Project Report

1. INTRODUCTION

1.1 Project Overview

As our lives are very busy these days, 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. Just tell us what market news you're interested in and get a quick peek for the day. Only read what you feel relevant and save your time. This app helps you to query for all information about Indices, Commodities, Currencies, Futures, Rates, Bonds, etc… as on official websites. News Tracker is an application that primarily focuses on enhancing and optimizing the way of user interaction with the news stories. It is more user friendly in a way that a user can personalise his/her own interests in this application. The study process began with how other applications developed with respect to personalisation and giving users a curated content. This step allowed the study analysis identify the disadvantages and make it as advantages in this application. The idea of personalisation is that it keeps track of the user's interests and accordingly change the home page for the users to give them a personalised experience based on what they set as their preferences. The application also has an added advantage that any user using this application might not be able to feel discomfort as there are no advertisments which many applications failed to meet up the expectations of a user. The application stands out off the crowd in terms of personalisation, better search and able to view in multiple languages.

1.2 Purpose

News tracker serves the purpose of delivering a better application to the users and enhanced user experience and user interface. The ultimate purpose is giving the user a personaslised application with an ability to better search and this application doesn't function on one language and thus enabling users to use this application worldwide. The users should be displayed with clean, personalised content on the home page with zero advertisements. The need for this project is to deliver news stories without any distractions and getting to see the content only the users like.

2. LITERATURE SURVEY

2.1 Existing Problem

Newspapers were the leading source and first physical source of news for people. Even though the habit of reading newspapers has decreased significantly, the information sector is still alive and well.

Several advancements in the technology sector first enabled smartphones to display latest and updated news on reader's demand. Personalisation of news access should extend beyond 'what' the user sees to 'how' they access it. Popular applications like **Google News**, **BBC** and **DailyHunt** provide personalised and curated content to users. Users select topics to follow and the system generates a news feed for them to read and also provides a summary for each article.

The personalisation news apps can be achieved by making the User Interface adaptable. An adaptable user interface will allow the system to adapt to the way the users read and provide summaries of articles.

Existing System:

Google News:

- Under each headline, the "Full Coverage" button lets users round up coverage from the best news sources on a given topic—something discerning readers value in an era of intense partisanship and concern about biased reporting.

- Ability to subscribe to specific news sources and read them directly from the app.

- Option to purchase premium subscriptions to news outlets.

- Interconnected updates on the latest developments for existing news updates.

2.2 References

- https://news.google.com
- https://www.msn.com/
- http://news.yahoo.com/
- http://twitter.com/

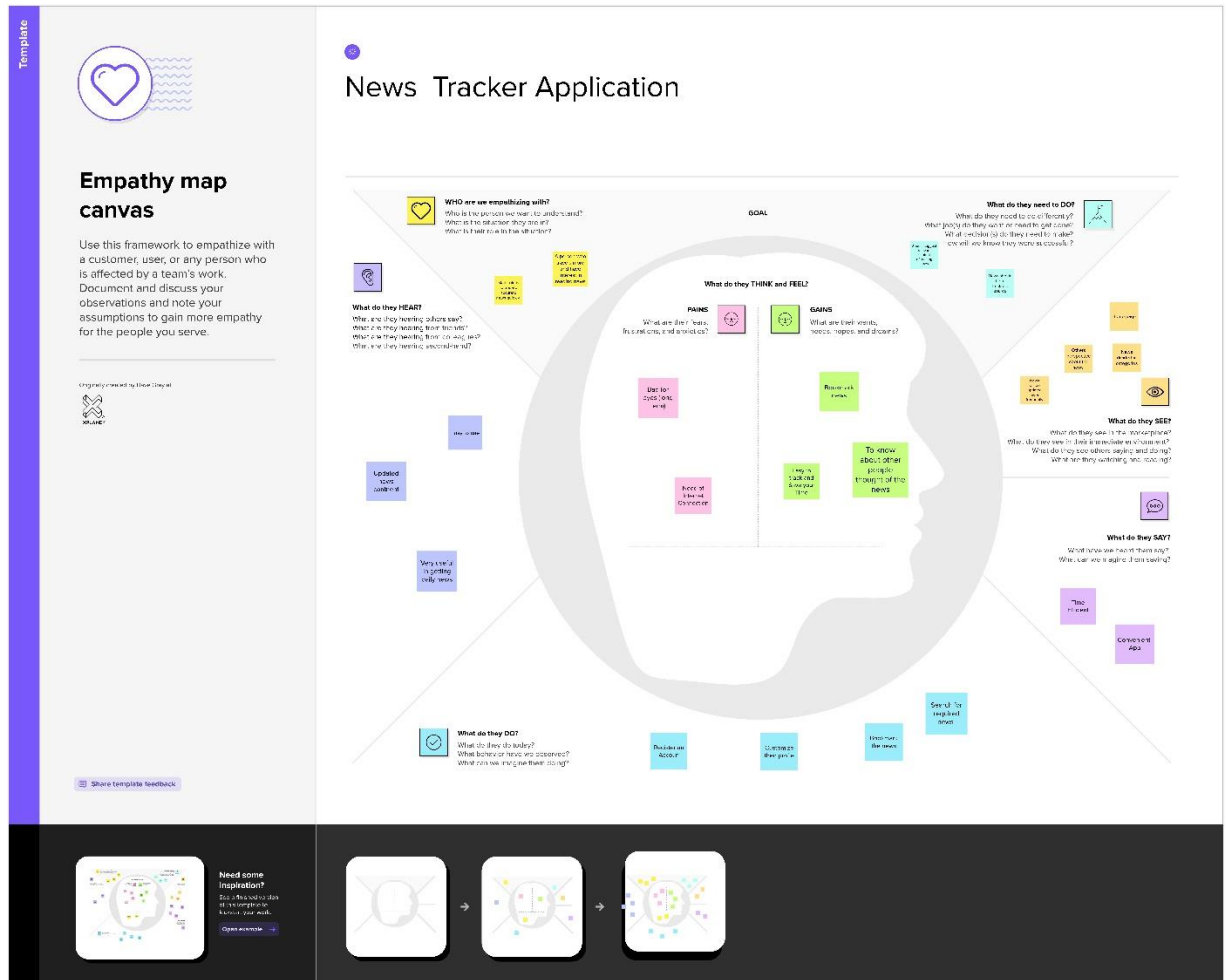## 2.3 Problem Statement Definition

News articles are accessed via smartphones and tablets more now than ever. This has created

a need for providing personalised feed of news articles for users. A recent study by Reuters Institute for the Study of Journalism's Digital News Report said that about 82 percent of Indians read the news online, out of which 73 percent do it on their smartphones.

Curated news feed has been widely used as the tool for sourcing a variety of content from different sources on a report and providing a 360-degree review of the story. The demand for news curation has increased over the years and users looks for SMEs to help them find quality and informative content without having to spend much time browsing or scan multiple articles themselves.

3. IDEATION & PROPOSED SOLUTION

3.1 Empathy Map Canvas

3.2 Ideation and Brainstorming

3.3 Proposed Solution:

Project team shall fill the following information in proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Most people don't like to carry a newspaper with them. Some people want them to be updated only in the area they are interested in.
2.	Idea / Solution description	1) A cloud-based web application which enables the user to get the news as per their interests, choices andlocation. 2) News will be filtered as per the user's wish and it will be displayed to the user.
3.	Novelty / Uniqueness	1) Integrate the application with news APIs and store the data in the database. 2) This application provides users with a trusted and secured ecosystem. News shared through the application is original and spam free. 3) The database will have all the details and the user can search the news by using a search bar. 4) Detecting fake news.
4.	Social Impact / Customer Satisfaction	1) Since we are using the News API, the news will be reliable and accurate. 2) The customer can be aware of recent happenings. 3) The customer will be finally able to view news without ads.
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.

		● Multiplatform Support ● Design consistent experience
6.	Scalability of the Solution	As it was an application-based project, correct ideation and execution can develop an application with no bugs and errors, so that the user might like our application and some might suggest and share it to their surroundings, resulting in an increase in our application insights..

Problem Solution Fit

Define CS, fit into CC

1. CUSTOMER SEGMENT(S) `CS`

Who is your customer?
i.e. working parents of 0-5 y.o. kids

1. Travelers who has interest in learning newspaper.
2. People who loves to update News.
3. Young to old people who has interest in learning news paper.

6. CUSTOMER CONSTRAINTS `CC`

What constraints prevent your customers from taking action or limit their choices
of solutions? i.e. spending power, budget, no cash, network connection, available devices.

1. Needs good network connectivity.
2. Reading using phone is not good for eyes.

5. AVAILABLE SOLUTIONS `AS`

Which solutions are available to the customers when they face the problem or need to get the job done? What have they tried in the past? What pros & cons do these solutions have? i.e. pen and paper is an alternative to digital notetaking

1. User friendly interface, avoiding misleading ads
2. Prioritize news according to user interest andlocation.

Explore AS, differentiate

Focus on J&P, tap into BE, understand RC

2. JOBS-TO-BE-DONE / PROBLEMS

Which jobs-to-be-done (or problems) do you address for your customers? There could be more than one; explore different sides.

1) Using internet for previously watched content
2) Search option is provided to search the readed news

9. PROBLEM ROOT CAUSE

What is the real reason that this problem exists? What is the back story behind the need to do this job?
i.e. customers have to do it because of the change in regulations.

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

2) Provide notification which related to user wish

7. BEHAVIOUR `BE`

What does your customer do to address the problem and get the job done?
i.e. directly related: find the right solar panel installer, calculate usage

1. User may feel stressed eye.
2. User may avoid notification if it is not related.

Focus on J&P, tap into BE, understand RC

Identify strong TR & EM

3. TRIGGERS `TR`

What triggers customers to act? i.e. seeing their neighbour installing solar panels, reading about a more efficient solution in the news.

1. People expecting about latest news
2. Need report about weather, market, sports and etc

4. EMOTIONS: BEFORE/ AFTER `EM`

How do customers feel when they face a problem or a job and afterwards?
i.e. lost, insecure > confident, in control - use it in your communication strategy & design.

BEFORE

1. Confused
2. Un clear
AFTER
1 Clarity
2 Clear mentalty

10. YOUR SOLUTION `SL`

If you are working on an existing business, write down your current solution first, fill in the canvas, and check how much it fits reality.
If you are working on a new business proposition, then keep it blank until you fill in the canvas and come up with a solution that fits within customer limitations, solves a problem and matches customer behaviour

1. Providing like, comments, tag, polling options to develop to develop user interface further more.
2. User can control their notification. They can select content which they need to notified.

8. CHANNELS of BEHAVIOUR `CH`

8.1 ONLINE
What kind of actions do customers take online? Extract online channels from #7

1. User can customize their news according to their interest

8.2 OFFLINE
What kind of actions do customers take offline? Extract offline channels from #7 and use them for customer development.

User can download post and can share it to other people

Identify strong TR & EM

4. REQUIREMENT ANALYSIS

4.1 Functional Requirements:

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 Gmail. Registration through Phone number
FR-2	User Confirmation	Confirmation via Email. Confirmation via OTP.
FR-3	User login	Login through browser directly by entering username and password.
FR-4	Home Page	Search Bar, profile, Menu Bar
FR-5	Profile	Name, Venue, Pin Code, Favourites.
FR-6	Menu Bar	Profile Edit, Categories, Settings, Help, About us.
FR-7	Settings	Notification, Language, Location, Log out
FR-8	User interaction	Done through user interface between client and server View the related news by subscripted or requested page

4.2 Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	Usability contributes to the effectiveness, efficiency and satisfaction in which specified users achieve specified goals.
NFR-2	**Security**	Security focuses on the software security in mobile app on various platforms such us Android, iOS. They designed and developed to run on frameworks and anticipated set of users.
NFR-3	**Reliability**	Reliability is the probability of a piece of software operating without any failure while in a specified environment over a period of time.
NFR-4	**Performance**	Performance of the application is notable through load time, crash report, device information, screening resolution & OS. These metrics are also used for improving the testing process.
NFR-5	**Availability**	Availability is a measure used to evaluate whether an application is functioning properly &usable to meet the requirements of an individual.
NFR-6	**Scalability**	Since the entire business runs in cloud, scalability won't be an issue vertically & horizontally there by reducing the overall operational expenditure.

5. PROJECT DESIGN

5.1 Data Flow Diagrams

Data Flow Diagrams:

A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.
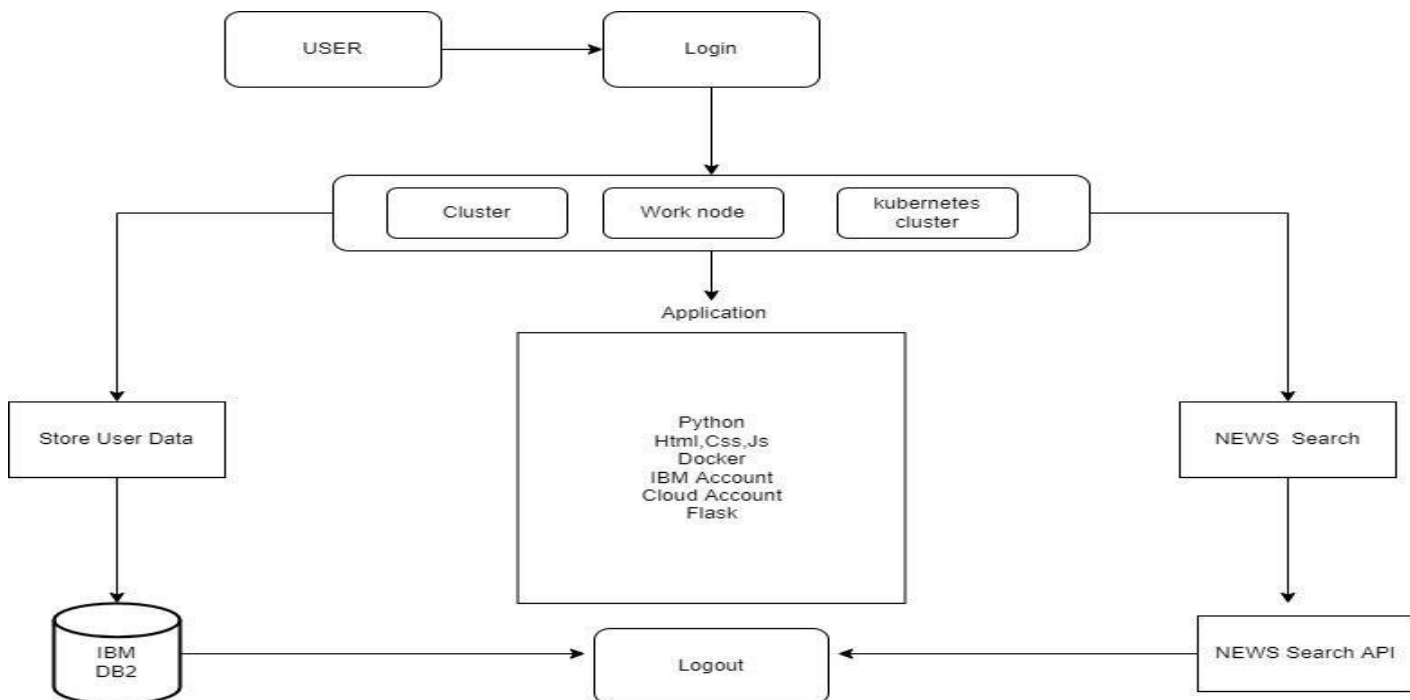
5.2 Solution & Technical Architecture

Solution Architecture: Solution architecture is a complex process – with many sub-processes – that bridges the gap between business problems and technology solutions. Its goals are to: • Find the best tech solution to solve existing business problems.

- Describe the structure, characteristics, behaviour, and other aspects of the software to project stakeholders.
- Define features, development phases, and solution requirements to the project.
- Provide specifications according to which the solution is defined, managed, and delivered to the customers.
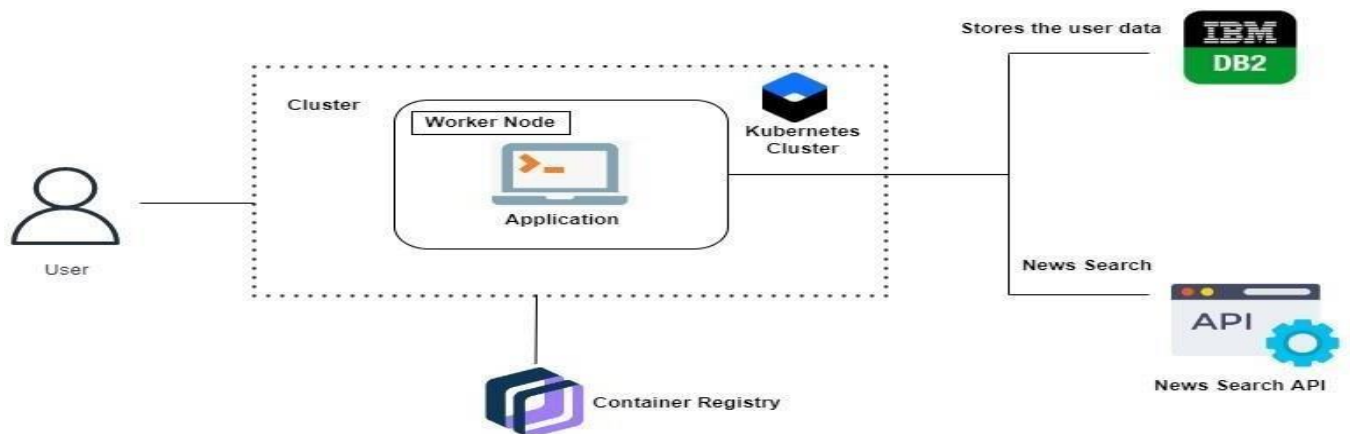
Components and Technologies

S. No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript
2.	Application Logic-1	Logic for a process in the application	Java / Python
3.	Application Logic-2	Logic for a process in the application	IBM Watson STT service

4.	Application Logic-3	Logic for a process in the application	IBM Watson Assistant
5.	Database	Data Type, Configurations etc.	MySQL, NoSQL, etc.
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloud etc.
7.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
8.	External API-1	Purpose of External API used in the application	IBM Weather API, etc.
9.	External API-2	Purpose of External API used in the application	Aadhar API, etc.
10.	Machine Learning Model	Purpose of Machine Learning Model	Object Recognition Model, etc.
11.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration:	Local, Cloud Foundry, Kubernetes, etc.

Application Characteristics:

S. No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Software designed to be publicly accessible in the decentralized and collaborative way.	Technology of Opensource framework
2.	Security Implementations	It is used to provide security for the user by providing various technologies. (i.e. signature for text or data files)	e.g. SHA-256, Encryptions, IAM Controls, OWASP etc.
3.	Scalable Architecture	scalability of architecture (Micro-services)	Cloud, IBM object storage
4.	Availability	Use of cloud makes it available on the go anywhere and any place.	Cloud
5.	Performance	Design consideration is the must because there are numerous app but in what way our app is should be known is mandatory. (speed, number of requests per sec, use of Cache, use of CDN's) etc.	SendGrid

5.3 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 receive confirmation email & click confirm.	High	Sprint-1
		USN-2	As a user, I can register the application using phone number.	I can receive verification message to register. (like: registered successfully)	High	Sprint-1
	Login	USN-3	As a user, I can login into the application through email and password.	I can register & access the dashboard by Login into application.	Low	Sprint-2
		USN-4	As a user, I can login into the application through phone number and receiving confirmation message.	I can login by receiving confirming message. (like: login successfully)	Medium	Sprint-2
		USN-5	As a user, I can login into the application by entering email via confirm password & phone number via confirm message.	I can access my account / dashboard.	High	Sprint-2
	Dashboard	USN-6	As a user, I can search news and quick snap is displayed in dashboard.	It can be viewed in user`s dashboard.	High	Sprint-2
Customer (Web user)	Alert message via notification	USN-7	As a user, Later, I can receive Frequently searched message via email or SMS.	I can receive email or SMS pop notification	Medium	Sprint-3
	Favorites	USN-8	As a user, I can save the message for later use in favorites.	It can be viewed in favorites.	Medium	Sprint-3
Customer Care Executive	Login information	USN-1	As a user, I can visit the help us to know about the login information.	I can view in help us.	Low	Sprint-4
Administrator	updates	USN-1	As a user, I can get updated NEWS every day and save time by receiving quick snap.	I can view by refreshing the dashboard by getting quick snap.	High	Sprint-4

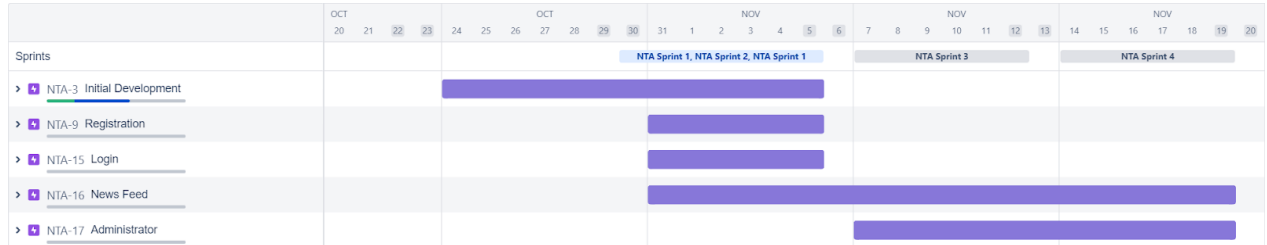# 6. PROJECT PLANNING & SCHEDULING

6.1 Sprint Planning & Estimation

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members

Sprint		USN	User Story		Priority	
Sprint-1	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	3	High	Kishore babu
Sprint-1		USN-2	As a user, I will receive confirmation email once I have registered for the application	2	Medium	Hemanth raj
Sprint-2		USN-3	As a user, I can register for the application through Google	1	Low	Abhijith
Sprint-1	Login	USN-4	As a user, I can log into the application by entering email & password	3	High	George
Sprint-1	Dashboard	USN-5	The updated feed with latest stories fetched from the API are displayed	3	High	George
Sprint-2	Search Bar	USN-6	Users searches for stories or topic in the search bar	2	Medium	Hemanth raj
Sprint-1		USN-7	Users can apply filters to their searches such as date, publisher etc	1	Low	Abhijith
Sprint-3	Chatbot	USN-8	A functional chatbot can respond to user queries in real time	2	Medium	Kishore babu
Sprint-4	Server	USN-9	Administrator verifies and validates the news available in the database	3	High	Abhijith
Sprint-3		USN-10	Administrator provides news articles with video and audio content	3	High	Hemanth raj

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	12	30 October 2022
Sprint-2	20	6 Days	31 Oct 2022	05 Nov 2022	3	7 November 2022
Sprint-3	20	6 Days	07 Nov 2022	12 Nov 2022	2	13 November 2022
Sprint-4	20	6 Days	14 Nov 2022	19 Nov 2022	3	19 November 2022

6.2 Reports from JIRA

Sprints	OCT 20 21 22 23	OCT 24 25 26 27 28 29 30	NOV 31 1 2 3 4 5 6	NOV 7 8 9 10 11 12 13	NOV 14 15 16 17 18 19 20
			NTA Sprint 1, NTA Sprint 2, NTA Sprint 1	NTA Sprint 3	NTA Sprint 4
> NTA-3 Initial Development					
> NTA-9 Registration					
> NTA-15 Login					
> NTA-16 News Feed					
> NTA-17 Administrator					

7. CODING & SOLUTIONING

NEWS TRACKER

SIGNIN   SIGNUP   CONTACT US

Signin

Username

Password

LOGIN

Signup

Username

Mobile Number

Email

Password

REGISTER

Home   About

WEATHER

These are India's most polluted cities. 7 of 10 are from Bihar

FGhaziabad fared better in the first half of November this year as the average air quality index (AQI) levels have remained on the lower side compared to the last six years with the least number of "severe" days during the first thirteen days of the current month.

POLITICS

Mamata Banerjee Apologises For Trinamool Minister's Comments On President

West Bengal BJP MLAs marched to the Raj Bhavan this afternoon in protest against the distasteful comments by Trinamool minister Akhil Giri on the President of India.

INDIA NEWS

In Bali, PM Modi meets Indians, to attend G20 Summit with top world leaders

The two-day G20 Summit begins on Tuesday, and will be attended by US President Joe Biden and British Prime Minister Rishi Sunak among heads from 20 countries and the European Union who make up the group.

8. ADVANTAGES & DISADVANTAGES

Advantages

- The user's are able to keep track of their favourite sources, categories or authors with a few clicks

- The search bar allows the user to query results based on a large number of options and combinations

- Chatbot integration for assistance in account creation and preference setting

- Multiple categories and endless articles fetched using newsapi

Disadvantages

- Since the news articles are fetch from an external API, the validity of the data cannot be guaranteed

- Users have to give accurate keywords to search for results

9. CONCLUSION

With the help of the internet and external application programming interfaces, it is possible to keep the users informed of the current affairs. With a vast database of articles and references, users are even encouraged to read more.

As news is increasingly accessed on smartphones and tablets, the need for personalising news app interactions is apparent. Users' demands and requirements for personalisation increases day by day. The application's personalisation feature will attract users to spend more time browsing through articles.

And finally, the search bar, will help readers located certain articles based on multiple filters like date, source, language and author to give the users a better user experience.

10. FUTURE SCOPE

- Provide filter options for user's to track articles

- Modification and deletion of preferences

- Location based rendering of articles

- Allowing users to report falsified and misleading information

11. APPENDIX

GitHub Link: https://github.com/IBM-EPBL/IBM-Project-55204-1667556461.git