

PROJECT REPORT

TEAM ID	PNT2022TMID00368
PROJECT NAME	NEWS TRACKER APPLICATION
TEAM MEMBERS	Sophia Anjelica J, Tarunika V, Kavi Priyaa S, Karishma P

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1. INTRODUCTION

1.1 PROJECT OVERVIEW

News Tracker is a full stack web application which allows users to register along with their favorite topics, upon login the app displays the news based on the user's interest. The news displayed in the app is based on the New catcher API and Cricbuzz API from Rapid API site. A news-sharing app wants to help users find relevant and important news easily every day and also provide explicitly news from that users locality/region which may of help to the user.

1.2 PURPOSE

Enabling users to view news from anywhere at anytime. It also helps to reduce the time to get information about a specific topic. Also enables a person to get an updated news which may help Business people to make business related decisions quickly and correctly.

2. LITERATURE SURVEY

Breaking NEWS Detection and Tracking in Twitter:

Twitter has been used as one of the communication channels for spreading breaking news. We purpose a method to collect, group, rank and track breaking news in Twitter. Users can discover breaking news from the Twitter timeline. This provides a convenient way for people to follow breaking news and stay informed with real-time updates.

Android News App:

As world's technology is rapidly growing, we have fast connection and network to instantly connect to another person. Day to day use in mobile, tablets and laptop is increasing, most of the people already have these facilities. In this fast and information-oriented world we need to stay updated with every incident 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.

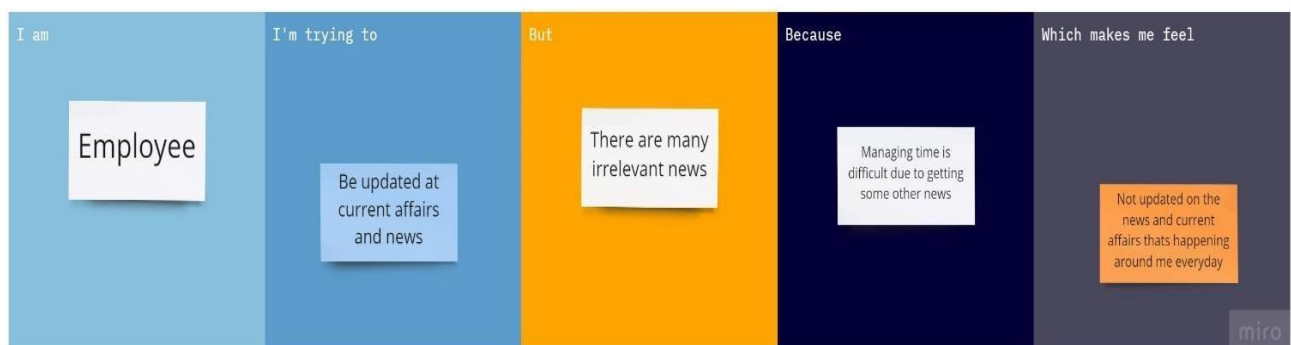
2.1 EXISTING SOLUTION

NewsBreak is a popular website to read ongoing and past news via the internet browsers. The website works by aggregating news from various sources and presents them in a likeable manner for the users to read it. The website also offers the ability for users to sign up to the so said website and record their progress, manage profiles, number of news read, bookmark news, commenting on news ends and so on.

2.2 REFERENCES

S.No	Paper Title	Author(s)	Month/ Year	Method/Implementation technique(s)	Resource Link
1	Exploring mobile news reading interactions for news app personalisation	Marios Constantinides, John Dowell, David Johnson, Sylvain Malacria	August, 2015	1. Identification of news reader types Interaction logging 2. and classification study Deployment and data collection Predicting News 3. reader types Adaptive UI	(PDF) Exploring mobile news reading interactions for news app personalisation (researchgate.net)
2	Detection and Tracking in News Articles	Sagar Patel, Sanket Suthar, Sandip Patel, Neha Patel	March, 2015	1. Preprocessing Tokenization 2. Stemming/Lemmatization Vector Space Model 3. Topic tracking	(PDF) Topic Detection and Tracking in News Articles (researchgate.net)
3	Following the Fed with a News Tracker	Michael William McCracken	January, 2012	The paper is not a technical paper but is essentially a statistical paper on how should one conclude whether the data have come in stronger, weaker	(PDF) Following the Fed with a News Tracker (researchgate.net)

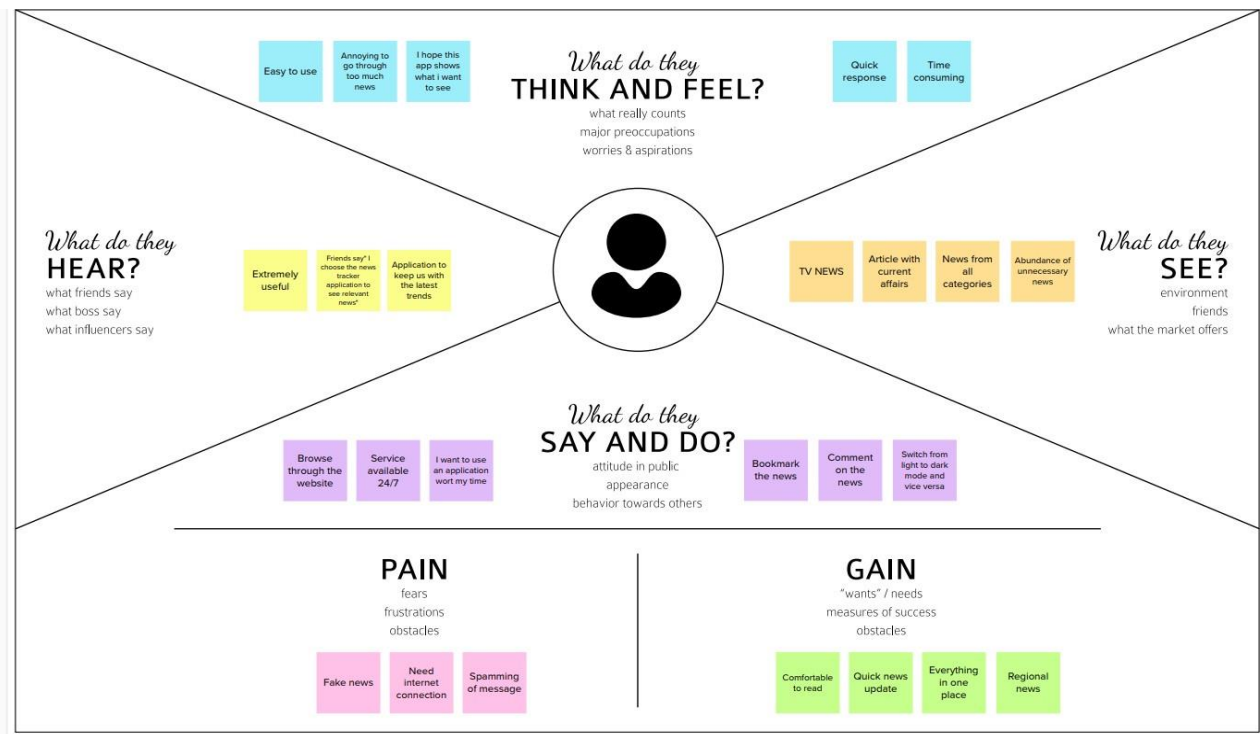
2.3 PROBLEM STATEMENT DEFINATION



Problem Statement (PS)	I am (Customer)	I'm trying to	But	Because	Which makes me feel
PS-1 24/7 Working people find it hard for reading the news	Monish is an Employee who wants to read newspaper, without any hassle while travelling because he doesn't want to carry the physical newspaper	I am looking for the easier method to read news.	I am unable to find the time to read news.	I am unable to find the time to read news.	I feel being not updated with the news and current affairs that revolving around me
PS-2 Finding the right content about specific news topics in single platform is challenging	Arun is an HR who want get updated in the company recruitments and business-related news in a single application or website.	I am looking for the right website or Application which update and notify me in every aspect.	I am unable to find the time to read news.	I am unable to find the time to read news.	I feel redirected to some other news which consumes a lot time by giving me irrelevant data

3.IDEATION AND PROPOSED PHASE

3.1 EMPATHY MAP



3.2 IDEATION AND BRAINSTORMING

Brainstorm & idea prioritization

Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

15 minutes to prepare
 1 hour to collaborate
 2-4 people recommended

[Share template feedback](#)

Before you collaborate

A little bit of preparation goes a long way with this session. Here's what you need to do to get going.

10 minutes

- Team gathering**
Define who should participate in the session and send an invite. Share relevant information in pre-work ahead.
- Set the goal**
Think about the problem you'll be focusing on solving in the brainstorming session.
- Learn how to use the facilitation tools**
Use the Facilitation Subpowers to run a happy and productive session.

[Open article](#)

Define your problem statement

What problem are you trying to solve? Frame your problem as a How Might We statement. This will be the focus of your brainstorm.

5 minutes

PROBLEM

To avoid inconsistency, irrelevant and irregular pattern of news feed and tell us what market news you're interested in and get a quick peek for the day

Key rules of brainstorming

To run an smooth and productive session

- Stay in topic
- Encourage wild ideas
- Defer judgment
- Listen to others
- Go for volume
- If possible, be visual

Brainstorm

Write down any ideas that come to mind that address your problem statement.

10 minutes

Sophia Anjelica J

Sign UP	Choice Based Result	Accurate results
Rapid API	Finding genuine news	Different language options
User friendly	Regular updates	IBM Cloud

Tarunika V

Keep the news relevant and short	All in one place	It saves user time
Identify the bloggers and influencers	Browsing with the keyword on the web	Weather updates
Delivery news according to person interest	Use only trusted sources	Increases Productivity

Kavi Priyaa

Bookmark news	Market trends tracking	Alternate communication channel
Short and single line heading	Search option	Notification alert
Competitor analysis	Health Tracking	Easy to access the news

Karishma P

Regional Reading	Faster data fetching	24/7 availability
Reduced spam notification	Simple UI	Flask Backend
Less Distracting	Better Security and Backup	No ads

Group ideas

Take turns sharing your ideas while clustering similar or related notes as you go. Once all sticky notes have been grouped, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you can break it up into smaller subgroups.

20 minutes

UI/ UX

Interactive UI	Lightweight	Reduced Spam notifications
Add to favourites	Engaging Cloud App	

Maintainability

Less complex code	Write maintainable code	Maintain Database
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Backend

Flask backend	User data privacy
Rapid API	IBM DB

App Features

No ads	Accurate results	Different language options
Choice based result	Different language options	Finding genuine news

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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

Importance

Feasibility

Regardless of their importance, which ideas are most feasible? (Number 1-5, from most to least feasible)

After you collaborate

You can export the mural as an image or pdf to share with members of your company who might find it helpful.

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Quick add-ons

- Share the mural**
Share a view link to the mural with collaborators to keep them in the loop about the outcomes of the session.
- Export the mural**
Export a copy of the mural as a PNG or PDF to attach to emails, include in slides, or save in your drive.

Keep moving forward

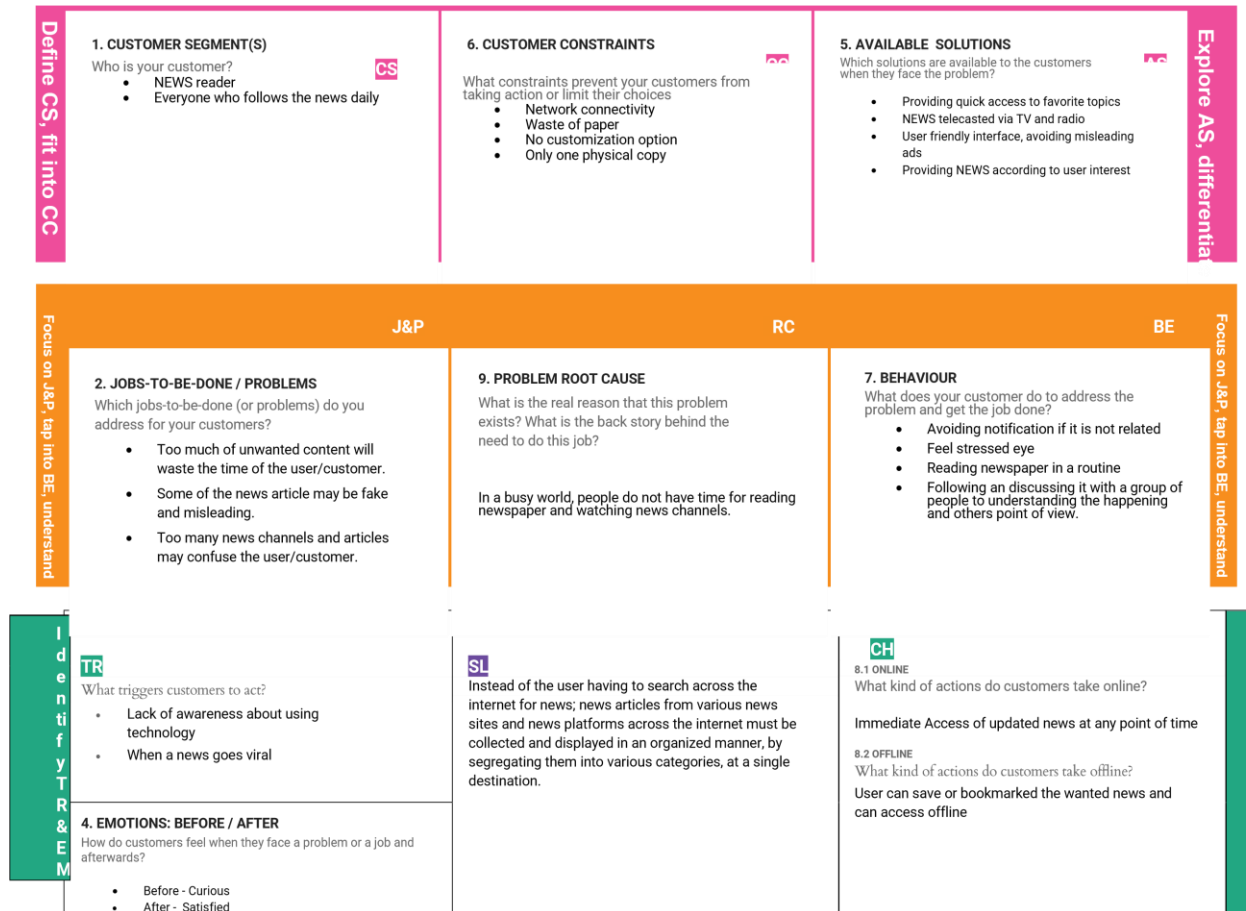
- Strategic blueprint**
Define the components of a new idea or strategy.
[Open the template](#)
- Customer experience journey map**
Understand customer needs, motivations, and obstacles for an experience.
[Open the template](#)
- Strengths, weaknesses, opportunities & threats**
Identify strengths, weaknesses, opportunities, and threats (SWOT) to develop a plan.
[Open the template](#)

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3.3 PROPOSED SOLUTION

Sr No.	Parameter	Description
1.	Problem Statement (Problem 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	<ul style="list-style-type: none">● Improve app speed and usage● Automatic speech recognition● User privacy and data security● Create own Wishlist● Authorized news● Compact with mobile platform
3.	Novelty / Uniqueness	This has features that enables the user to view news about the happenings 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 Model)	The revenue stream can be from the news channels and news sites whose news will be published in this application. Based on the number of users who view a particular news, the news channel that published that news article will have to pay a small amount as commission. <ul style="list-style-type: none">▪ Multiplatform Support▪ Design consistent experience
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.

3.4 PROBLEM SOLUTION FIT



4.REQUIREMENT ANALYSIS

4.1 FUNCTIONAL REQUIREMENTS

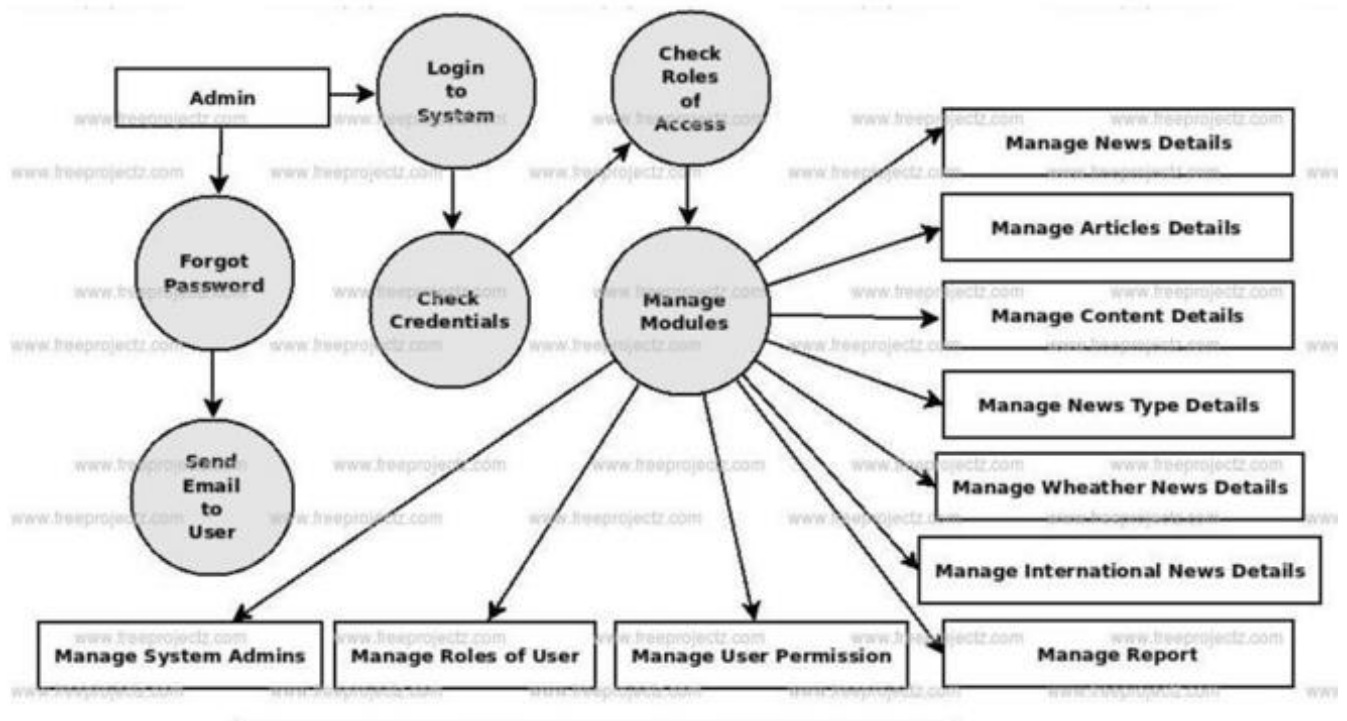
FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Installation	User can install the app from google play store, App store and from website.
FR-2	User Registration	Registration through Form Registration through Gmail Registration through Mobile number.
FR-3	User Confirmation	Confirmation via Email Confirmation via OTP
FR-4	User login	User should login the app with the User's name or email and password.
FR-5	User Information	User can include their information in preferred topics so that they could be recommended by the application.

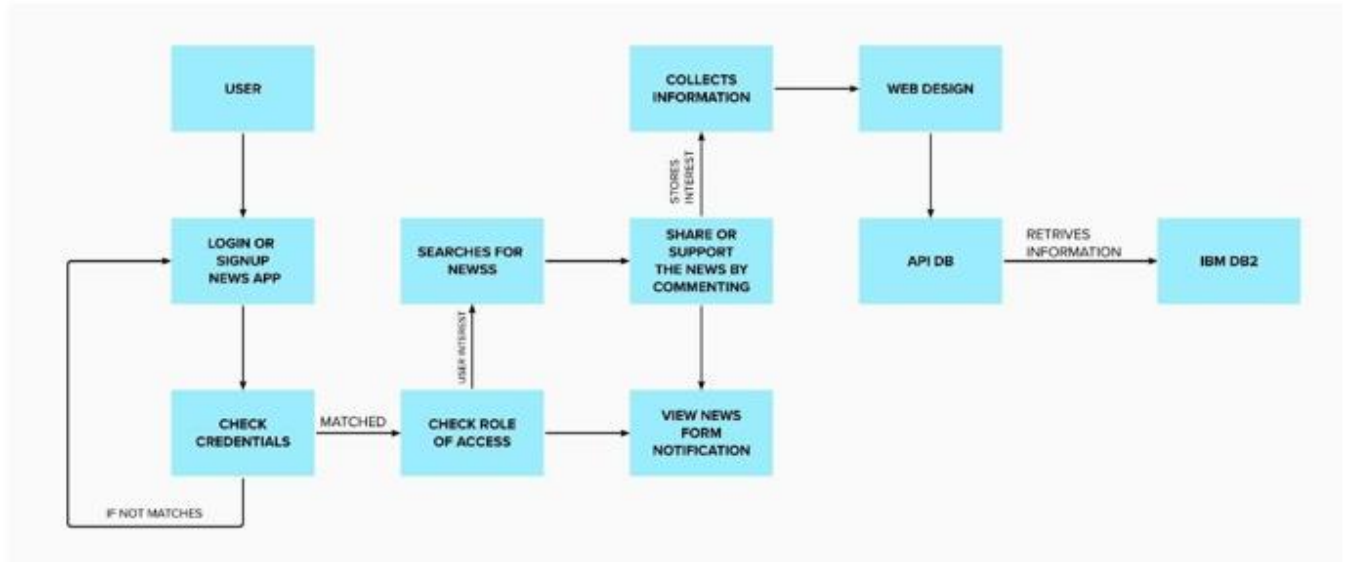
4.2 NON-FUNCTIONAL REQUIREMENTS

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	This app is user friendly app, where users can clear their queries with the chatbot.
NFR-2	Security	This app is secured app, where users information is encrypted properly.
NFR-3	Reliability	This app can be accessed anywhere and anytime. User can download the news offline.
NFR-4	Performance	The app is well tested and hence the performance of the app is great.
NFR-5	Availability	Chatbot is available in this app to rectify the queries of the users. Variety of news is provided by this app. More sub categories are available.

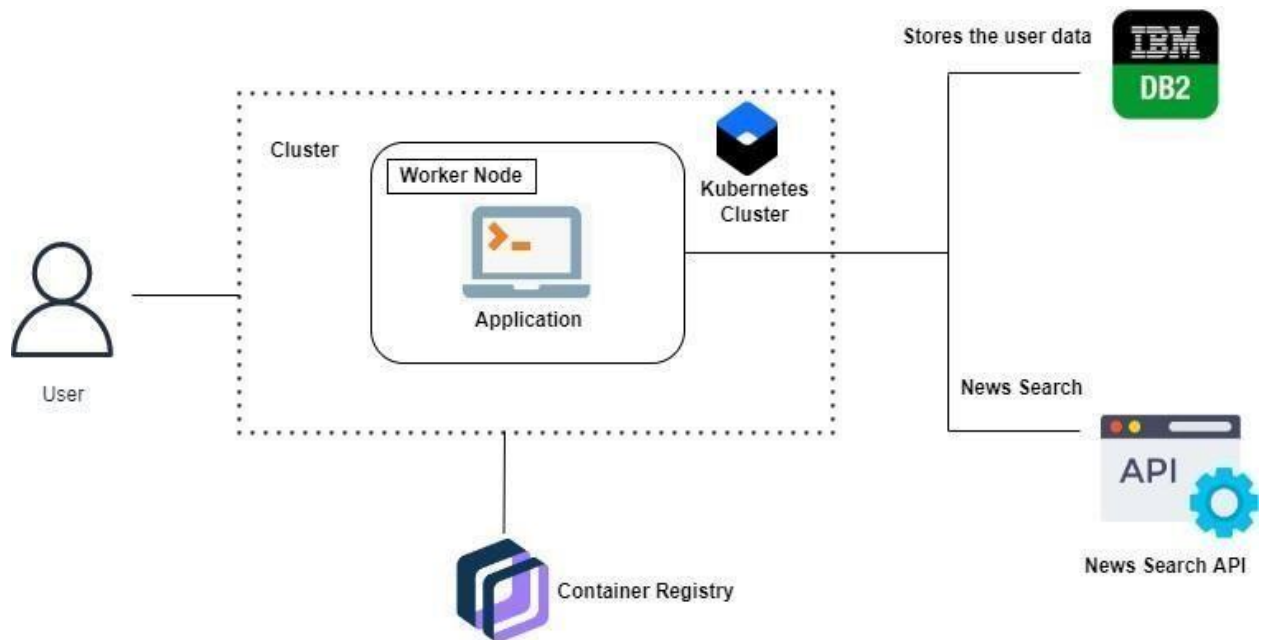
5.PROJECT DESIGN

5.1 DATA FLOW GRAPH





5.2 SOLUTION AND TECHNICAL ARCHITECTURE



5.3 USER STORIES

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria
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
		USN-2	As a user, I will receive confirmation email once I have registered for the application	I can receive confirmation email & click confirm
		USN-3	As a user, I can register for the application through Facebook	I can register & access the dashboard with Facebook Login
		USN-4	As a user, I can register for the application through Gmail	I can receive password to mail.
	Login	USN-5	As a user, I can log into the application by entering email & password	I can receive confirmation mail.
	Dashboard	USN-6	The news portal and shows the recent news as Breaking NEWS	I can Open and view the news portal.
Customer (Web user)	Search Bar	USN-7	User searches for news based on their own interest.	I can view the related news and can watch videos.
		USN-8	The news can be viewed that is appearing on the dashboard.	On the dashboard. I shall click on the news wanted and can open it.
Administrator	Server	USN-9	Provides correct news available from the database.	Provide the correct news from the database and fake news will be rejected
		USN-10	Provide live news with video and audio contents.	I can get the news in which I am interested.

6.PROJECT PLANNING AND SCHEDULING

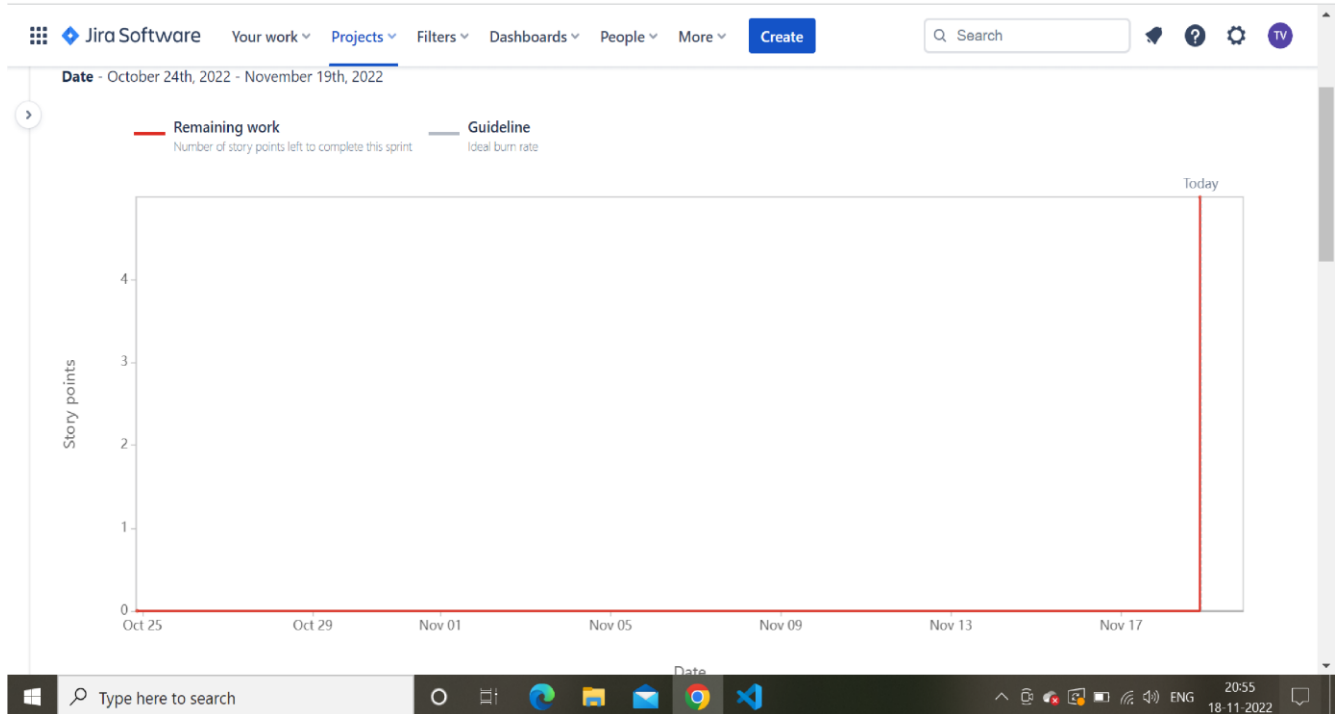
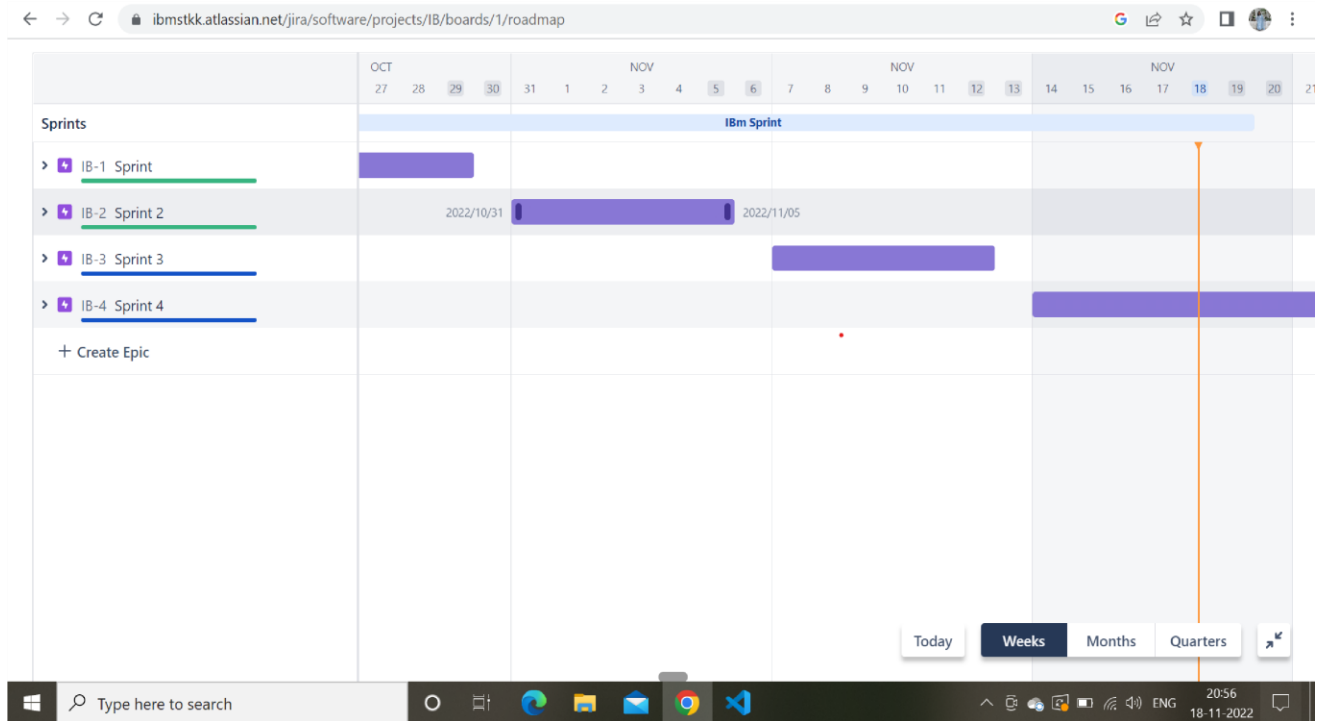
6.1 SPRINT PLANNING AND ESTIMATION

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.	7	High	SOPHIA ANJELICA
Sprint-1		USN-2	As a user, I will receive confirmation email once I have registered for the application	6	High	TARUNIKA
Sprint-1	Login	USN-3	As a user, I can log into the application by entering email & password.	7	High	KARISHMA
Sprint-2	Dashboard	USN-4	As a user I should be able to navigate and access all the features hassle free	10	High	KAVI PRIYAA
Sprint-2	Layout	USN-5	As a user I should be able to access the portal with different devices with the same comfort	10	High	SOPHIA ANJELICA
Sprint-3	Data Store and retrieval	USN-6	Get Data from API and store as JSON in DB2	15	High	TARUNIKA
Sprint-3		USN-7	Get bin data from API and store in DFS	5	Medium	KARISHMA
Sprint-4	User Segregation and data access	USN-8	As a CC executive I should be able to uniquely identify the customer and offer help	8	High	KAVI PRIYAA
Sprint-4	Change code	USN-9	As a administrator I should be able to modify code according to the future requirements.	5	Medium	Sprint-4
Sprint-4	Monitor the system	USN-10	As a administrator I should be able to monitor the cloud system and fix errors before customer.	7	High	

6.2 SPRINT DELIVERY SCHEDULE

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	20	6 Days	24 Oct 2022	29 Oct 2022	20	29 Oct 2022
Sprint-2	20	6 Days	31 Oct 2022	05 Nov 2022	20	05 Nov 2022
Sprint-3	20	6 Days	07 Nov 2022	12 Nov 2022	20	12 Nov 2022
Sprint-4	20	6 Days	14 Nov 2022	19 Nov 2022	20	19 Nov 2022

6.3 REPORTS FROM JIRA



7.CODING AND SOLUTIONING

7.1 FEATURE 1

Verification email sender

```
1 def emailSender(email, token):
2     configuration = sib_api_v3_sdk.Configuration()
3     configuration.api_key['api-key'] = app.data['mail_api_key']
4     api_instance = sib_api_v3_sdk.TransactionalEmailsApi(
5         sib_api_v3_sdk.ApiClient(configuration))
6     now = datetime.now()
7     dt_string = now.strftime("%d/%m/%Y %H:%M:%S")
8     msg = {}
9     msg['Subject'] = "Verfiy your NewsTracker Account"
10    msg['From'] = {"name": "News Tracker",
11                  "email": "verify@news-tracker.com"}
12    msg['To'] = [{"email": email}]
13    msg['Text'] = f'Please click this <a href="http://127.0.0.1:5500/frontend/pages/verify.html?token={token}">link</a> to verify your account'
14    html = f"""
15    <html>
16    <head></head>
17    <body>
18    <p>🎉, for joining NewsTracker 🎉</p>
19    <br>
20    <p>Hurray🎉, you just registered at NewsTracker<br><br>
21    Please click the following link to verify your account:<br>
22    <a href="http://127.0.0.1:5500/frontend/pages/verify.html?token={token}">Click Here to Verify 🎉</a>
23    </p>
24    <br>
25    <p>⚠️Note: This link expires within one hour from the time sent</p>
26    <br><br>
27    <p>Regrads,<br></p>
28    <p><a href="https://localhost:5000">NewsTracker </a></p>
29    <br><br>
30    <p>Email sent at {dt_string}</p>
31    </body>
32    </html>
33    """
34    send_smtp_email = sib_api_v3_sdk.SendSmtpEmail(
35        to=msg['To'], html_content=html, sender=msg['From'], subject=msg['Subject'], text_content=msg['Text'])
36    try:
37        api_response = api_instance.send_transac_email(send_smtp_email)
38        print(api_response)
39    except ApiException as e:
40        print("Exception when calling SMTPApi->send_transac_email: %s\n" % e)
41
```

7.2 FEATURE 2

COOKIE CHECKER

```
1 def token_required(f):
2     @wraps(f)
3     def decorated(*args, **kwargs):
4         token = request.cookies.get("access_token")
5         try:
6             data = jwt.decode(token, app.app.config['SECRET_KEY'], algorithms=['HS256'])
7             ip=request.headers.get("ip")
8             cookieIp=data['ip']
9             if(ip!=cookieIp):
10                 resp={"status":"not logged in"}
11                 @after_this_request
12                 def deleter(response):
13                     response.delete_cookie("access_token",path="/")
14                     response.delete_cookie("email",path="/")
15                     return response
16                 return resp,401
17             except:
18                 resp = {"status":"not logged in"}
19                 @after_this_request
20                 def deleter(response):
21                     response.delete_cookie("access_token",path="/")
22                     response.delete_cookie("email",path="/")
23                     return response
24                 return resp, 401
25             return f(data['email'],*args, **kwargs)
26         return decorated
```

8.TESTING

7.1 TEST CASES

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

Section	Total Cases	Not Tested	Fail	Pass
Print Engine	8	0	0	8
Client Application	23	0	0	23
Security	3	0	0	3
Outsource Shipping	2	0	0	2
Exception Reporting	6	0	0	6
Final Report Output	6	0	0	6
Version Control	1	0	0	1

7.2 USER ACCEPTANCE TESTING

Test case ID	Feature Type	Component	Test Scenario	Pre-Requirement	Steps To Execute	Test Data	Expected Result	Actual Result	Status	Comments	Executed By
Home Page-1	Functional	Home Page	Open Home Screen of the application	NIL	1.Enter URL (http://159.122.183.93:31965/login.html) and click go	http://159.122.183.93:31965/login.html	Login/Signup popup should display	Working as expected	Pass	NIL	SOPHIA
Login Page-1	Functional	Login Page	Verify the elements Login/Signup popup	User should have existing username and password	1.Enter URL(http://159.122.183.93:31965/login.html) and click go 2.Enter Valid username in text box 3.Enter valid password in password text box 4.Click on login button	Username: ajugi password: asdf@123	Application should show below UI elements: a. email text box b. password text box c. Login button d. New customer? Create account link e. Show button Forgot account?	Working as expected	Pass	NIL	TARUNIKA
Login Page-2	Functional	Login Page	Verify the elements Login/Signup popup	User should not have existing username and password	1.Enter URL(https://newstracker. ml) and click go 2.Enter Valid username in text box 3.Enter valid password in password text box 4.Click on login button	Username: casdfgg@gmail password: d32rfwe	Application should show 'Incorrect email or password' validation message.	Working as expected	Pass	NIL	KARISHMA
Signup Page-1	Functional	Signup page	Register a user and store the data into database and send login credentials to them via mail address provided by the user	Should have a valid mail address	1.Enter URL(https://newstracker. ml) and click go 2.Click create an account button 3.Enter full name, email, username and password	Any valid data	Successful creation of action and sharing credentials via mail	Working as expected	Pass	NIL	KAVI PRIYAA
Signup Page-2	Functional	Signup page	Register a user, where the email and username already exist.	Nil	1.Enter URL(http://159.122.183.93:31965/login.html) and click go 2.Click create an account button 3.Enter full name, email, username and password	Any valid data	Shows Error: email or username already exist	Working as expected	Pass	NIL	TARUNIKA
Forgot username or password-1	Functional	Forgot page	Enter the already registered mail id and get back the username and password to the same mail.	Should have registered mail id	1.Enter URL(http://159.122.183.93:31965/login.html) and click go 2.Click forgot username/password button 3.Enter the mail id	Enter valid mail id	Receive username and password to the provided mail address	Working as expected	Pass	NIL	SOPHIA
Forgot username or password-2	Functional	Forgot page	Enter mail id which is not registered.	Any mail id	1.Enter URL(http://159.122.183.93:31965/login.html) and click go 2.Click forgot username/password button 3.Enter the mail id	Enter invalid mail id	Shows Error: email id not found	Working as expected	Pass	NIL	SOPHIA
Dashboard	Functional	Dashboard	Redirect user to dashboard page on providing valid credentials	Valid credentials	1.Enter URL(http://159.122.183.93:31965/login.html) and click go 2.Enter Valid username in text box 3.Enter valid password in password text box 4.Click on login button	Valid credentials	Redirects to dashboard, shows user's full on the top screen	Working as expected	Pass	NIL	TARUNIKA

News-1	Functional	News Page	Redirect user to news page on clicking any one the listed news sources	NIL	1.Click any one the listed news sources	Clicking BBC NEWS	Redirects to BBC NEWS page, show articles from the api	Working as expected	Pass	NIL	KAVI PRIYAA
News-2	Functional	News Page	Click dashboard button	NIL	1.Click dashboard button	Click dashboard button	Redirects to dashboard page, If the user is logged in	Working as expected	Pass	NIL	KARISHMA
News-3	Functional	News Page	Click logout button	NIL	1.Click logout button	Click logout button	Redirects to login screen and shows messages as logged out successfully	Working as expected	Pass	NIL	SOPHIA

9. ADVANTAGES

- NEWS at their fingertips in an instant
- Online newspaper can read more elaborate than a printed newspaper
- Its ad free
- It can be accessed anywhere and anytime

10. DISADVANTAGES

- May contain some unwanted contents
- It may rely too much on personalities, emotions and not facts
- It is only API based

11. CONCLUSION

Thus we have developed a full stack application based on the plans and within the given time. We have tested the application in both desktop and mobile and it worked well, Overall it was a great experience.

12. FUTURE SCOPE

In future we may integrate our own news API instead of third party APIs and may develop mobile native application so that it can be used in both android and iOS.

13. APPENDIX

- I. Source Code (Github) - <https://github.com/IBM-EPBL/IBM-Project-12126-1659375179>
- II. Live Page URL – <http://159.122.183.93:31965/login.html>
- III. Demo link - <https://www.dropbox.com/s/p4oirfiijuqcy0n/Demo%20Video.mp4?dl=0>