NEWS TRACKER APPPLICATION
USING CLOUD

A Project report submitted in partial fulfilment of 7ᵗʰ semester in degree of

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IN

ELECTRONICS AND COMMMUNICATION ENGINEERING
Submitted by

Team ID: PNT2022TMID19794

TEAM MEMBERS :

RAGURAM S V   - 732219EC076
MADAVAN K   - 732219EC055
SRIDHAR S   - 732219EC087
MONISH KUMAR N - 732219EC059

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

NANDHA ENGINEERING COLLEGE, ERODE-52
(AUTONOMOUS)

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NANDHA ENGINEERING COLLEGE, ERODE-52
(AUTONOMOUS)

BONAFIDE CERTIFICATE

Certified that this project report ”**NEWS TRACKER APPLICATION”** is the bonafide record work done by **Mr RAGURAM SV**(732219EC076), **Mr MADAVAN K** (732219EC055), **Ms SRIDHAR S** (732219EC087), **Mr MONISH KUMAR N** (732219EC059) for **IBM-NALAIYATHIRAN** in **VII** semester of **B.E.,** degree course **in Electronics And Communication Engineering** branch during the academic year of 2022 - 2023.

Staff-In charge   **Evaluator**
 Dr.D.ARULANANTHAM   **MS.P.KOKILA**

Head of the Department
Dr.S.KAVITHA

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RAGURAM S V
MADAVAN K
SRIDHAR S
MONISH KUMAR N

ABSTRACT

As world's technology is rapidly growing we have fast connection and network to instantly connect to other person. Day to day use in mobile, tablets and laptop is increasing, most of the people already have this facilities. In this fast and information oriented world we need to stay updated with every incidents and news too. This News app is android mobile application where user have access to latest news from 120+ newspapers from 50+ countries. The main focus of this application is to connect news articles from all around the world and deliver it to user as fast as possible in best visualize way.

TABLE OF FIGURES

News Tracker Application

1.   INTRODUCTION

This app is a news application. This application will show the news about the world. This is better than old conventional newspapers as you can see news anytime and anywhere now. This will also have live updates. This app will have some other features like adding your own news as an editor and people can see your published news too.

1.1 Project overview

The purpose of the project is to develop an application which will display news articles and videos verified and approved at backend .User can browse news articles and videos through various categories. App will enable user to view news details, images, and video .Users can also bookmark any news article/video for future use.The application will have three type of user's at backend one will be admin manager with having full access to backend features including user and content management. Whereas the other two users will be reporters and editors will have limited access to backend features.The reporters will be creating news articles and videos on the other hand editors will have responsibility to approve and publish the articles and videos added by reporters. Both users will be added to the system by admin.

1.2 Purpose

In this fast moving world where people find little time to spend with their own family, it is difficult to find time to read newspaper and stay updated with the current affairs. Reading newspaper might sometimes be time taking considering the size of the article. Sometimes people give the article a skip due to lethargy if it is too long. Information through listening and visuals is quickly perceived compared to reading. To make things easier, the NewsApp andoid application can be used to scan the headlines from the newspaper and fetch relevant videos from the world wide web.

2.LITERATURE SURVEY

2.1 Existing problem

we often feel we need more than 24 hrs. a day to cope up with everything we have in our schedule. Well, that's not possible but reducing the time by changing the conventional method of reading news can help.

2.2 <u>References</u>

Like articles, websites, blogs.

https://techvidvan.com/tutorials/android-news-app-project-source-code/

https://www.ripublication.com/

2.3 <u>Problem Statement Definition</u>

- The manual system of newspaper involves all the clerical work, which is a cumbersome and complicated job. In today's fast life it is difficult for users to get news at their move.

- The user needs a way to organize the news on daily basis so that he can cope up with daily events inhis tight schedule.

- The user wants to read news only about particular topics so that he can be informed about his interest.

- The user wants to get informed from only certified news outlets .

- The user needs a way to search about the news on topics he wants to.

- The user wants to know the news about his surrounding using GPS location.

3. IDEATION & PROPOSED SOLUTION

3.1 Empathy Map Canvas
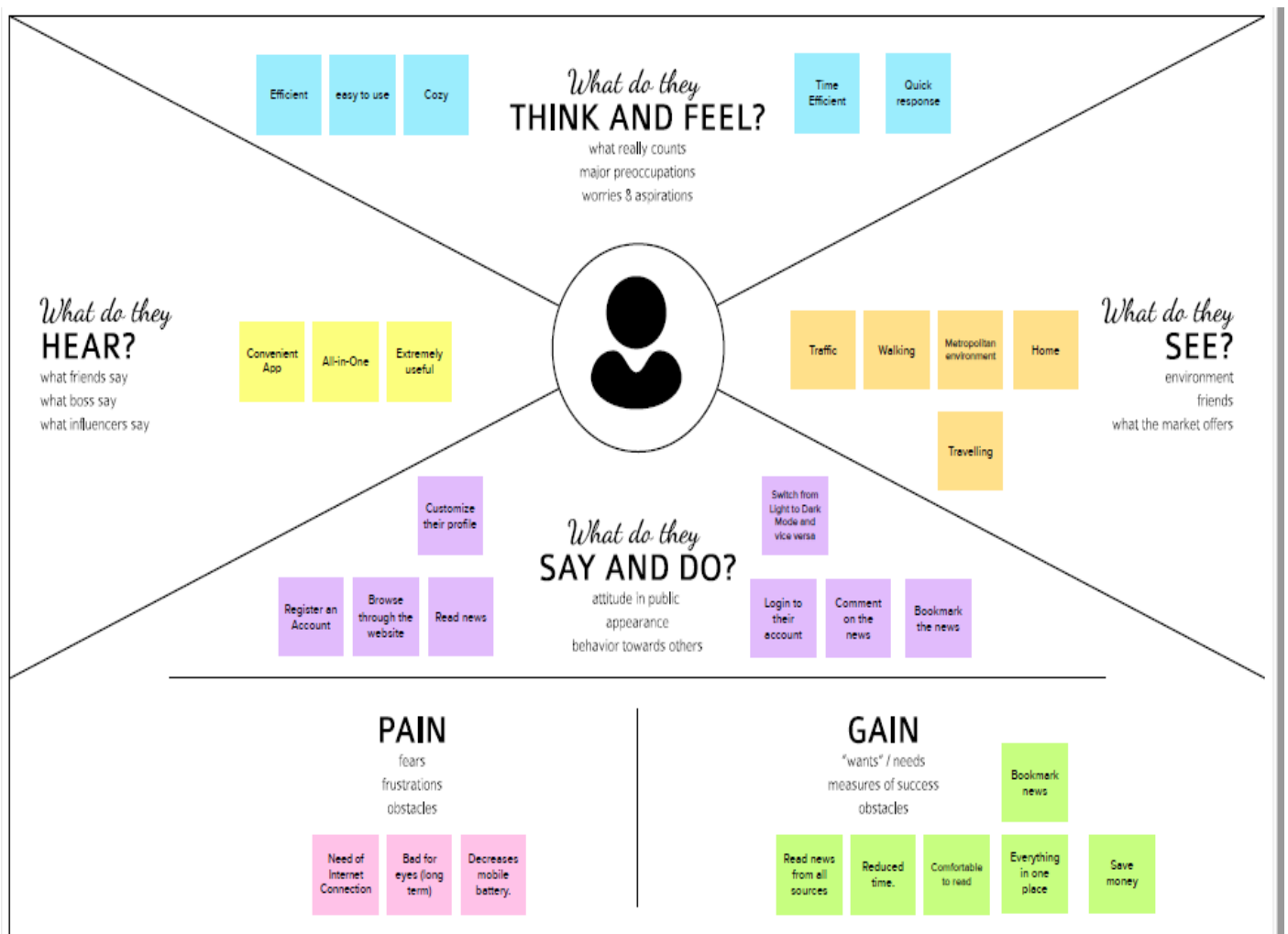
3.2 Ideation & Brainstorming

RAGURAM S V

- Keep the news relevant and short
- Customisable profile
- Bookmark news
- Very little resource usage
- Deliver news, according to the persons internet
- Straight forward sigh up process

MADAVAN K

- All in one place
- Syndicate your content
- Focus on lead
- Improved On-Time Performance
- Track how often user visit area
- Weather updates

SRIDHAR S

- Its Save user Time
- Alternate communication Channel
- Increases Productivity
- Competitive
- Create better and more targeted content
- Browsing with keyword on the web

MONISH KUMAR N

- Identify the bloggers and influencers
- Market trends tracking
- Competitor Analysis
- Use only trusted sources
- Receive only the information you need
- Curated and focused

3.3 Proposed Solution

S.NO	PARAMETERS	DESCRIPTION
1.	Problem statement (problems to be solved	The user needs a way to get relevant news based on his choices so that the user does not have to spend a lot of time on searching news. News is filled with ads and spams annoys and irritates the user and affects the user experience.
2.	Idea/solution description	A cloud-based web application which enables the user to get the news as per their interests, choices andlocation. News will be filtered as per the user's wish and it will be displayed to the user.
3.	Novelty/Uniqueness	This news tracker has features that enables the user to view news about crimes and health updates happening in and around their location. This will be given the most priority as it is important to every person to be aware of recent happenings. The tracker app does not have annoying ads.
4.	Social Impact/Customer satisfaction	The user will not have to spend a lot of time in searching for the relevant news. The customer will be finally able to view news without ads. Since we are using the News API, the news will be reliable and accurate. The customer can be aware of recent happenings.
5.	Business Model (Revenue)	The model will generate revenue through offering few premium features to user. The features include seeing stories from the user's favourite publishers, regional news, few regionallanguages. The default language will be English.

6.	Scalability of the solution	Since the web application is deployed on IBM cloud, it can handle multiple users at a time. The user will go through a seamless experience and it enables them to view the news according to their interests and choices. Users from all age category can use the application and the news can also be filtered according to their age.

3.3 Problem Solution fit

1. CUSTOMER SEGMENT(S) — CS

From young people to old people

From working professional to jobless person

From poor to rich

From village people to city people

Every one reads news now-a-days.

6. CUSTOMER CONSTRAINTS — CC

No network, Provide Download option

No well organized content

No related and interesting and educating content

Click Bait(Topic and content are not related)

Annoying user interface

No customization option

5. AVAILABLE SOLUTIONS — AS

User can customize what content to read and can search contents

Chat bot that solves user queries

Providing quick access to favorite topic

User friendly interface, avoiding misleading ads

Prioritize news according to user interest and location.

2. JOBS-TO-BE-DONE/ PROBLEMS — J&P

Reading unwanted and irrelevant and repeated content

Bad user interface

Searching related news

Misleading Ads and unorganized contents

user unable to customize news content

Using internet for previously watched content

Forced notifications and ads

Providing dark mode

9. PROBLEM ROOTCAUSE — RC

No user customization. This leads to unorganized and uninterested news.

No search bars leads frustration to search contents

No service to complain(Chat bot solves queries.)

No download option user may not have internet.

Light mode may not good for eye.

User interface needs to be attractive and easy to use or it make user to lose interest on app

Provide notification which related to user wish

7. BEHAVIOUR — BE

User searching news and wasting time on it

User gets frustrated while using bad user interface

Misleading ads or topics wasting user time and confuse user

User need all types of content but needs their favorite content to be prioritized.

User may feel stressed eye.

User may avoid notification if it is not related.

3. TRIGGERS — TR

People asking about latest news

When things goes viral

When need report about weather, market, sports and etc

4. EMOTIONS: BEFORE/ AFTER — EM

Feels waste of time to read irrelevant content

Feels frustrated about misleading news

Feels getting lack of information from contents

10. YOUR SOLUTION — SL

Providing search bars and content customization tiles

Enabling download options and save or pin post options

Providing Chat bot

Providing Dark Mode

Providing like, comments, tag, polling options to develop to develop user interface further more.

User can control their notification. They can select content which they need to notified.

8. CHANNELS of BEHAVIOUR — CH

8.1 ONLINE

User can customize their news according to their interest.

User can interact with community feed and user can report any queries

8.2 OFFLINE

User can save post and then read it for later

User can download post and can share it to other people.

4. REQUIREMENT ANALYSIS

4.1 Functional requirement

Following are the functional requirements of the proposed solution.

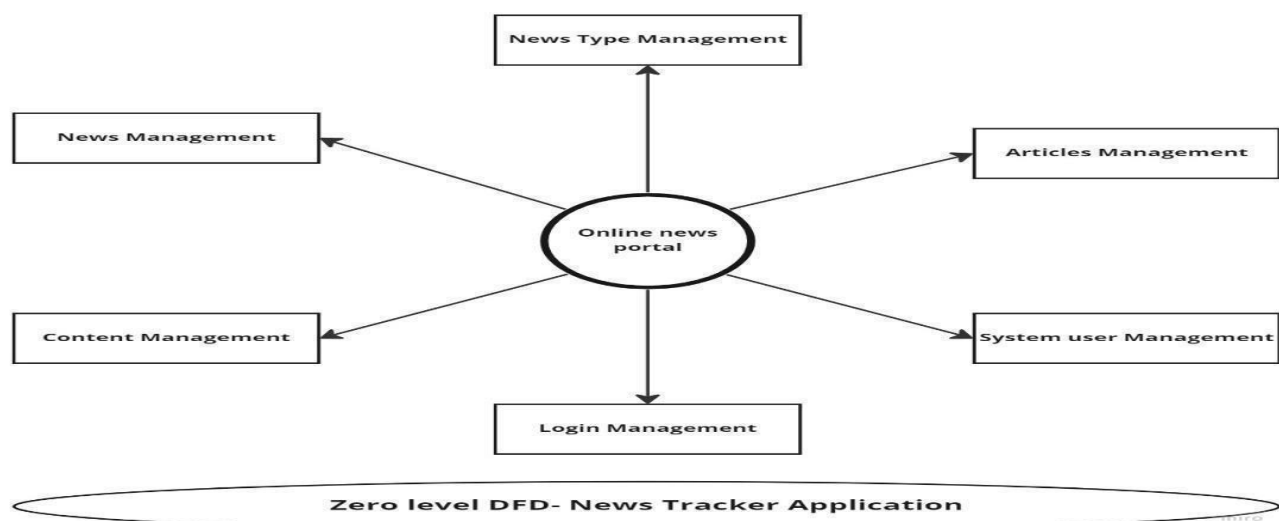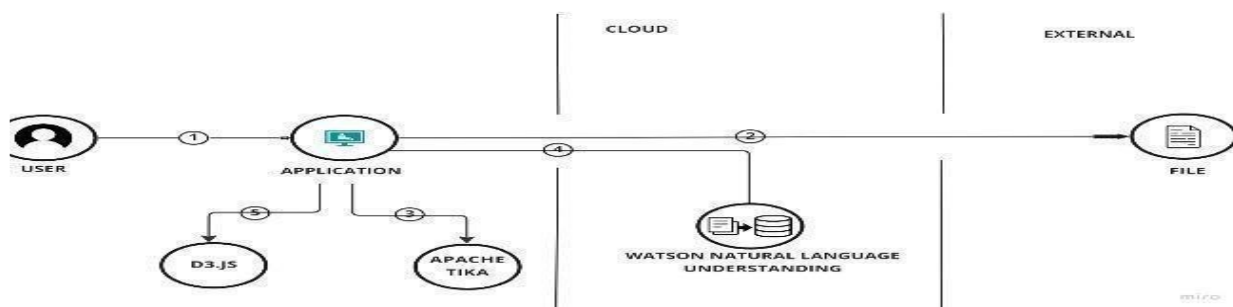| FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through online application
		Registration through Gmail
		Registration through website
FR-2	User Confirmation	Confirmation via Email
		Confirmation via OTP
FR-3	login	Login through browser directly by entering username and password
		Login through email
FR-4	User account details	Updating personal data of his/her Profile
FR-5	User interaction	View the related news by subscripted or requested page
FR-6	Logout	Save last visit contents and Sign out

4.2 Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	This app is easy of use interface which is handy and End user can receive push notification.So that users would not want to miss the latest news.
NFR-2	**Security**	This app ensures user's data should be secure and must not be leaked to an outsider.How well are the system and its data protected against attacks
NFR-3	**Reliability**	How often does the system experience critical failures? How much time does it take to fix the issue when it arises ?Check the percentage of the probability of failure, or failure rate, to determine the reliability of a system.
NFR-4	**Performance**	Explains how long a user must wait before the target operation happens (the page renders.) given the overall number of users at the moment. But it's not always like that. Performance requirements may describe background processes invisible to user

| NFR-5 | **Availability** | Availability describes how likely the system is accessible to a user at a given point in time. |
| NFR-6 | **Scalability** | This app defines scalability is the ability of the application to handle an increase in workload without performance degradion, or its ability to quickly enlarge. |

5. <u>PROJECT DESIGN</u>

5.1 Data Flow Diagrams

Zero level DFD- News Tracker Application

5.2   Solution & Technical Architecture
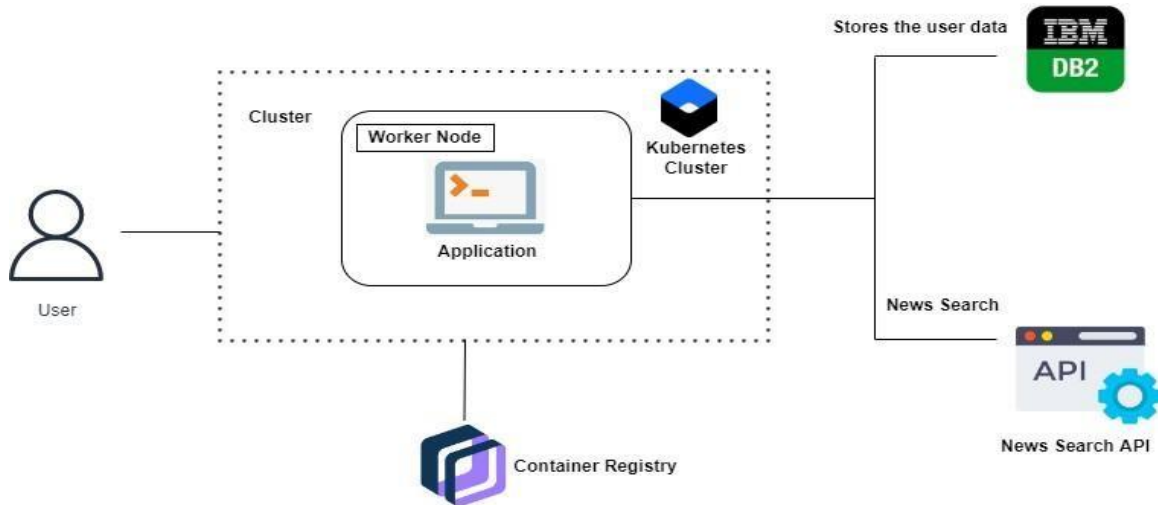
5.3 User Stories

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	10	High	MONISH KUMAR N RAGURAM S V MADAVAN K SRIDHAR S
Sprint-1		USN-2	As a user, I will receive confirmation email once I have registered for the application	10	High	MONISH KUMAR N RAGURAM S V MADAVAN K SRIDHAR S
Sprint-1		USN-3	As a user, I can register for the application through Gmail	10	Medium	MONISH KUMAR N RAGURAM S V
Sprint-2	Dashboard	USN-4	User interface design and implementation of cards	10	High	MONISH KUMAR N RAGURAM S V MADAVAN K SRIDHAR S
Sprint-2	Home page	USN -5	Interface for news card in brief with headline, related image and news contributor info	10	High	MONISH KUMAR N RAGURAM S V MADAVAN K SRIDHAR S
Sprint-2		USN-6	Search related news	10	Medium	RAGURAM S V MADAVAN K
Sprint-3	News card description	USN-7	Constitutes location, headline, time ago, news contributor info	10	Medium	MONISH KUMAR N RAGURAM S V MADAVAN K SRIDHAR S
Sprint-3		USN-8	News card comments, share and Related cards	10	Low	RAGURAM S V MADAVAN K
Sprint-4	News card description	USN-9	News Contributor Profile and follow option	10	High	MONISH KUMAR N RAGURAM S V MADAVAN K SRIDHAR S
Sprint-4	Chat bot	USN-10	Watson chat bot implementation	10	Medium	MONISH KUMAR N RAGURAM S V MADAVAN K SRIDHAR S

6. PROJECT PLANNING & SCHEDULING

6.1 Sprint Planning & Estimation

TITLE	DESCRIPTION	DATE
Literature Survey & Information Gathering	Literature survey on selected project and gathering information by referring to the project'srelated technical papers, research publications, etc.	1 OCTOBER 2022
Prepare Empathy Map	Prepare an empathy map canvas to capture the user's pains & gains and prepare thelist of problem statements.	5 OCTOBER 2022
Ideation	To list by organizing brainstorming sessions and prioritize the top three ideas based on feasibility and importance.	8 OCTOBER 2022
Proposed Solution	To prepare the proposedsolution documents, which includes the novelty, feasibilityof ideas, business model, social impact, scalability of thesolution, etc.	10 OCTOBER 2022
Problem Solution Fit	Preparing the problem-solution fit document.	13 OCTOBER 2022
Solution Architecture	To prepare the solution architecture document	18 OCTOBER 2022
Customer Journey	Preparing the customer's journey map helps the customers understand the user interaction and experiences with the application from the beginning to the end.	21 OCTOBER 2022
Functional Requirement	Prepare the functional rrequirement document.	28 OCTOBER 2022
Data Flow Diagrams	Draw the data flow diagramsand submit them for review	25 OCTOBER 2022

Technology Architecture	Prepare a technicalarchitecture diagram.	31 OCTOBER 2022
Prepare Milestone & Activity List	Prepare the milestones andactivities of the project.	9 NOVEMBER 2022
Project Development – Delivery of Sprint-1, 2, 3 & 4	Develop and submit the developed code by testing itand having no errors.	24 OCTOBER 2022 to 19 NOVEMBER 2022

6.2 Sprint Delivery Schedule

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	10	High	MONISH KUMAR N RAGURAM S V MADAVAN K SRIDHAR S
Sprint-1		USN-2	As a user, I will receive confirmation email once I have registered for the application	10	High	MONISH KUMAR N RAGURAM S V MADAVAN K SRIDHAR S
Sprint-1		USN-3	As a user, I can register for the application through Gmail	10	Medium	MONISH KUMAR N RAGURAM S V
Sprint-2	Dashboard	USN-4	User interface design and implementation of cards	10	High	MONISH KUMAR N RAGURAM S V MADAVAN K SRIDHAR S
Sprint-2	Home page	USN -5	Interface for news card in brief with headline, related image and news contributor info	10	High	MONISH KUMAR N RAGURAM S V MADAVAN K SRIDHAR S
Sprint-2		USN-6	Search related news	10	Medium	RAGURAM S V MADAVAN K

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-3		USN-8	News card comments, share and Related cards	10	Low	RAGURAM S V MADAVAN K
Sprint-4	News card description	USN-9	News Contributor Profile and follow option	10	High	MONISH KUMAR N RAGURAM S V MADAVAN K SRIDHAR S
Sprint-4	Chat bot	USN-10	Watson chat bot implementation	10	Medium	MONISH KUMAR N RAGURAM S V MADAVAN K SRIDHAR S

6.3 REPORT FROM JIRA

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7. CODING & SOLUTIONING

```python
from flask import Flask, render_template,request,flash,redirect,url_for,session
from newsapi import NewsApiClient
import ibm_db
import requests
from flask_sqlalchemy import SQLAlchemy




app = Flask(__name__)
app.app_context().push()
```

```python
app.config['DEBUG'] = True
app.config['SQLALCHEMY_DATABASE_URI'] = 'sqlite:///weather.db'


db = SQLAlchemy(app)


class City(db.Model):
    id = db.Column(db.Integer, primary_key=True)
    name = db.Column(db.String(50), nullable=False)


app.secret_key='a'


connection = ibm_db.connect("DATABASE=bludb ; HOSTNAME=54a2f15b-5c0f-46df-8954-
7e38e612c2bd.c1ogj3sd0tgtu01qde00.databases.appdomain.cloud; PORT= 32733; SECURITY=SSL
SSLServerertificate=/Users/pradeep/PycharmProjects/Flask SQLite/certificate.crt;
UID=ssr73017; PWD=zQUhCA8HIIVl8nxT;",'','' )



@app.route('/')
def index():
    return render_template('index.html')



@app.route('/register', methods=['GET', 'POST'])
def register():
 if request.method == 'POST':
    try:
     username = request.form['username']
     mail  =  request.form['mail']
     contact = request.form['contact']
     password = request.form['password']
     query = "INSERT INTO USERS VALUES(?,?,?,?)"
     stmt = ibm_db.prepare(connection, query)
     ibm_db.bind_param(stmt, 1, username)
     ibm_db.bind_param(stmt, 2, mail)
     ibm_db.bind_param(stmt, 3, contact)
     ibm_db.bind_param(stmt, 4, password)
     ibm_db.execute(stmt)
     flash("Registered Successfully","success")
    except:
        flash("Error in Insert Operation", "danger")
    finally:
        return redirect(url_for("index"))
        con.close()
 return render_template('register.html')




@app.route('/login', methods=['GET', 'POST'])
def login():
 global userid
 if request.method == "POST":
    username = request.form['username']
    password = request.form['password']
    query = "SELECT * FROM USERS where username=? and password=?"
    stmt = ibm_db.prepare(connection, query)
    ibm_db.bind_param(stmt, 1, username)
    ibm_db.bind_param(stmt, 2, password)
    ibm_db.execute(stmt)
    account = ibm_db.fetch_assoc(stmt)
    if account:
        session['Loggedin'] = True
        session['id'] = account['USERNAME']
```

```python
            session['username'] = account['USERNAME']
            return redirect("/news")
    else:
        flash("Oops Username and Password Mismatch", "danger")
        return redirect(url_for("index"))


@app.route("/news")
def home():
    api_key = '25560f3cf53c433c9807c60595b373a6'

    newsapi = NewsApiClient(api_key=api_key)

    top_headlines = newsapi.get_top_headlines(sources="bbc-news")
    all_articles = newsapi.get_everything(sources="bbc-news")

    t_articles = top_headlines['articles']
    a_articles = all_articles['articles']

    news = []
    desc = []
    img = []
    p_date = []
    url = []

    for i in range(len(t_articles)):
        main_article = t_articles[i]

        news.append(main_article['title'])
        desc.append(main_article['description'])
        img.append(main_article['urlToImage'])
        p_date.append(main_article['publishedAt'])
        url.append(main_article['url'])

        contents = zip(news, desc, img, p_date, url)

    news_all = []
    desc_all = []
    img_all = []
    p_date_all = []
    url_all = []

    for j in range(len(a_articles)):
        main_all_articles = a_articles[j]

        news_all.append(main_all_articles['title'])
        desc_all.append(main_all_articles['description'])
        img_all.append(main_all_articles['urlToImage'])
        p_date_all.append(main_all_articles['publishedAt'])
        url_all.append(main_article['url'])

        all = zip(news_all, desc_all, img_all, p_date_all, url_all)

    return render_template('home.html', contents=contents, all=all)


@app.route('/weather', methods=['GET', 'POST'])
def weather():
    if request.method == 'POST':
        new_city = request.form.get('city')

        if new_city:
            new_city_obj = City(name=new_city)

            db.session.add(new_city_obj)
```

```python
            db.session.commit()

    cities = City.query.all()

    url = 
'http://api.openweathermap.org/data/2.5/weather?q={}&units=imperial&appid=2a78921b9bff
cab5e471564c6a553385'

    weather_data = []

    for city in cities:
        r = requests.get(url.format(city.name)).json()

        weather = {
            'city': city.name,
            'temperature': r['main']['temp'],
            'description': r['weather'][0]['description'],
            'icon': r['weather'][0]['icon'],
        }

        weather_data.append(weather)

    return render_template('weather.html', weather_data=weather_data)




@app.route('/logout')
def logout():
    session.clear()
    return redirect(url_for("index"))

if __name__ == '_main_':
    app.run(debug=True)
```

8. TESTING

8.1 Test Cases

Test case

Test case	feature	component	Test scenario	Expected result	Actual result	status	comments	bug	Executed by
LOGIN	Functional	Login page	Verify user can see the login in option	can visible	Yes visible	pass	successful	-	MONISH KUMAR N
Sign up	Functional	Register page	Verify user has the option to sign up	Can visible	Yes visible	pass	Successful	-	RAGURAM S,MADAVAN K
password mismatch checking	Functional	Login page	Verify user has entered correct password	verified	returned to actual page	pass	Successful	-	SRIDHARS, MADAVAN K

Fetch news	Functional	dash board	Verify user can get the news	News will be feed to the app	404 error	Fail	unsuccessful	App integeration problem	MONISH KUMAR N,SRIDHAR, RAGURAM SV
Types of news available in the fetch newspage	Functional	news page	Types of news available	Weather, Sport, Economy.	Hover buttons will be shown.	Yes	successful	-	MONISH KUMAR N

Result:

News tracker application using cloud is developed and executed at the level of completed progress .

10. **ADVANTAGES & DISADVANTAGES**

Advantages:-

- ✓ This app constitutes a good user interface which is appealing and much interesting and easy to use.
- ✓ Permit the users to share and display certain news on the social media.
- ✓ These apps provide the latest videos and coverages of news on the device.
- ✓ The user gets the details about the weather conditions with the applications

Disadvantages:-

- ✓ one needs to have internet connection in order to access the news
- ✓ Pop up advertisements and other advertisements which can appear anytime
- ✓ Website could crash if lots of people try accessing them for a major news story

11. **CONCLUSION**

The present system involves all the clerical work, which is a cumbersome and complicated job. In today's fast life it is difficult for users to get news at their move. So, this system can be of great help as anyone can read the news on the internet whenever they get time. We have demonstrated a method for monitoring users' news reading behaviour In the future we will further explore the design of adaptive interfaces, in order to be in a position to demonstrate a complete adaptive mobile news framework providing automatic personalisation of news apps.

12. **<u>FUTURE SCOPE</u>**

Location feature with automation can be implemented which means as user move from one city to other local news will change as per it. Offline Reading can be improve will more efficient way on full articles. Data quality check needed.

13. **APPENDIX**

GitHub

https://github.com/IBM-EPBL/IBM-Project-33948-1660229767