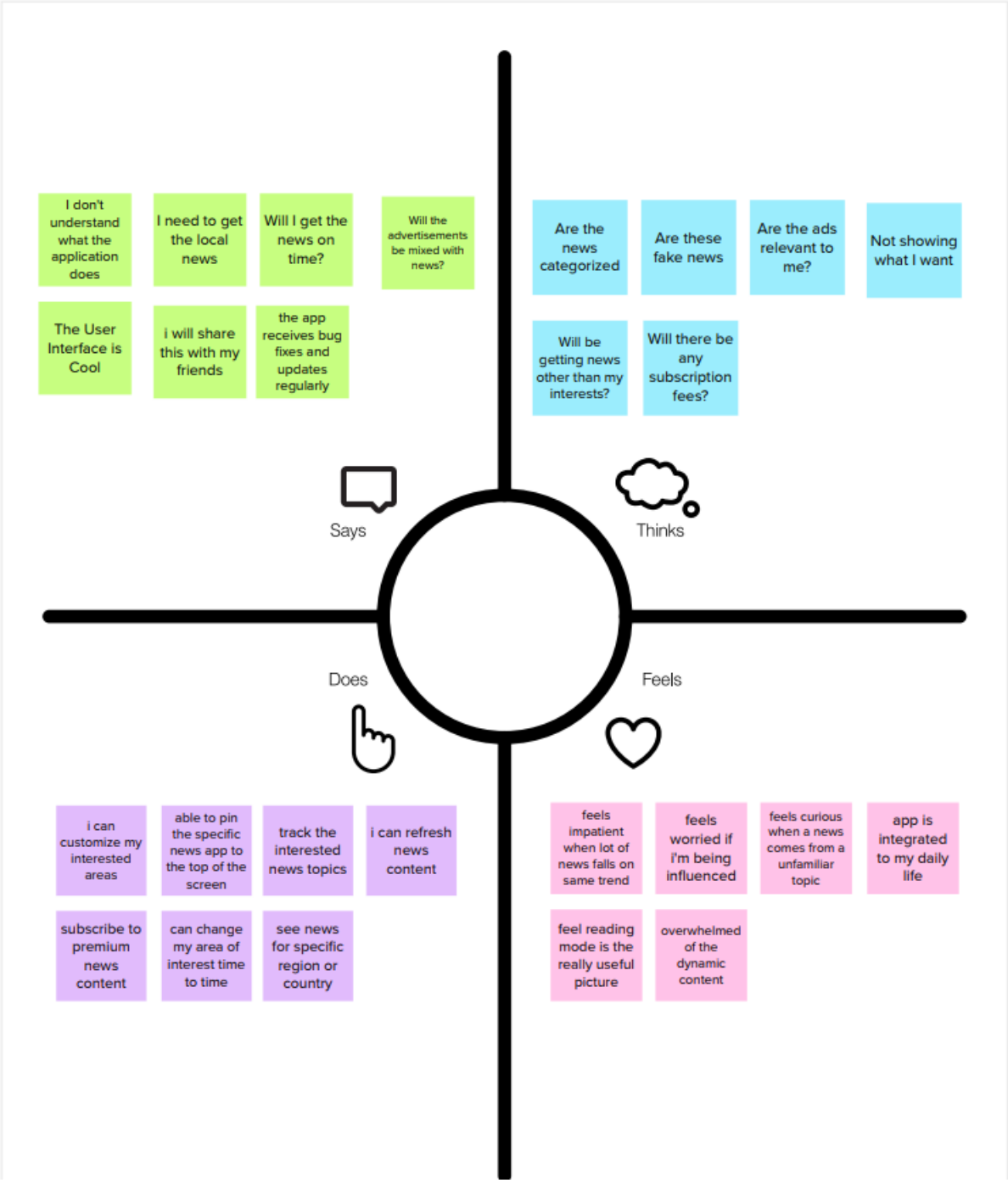
- Raj, an astrophysicist who also enjoys Cricket, is unable to watch the whole game or even the highlights due to time constraints. He will be able to follow along easily if the news is presented to him in a condensed and ordered manner.

- Dwight, an assistant manager at a paper company, is a determined and hardworking employee with a very tight schedule and doesn't have free time to read newspaper to catch up with the happenings at Scranton that his co-workers are usually talking about in the coffee breaks.

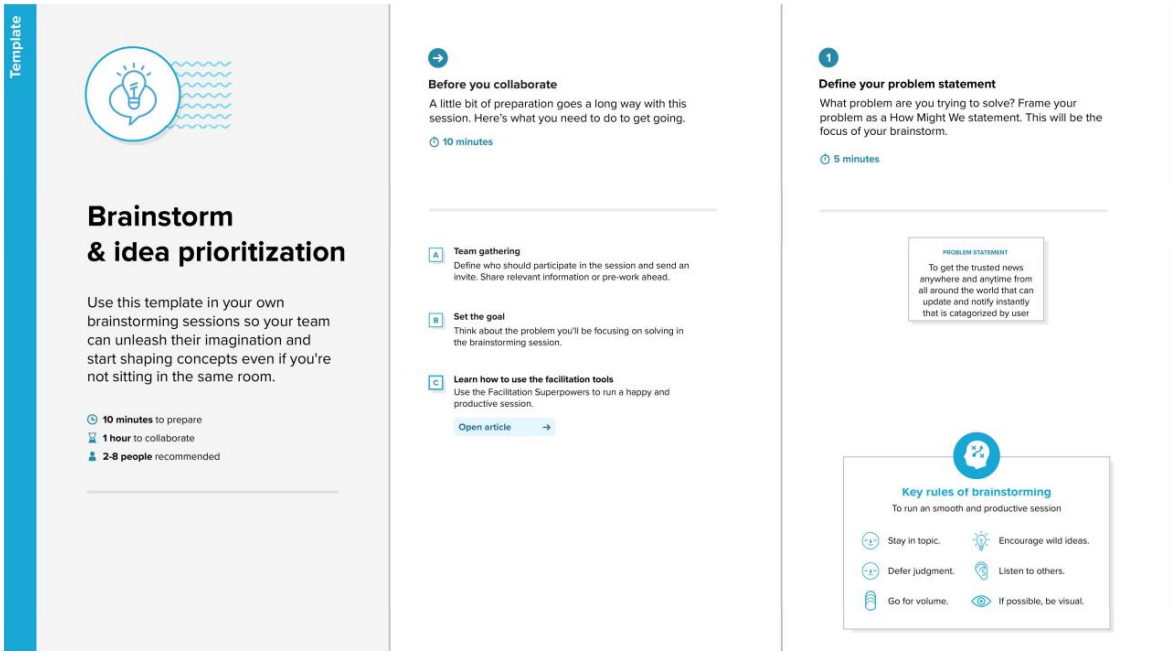
- Popular NYC chef Monica enjoys gathering newspaper articles about food and keeping them organised in her files. However, there aren't many of these pieces to be found in news benches. She would be pleased with a system that made access to such material easier.

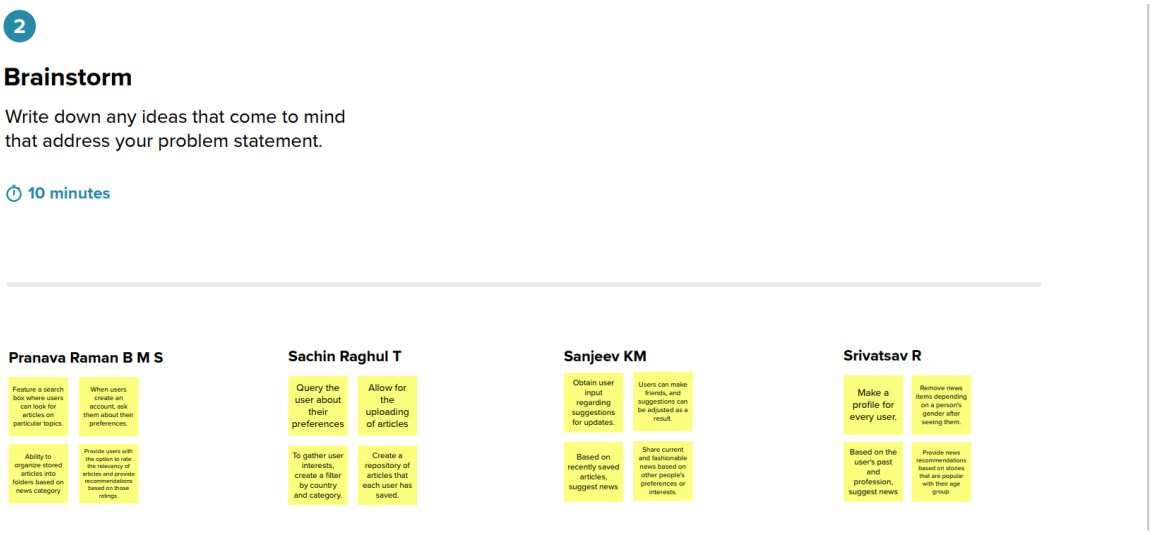
3. IDEATION & PROPOSED SOLUTION

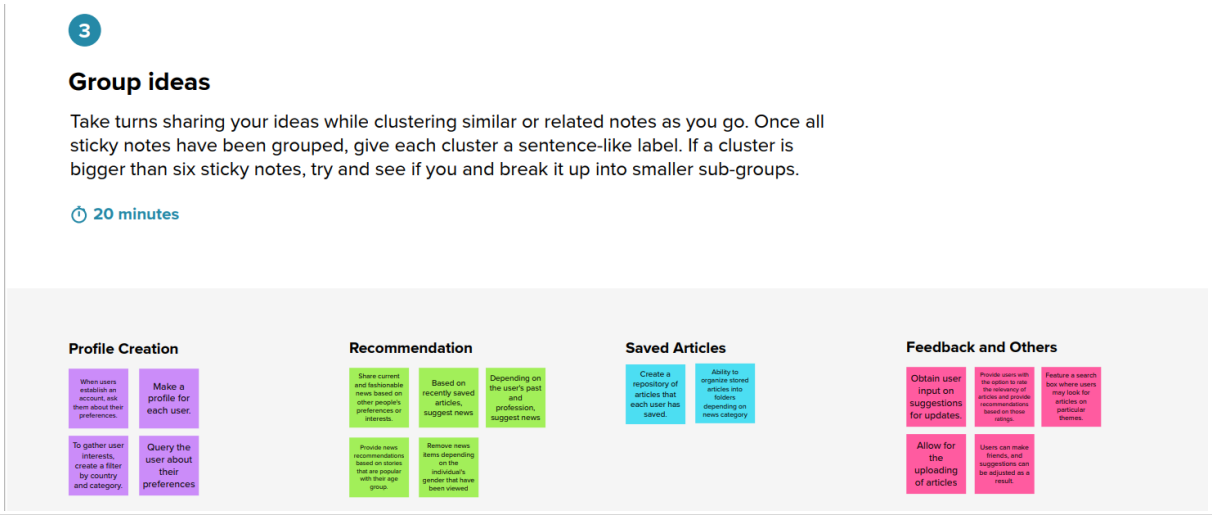
3.1 Empathy Map Canvas



3.2 Ideation and Brain Storming







4

Prioritize

Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.

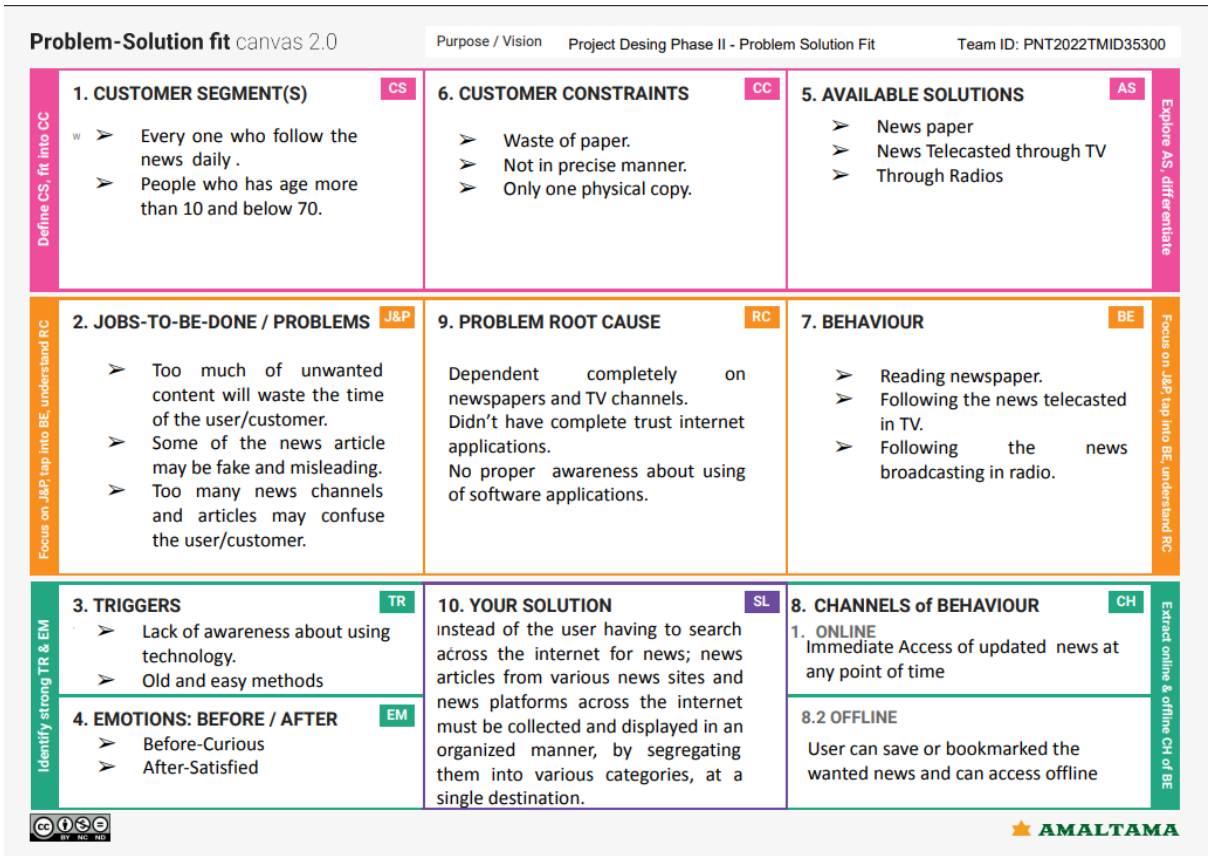
20 minutes

3.3 Proposed Solution:

S. No	Parameter	Description
1	**Problem Statement**	The majority of people rarely read the news until something really significant occurs in their area of interest or around the world. It is possible to get the information you need through traditional newspapers and news sources, but it takes a lot of time and is not practical everywhere. Users of the News Tracker Application may quickly scan news stories that are tailored to their interests.
2	**Idea Description**	By giving a quick summary of significant events, successfully following news across several domains, and keeping up with important events in their area of interest, the application will help individuals save time.
3	**Novelty / Uniqueness**	The application supports the user the ability to save particularly pertinent and significant news in repositories for easy access, propose hot and fashionable news based on other people's interests/likes, and news based on recently saved articles. Users can make friends, and suggestions can be adjusted as a result. Users should be asked about their preferences when creating an account, and users should be given the option to rate the relevancy of articles in order to enhance suggestions.
4	**Customer Satisfaction**	The audience may access their preferred news stories faster and in a more user-friendly setting with the help of these applications.
5	**Business Model**	All users will be able to use the app for free. However, because the user's interests are known, this information may be utilised to create customised adverts, which can generate a substantial amount of revenue from the advertisers. Users must purchase a membership if they want to avoid adverts and gain access to more premium news sources.

6	**Scalability of the Solution**	It will be simple for us to scale the application to a bigger set of users because it requires the same set of input from all users and does not carry out a lot of complicated computations. As users can add their own interests as well, networks get more complicated, and suggestions get better.

3.4 Problem Solution Fit



4.REQUIREMENT ANALYSIS

4.1 Functional requirement

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through online application Registration through Gmail Registration through website
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	User login	Login through browser directly by entering username and password Login through Login through email
FR-4	User interaction	Done through user interface between client and server View the related news by subscripted or requested page
FR-5	User sharing	Application has tools to share this news in social networks

4.2 Non-Functional requirements

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	By subscribing to the website's news feed, end users can receive push notifications for new information on the site.

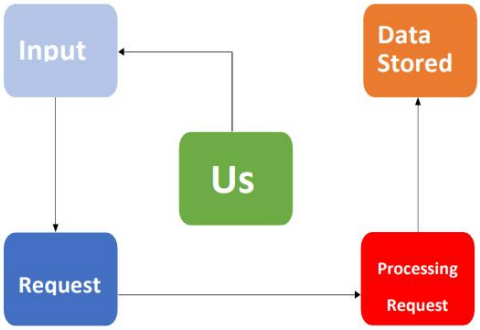
NFR-2	**Security**	How well are the data and system secured from attacks?
NFR-3	**Reliability**	How frequently do the system's critical failures occur? How long does it take to resolve the problem once it occurs? And how does downtime compare to user availability time?
NFR-4	**Performance**	The primary non-functional requirement that every system must have is performance. It specifies how quickly a software system or a specific component of it reacts to specific user actions while handling a specific workload. Given the current user base as a whole, this statistic often indicates how long a user must wait before the goal operation occurs (the page renders, a transaction is executed, etc.). But it isn't always the case. Performance specifications could list unnoticed by users' background tasks like backup. Let's instead concentrate on user-centric performance.

5.PROJECT DESIGN

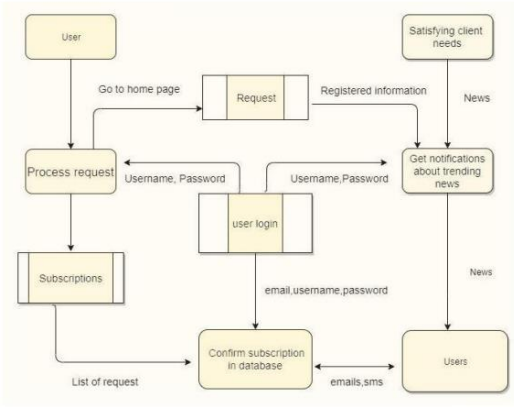
5.1 Data Flow Diagrams

Data Flow Diagrams:

Simplified:



DFD Level 0 (Industry Standard):



5.2 Solution &Technical Architecture

S.No	Component	Description	Technology
1.	User Interface	The user can interact with the application toknow about the trending news	HTML,CSS, JavaScript/ Angular Js/ ReactJs etc.
2.	Application Logic-1	The application contains this resource gives you basic understanding of Flask	Flask
3.	Application Logic-2	The application contains the news sub-division like geographical news, economicnews and society news	IBM Watson STT service
4.	Application Logic-3	The user can view the growth of the economy in industry through graph	IBM Watson Assistant
5.	Database	Updation of trending news are stored in the MySQL database	MySQL, NoSQL, etc.
6.	Cloud Database	With the use of cloud, media coverage issue cannot be occurred	IBM DB2, IBM Cloudant etc.

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Flask is flexible and doesn't require touse any particular project or code layout used in this application	Python-Flask
2.	Security Implementations	This can be access only by the journalist. So, It is a high Security	Container Registry, Kubernetes Cluster.
3.	Scalable Architecture	News Tracker is a socio-economic access because helps to know aboutthe daily activity of the world	Container Registry, Kubernetes Cluster.
4.	Availability	This application will be available to the all the user who are using this application	Container Registry, Kubernetes Cluster.
5.	Performance	The updation of trending news occurs without any interruption. So,it performance is good	Kubernetes Cluster.

5.3 User Stories

User Stories

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer (Mobile user)	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	I can access my account / dashboard	High	Sprint-1
		USN-2	As a user, I will receive confirmation email once I have registered for the application	I can receive confirmation email & click confirm	High	Sprint-1
		USN-3	As a user, I can register for the application through Gmail	I can register through Gmail by OTP authentication	Medium	Sprint-2
	Login	USN-4	As a user, I can log into the application by entering email & password	I can view all types of information through this application	High	Sprint-1
	Dashboard	USN-5	To see their histories about recently viewed, updates for search related news, current progress, feedback		Medium	Sprint-2
Customer (Web user)	Browser	USN-6	Works as an interactive medium between client and server	I can access the resources through browser	High	Sprint-1
Customer Care Executive	Chat bot	USN-7	Rectify the customer's issues related to account, subscription and customization	Chat bot can resolve simple issues for customers	Low	Sprint-2
Feedback	Feedback Form	USN-8	Getting feedback from customers helps application's administrator to improve the quality of the application	Customers can tell their opinions	High	Sprint-1
Administrator	Admin module	USN-9	As an admin, I will modify the application as per customer requirements and fix the bugs to give customers a bug free service	I can modify the entire application	High	Sprint-2

6.PROJECT PLANNING & SCHEDULING

6.1 Sprint Planning & Estimation

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority
Sprint-1	Registration(Admin and Customer)	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	3	High
Sprint-1		USN-2	As a user, I will receive confirmation email once I have registered for the application	5	High
Sprint-1		USN-3	As a user, I can register for the application through Facebook	1	Low
Sprint-1		USN-4	As a user, I can register for the application through Gmail	2	Medium
Sprint-1	Login (Admin and Customer)	USN-5	As a user, I can log into the application by entering email & password	1	High
Sprint-2	Dashboard(Admin and Customer)	USN-6	As a user I should be able to navigate and access all the features hassle free	5	High
Sprint-2	Layout	USN-7	As a user I should be able to access the portal with different devices with the same comfort	3	High
Sprint-3	Data Store,Retrieval and Authentication	USN-8	Get Data from API and store as JSON in DB2	5	High
Sprint-3		USN-9	Get bin data from API and store in DFS	3	High
Sprint-3	Local News Dashboard	USN-10	Create a Option of post and authorize the news by User's location	2	High
Sprint-4	User Segregation and data access	USN-11	As a CC executive I should be able to uniquely identify the customer and offer help	3	Low
Sprint-4	Change code	USN-12	As a administrator I should be able to modify code according to the future requirements.	2	Medium
Sprint-4	Monitor the system And Testing	USN-13	As a administrator I should be able to monitor the cloud system and fix errors before customer.	1	High
Sprint-4	Depolyment with Docker	USN-14	As a User,I will deploy the entire Application using Docker.	2	Medium
Sprint-4	Orchest with Kubernates	USN-15	As a User,I will allocate the server nodes and balance the work loads in server.	2	Medium

6.2 Sprint Delivery Schedule

Project Tracker, Velocity & Burndown Chart: (4 Marks)

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	12	6 Days	24 Oct 2022	29 Oct 2022	12	29 Oct 2022
Sprint-2	8	6 Days	31 Oct 2022	05 Nov 2022	8	05 Nov 2022
Sprint-3	10	6 Days	07 Nov 2022	12 Nov 2022	10	12 Nov 2022
Sprint-4	10	6 Days	14 Nov 2022	19 Nov 2022	10	19 Nov 2022

Velocity:
Imagine we have a 10-day sprint duration, and the velocity of the team is 20 (points per sprint). Let's calculate the team's average velocity (AV) per iteration unit (story points per day)

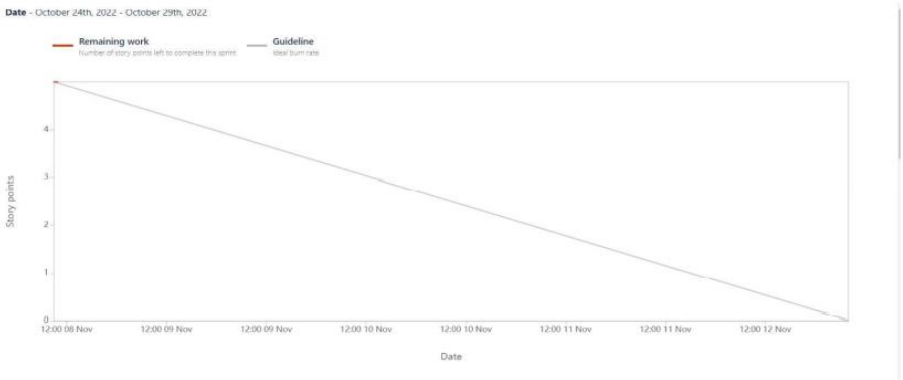
Average Velocity of Sprint-1 = 12/6 =2.0

Average Velocity of Sprint-2 = 8/6 =1.3

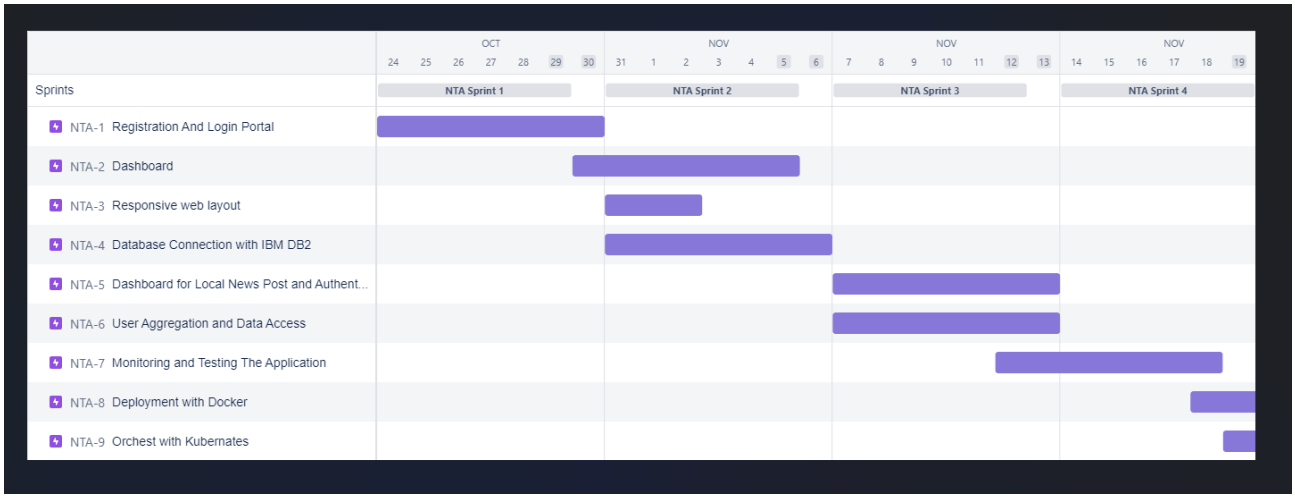
Average Velocity of Sprint-3 = 10/6 =1.6

Average Velocity of Sprint-4 = 10/6 =1.6

Burndown Chart:



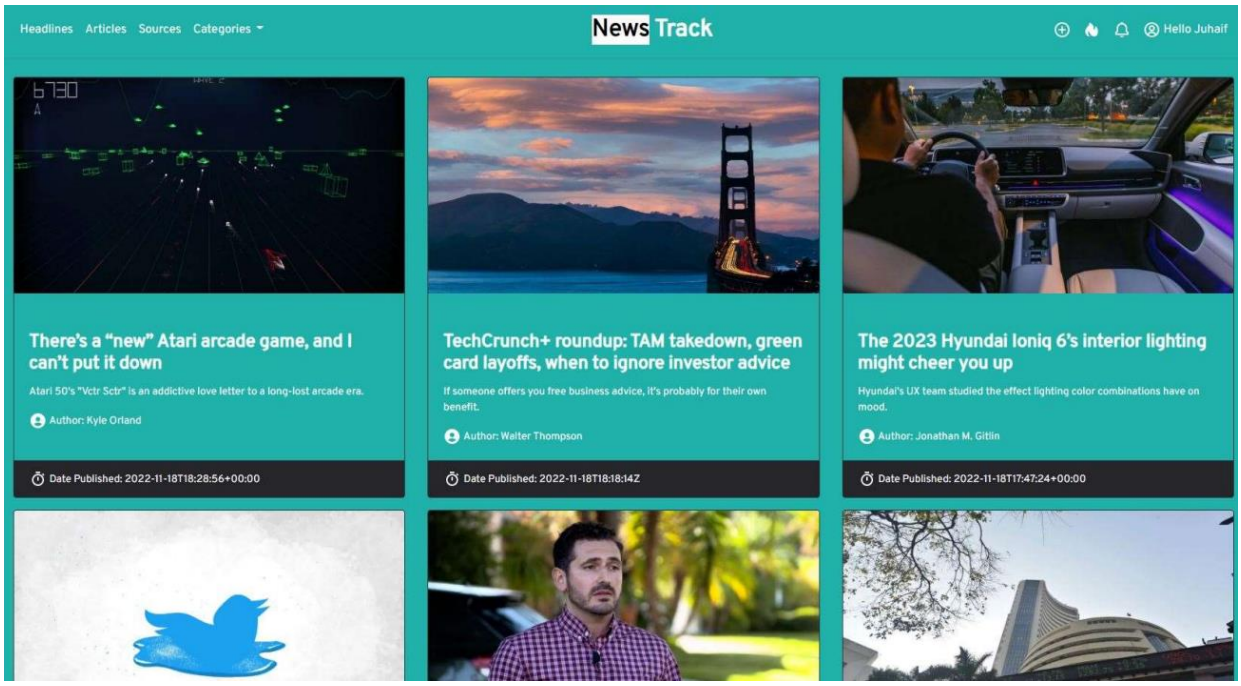
6.3 Reports from JIRA

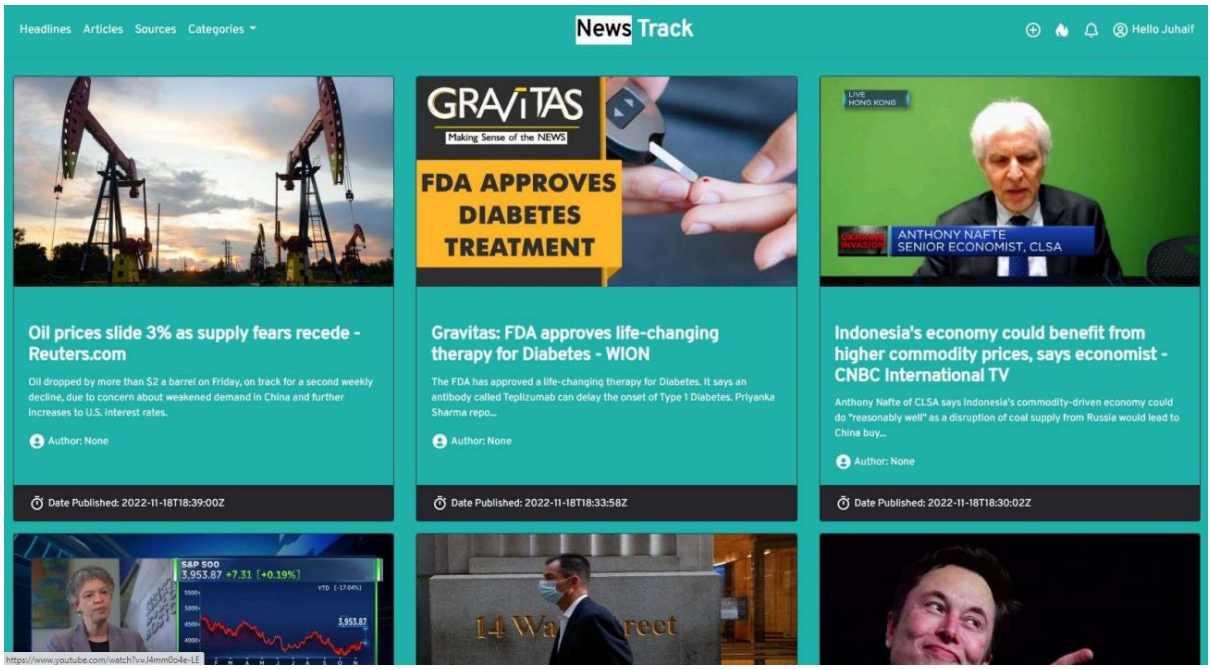


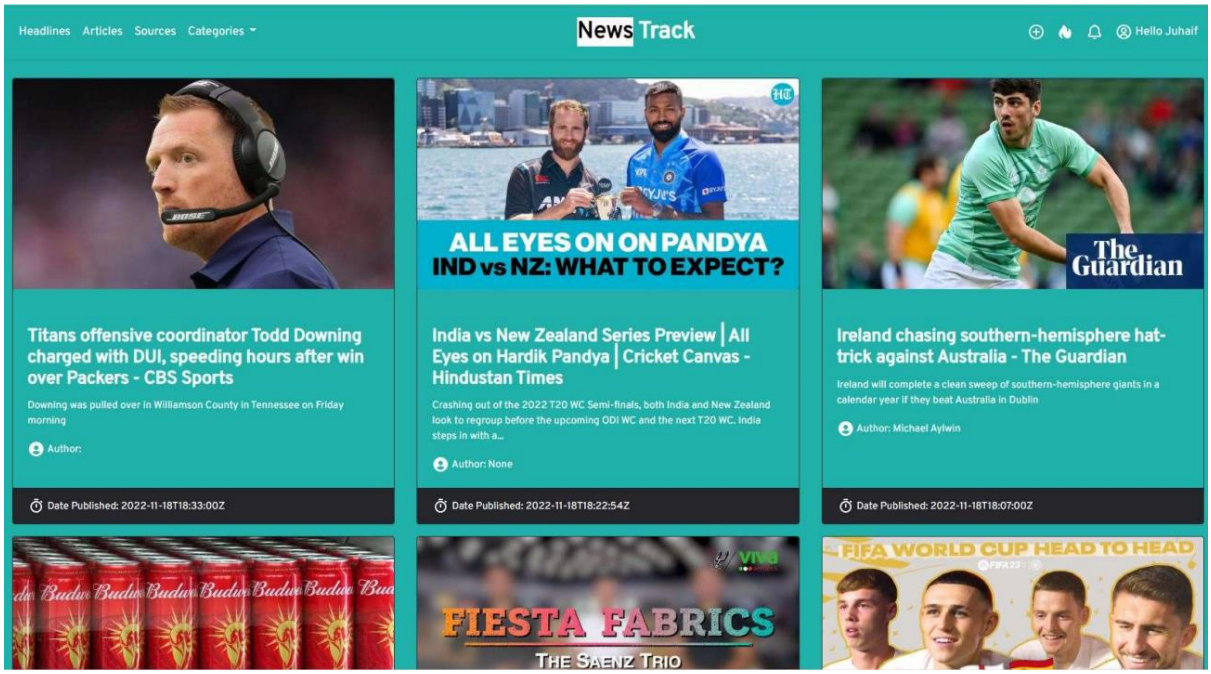
7. CODING AND SOLUTION

7.1 Feature 1

Access All Local and International News Around the word by categories

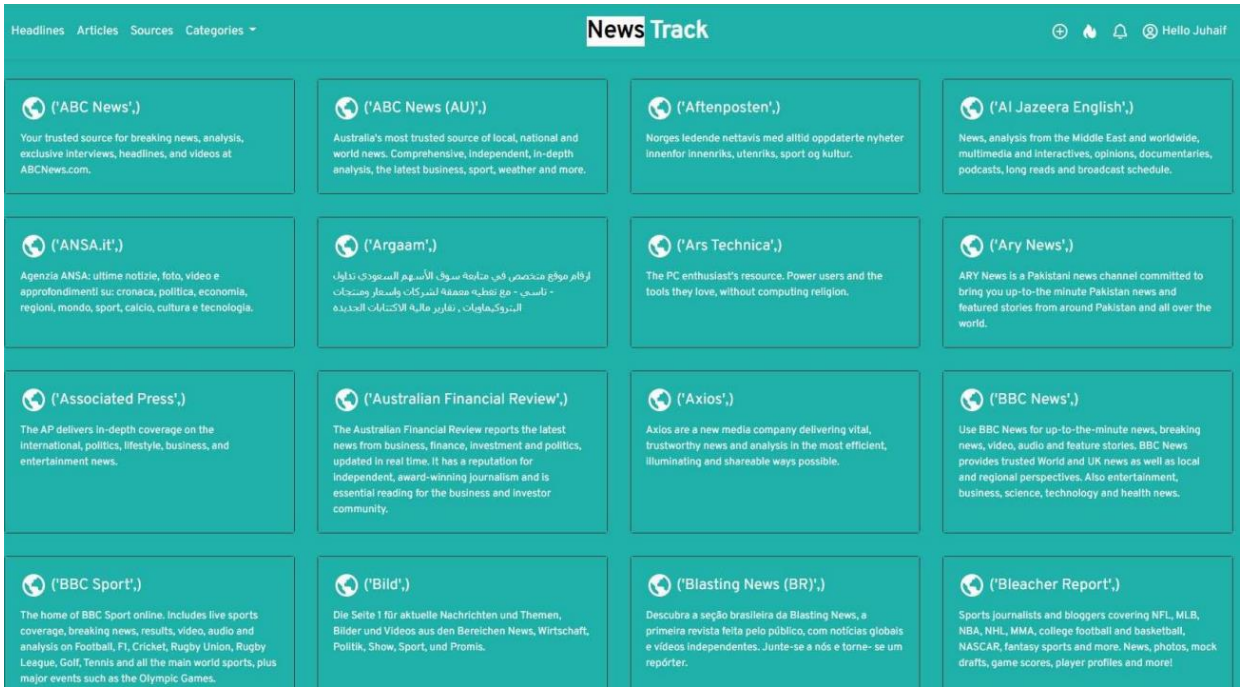


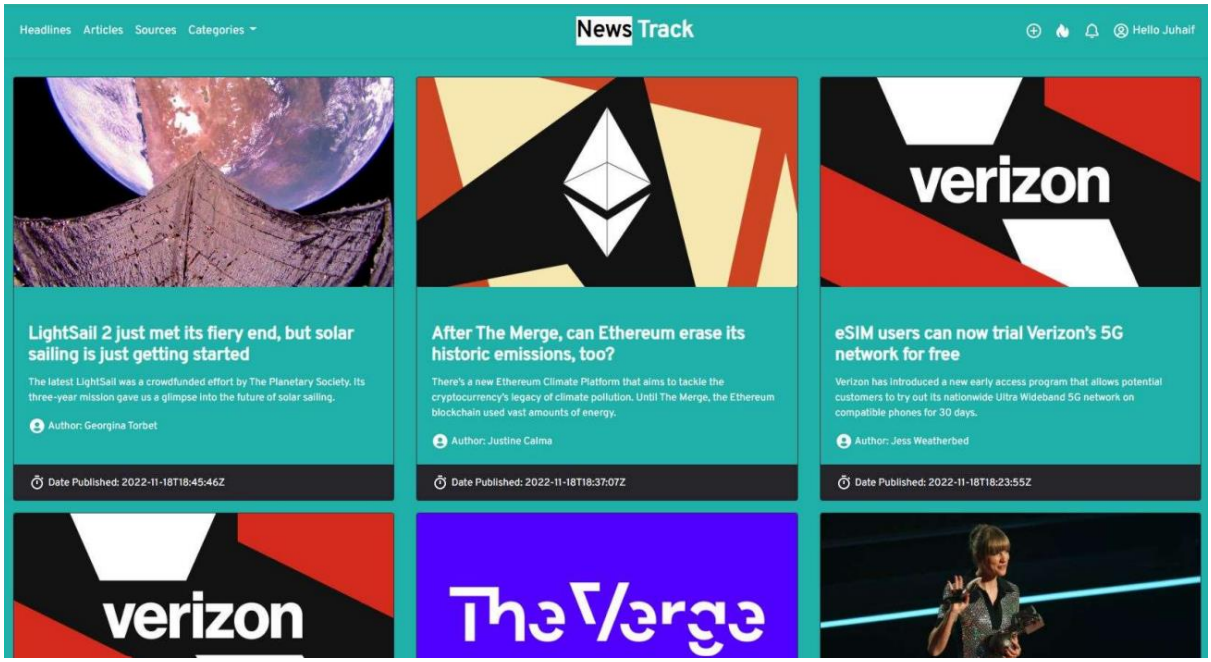




7.2 Feature 2

Trusted News Sources only accessed by using NewsAPI and We can View some Trending Articles from Popular Websites like as Verge,Forbes etc




Headlines
Articles
Sources
Categories
News Track
Hello Juhaif
LightSail 2 just met its fiery end, but solar sailing is just getting started
The latest LightSail was a crowdfunded effort by The Planetary Society. Its three-year mission gave us a glimpse into the future of solar sailing.
Author: Georgina Torbet
Date Published: 2022-11-18T18:45:46Z
After The Merge, can Ethereum erase its historic emissions, too?
There's a new Ethereum Climate Platform that aims to tackle the cryptocurrency's legacy of climate pollution. Until The Merge, the Ethereum blockchain used vast amounts of energy.
Author: Justine Calma
Date Published: 2022-11-18T18:37:07Z
verizon
eSIM users can now trial Verizon's 5G network for free
Verizon has introduced a new early access program that allows potential customers to try out its nationwide Ultra Wideband 5G network on compatible phones for 30 days.
Author: Jess Weatherbed
Date Published: 2022-11-18T18:23:55Z
verizon
The Verge

8. TESTING

8.1 Test Case

Test case ID	Feature Type	Component	Test Scenario	Pre-Requisite	Steps To Execute	Test Data	Expected Result	Actual Result	Status	Commnets	TC for Automation(Y/N)	BUG ID
1	Functional	Login Page	Verify user is able to Login into the Application		1) Open the News tracker application. 2) Login with user Credentials 3) Verify logged in to user account	Email: jfad@gmail.com Password: 1234	Login Successful	Working as expected	Pass		N	
2	Functional	Signup Page	Verify user is able to Signup in the Application		1) Open the news tracker 2) Enter the Details and Create a new User 3) Verify if user is created and inserted into DB Table	Email: jfadad@gmail.com Password: 1234	Account Created Successfully	Working as expected	Pass		N	
3	Functional	Dashboard page	Verify if all the user details are stored in Database		1) Open the News tracker application. 2) Enter the Details and Create a new User 3) Verify if user is created and inserted into DB Table	Username: jfadad@gmail.com password: 1234	User should navigate to user account homepage	Working as expected	Pass			
4	Functional	Login page	Verify user is able to log into application with InValid credentials		1.Enter URL and click go 2.Click on Sign IN button 3.Enter InValid username/email in Email text box 4.Enter valid password in password text box 5.Click on login button	Username:balaji@gmail.com password: 592001	Application should show 'Incorrect email or password ' validation message.	Working as expected	Pass			
5	Functional	Login page	Verify user is able to log into application with InValid credentials		1.Enter URL and click go 2.Click on Sign IN button 3.Enter InValid username/email in Email text box 4.Enter valid password in password text box 5.Click on login button	Username:harish@gmail.com password:32002	Application should show 'Incorrect email or password ' validation message.	Working as expected	Pass			

8.2 User Acceptance Testing

1.PURPOSE OF DOCUMENT

The purpose of this document is to briefly explain the test coverage and open issues of the News Tracker Application project at the time of the release to User Acceptance Testing (UAT).

2.DEFECT ANALYSIS

This report shows the number of resolved or closed bugs at each severity level, and how they were resolved.

Resolution	Severity 1	Severity 2	Severity 3	Severity 4	Subtotal
By Design	3	1	2	1	7
Duplicate	1	0	0	0	1
External	1	0	0	1	2
Fixed	2	1	1	1	5
Not Reproduced	0	0	0	0	1
Skipped	0	0	0	0	0
Won't Fix	0	0	0	0	0
Totals	7	2	3	3	16

3.TEST CASE ANALYSIS

This report shows the number of test cases that have passed, failed, and untested.

Section	Total Cases	Not Tested	Fail	Pass
Login Page	4	0	0	4
Registration Page	1	0	0	1
Home Page	2	0	0	2

9. ADVANTAGES

1.Viewers can get their news straight from their smartphones, tablets and computers.

2. News is at their fingertips in an instant. An online newspaper can be read more elaborately than a printed newspaper.

3. You can read the Popular News Articles too very easily at the click of the mouse.

4. Access the News by Categories

DISADVANTAGES

1. Prevalence of fake and uncertain news can confuse the reader leading to misconceptions.

2. It may rely too heavily on the authors personalities, emotions, opinions… not facts.

3. It can easily change complex stories or avoid them altogether.

10. CONCLUSION

The purpose of this project is to connect individuals through this application and give them a platform to express their opinions on the subject, the news, and the information. People that have an interest can then interact with one another. However, they can even provide more details on the subject. This software checks for redundant information as well as inaccurate and misleading information, both of which might cause individuals to become alarmed.

11. FUTURE SCOPE

It is possible to create a location feature with automation, meaning that local news would change when the user moves from one city to another. By using more effective methods to read complete articles, offline reading can be enhanced. Data quality testing is necessary. If an API cannot connect to a specific article source, it returns a null value, which can interfere with JSON parsing.

12. APPENDIX

SOURCE CODE :

main.py

```
from app import app


if __name__ == "__main__":
    app.run()
```

__init__.py

```
from flask import Flask


app = Flask(__name__)


from app import views
```

views.py

```
from app import app
from flask import render_template, redirect
from flask import url_for
from flask import request
from .request import businessArticles, entArticles, get_news_source,
healthArticles, publishedArticles, randomArticles, scienceArticles,
sportArticles, techArticles, topHeadlines
```

```python
import ibm_db

import re

from sendgrid import SendGridAPIClient

from sendgrid.helpers.mail import Mail


app.secret_key = 'a'

conn = ibm_db.connect("DATABASE=bludb;HOSTNAME=19af6446-6171-4641-8aba-
9dcff8e1b6ff.c1ogj3sd0tgtu0lqde00.databases.appdomain.cloud;PORT=30699;SECURIT
Y=SSL;SSLServerCertificate=DigiCertGlobalRootCA.crt;UID=vdw12720;PWD=2C3yBJCDv
rFURLPQ","","")


@app.route('/', methods=['GET', 'POST'])
def login():

    if request.method == 'POST':

        # getting user data

        email = request.form.get('email')

        password = request.form.get('password')

        sql_check_query = "SELECT * FROM user WHERE email = ?"

        stmt = ibm_db.prepare(conn, sql_check_query)

        ibm_db.bind_param(stmt, 1, email)

        ibm_db.execute(stmt)

        account = ibm_db.fetch_assoc(stmt)

        print(account)

        if account:

            # email id exists

            # checking if the password is correct

            if not account['PASSWORD'] == password:

                flash('Invalid password', category='error')


            else:

                # user entered the correct password

                # redirecting the user to the dashboard
```

```
                session['user_id'] = account['EMAIL']
                return redirect(url_for('home'))

        else:
            # email id does not exist in the database
            flash('Email invalid... Try Again', category='error')

        return render_template('auth/login.html')

    return render_template('auth/login.html')
    # return render_template('login.html')

@app.route('/register', methods=['GET', 'POST'])
def register():
    if request.method == 'POST':
        # getting user data
        email = request.form.get('email')
        password = request.form.get('password')
        # checking: user already exists or not
        sql_check_query = "SELECT * FROM user WHERE email = ?"
        stmt = ibm_db.prepare(conn, sql_check_query)
        ibm_db.bind_param(stmt, 1, email)
        ibm_db.execute(stmt)

        account = ibm_db.fetch_assoc(stmt)
        # email id does not exist in the database
        if not account:
            # inserting the data into the database
            sql_insert_query = "INSERT INTO user VALUES (?, ?)"
            stmt = ibm_db.prepare(conn, sql_insert_query)
            ibm_db.bind_param(stmt, 1, email)
```

```
            ibm_db.bind_param(stmt, 2, password)
            ibm_db.execute(stmt)

            # user data inserted into the database
            # redirecting to login page
            flash('User created successfully! Please Login',
category='success')
            return redirect('/')

        else:
            flash('Email id already exists! Try another one',
category='error')

        return render_template('auth/register.html')

    return render_template('auth/register.html')
    # return render_template('register.html')

@app.route('/home')
def home():
    articles = publishedArticles()

    return  render_template('home.html', articles = articles)

@app.route('/headlines')
def headlines():
    headlines = topHeadlines()

    return  render_template('headlines.html', headlines = headlines)

@app.route('/articles')
def articles():
```

```
    random = randomArticles()

    return  render_template('articles.html', random = random)

@app.route('/sources')
def sources():
    newsSource = get_news_source()

    return  render_template('sources.html', newsSource = newsSource)

@app.route('/category/business')
def business():
    sources = businessArticles()

    return  render_template('business.html', sources = sources)

@app.route('/category/tech')
def tech():
    sources = techArticles()

    return  render_template('tech.html', sources = sources)

@app.route('/category/entertainment')
def entertainment():
    sources = entArticles()

    return  render_template('entertainment.html', sources = sources)

@app.route('/category/science')
def science():
    sources = scienceArticles()
```

```
    return  render_template('science.html', sources = sources)

@app.route('/category/sports')
def sports():
    sources = sportArticles()

    return  render_template('sport.html', sources = sources)

@app.route('/category/health')
def health():
    sources = healthArticles()

    return  render_template('health.html', sources = sources)
```

request.py

```
from .models import Articles
from .models import Sources
from newsapi import NewsApiClient
from .config import Config
import urllib.request,json

api_key=None
base_url=None
base_url_for_everything=None
base_url_top_headlines=None
base_source_list=None

def publishedArticles():
```

```
    newsapi = NewsApiClient(api_key= Config.API_KEY)


    get_articles = newsapi.get_everything(sources= 'cnn, reuters, cnbc, the-
verge, gizmodo, the-next-web, techradar, recode, ars-technica')


    all_articles = get_articles['articles']


    articles_results = []


    source = []
    title = []
    desc = []
    author = []
    img = []
    p_date = []
    url = []


    for i in range(len(all_articles)):
        article = all_articles[i]


        source.append(article['source'])
        title.append(article['title'])
        desc.append(article['description'])
        author.append(article['author'])
        img.append(article['urlToImage'])
        p_date.append(article['publishedAt'])
        url.append(article['url'])


        article_object = Articles(source, title, desc, author, img, p_date,
url)
```

```
        articles_results.append(article_object)


        contents = zip(source, title, desc, author, img, p_date, url)


    return  contents


def topHeadlines():
    newsapi = NewsApiClient(api_key= Config.API_KEY)


    top_headlines = newsapi.get_top_headlines(sources= 'cnn, reuters, cnbc,
techcrunch, the-verge, gizmodo, the-next-web, techradar, recode, ars-
technica')


    all_headlines = top_headlines['articles']


    articles_results = []


    source = []
    title = []
    desc = []
    author = []
    img = []
    p_date = []
    url = []


    for i in range(len(all_headlines)):
        headline = all_headlines[i]


        source.append(headline['source'])
        title.append(headline['title'])
        desc.append(headline['description'])
```

```
        author.append(headline['author'])
        img.append(headline['urlToImage'])
        p_date.append(headline['publishedAt'])
        url.append(headline['url'])

        article_object = Articles(source, title, desc, author, img, p_date,
url)

        articles_results.append(article_object)

        contents = zip(source, title, desc, author, img, p_date, url)

    return  contents

def randomArticles():
    newsapi = NewsApiClient(api_key= Config.API_KEY)

    random_articles = newsapi.get_everything(sources= 'the-verge, gizmodo,
the-next-web, recode, ars-technica')

    all_articles = random_articles['articles']

    articles_results = []

    source = []
    title = []
    desc = []
    author = []
    img = []
    p_date = []
    url = []
```

```
    for i in range(len(all_articles)):
        article = all_articles[i]

        source.append(article['source'])
        title.append(article['title'])
        desc.append(article['description'])
        author.append(article['author'])
        img.append(article['urlToImage'])
        p_date.append(article['publishedAt'])
        url.append(article['url'])

        article_object = Articles(source, title, desc, author, img, p_date,
url)

        articles_results.append(article_object)

        contents = zip(source, title, desc, author, img, p_date, url)

    return  contents

def businessArticles():
    newsapi = NewsApiClient(api_key= Config.API_KEY)

    business_articles = newsapi.get_top_headlines(category='business')

    all_articles = business_articles['articles']

    business_articles_results = []

    source = []
```

```
    title = []
    desc = []
    author = []
    img = []
    p_date = []
    url = []

    for i in range(len(all_articles)):
        article = all_articles[i]

        source.append(article['source'])
        title.append(article['title'])
        desc.append(article['description'])
        author.append(article['author'])
        img.append(article['urlToImage'])
        p_date.append(article['publishedAt'])
        url.append(article['url'])

        article_object = Articles(source, title, desc, author, img, p_date,
url)

        business_articles_results.append(article_object)

        contents = zip(source, title, desc, author, img, p_date, url)

    return  contents

def techArticles():
    newsapi = NewsApiClient(api_key= Config.API_KEY)

    tech_articles = newsapi.get_top_headlines(category='technology')
```

```
    all_articles = tech_articles['articles']

    tech_articles_results = []

    source = []
    title = []
    desc = []
    author = []
    img = []
    p_date = []
    url = []

    for i in range(len(all_articles)):
        article = all_articles[i]

        source.append(article['source'])
        title.append(article['title'])
        desc.append(article['description'])
        author.append(article['author'])
        img.append(article['urlToImage'])
        p_date.append(article['publishedAt'])
        url.append(article['url'])

        article_object = Articles(source, title, desc, author, img, p_date,
url)

        tech_articles_results.append(article_object)

        contents = zip(source, title, desc, author, img, p_date, url)
```

```
    return  contents


def entArticles():
    newsapi = NewsApiClient(api_key= Config.API_KEY)

    ent_articles = newsapi.get_top_headlines(category='entertainment')

    all_articles = ent_articles['articles']

    ent_articles_results = []

    source = []
    title = []
    desc = []
    author = []
    img = []
    p_date = []
    url = []

    for i in range(len(all_articles)):
        article = all_articles[i]

        source.append(article['source'])
        title.append(article['title'])
        desc.append(article['description'])
        author.append(article['author'])
        img.append(article['urlToImage'])
        p_date.append(article['publishedAt'])
        url.append(article['url'])
```

```
        article_object = Articles(source, title, desc, author, img, p_date,
url)


        ent_articles_results.append(article_object)


        contents = zip(source, title, desc, author, img, p_date, url)


    return  contents


def scienceArticles():
    newsapi = NewsApiClient(api_key= Config.API_KEY)


    science_articles = newsapi.get_top_headlines(category='science')


    all_articles = science_articles['articles']


    science_articles_results = []


    source = []
    title = []
    desc = []
    author = []
    img = []
    p_date = []
    url = []


    for i in range(len(all_articles)):
        article = all_articles[i]


        source.append(article['source'])
        title.append(article['title'])
```

```
        desc.append(article['description'])
        author.append(article['author'])
        img.append(article['urlToImage'])
        p_date.append(article['publishedAt'])
        url.append(article['url'])

        article_object = Articles(source, title, desc, author, img, p_date,
url)

        science_articles_results.append(article_object)

        contents = zip(source, title, desc, author, img, p_date, url)

    return  contents

def sportArticles():
    newsapi = NewsApiClient(api_key= Config.API_KEY)

    sport_articles = newsapi.get_top_headlines(category='sports')

    all_articles = sport_articles['articles']

    sport_articles_results = []

    source = []
    title = []
    desc = []
    author = []
    img = []
    p_date = []
    url = []
```

```
    for i in range(len(all_articles)):
        article = all_articles[i]

        source.append(article['source'])
        title.append(article['title'])
        desc.append(article['description'])
        author.append(article['author'])
        img.append(article['urlToImage'])
        p_date.append(article['publishedAt'])
        url.append(article['url'])

        article_object = Articles(source, title, desc, author, img, p_date,
url)

        sport_articles_results.append(article_object)

        contents = zip(source, title, desc, author, img, p_date, url)

    return  contents

def healthArticles():
    newsapi = NewsApiClient(api_key= Config.API_KEY)

    health_articles = newsapi.get_top_headlines(category='health')

    all_articles = health_articles['articles']

    health_articles_results = []

    source = []
```

```
    title = []
    desc = []
    author = []
    img = []
    p_date = []
    url = []

    for i in range(len(all_articles)):
        article = all_articles[i]

        source.append(article['source'])
        title.append(article['title'])
        desc.append(article['description'])
        author.append(article['author'])
        img.append(article['urlToImage'])
        p_date.append(article['publishedAt'])
        url.append(article['url'])

        article_object = Articles(source, title, desc, author, img, p_date,
url)

        health_articles_results.append(article_object)

        contents = zip(source, title, desc, author, img, p_date, url)

    return  contents

def get_news_source():
  '''
  Function that gets the json response to our url request
  '''
```

```
  get_news_source_url = 'https://newsapi.org/v2/sources?apiKey=' +
Config.API_KEY

  with urllib.request.urlopen(get_news_source_url) as url:

    get_news_source_data = url.read()

    get_news_source_response = json.loads(get_news_source_data)


    news_source_results = None


    if get_news_source_response['sources']:

      news_source_results_list = get_news_source_response['sources']

      news_source_results = process_sources(news_source_results_list)


  return news_source_results


def process_sources(source_list):

  '''

  function that process the news articles and transform them to a list of
objects

  '''

  news_source_result = []

  for news_source_item in source_list:

    name = news_source_item.get('name')

    description = news_source_item.get('description')

    url = news_source_item.get('url')


    if name:

      news_source_object = Sources(name, description,url)

      news_source_result.append(news_source_object)

  return news_source_result
```

models.py

```
class Sources:
    def __init__(self, name, description, url):
        self.name=name,
        self.description=description
        self.url=url

class Articles:
    '''Define article model'''
    def __init__(self, source, author, title, description, url, urlToImage,
publishedAt):
        self.source = source
        self.author = author
        self.title = title
        self.description = description
        self.url = url
        self.urlToImage = urlToImage
        self.publishedAt = publishedAt
```

config.py

```
class Config:

    NEWS_BASE_URL_SOURCES = 'https://newsapi.org/v2/top-
headlines/sources?apiKey={}'
    NEWS_BASE_EVERYTHING_URL =
'https://newsapi.org/v2/everything?domains={}&apiKey={}'
    NEWS_BASE_HEADLINES_URL = 'https://newsapi.org/v2/top-
headlines?country=us&apiKey={}'
    NEWS_BASE_SOURCE = 'https://newsapi.org/v2/top-
headlines?sources={}&apiKey={}'
    API_KEY = "12d02fd71ab3406d9ba3b36454e7f092"

class ProdConfig(Config):
```

```
    pass


class DevConfig(Config):

    DEBUG = True


config_options= {
    'development': DevConfig,

    'production': ProdConfig

}
```

GITHUB LINK

https://github.com/IBM-EPBL/IBM-Project-51210-1660975785