NEWS TRACKER APPLICATION

Team ID: PNT2022TMID22300

Bachelor of Engineering

Computer Science and Engineering

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1. INTRODUCTION

1.1. Project Overview

News articles are collected from various news channels and news sources from across the internet. These news articles are then categorized into various sections. All the news, belonging to a particular category will be displayed under a specific section.

The news articles are displayed on the basis of the interests and preference of the user. News feed is used to analyzed the interest of the user. Based on the type of news the users views, their interests is analyzed.

User also will have the option to save snippets from news articles, mark some news articles as bookmark and later to see their views about the news.

Prefer the language for the user based on their location and user wants to change the language manually .

1.2. Purpose

The goal of this project is to collect all the news articles from across the internet and display it in an orderly manner, based on the interests and preferences of the user, at a single destination.

2. LITERATURE SURVEY

2.1. Existing `problem

News are collected from various news sources and are displayed without being properly categorized into various sections.

News articles are recommended randomly.

Every news articles, whether important or not, is given the same preference and are displayed by being sorted on the basis of the time it was published.

Every news articles will be displayed whether or not the content is correct.

The language of the UI is English and users have no option to change the language.

2.2. References

- Allan, J., Papka, R., Lavrenko, V.: On-line New Event Detection andTracking. In: Proceedings of 21st ACM SIGIR, Melbourne (1998)
- Bacan, H., Pandzic, I.S., Gulija, D.: Automated News Item Categorization.In: JSAI (2005)
- Blei, D.M., Ng, A.Y., Jordan, M.I.: Latent Dirichlet Allocation. Journal ofMachine Learning Research 3, 993–1022 (2003)
- Yamron, J.P., Carp, I., Gillick, L., Lowe, S., Van Mulbregt, P.: Topic Tracking in a News Stream. In: Proceedings of DARPA Broadcast NewsWorkshop (1999)
- Mori, M., Miura, T., Shioya, I.: Topic Detection and Tracking for News Web Pages. In: IEEE/WIC/ACM International Conference on Web Intelligence, pp. 338–342 (2006)

2.3 Problem Statement Definition

A well-articulated customer problem statement allows you and your team to find the ideal solution for the challenges your customers face. Throughout the process, you'll also be able to empathize with your customers, which helps you better understand how they perceive your product

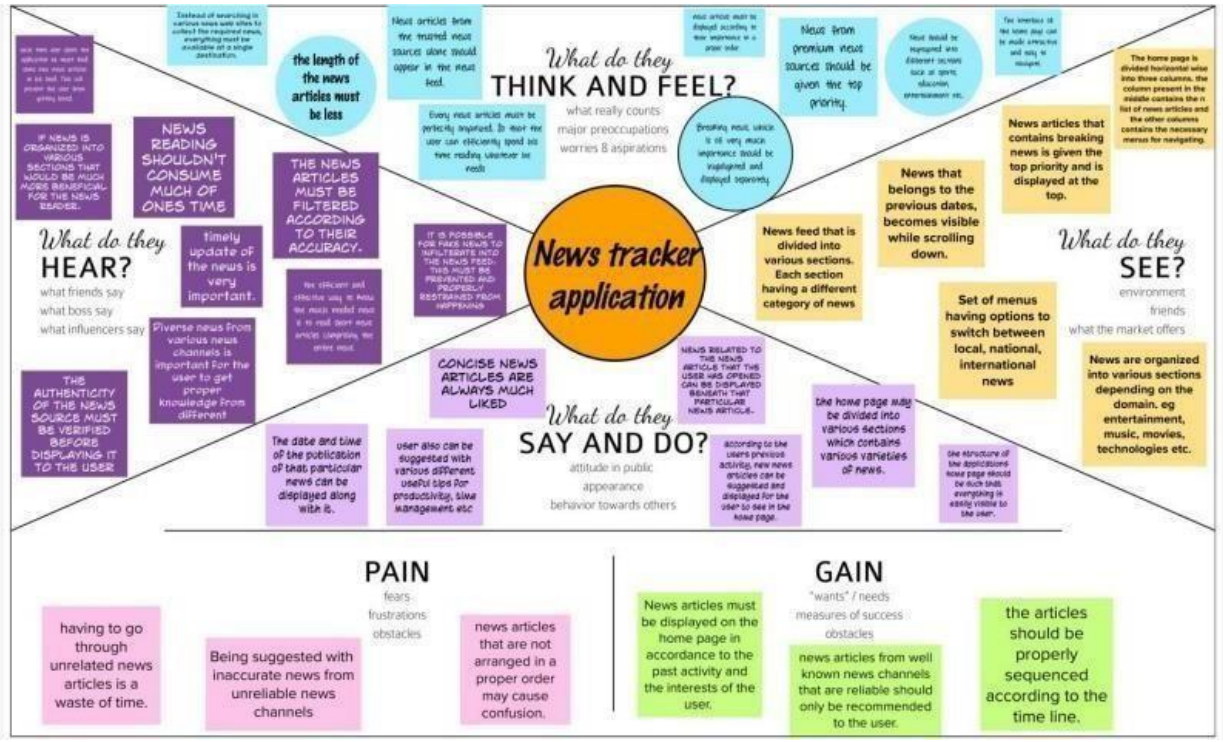
Display news from various news sites and newsplatforms in a single destination along with personalising the news according to users interests

I am	*I'm trying to*	*But*	*Because*	*Which makes me feel*
Online news articles reader	Read online articles without any annoying contents	Spamming of messages usually leads to clearing of the content without viewing thus probably leading the user to lose access to important information.	Businesses must publish irrelevant news because younger generations prefer news with more fun instead of reliable news.	Irritated
	Read online articles without any ads	Ads in the apps might irritate the user while reading the news	Apps generate income through subscriptions andads	Frustrated
	Read precisecontents	News apps want to increase the time that user spends ontheir app so that they can show adsand generaterevenue	Users don't want to spendtime reading the entire content. They need short and crisp news	Annoying

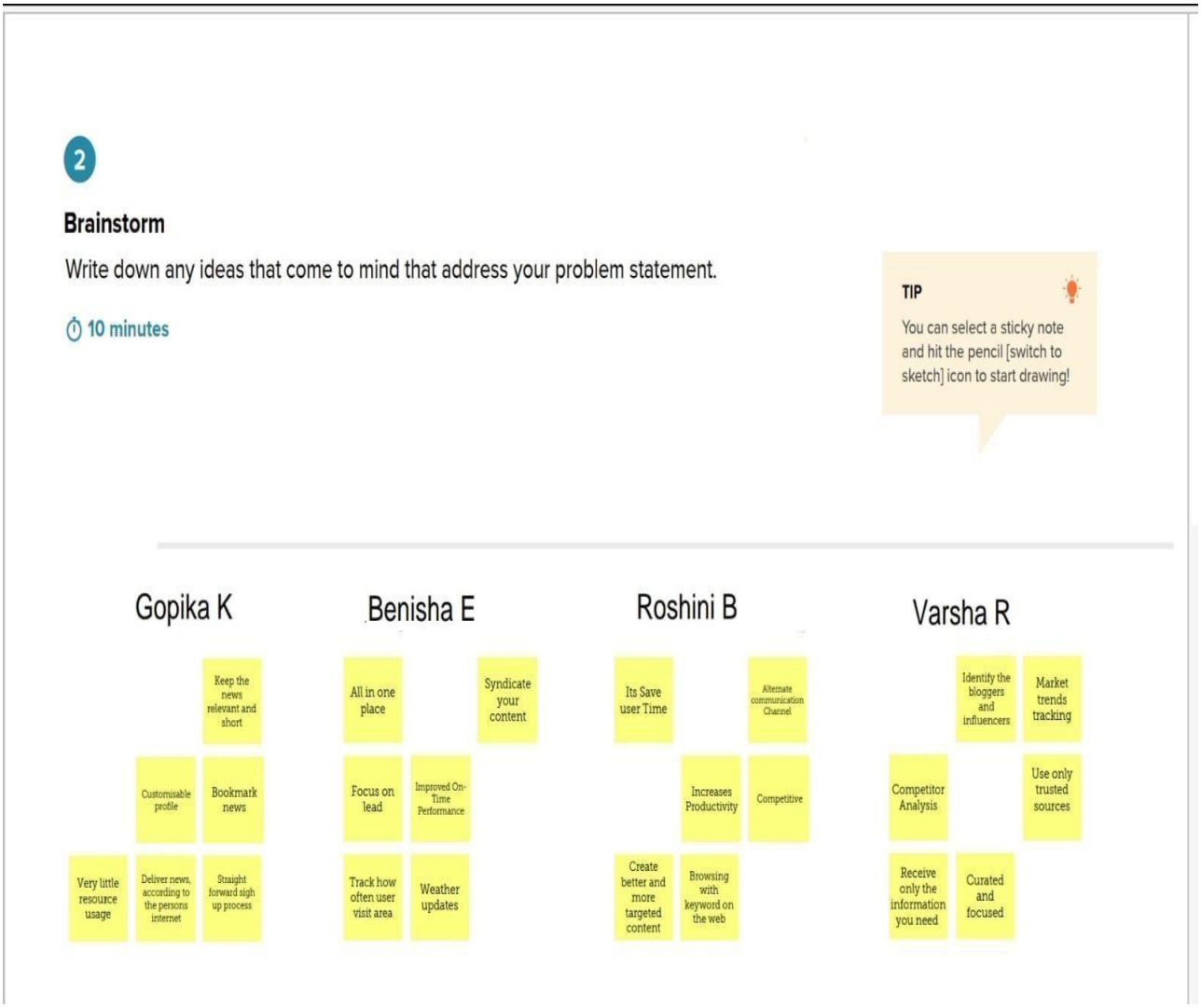
	Avoid irrelevant news	Irrelevant news makes the user stop viewing the news thus losing access to credible news	Businesses must publish irrelevant news because younger generations prefer news with more fun instead of reliable news.	Exhausted

3. IDEATION & PROPOSED SOLUTION

3.1 Empathy Map Canvas



3.2 Ideation&Brainstorming



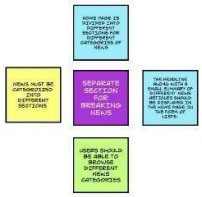
3

Group ideas

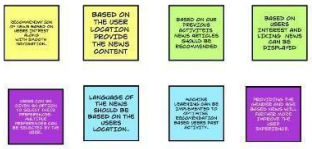
Take turns sharing your ideas while clustering similar or related notes as you go. In the last 10 minutes, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you and break it up into smaller sub-groups.

20 minutes

User interface and home page.



News recomendation system

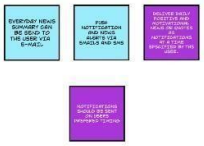


Reliability of news

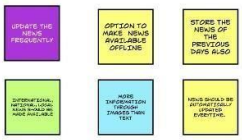
Mark and save important news

REACT TO THE NEWS CONTENT

DISPLAY THE NEWS IN VARIOUS WAYS



IMPORTANT FEATURES ABOUT THE APP



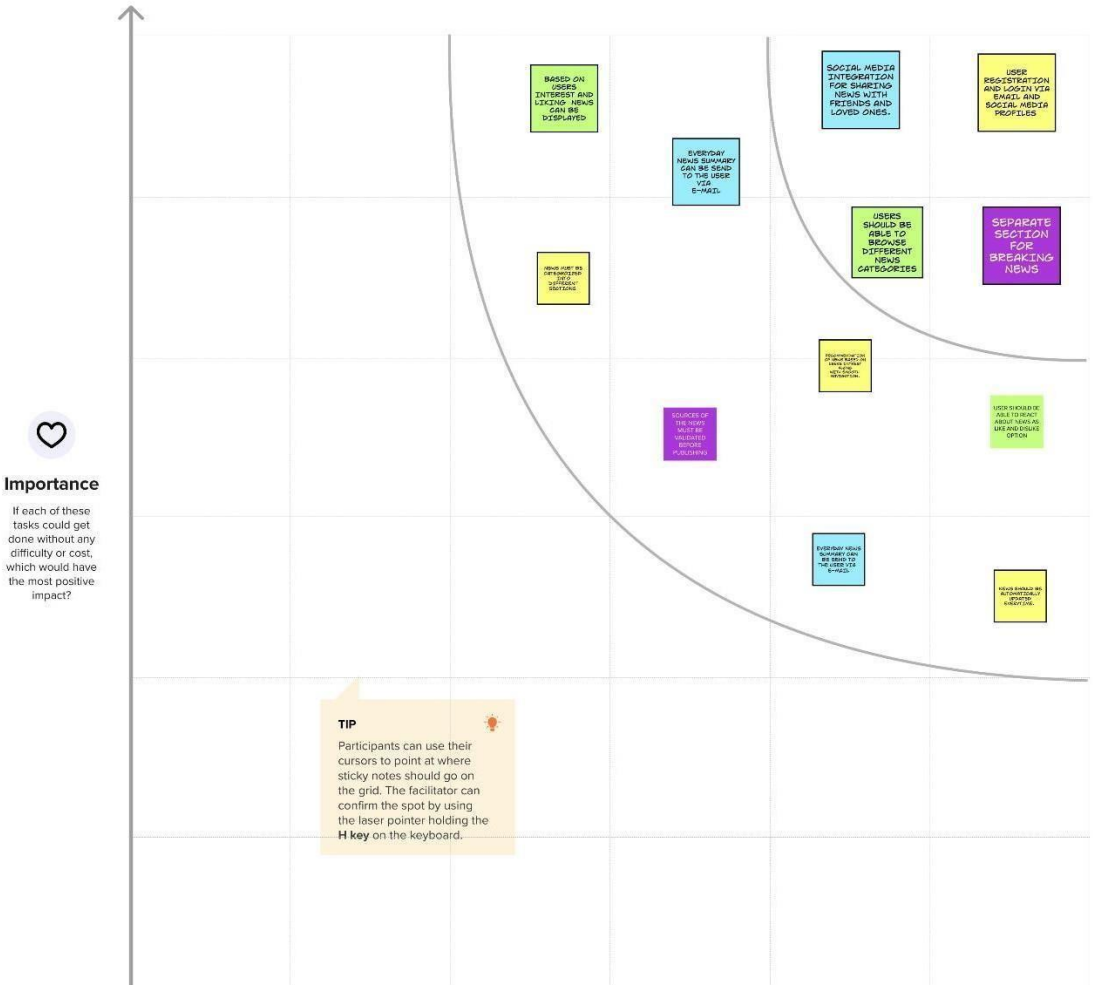
LOGIN CREDINTIALS

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



Importance

If each of these tasks could get done without any difficulty or cost, which would have the most positive impact?

TIP

Participants can use their cursors to point at where sticky notes should go on the grid. The facilitator can confirm the spot by using the laser pointer holding the **H key** on the keyboard.

3.3 Proposed Solution

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Display news from various news sites and news platforms in a single destination along with personalising the news according to users interests.
2.	Idea / Solution description	Instead of the user having to search across theinternet for news; news articles from various news sites and news platforms acrossthe internet must be collected and displayed in anorganized manner, by segregating them into various categories, at a single destination.
3.	Novelty / Uniqueness	1 Based on the user's past activity and interest, news articles will be recommended. 2 News are categorized into various sections forthe convenience of the user. 3 News is updated in real time. 4 User will have the option to select whatvarieties of news he would like to see.
4.	Social Impact / Customer Satisfaction	1 As news is recommended according to the user's interests and past activity, users will findthe recommendations interesting and useful. 2 Users time is greatly saved because they willnever have to search through the internet to find the required news. Every news will be available at a single destination.3 Users will have the option to customize theappearance, look and feel of the app accordingto their liking. 4 They can even change the way the news willbe displayed in the home page accordingto their convenience. These factors will surely make the customers more satisfied.
5.	Business Model (Revenue Model)	The major revenue stream is the adds that are published throughout the app. The secondary revenue stream can be from thenews channels and news sites whose news will be published in this application. Based on the
6.	Scalability of the Solution	As this application is hosted entirely on cloud, when there is an increase in demand, the configurations and processing power can bevaried inorder to provide users with a seamlessexperience.

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 Form Registration through Gmail Registration through LinkedIN
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	User language selection	From a list of languages, users should select a language in which the news must be displayed.
FR-4	User preferences	User is asked to select the topics regarding which he would like to see the news i.e cinema, cricket, technology, climate etc.
FR-5	Notification preference	User is given the option to choose the means through which he would like to receive notifications eg. SMS, email, mobile notification. User is also given the option to select the topics on which he would like to receive notification.
FR-6	Appearance selection	Option is provided for the user to select the manner in which he wants the news to appear in the home page, how it should be organised and so on.

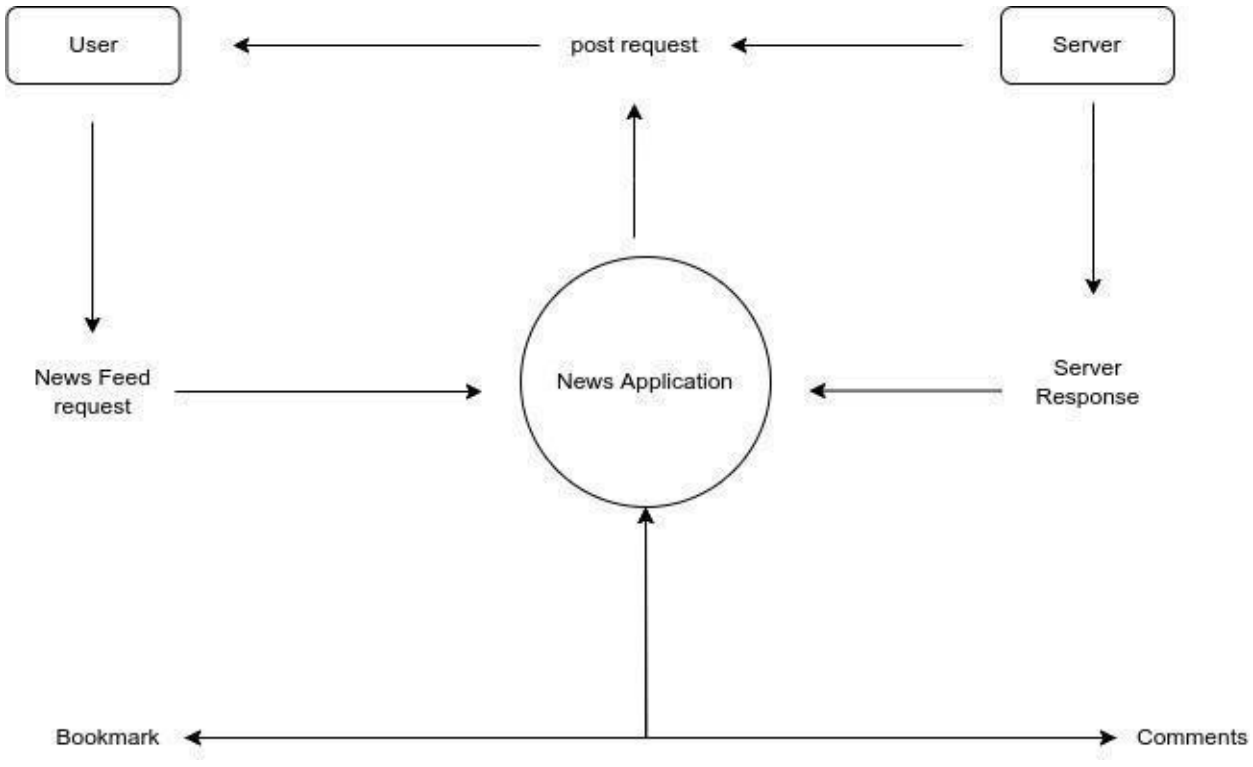
4.2 Non-Functional Requirement

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	News articles must be fetched quickly from the internet and should be displayed as soon as the user opens the application. While scrolling down the homepage, it shouldn't take too long for the news articles to load.
NFR-2	**Security**	Proper authentication is done to ensure that only authenticated persons are accessing the news. The personal information of the user such as the email, name etc is stored in an encrypted database.

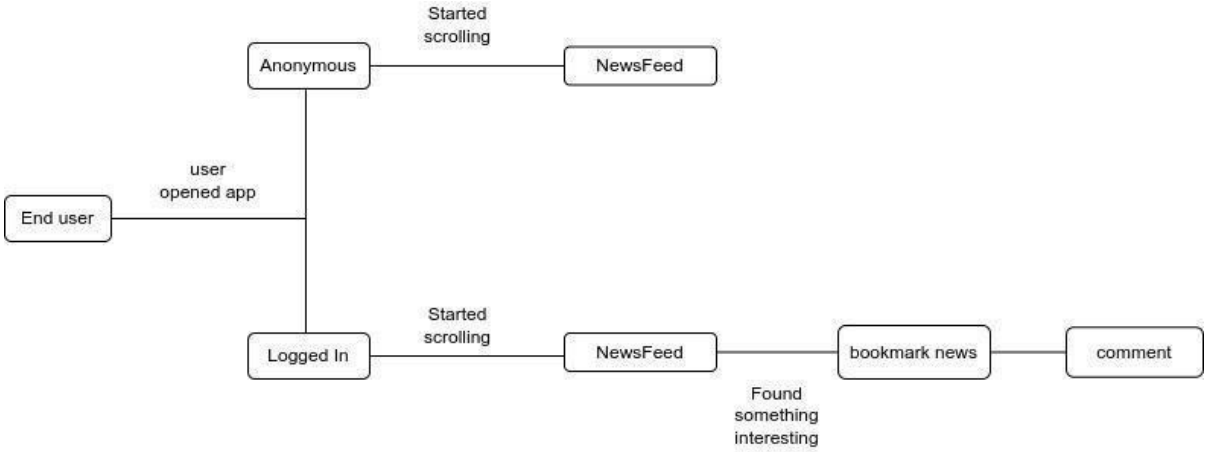
NFR-3	**Reliability**	The server on which this application is running is configured in such a way that the connection is reliable no matter what the network traffic is.
NFR-4	**Performance**	The RAM and the processing power of the server is configured in such a way that the user is able to quickly navigate across different sections and the news articles load in no time.
NFR-5	**Availability**	Irrespective of the time of the day the application should be up and running. The server configuration is done in such a way that it is available 24/7.
NFR-6	**Scalability**	This application will be hosted in IBM cloud and it will be made sure that it is easier to scale the server and storage up or down according to rise or fall of the total number of users accessing the application at a given time.

5. PROJECT DESIGN

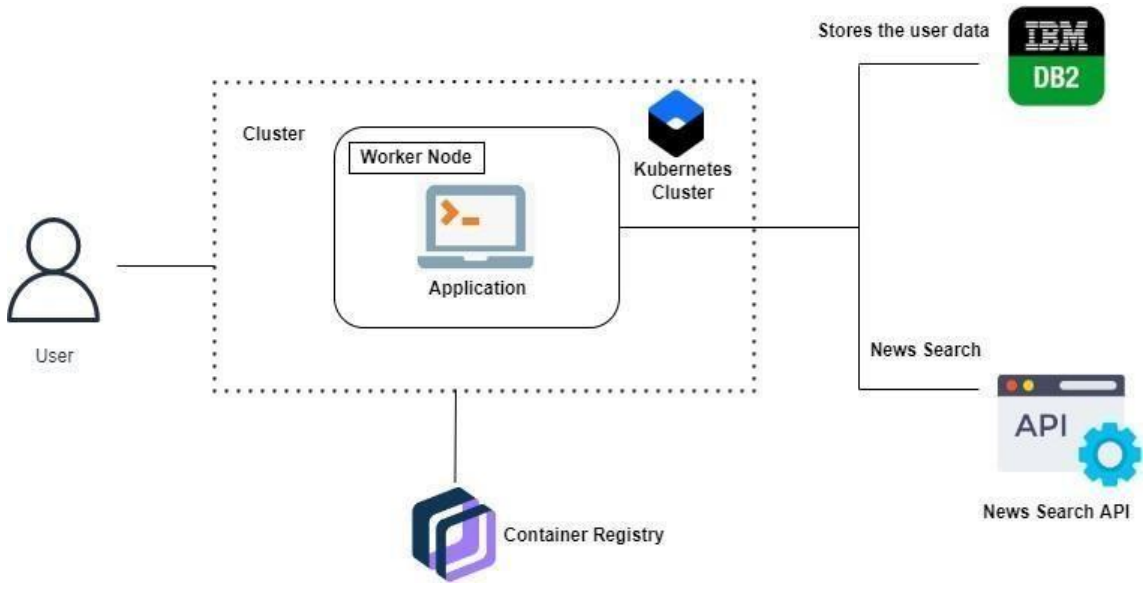
5.1. Data Flow Diagram



5.2.1 Solution Architecture



5.2.2 Technology Architecture



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 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 Facebook	I can register & access the dashboard with Facebook Login	Low	Sprint-2
		USN-4	As a user, I can register for the application through Gmail		Medium	Sprint-1
	Login	USN-5	As a user, I can log into the application by entering email & password		High	Sprint-1
	Dashboard					
Customer (Web user)	Registration form	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 can register for the	I can register & access the	High	Sprint-1

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
			application through Facebook	dashboard with Facebook Login		
Customer Care Executive	Query	USN-1	As a user ,I have any queries means asked immediately	Watson assistant Bot helped to the user any time ,any where	High	Sprint-1
		USN-2	As a user report the news content	Copyrights issues are solved	High	Sprint 3
Administrator	Database	USN-1	As a user	Store ,retrive the based on particular user data	High	Sprint -3
	ShortNews	USN-2	As a user ,I can summary of the particular news content	View content like reels	High	Sprint-3

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-1	Registration	USN-1	Creating Login page Creating Registrati on page	10	High	Gopika Varsha, Benisha, Roshini
Sprint-1 benbbeni	Datab ase Conne ctivity	USN-2	To Store details of the customer Connecting UI with Database	10	Medium	Benisha
Sprint-2	News Tracker UI	USN-3	Building UI News Tracker Application	10	High	Varsha
Sprint-2	API	USN-4	Connecting	10	High	Gopika, Roshini

			API,Google News API			
Sprint-3	SendGrid Integration	USN-5	SendGrid Integration With Python Code	10	Low	
Sprint-3	News Reader (Voice)	USN-6	Building Voice Assistant to read the news	10	Medium	Benisha, Roshini
Sprint-4	Containerization	USN-7	Containerizing the app	10	High	
Sprint-4	Upload image and deployment	USN-8	Upload Docker image to the IBMRegistry and deploy it in the Kubernetes Cluster	10	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

7. CODING & SOLUTIONING

7.1.Bookmark

```
import Header from "@components/header";
import News from "@components/news";
import { isMobile } from "react-device-detect";
import { Swiper, SwiperSlide } from "swiper/react";
import "swiper/bundle";

import "swiper/css";

import { useEffect, useState } from "react";
import BottomNav from "@components/bottomNav";
import Select from "@components/Select";
import DialogComponent from "@components/Dialog";
import { unstable_getServerSession } from "next-auth";
import { authOptions } from "./api/auth/[...nextauth]";

export default function IndexPage({ data }: any) {
const [space, setSpace] = useState(0);
const [currentData, setCurrentData] = useState<any>([]);
const [swiperRef, setSwiperRef] = useState();

useEffect(() => {
if (!isMobile && typeof window !== "undefined") {
setSpace(-80);
}
}, []);

useEffect(() => {
// setCurrentData(data);
```

```
const parsed = JSON.parse(data);
const filtered = parsed.map((item: any) => JSON.parse(item.CONTENT));

setCurrentData(filtered);
}, [data]);

return data ? (
<>
<Header />

<Select />
<Swiper
// @ts-ignore
onSwiper={setSwiperRef}
spaceBetween={space}
direction={"vertical"}
mousewheel={true}
className="mySwiper"
>
{currentData?.length &&
currentData.map((item: any, i: number) => {
return (
<SwiperSlide key={`${Date.now()}_${item.id}_${i}`}>
<News data={item} />
</SwiperSlide>
);
})}
</Swiper>

<BottomNav swiperRef={swiperRef} />
```

```
<DialogComponent />
</>
) : (
<div>Loading...</div>
);
}

export async function getServerSideProps({ req, res, query }: any) {
res.setHeader(
"Cache-Control",
"public, s-maxage=10, stale-while-revalidate=59"
);

const session = await unstable_getServerSession(req, res, authOptions);

if (!session) {
return {
redirect: {
permanent: false,
destination: "/api/auth/signin",
},
};
}

try {
const response = await fetch(`${process.env.SERVER_URL}getbookmarks`, {
method: "POST",
headers: {
"Content-Type": "application/json",
```

```
},
body: JSON.stringify({
email: session.user?.email,
}),
});
const data = await response.json();

if (!data.success)
return {
props: { data: null },
};

return { props: { data: data.bookmarks } };
} catch (err) {
console.log(err);
}
}
```

7.2. Choosetopics

```
import { NewspaperIcon } from "@heroicons/react/24/solid";
import * as Popover from "@radix-ui/react-popover";
import * as ScrollArea from "@radix-ui/react-scroll-area";
import { useRouter } from "next/router";

export default function ChooseLang({ swiperRef }: any) {
const router = useRouter();

const handleClick = (topic = "For You") => {
swiperRef?.slideTo(0);
router.query.topic = topic;
router.push(router);

const body = document.querySelector("body");
body?.click();
};

const TOPICS = [
"For You",
"Business",
"Entertainment",
"Technology",
"Politics",
"Movies",
"India",
];

return (
<Popover.Root>
```

```
<Popover.Trigger>
<div className="flex items-center flex-col cursor-pointer pt-4 mb-4">
<NewspaperIcon className="h-5 w-5 mt-1 text-gray-500" />
<p className="text-slate-400 text-xs">Topic</p>
</div>
</Popover.Trigger>
<Popover.Portal>
<Popover.Content className="PopoverContent">
<ScrollArea.Root className="ScrollAreaRoot">
<ScrollArea.Viewport className="ScrollAreaViewport">
<ul className="menu compact bg-base-100 p-2">
{TOPICS.map((itm: string, i: number) => (
<li key={`TOPICS_RENDERED_${i}`}>
<a onClick={() => handleClick(itm)}>{itm}</a>
</li>
))}
</ul>
</ScrollArea.Viewport>
<ScrollArea.Scrollbar
className="ScrollAreaScrollbar bg-slate-200"
orientation="vertical"
>
<ScrollArea.Thumb className="ScrollAreaThumb bg-slate-600" />
</ScrollArea.Scrollbar>
<ScrollArea.Corner className="ScrollAreaCorner" />
</ScrollArea.Root>
</Popover.Content>
</Popover.Portal>
</Popover.Root>
);
```

```
const handleClick = (topic = "For You") => {
swiperRef?.slideTo(0);
router.query.topic = topic;
router.push(router);

const body = document.querySelector("body");
body?.click();
};
```

7.3. news feed

```
import type { NextApiRequest, NextApiResponse } from "next";
import { ALLOWED_ORIGINS } from "../../lib/origins";

type Data = {
data: [];
next: null | string;
error?: string;
nextIndex?: string;
activeTopic?: string;
};

export default async function handler(
req: NextApiRequest,
res: NextApiResponse<Data>
```

```
) {
try {
const { url, nextIndex, activeTopic } = req.body;

const { origin } = req.headers;

if (origin && ALLOWED_ORIGINS.indexOf(origin) === -1) {
return res.status(403).json({ data: [], error: "Forbidden", next: null });
}

res.setHeader("Access-Control-Allow-Origin", origin || "*");

if (typeof url !== "string")
return res
.status(400)
.json({ error: "Invalid url", data: [], next: null });

const parsedURL = `${process.env.API_URL}?url=${encodeURIComponent(
url
)}&nextIndex=${nextIndex}&activeTopic=${activeTopic}&activeNavIndex=0&topicEngName=${activeTopic}`;
const response = await fetch(parsedURL);
const json = await response.json();

res.status(200).json({
data: json?.data?.rows || [],
next: json?.url || null,
nextIndex: json?.nextIndex || null,
activeTopic: json?.activeTopic || null,
});
} catch (err) {
```

```
console.log(err);
res.status(500);
}
}
```

7.4. Database schema

```
from flask import Flask, request, jsonify
from flask_cors import CORS, cross_origin
import os
from os.path import join, dirname
import ibm_db
from dotenv import load_dotenv
from threading import Thread
from PIL import Image
import requests
from io import BytesIO
import blurhash
import numpy
import json


app = Flask(__name__)
cors = CORS(app)
app.config['CORS_HEADERS'] = 'Content-Type'

dotenv_path = join(dirname(__file__), '.env')
load_dotenv(dotenv_path)

connectionstr = os.environ.get('DB2_CONNECTION_STRING')
conn = ibm_db.connect(connectionstr, '', '')
```

```
def userPresent(email=None):
if email:
sql = "SELECT Email FROM User WHERE Email = ?"
stmt = ibm_db.prepare(conn, sql)
ibm_db.bind_param(stmt, 1, email)
ibm_db.execute(stmt)
account = ibm_db.fetch_assoc(stmt)

if account:
return "true"

return "false"



@app.route("/")
def hello_world():
return "<p>Welcome to news tracker api</p>"



@app.route("/userpresent", methods=['POST'])
def db2():
email = request.json['email']
isPresent = userPresent(email)
return isPresent



@app.route("/createuser", methods=['POST'])
def createuser():
```

```
try:
Thread(target=userTask, args=(
request.json['email'], request.json['name'])).start()
return jsonify(success=True, message="User created")
except:
return jsonify(success=False, error="Missing email or name")


@app.route("/getblurhash", methods=['POST'])
def getblurhash():
url = request.json['url']
response = requests.get(url)
hash = blurhash.encode(numpy.array(Image.open(
BytesIO(response.content)).convert("RGB")))
print(hash)
return jsonify(hash=hash)


@app.route("/bookmark", methods=['POST'])
@cross_origin()
def Bookmark():
try:
Thread(target=bookMarkTask, args=(
request.json['email'], request.json['content'])).start()
return jsonify(success=True, message="Bookmarked")
except:
return jsonify(success=False, error="Missing email or content")


@app.route("/getbookmarks", methods=['POST'])
```

```
def getbookmarks():
email = request.json['email']

sql = "SELECT Content FROM Bookmark WHERE Email = ?"
stmt = ibm_db.prepare(conn, sql)
ibm_db.bind_param(stmt, 1, email)
ibm_db.execute(stmt)

response = []

bookmarks = ibm_db.fetch_assoc(stmt)

if not bookmarks:
return jsonify(success=True, error="No bookmarks found")

while bookmarks != False:
response.append(bookmarks)
bookmarks = ibm_db.fetch_assoc(stmt)

response = json.dumps(response)
return jsonify(success=True, bookmarks=response)



def bookMarkTask(email, content=None):
sql = "INSERT INTO Bookmark (Email, Content) VALUES(?, ?)"
stmt = ibm_db.prepare(conn, sql)
ibm_db.bind_param(stmt, 1, email)
ibm_db.bind_param(stmt, 2, content)
ibm_db.execute(stmt)
```

```
def userTask(email, name=''):
isPresent = userPresent(email)

if isPresent != "true":
sql = "INSERT INTO User (Name, Email) VALUES (?, ?)"
stmt = ibm_db.prepare(conn, sql)
ibm_db.bind_param(stmt, 1, name)
ibm_db.bind_param(stmt, 2, email)
ibm_db.execute(stmt)
print('created user')
```

8. TESTING

8.1. Test case

The Test cases for the News Tracker application are as follows

- Verify If user can Sign up to the account
- Verify If already signed up user cannot log into the account

- Verify if user is able to see Login/Register when clicked on it
- Verify if user is able to filter articles based on categories
- Verify if user is able to see detailed information when clicked on read more

8.2. User Acceptance Testing

Resolution	Severity 1	Severity 2	Severity 3	Severity 4	Subtotal
By Design	10	3	4	2	19
Duplicate	0	1	0	0	1
External	2	0	1	0	3
Fixed	10	3	4	15	32
Not Reproduced	0	0	0	1	1
Skipped	0	0	1	0	1
Won't Fix	1	0	1	0	2
Totals	23	7	11	18	58

Section	Total Cases	Not Tested	Fail	Pass
Print Engine	7	0	0	7
Client Application	35	0	0	35
Security	5	0	0	5
Outsource Shipping	0	0	0	0
Exception Reporting	15	0	0	15
Final Report Output	6	0	0	6
Version Control	2	0	0	2

9. RESULT

9.1. Performance metrics

CPU usage

The Python V3.7.0 is make the best use of the CPU. For every loop the program runs in O(1) time, neglecting the network and communication. The program sleeps for every 1 second for better communication with MQTT. As the program takes O(1) time and the compiler optimizes the program during compilation there is less CPU load for each cycle. The upcoming instructions are on the stack memory, so they can be popped after execution.

Memory usage

The sensor values, networking data are stored in sram of the ESP32 . It's a lot of data because ESP32 has only limited amount of memory (520 KB) .For each memory cycle the exact addresses are overwritten with new values to save memory and optimal execution of the program

Garbage collection

In the server-side garbage collection is done by the React framework.python does not have any garbage collection features. But it is not necessary in this scenario as the memory is used again for storing the data. Any dangling pointer or poorly handled address space is not allocated.

10. ADVANTAGE AND DISADVANTAGE

Advantages

- As the news articles are properly categorised into different sections, user finds it easier to find the right news.
- News articles are displayed in the home page in an order such that the important news always appears on the top.
- The UI of the app is designed in such a way that it is easier for the user to navigate**.**

Disadvantage

- Users are unable to express their opinion by commenting and liking the news articles.

- ❖ Currently the app won't let the user to read news

11. CONCLUSION

The way we consume news has shifted dramatically in the last decade and having a dedicated website is no longer enough. Users expect updates to be immediately available and accessible via multiple devices, and easy to share across their social media networks. News apps have also become increasingly important for users who want to avoid consuming news via social media and digest news from a reliable source.

12. FUTURE SCOPE

News content along with the video it will be more glad to use the application and easily user can understand the subject of the news in a short duration of time(60 seconds).it just like reels.

We plan to provide community based news.

13. APPENDIX

Source code

//index page of the app

```
import Header from "@components/header";
import News from "@components/news";
import { isMobile } from "react-device-detect";
import { Swiper, SwiperSlide } from "swiper/react";
import "swiper/bundle";

import "swiper/css";

import { useEffect, useState } from "react";
import BottomNav from "@components/bottomNav";
import Select from "@components/Select";
import DialogComponent from "@components/Dialog";

export default function IndexPage({ data, next, nextIndex, activeTopic }: any) {
const [space, setSpace] = useState(0);
const [isSent, setIsSent] = useState(false); const [currentNext, setCurrentNext] = useState("");
```

```
const [currentData, setCurrentData] = useState<any>([]);
const [swiperRef, setSwiperRef] = useState();
const [currentIndex, setCurrentIndex] = useState<any>();
const [currentTopic, setCurrentTopic] = useState();

useEffect(() => {
if (!isMobile && typeof window !== "undefined") {
setSpace(-80);
}
}, []);

useEffect(() => {
setCurrentNext(next);
}, [next]);

useEffect(() => {
setCurrentData(data);
}, [data]);

useEffect(() => {
setCurrentIndex(nextIndex);
}, [nextIndex]);

useEffect(() => {
setCurrentTopic(activeTopic);
}, [activeTopic]);

const handleChange = async (e: any) => {
if (isSent) {
return;
}
const reachedEnd = e.realIndex > e.slides.length - 5;
```

```
try {
if (reachedEnd) {
setIsSent(true);
const ni = parseInt(currentIndex) + 16;
const url = window.location.origin;
const response = await fetch(`${url}/api/next`, {
method: "POST",
headers: {
"Content-Type": "application/json",
},
body: JSON.stringify({
url: encodeURIComponent(currentNext),
nextIndex: ni,
activeTopic: currentTopic,
}),
});
const json = await response.json();
setCurrentIndex(ni);
setCurrentTopic(json.activeTopic);

if (json.data) {
setCurrentData((old: []) => [...old, ...json.data]);
setIsSent(false);
}

if (!json.next) {
setIsSent(true);
return;
}

if (json.next) {
setCurrentNext(decodeURIComponent(json.next));
```

```
}

// @ts-ignore
swiperRef?.update();
}
} catch (err) {
console.log(err);
}
};

return (
<>
<Header />

<Select />
<Swiper
// @ts-ignore
onSwiper={setSwiperRef}
spaceBetween={space}
direction={"vertical"}
mousewheel={true}
className="mySwiper"
onSlideChange={handleChange}
>
{currentData?.length &&
currentData.map((item: any, i: number) => {
return (
<SwiperSlide key={`${Date.now()}_${item.id}_${i}`}>
<News data={item} />
</SwiperSlide>
);
})}
```

```
</Swiper>

<BottomNav swiperRef={swiperRef} />

<DialogComponent />
</>
);
}

export async function getServerSideProps({ req, res, query }: any) {
const lang = query.lang || "english";
const topic = query.topic || "For You";

res.setHeader(
"Cache-Control",
"public, s-maxage=10, stale-while-revalidate=59"
);

try {
const url =
process.env.NODE_ENV !== "production"
? "http://localhost:3000"
: "https://theprint.me";

const encodedUri = encodeURI(`lang=${lang}&topic=${topic}`);
const response = await fetch(`${url}/api/headlines?${encodedUri}`);
const { data, next, nextIndex, activeTopic } = await response.json();

return { props: { data, next, nextIndex, activeTopic } };
} catch (err) {
console.log(err);
}
```

```
// Pass data to the page via props
}
//bookmarks
import Header from "@components/header";
import News from "@components/news";
import { isMobile } from "react-device-detect";
import { Swiper, SwiperSlide } from "swiper/react";
import "swiper/bundle";

import "swiper/css";

import { useEffect, useState } from "react";
import BottomNav from "@components/bottomNav";
import Select from "@components/Select";
import DialogComponent from "@components/Dialog";
import { unstable_getServerSession } from "next-auth";
import { authOptions } from "./api/auth/[...nextauth]";

export default function IndexPage({ data }: any) {
const [space, setSpace] = useState(0);
const [currentData, setCurrentData] = useState<any>([]);
const [swiperRef, setSwiperRef] = useState();

useEffect(() => {
if (!isMobile && typeof window !== "undefined") {
setSpace(-80);
}
}, []);

useEffect(() => {
// setCurrentData(data);
const parsed = JSON.parse(data);
```

```
const filtered = parsed.map((item: any) => JSON.parse(item.CONTENT));

setCurrentData(filtered);
}, [data]);

return data ? (
<>
<Header />

<Select />
<Swiper
// @ts-ignore
onSwiper={setSwiperRef}
spaceBetween={space}
direction={"vertical"}
mousewheel={true}
className="mySwiper"
>
{currentData?.length &&
currentData.map((item: any, i: number) => {
return (
<SwiperSlide key={`${Date.now()}_${item.id}_${i}`}>
<News data={item} />
</SwiperSlide>
);
})}
</Swiper>

<BottomNav swiperRef={swiperRef} />

<DialogComponent />
</>
```

```
) : (
<div>Loading...</div>
);
}

export async function getServerSideProps({ req, res, query }: any) {
res.setHeader(
"Cache-Control",
"public, s-maxage=10, stale-while-revalidate=59"
);

const session = await unstable_getServerSession(req, res, authOptions);

if (!session) {
return {
redirect: {
permanent: false,
destination: "/api/auth/signin",
},
};
}

try {
const response = await fetch(`${process.env.SERVER_URL}getbookmarks`, {
method: "POST",
headers: {
"Content-Type": "application/json",
},
body: JSON.stringify({
email: session.user?.email,
}),
});
```

```
    const data = await response.json();

    if (!data.success)
    return {
    props: { data: null },
    };

    return { props: { data: data.bookmarks } };
    } catch (err) {
    console.log(err);
    }
    }
```

//API

```
import { JSDOM } from "jsdom";
import { NextApiRequest, NextApiResponse } from "next";
import { ALLOWED_ORIGINS } from "../../lib/origins";

const order = ["For You"];

const fetchNParse = async (url: string) => {
try {
const data = await fetch(url);
const html = await data.text();
const dom = new JSDOM(html, { runScripts: "dangerously" });
const  response = dom.window.__STATE.topicsList  || {};
return response;
} catch (err) {
console.log(err);

return null;
}
};
```

```
function parseTopic(topic = "For You", data: any) {
let topics: any = null;

if (topic === "For You") {
topics = data[0];
} else {
topics = data.find((tp: any) => tp.name === topic);
}

if (topics) {
return {
data: topics?.data?.data.rows || [],
next: topics.data?.data?.nextPageUrl || null,
nextIndex: topics.data?.data?.count,
activeTopic: topics?.topicType,
};
}
}

export default async function getHeadlines(
req: NextApiRequest,
res: NextApiResponse
) {
const { query } = req;
const { lang, topic } = query;
let base_url = process.env.BASE_URL;

const { origin } = req.headers;

if (origin && ALLOWED_ORIGINS.indexOf(origin) === -1) {
return res.status(403).json({ data: [], error: "Forbidden", next: null });
```

```
}

res.setHeader("Access-Control-Allow-Origin", origin || "*");

if (typeof lang !== "string")
return res.status(400).json({ error: "Invalid location" });

if (typeof topic !== "string")
return res.status(400).json({ error: "Invalid topic" });

let response = null;

if (topic === "For You") {
base_url = process.env.BASE_URL?.replace("english", lang) || "";
} else {
base_url = process.env.BASE_URL?.replace("for+you", topic) || "";
}

response = await fetchNParse(base_url);
const news = parseTopic(topic, response);
res.status(200).json(news);
}
//next.ts this file show the next feed of the news content
import type { NextApiRequest, NextApiResponse } from "next";
import { ALLOWED_ORIGINS } from "../../lib/origins";

type Data = {
data: [];
next: null | string;
error?: string;
nextIndex?: string;
activeTopic?: string;
```

```
};

export default async function handler(
req: NextApiRequest,
res: NextApiResponse<Data>
) {
try {
const { url, nextIndex, activeTopic } = req.body;

const { origin } = req.headers;

if (origin && ALLOWED_ORIGINS.indexOf(origin) === -1) {
return res.status(403).json({ data: [], error: "Forbidden", next: null });
}

res.setHeader("Access-Control-Allow-Origin", origin || "*");

if (typeof url !== "string")
return res
.status(400)
.json({ error: "Invalid url", data: [], next: null });

const parsedURL = `${process.env.API_URL}?url=${encodeURIComponent(
url
)}&nextIndex=${nextIndex}&activeTopic=${activeTopic}&activeNavIndex=0&topicEngName=${a
ctiveTopic}`;
const response = await fetch(parsedURL);
const json = await response.json();

res.status(200).json({
data: json?.data?.rows || [],
next: json?.url || null,
nextIndex: json?.nextIndex || null,
```

```
activeTopic: json?.activeTopic || null,
});
} catch (err) {
console.log(err);
res.status(500);
}
}
```

//server.py this file is used to the fetch the data from db and insert the data to db connect the flask project to db

```
from flask import Flask, request, jsonify
from flask_cors import CORS, cross_origin
import os
from os.path import join, dirname
import ibm_db
from dotenv import load_dotenv
from threading import Thread
from PIL import Image
import requests
from io import BytesIO
import blurhash
import numpy
import json


app = Flask(__name__)
cors = CORS(app)
app.config['CORS_HEADERS'] = 'Content-Type'

dotenv_path = join(dirname(__file__), '.env')
load_dotenv(dotenv_path)

connectionstr = os.environ.get('DB2_CONNECTION_STRING')
conn = ibm_db.connect(connectionstr, '', '')
```

```
def userPresent(email=None):
if email:
sql = "SELECT Email FROM User WHERE Email = ?"
stmt = ibm_db.prepare(conn, sql)
ibm_db.bind_param(stmt, 1, email)
ibm_db.execute(stmt)
account = ibm_db.fetch_assoc(stmt)

if account:
return "true"

return "false"



@app.route("/")
def hello_world():
return "<p>Welcome to news tracker api</p>"



@app.route("/userpresent", methods=['POST'])
def db2():
email = request.json['email']
isPresent = userPresent(email)
return isPresent



@app.route("/createuser", methods=['POST'])
def createuser():
try:
Thread(target=userTask, args=(
```

```
request.json['email'], request.json['name'])).start()
return jsonify(success=True, message="User created")
except:
return jsonify(success=False, error="Missing email or name")


@app.route("/getblurhash", methods=['POST'])
def getblurhash():
url = request.json['url']
response = requests.get(url)
hash = blurhash.encode(numpy.array(Image.open(
BytesIO(response.content)).convert("RGB")))
print(hash)
return jsonify(hash=hash)


@app.route("/bookmark", methods=['POST'])
@cross_origin()
def Bookmark():
try:
Thread(target=bookMarkTask, args=(
request.json['email'], request.json['content'])).start()
return jsonify(success=True, message="Bookmarked")
except:
return jsonify(success=False, error="Missing email or content")


@app.route("/getbookmarks", methods=['POST'])
def getbookmarks():
email = request.json['email']

sql = "SELECT Content FROM Bookmark WHERE Email = ?"
```

```
stmt = ibm_db.prepare(conn, sql)
ibm_db.bind_param(stmt, 1, email)
ibm_db.execute(stmt)

response = []

bookmarks = ibm_db.fetch_assoc(stmt)

if not bookmarks:
return jsonify(success=True, error="No bookmarks found")

while bookmarks != False:
response.append(bookmarks)
bookmarks = ibm_db.fetch_assoc(stmt)

response = json.dumps(response)
return jsonify(success=True, bookmarks=response)



def bookMarkTask(email, content=None):
sql = "INSERT INTO Bookmark (Email, Content) VALUES(?, ?)"
stmt = ibm_db.prepare(conn, sql)
ibm_db.bind_param(stmt, 1, email)
ibm_db.bind_param(stmt, 2, content)
ibm_db.execute(stmt)



def userTask(email, name=''):
isPresent = userPresent(email)

if isPresent != "true":
sql = "INSERT INTO User (Name, Email) VALUES (?, ?)"
```

```
stmt = ibm_db.prepare(conn, sql)
ibm_db.bind_param(stmt, 1, name)
ibm_db.bind_param(stmt, 2, email)
ibm_db.execute(stmt)
print('created user')
```

```
//global.css
@import
url('https://fonts.googleapis.com/css2?family=Montserrat:wght@400;500;700;900&display=swap');

@tailwind base;
@tailwind components;
@tailwind utilities;

# next { height: 100% }
body {
min-height: 100vh;
min-height: -webkit-fill-available;
}
html {
height: -webkit-fill-available;
}
html,
body {
position: relative;
height: 100%;
background: linear-gradient(to bottom, #141b29, #0c111b 300px);
overflow: hidden;
font-family: 'Montserrat', sans-serif;
}
.swiper {
width: 100%;
height: 100%;
}
```

```
.swiper-slide {
@apply flex justify-center;
}

.PopoverContent {
transform-origin: var(--radix-popover-content-transform-origin);
animation: scaleIn 0.5s ease-out;
}

@keyframes scaleIn {
from {
opacity: 0;
transform: scale(0);
}
to {
opacity: 1;
transform: scale(1);
}
}

.PopoverContent {
animation-duration: 0.6s;
animation-timing-function: cubic-bezier(0.16, 1, 0.3, 1);
}
.PopoverContent[data-side='top'] {
animation-name: slideUp;
}
.PopoverContent[data-side='bottom'] {
animation-name: slideDown;
}
```

```
[data-radix-popper-content-wrapper] {
z-index: 1 !important;
}

.ScrollAreaRoot {
width: 200px;
height: 225px;
border-radius: 4px;
overflow: hidden;
--scrollbar-size: 10px;
}

.ScrollAreaViewport {
width: 100%;
height: 100%;
border-radius: inherit;
}

.ScrollAreaScrollbar {
display: flex;
user-select: none;
touch-action: none;
padding: 2px;
width: 7px;
transition: background 160ms ease-out;
}

.ScrollAreaScrollbar[data-orientation='horizontal'] {
flex-direction: column;
height: var(--scrollbar-size);
```

```
}


.ScrollAreaThumb {
flex: 1;
border-radius: var(--scrollbar-size);
position: relative;
}

.DialogOverlay {
background-color: var(--blackA9);
position: fixed;
inset: 0;
animation: overlayShow 150ms cubic-bezier(0.16, 1, 0.3, 1);
}

.DialogContent {
background-color: white;
border-radius: 6px;
box-shadow: hsl(206 22% 7% / 35%) 0px 10px 38px -10px, hsl(206 22% 7% / 20%) 0px 10px 20px -15px;
position: fixed;
top: 50%;
left: 50%;
transform: translate(-50%, -50%);
width: 90vw;
max-width: 450px;
max-height:  85vh;
padding: 25px;
animation: contentShow 150ms cubic-bezier(0.16, 1, 0.3, 1);
}
.DialogContent:focus {
outline: none;
```

```
}

@keyframes slideDown {
from {
opacity: 0;
transform: translateY(-10px);
}
to {
opacity: 1;
transform: translateY(0);
}
}

@keyframes slideUp {
from {
opacity: 0;
transform: translateY(10px);
}
to {
opacity: 1;
transform: translateY(0);
}
}
//util.ts
const documentHeight = () => {
const doc = document.documentElement;
doc.style.setProperty("--doc-height", `${window.innerHeight}px`);
};
export default documentHeight;
//Kubernetes file
apiVersion: apps/v1
kind: Deployment
```

```
metadata:
name: flask-server

spec:
replicas: 3
selector:
matchLabels:
app: flask-server
template:
metadata:
labels:
app: flask-server

spec:
containers:
- name: flask-server
image: icr.io/abishek/flask-server
imagePullPolicy: Always
ports:
- containerPort: 8080
protocol: TCP

---

apiVersion: v1
kind: Service
metadata:
name: flask-server-service
spec:
type: ClusterIP
ports:
- port: 8080
```

selector:

app: flask-server

---

apiVersion: networking.k8s.io/v1

kind: Ingress

metadata:

name: flask-server-ingress

annotations:

kubernetes.io/ingress.class: nginx

nginx.ingress.kubernetes.io/ssl-redirect: "false"

spec:

rules:

- http:

paths:

- backend:

service:

name: flask-server-service

port:

number: 8080

path: /

pathType: Prefix

//Dockerfile

FROM python:3.8

WORKDIR /app

COPY requirements.txt requirements.txt

RUN pip install --no-cache-dir -r requirements.txt

COPY . .

EXPOSE 8080

CMD ["waitress-serve", "--host", "0.0.0.0", "server:app"]

Github link:https://github.com/IBM-EPBL/IBM-Project-21822-1659792147.git

Video Link:https://youtu.be/Jw0sKAaoKeE