IBM – NALAIYATHIRAN PROJECT

PROJECT REPORT

TEAM ID	PNT2022TMID14504
PROJECT NAME	News Tracker Application
COLLEGE NAME	R.M.K College of Engineering and Technology
TEAM MEMBERS	Vishal G (111619104169)-Team Leader Sivaram V (111619104140) Sugathithyan M (111619104147) Vignesh S (111619104167)

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1. INTRODUCTION:

1.1 PROJECT OVERVIEW:

As news is increasingly accessed on smart phones and tablets, the need for personalizing news app interactions is apparent. We report a series of three studies addressing key issues in the development of adaptive news app interfaces. We first surveyed users' news reading preferences and behaviors; analysis revealed three primary types of reader. We then implemented and deployed an Android news app that logs users' interactions with the app. We used the logs to train a classifier and showed that it is able to reliably recognize a user according to their reader type. Finally, we evaluated alternative, adaptive user interfaces for each reader type. The evaluation demonstrates the differential benefit of the adaptation for different users of the news app and the feasibility of adaptive interfaces for news apps.

Mobile news access perfectly complements the continuously updating, 24-hour nature of digital news services. But if users are now never out of range of the news, they need more than ever for that access to be adaptive and personalised. Personalised news services are already able to help people find news that is relevant to them, to recommend the right news to the right users, and to help users keep abreast of news by aggregation over multiple sources.

1.2 PURPOSE:

News is one of the primary source of gaining information about the actions and events that happen all around. It may be an event that happened in the past, happening now or going to happen in the future. In the present days where there is a rapid increase in the development and adaptability of technologies throughout all the demographic of people, it is necessary to provide news in such away that it is inter connected with the current technological trends. As our lives are very busy these days,we often feel we need more than 24hrs.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 is relevant and save your time. This app helps you to query for all information about Indices Commodities, Currencies, FutureRates, Bonds, etc.…as on official websites.

2. LITERATURE SURVEY:

2.1 EXISTING PROBLEM:

A Well articulated customer's existing problem statement allows us and our team to find the ideal solution for the challenges our customer facing. Like user's are not possible to get latest news in their busy schedule. Some existing application makes user to subscribe to get news, contains unecssary ads, not getting relevant news and no customization filters for news in their application so that user's can't able to manage their daily busy schedule in there life. So throughout the process, we'll also able to to emphatize with our customers, which helps us better understand how they perceive our product or service .

2.2 REFRENCES:

- Ofcom, News consumption in the UK, Public report (2014).
- Pew Research Centre, The Future of Mobile News, Public report (2012).
- Reuters Institute, Tracking the future of news, Public Report (2014)
- Billsus, D. & Pazzani, M. Adaptive news access. In The adaptive web. Springer Berlin

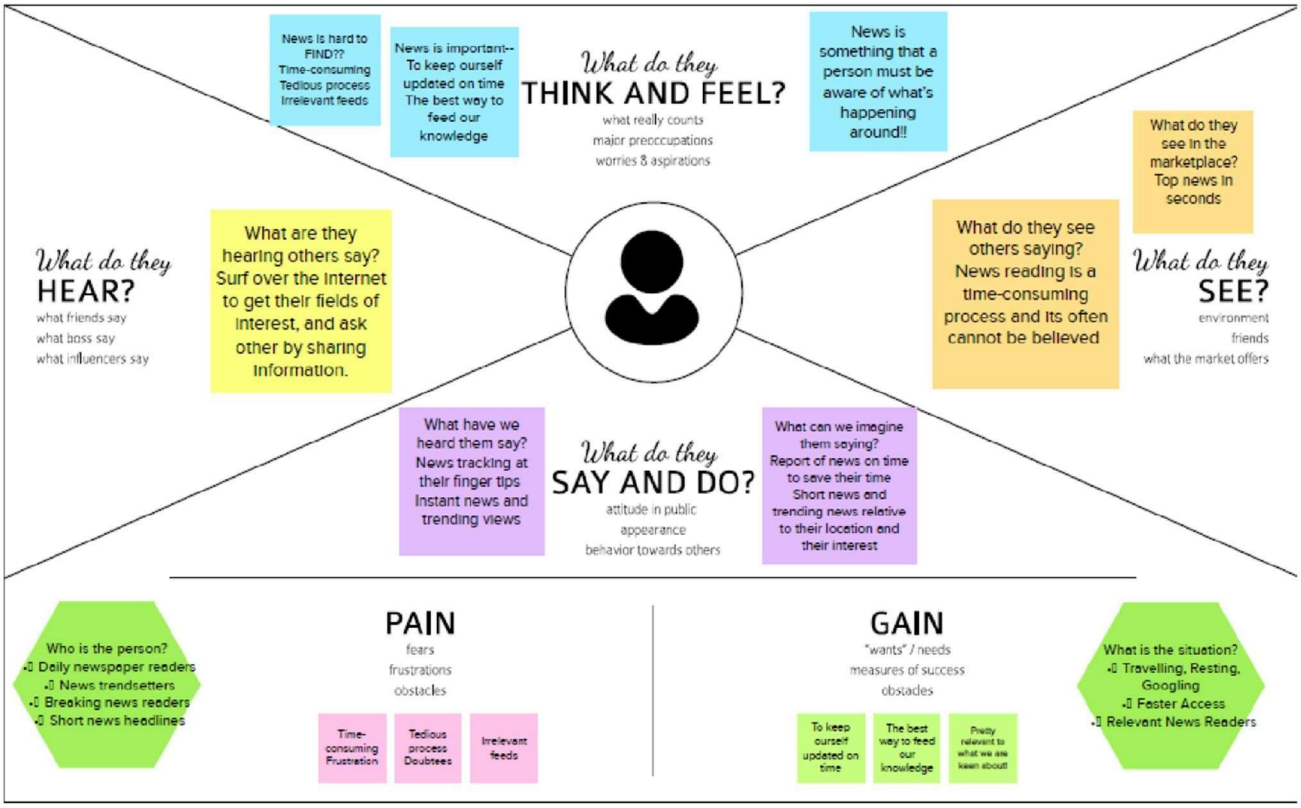
2.3 PROBLEM STATEMENT DEFINITION:

The user is not able to identify the valuable news or valuable news application to manage their schedule. In other existing application users need to face issues like they haven't getting proper news, subscribe to get news and user time is not saved and they can’t able to manage their schedule in their daily life. In this application user will get relevant news according to their choices. In the context of changing the conventional reading method. We will aware of knowing the interested and uninterested topic of the user in which user will get relevant content what they need by providing the news feed feature which contain quick short news where users time is saved .As we are using IBM CLOUD so as users increasing automatically the storage will scale up. Designing the app by using feasible tech stack.

3. IDEATION & PROPOSED SOLUTION:

3.1 EMPATHY MAP CANVAS:

An empathy map is a simple, easy-to- digest visual that captures knowledge about user's behaviour and attitudes. It is useful tool to helps team better understand their users. creating an effective solution requires understanding the true problem and the person who is experiencingit. The exercise of creating the map helps participants consider things from the user's perspective along with his or her goals and challenges.



3.2 IDEATION & BRAINSTROMING:

Brainstorming provides a free and open environment that encourages everyone within a team to participate in the creative thinking process that leads to problem solving. Prioritizing volume over value, out-of-the-box ideas are welcome and built upon, and all participants are encouraged to collaborate, helping each other develop a rich amount of creative solutions.

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

- Aesthetic UI Design
- Responsive UI
- Clear instructions

Core Functionalities

- Email notification functionality
- Use social media in right way
- Stay updated with latest news

Marketing

- Daily and weekly reports on E-mail
- Posters and social media marketting
- Media monitoring services

Brainstorm

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

10 minutes

TIP

You can select a sticky note and hit the pencil [switch to sketch] icon to start drawing!

Vishal G

- Aesthetic UI Design
- Responsive UI
- Clear instructions

Vignesh S

- Email notification functionality
- Posters and social
- Media monitoring services

Sivaram V

- Collaboration with Google Calendar
- Stay updated with latest news
- Awareness page inside the app

Sugathithiyan M

- Listen to podcasts
- Daily and weekly reports on E-mail
- Fast fixing of bugs

3.3 PROPOSED SOLUTION:

1. **Problem Statement (Problem to be solved):**

We encounter several events of local and national significance every day, and we rely on NEWS to inform us about them. However, we recently found there isn't a single platform that does both. As a result, we identified a social need and created a platform that offers such news in the form of brief films that are taken from the most reliable sources worldwide.

2. **Idea / Solution description**:

We deliver news in the form of quick videos. Distributing news from a reliable, trustworthy source everywhere, preventing the spread of false information. We offer local news in locations where there was already a news channel.

3. **Novelty / Uniqueness:**

One platform to read all of his/her favorite local news, dependence on search engines and social media. We added multiple languages to our platform so that locals could readily understand it.

4. **Social Impact / Customer Satisfaction:**

We identified a social need and created a platform that offers such news in the form of brief films that are taken from the most reliable sources worldwide.

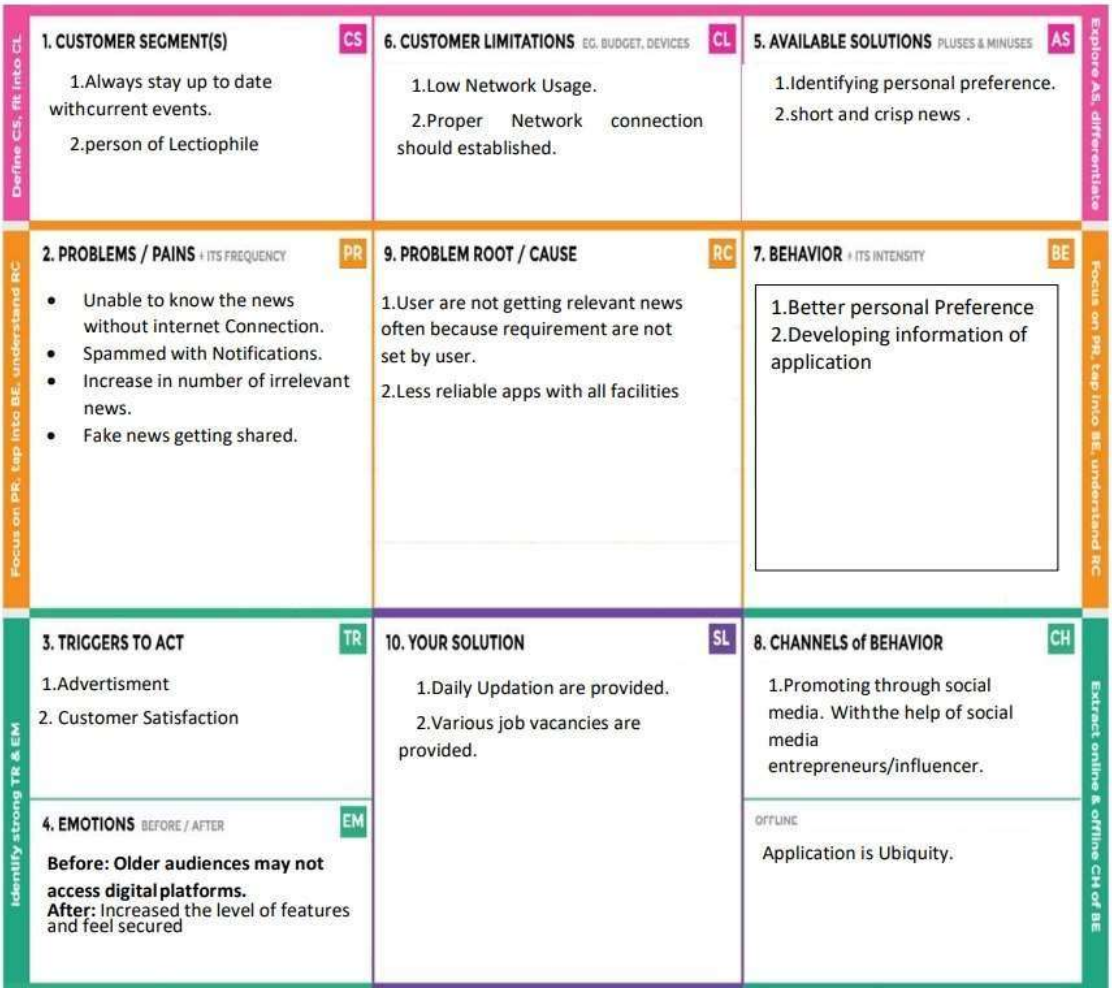
5. **Business Model (Revenue Model):**

The user interacts with the application. Registers by giving the details. Integrate the application with news API and store the data in the database. The database will have all the details and the user can search the news by using a search bar.

6. Scalability of the Solution:

This app helps to query for all information about Indices, Commodities, Currencies, Future Rates, Bonds, etc…. as on official websites.

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 playstore or from the website
FR-2	User Registration	Registration through Form Registration through Gmail
FR-3	User Confirmation	Confirmation via Email Confirmation via OTP
FR-4	User Login	User should login the app with the user name and password

Non-functional Requirements:

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

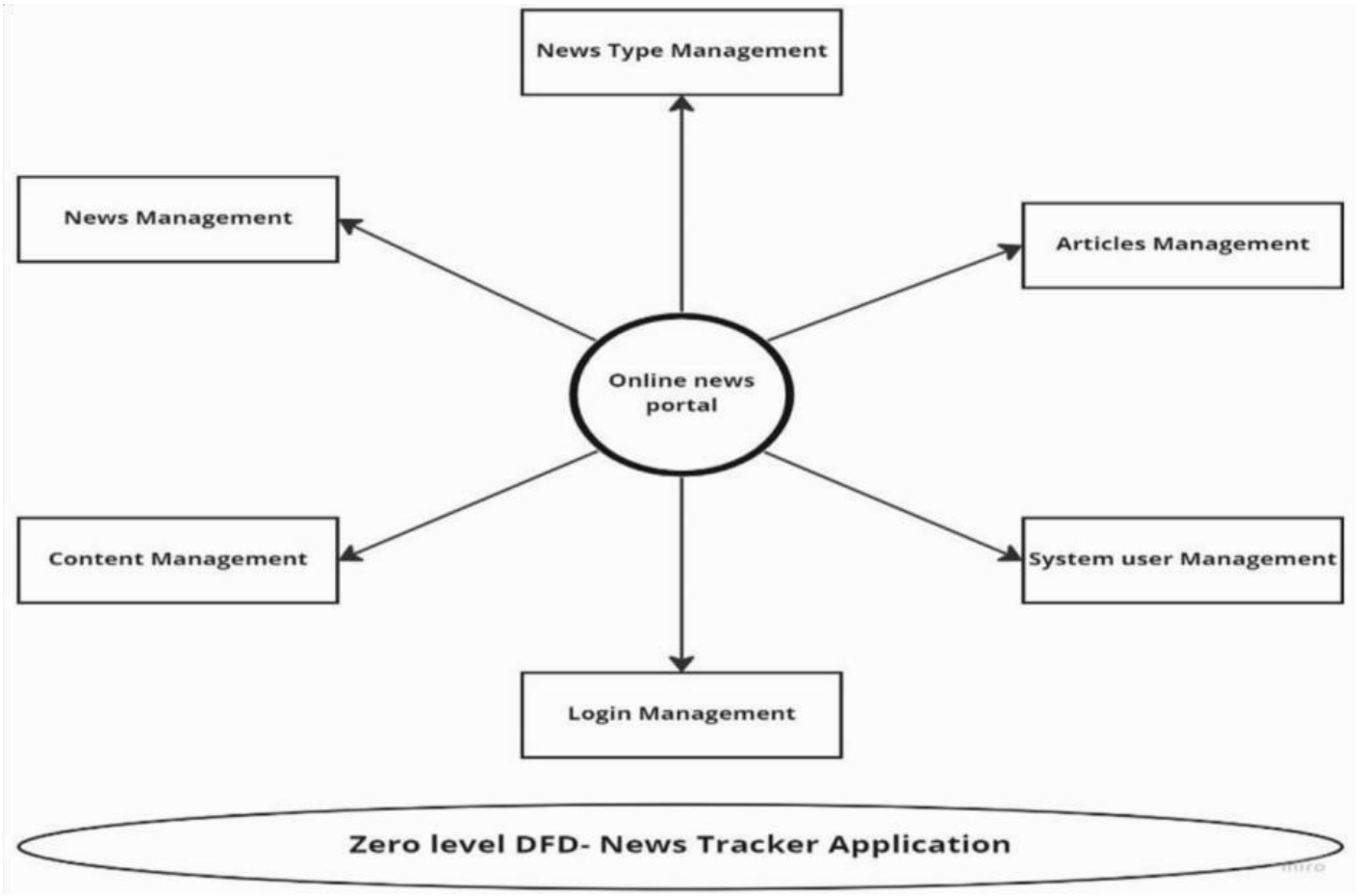
FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	Everyone can understand the process of using the app easily by the commands given in the app.
NFR-2	**Security**	It is a more secured app. No fake news can be shared.
NFR-3	**Performance**	Performance of the app is very great

5. PROJECT DESIGN:

5.1 DATA FLOW DIAGRAM:

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.

DATA FLOW DIAGRAM OF NEWS TRACKER APPLICATION:

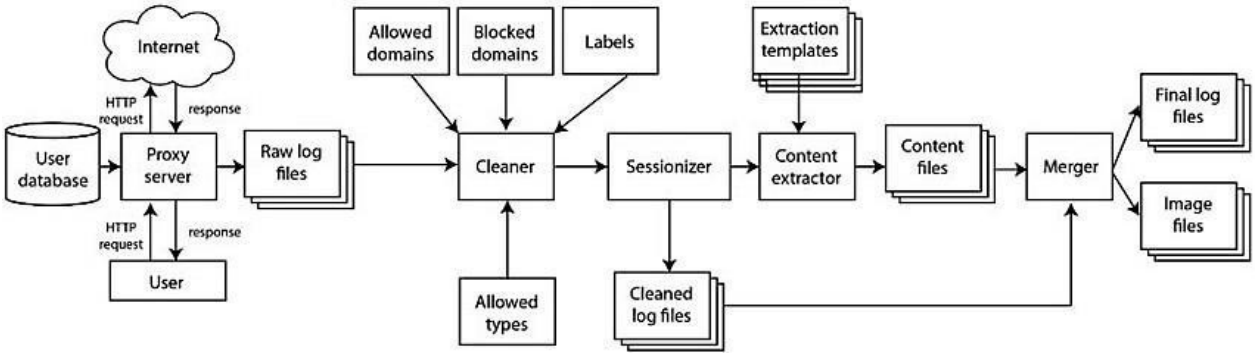


5.2 SOLUTION AND TECHNICAL ARCHITECTURE:

SOLUTION ARCHITECTURE:

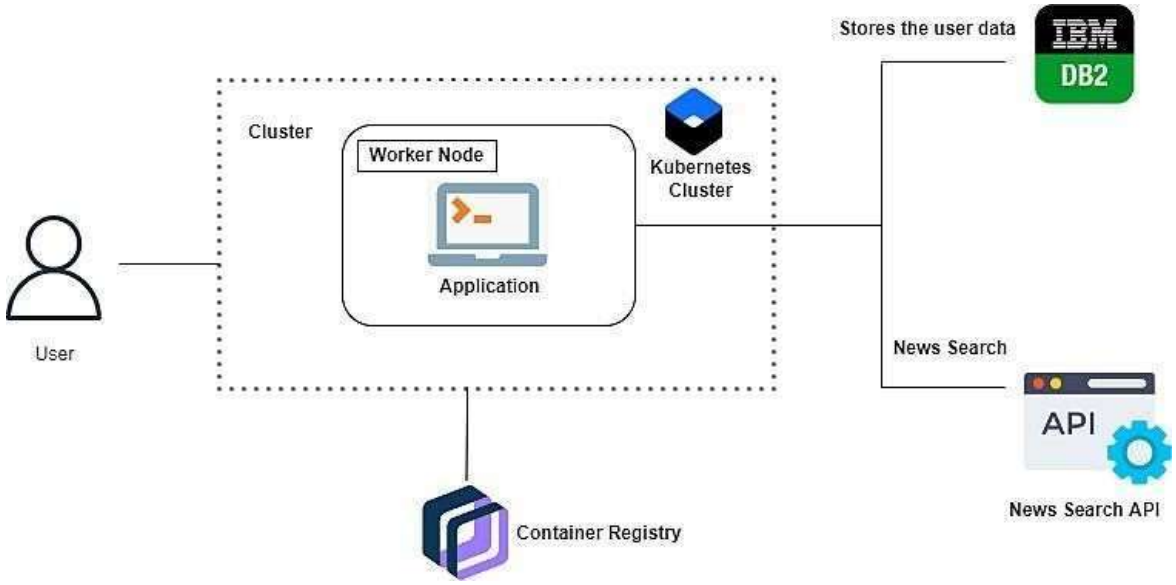
It is a complex process-with many sub process-that bridges the gap between business problems and technology solutions.

- Find the best tech solution to solve existing business problems
- Describe the structure, characteristics, behavior and other aspects of the software to project stakeholders.
- Define features, development phases and solution requirements
- Provide specifications according to which the solution is defined, managed and delivered.



TECHNICAL ARCHITECTURE:

The Deliverable shall include the architectural diagram as below and the information as



5.3 USER'S STORIES :

USER TYPE - CUSTOMER(MOBILE USER)

FUNCTIONAL REQUIREMENT:

REGISTRATION:

As a user, I can register for the application by entering my email,password,and confirming my password.

LOGIN:

As a user,i will receive notification of current or latest news.

DASHBOARD:

- As a user, I can like, save, share and comment the news.
- As a user, I can access to live streaming.
- As a user, I can read news in my preferenced language.

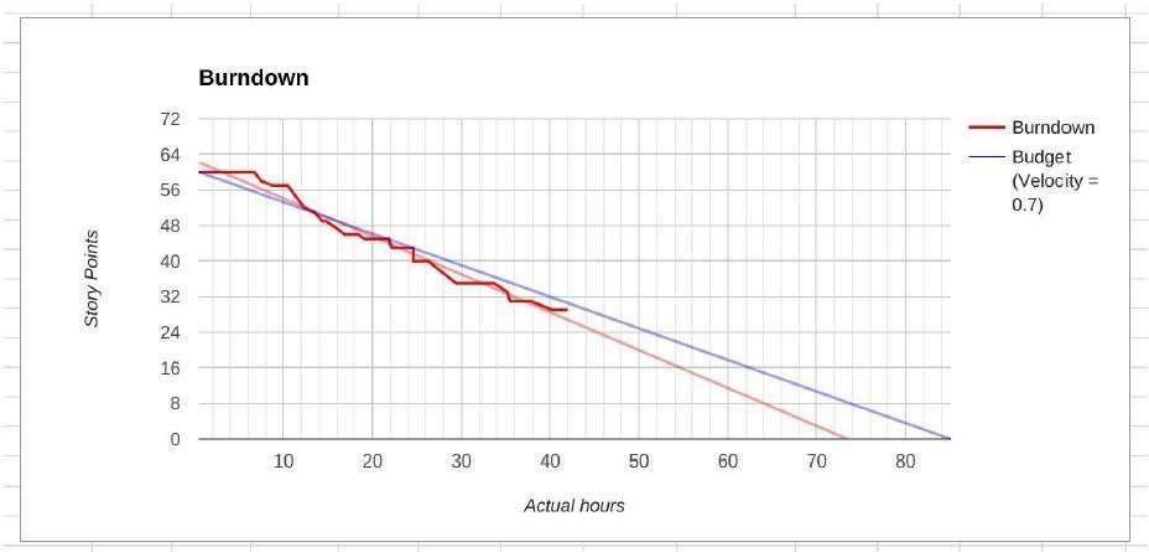
6. PROJECT PLANNING AND SCHEDULING:

6.1 SPRINT PLANNING AND ESTIMATING:

Sprint planning is an event in scrum that kicks off the sprint. The purpose of sprint planning is to define what can be delivered in the sprint and how that work will be achieved. Sprint planning is done in collaboration with the whole scrum team.

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

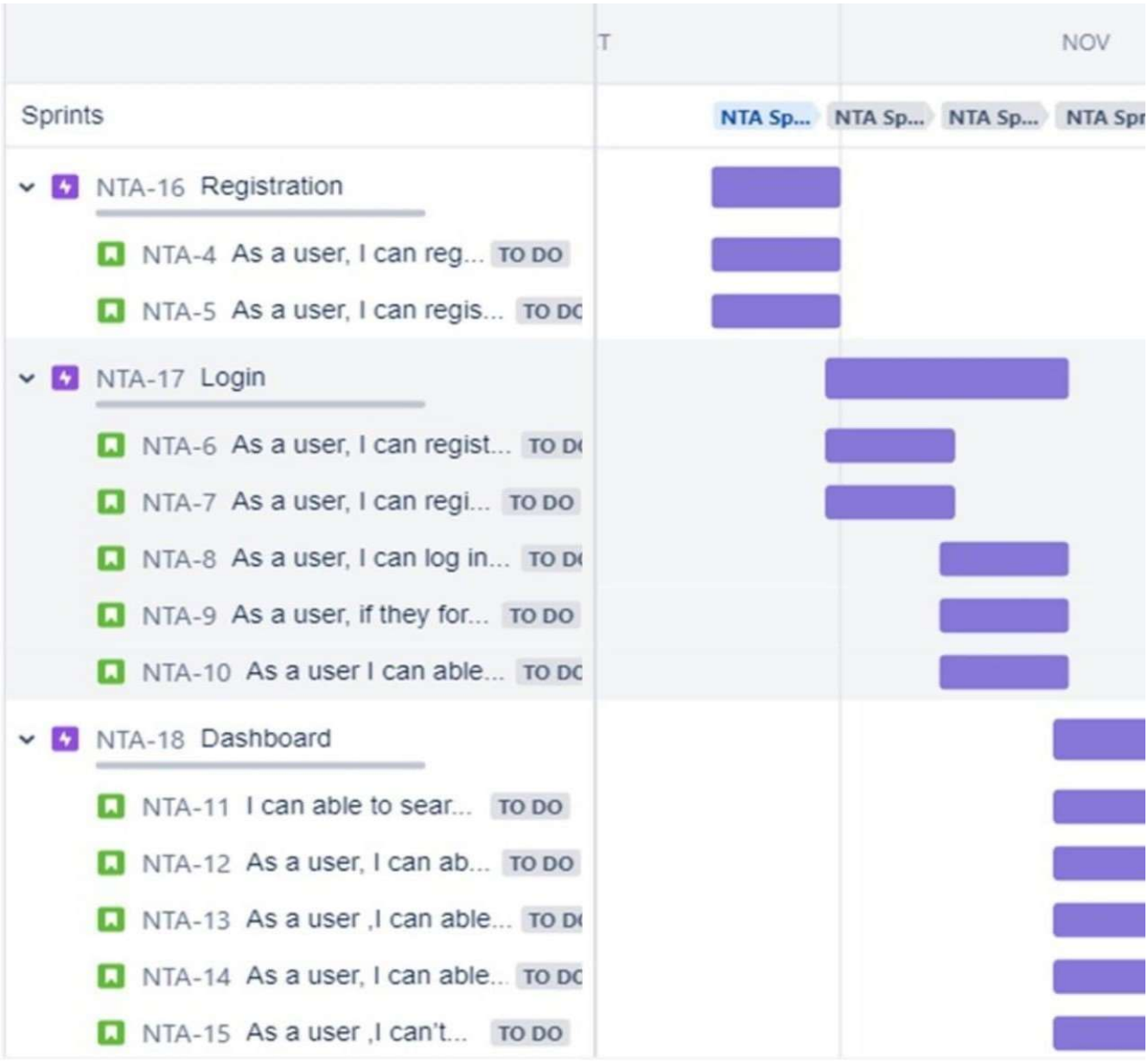
$$AV=\text{sprint duration}/\text{velocity}=20/10=2$$



SPRINT SCHEDULING:

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task
Sprint-1	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.
Sprint-1		USN-2	As a user, I can register for the application by entering my email, password, and confirming my password.
Sprint-2		USN-3	As a user, I can register for the application through GOOGLE
Sprint-2		USN-4	As a user, I can register for the application through Gmail and phonenumber
Sprint-3	Login	USN-5	As a user, I can log into the application by entering username or email & password.
Sprint-3		USN-6	As a user, if they forget there password they can able to reset they password.
Sprint-3		USN-7	As a user I can able to logout in my application.
Sprint-4	Dashboard	USN-8	I can able to search various news according to my preferences.
Sprint-4		USN-9	As a user, I can able to like ,save,comment and share the news to other applications
Sprint -4		USN-10	As a user ,I can able to see my feeds feature which contains user history.
Sprint-4		USN-11	As a user, I can able to customized and personalized my news.
Sprint-4		USN-12	As a user ,I can't able to see unnecessary ads.

6.2 REPORTS FROM JIRA:



7. CODING & SOLUTIONING:

7.1 FEATURE - 1:

EMAIL SENDER:

If a new user login to our web application email will be sent to them like "Welcome To NewsTracker Application".

```
def emailSender(email, token):
    configuration = sib_api_v3_sdk.Configuration()
    configuration.api_key['api-key'] = app.data['mail_api_key']
    api_instance = sib_api_v3_sdk.TransactionalEmailsApi(
        sib_api_v3_sdk.ApiClient(configuration))
    now = datetime.now()
    dt_string = now.strftime("%d/%m/%Y %H:%M:%S")
    msg = {}
    msg['Subject'] = "Verfiy your NewsTracker Account"
    msg['From'] = {"name": "News Tracker Dev Team",
                   "email": "verify@newstracker.com"}
    msg['To'] = [{"email": email}]
    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'
    html = f"""\
    <html>
        <head></head>
        <body>
        <p>Welcome to NewsTracker </p>
        <br>
        <p>Hurray🎉, you just registerd at NewsTracker<br><br>
        Please click the following link to verify your account:<br>
        <a href="http://127.0.0.1:5500/frontend/pages/verify.html?token={token}">Click Here to Verify 😇</a>
        </p>
        <br>
        <p>⚠️Note: This link expires within one hour from the time sent</p>
        <br><br>
        <p>Regrads,<br></p>
        <p><a href="https://localhost:5000">NewsTracker Dev Team</a></p>
        <br><br>
        <p>Email sent at {dt_string}</p>
        </body>
    </html>
    """
    send_smtp_email = sib_api_v3_sdk.SendSmtpEmail(
        to=msg['To'], html_content=html, sender=msg['From'], subject=msg['Subject'],text_content=msg['Text'])
    try:
        api_response = api_instance.send_transac_email(send_smtp_email)
        print(api_response)
    except ApiException as e:
        print("Exception when calling SMTPApi->send_transac_email: %s\n" % e)


def newEmailSender(email):
    token = generate_confirmation_token(email)
    emailSender(email, token)
```

7.2 FEATURE 2:

BOOKMARKS:

It's a unique feature will allows user to save the news and read when they needed in future.

```
class Bookamark(Resource):
    @token_required
    def get(email,self):
        bookmarks_id=selectQuery('SELECT BOOKMARKS FROM USER WHERE EMAIL=?',(email,))['BOOKMARKS']
        bookmarks_id=bookmarks_id.split(',')
        bookmarks=[]
        if(bookmarks_id==['']):
            bookmarks_id=[]
        for x in bookmarks_id:
            data=selectQuery('SELECT DATA FROM BOOKMARK WHERE ID=?',(x,))['DATA']
            bookmarks.append(data)
        resp={"data":bookmarks,"id":bookmarks_id}
        return resp,200

    @token_required
    def post(email,self):
        req=request.json
        news=req["news"]
        # Query to check previous inserted
        id=selectQuery('SELECT ID FROM BOOKMARK WHERE DATA=?',(news,))
        if(id==False):
            insertQuery('INSERT INTO BOOKMARK (DATA) VALUES (?)',(news,))
            id=selectQuery('SELECT ID FROM BOOKMARK WHERE DATA=?',(news,))['ID']
        else:
            id=id['ID']
        new_bookmarks_id=[]
        bookmarks_id=selectQuery('SELECT BOOKMARKS FROM USER WHERE EMAIL=?',(email,))
        if(bookmarks_id==False):
            bookmarks_id=[]
        else:
            bookmarks_id=bookmarks_id['BOOKMARKS']
            bookmarks_id=bookmarks_id.split(',')
        if(bookmarks_id==['']):
            bookmarks_id=[]
        insertCurr=True
        for x in bookmarks_id:
            new_bookmarks_id.append(x)
            if(int(x)==id):
                insertCurr=False
        if(insertCurr):
            new_bookmarks_id.append(str(id))
            x=",".join([str(i) for i in new_bookmarks_id])
            @after_this_request
            def inserter(response):
                insertQuery('UPDATE USER SET BOOKMARKS=? WHERE EMAIL=?',(x,email))
```

7.3 FEATURE - 3:

PASSWORD:

For security purposes we are doing encryption of password.

```
import bcrypt

def genHash(password):
    salt=bcrypt.gensalt()
    bytes=password.encode('utf-8')
    hash=bcrypt.hashpw(bytes,salt)
    print(hash)
    return hash

def checkPassword(password,hash):
    hash=hash.encode('utf-8')
    bytes=password.encode('utf-8')
    res=bcrypt.checkpw(bytes,hash)
    return res
```

8. TESTING:

8.1 TEST CASE:

A test case is a set of actions performed on a system to determine if it satisfies software requirements and functions correctly. The purpose of a test case is to determine if different features within a system are performing as expected and to confirm that the system satisfies all related standards, guidelines and customer requirements. The process of writing a test case can also help reveal errors or defects within the system.

Section	Total Cases	Not Tested	Fail	Pass
Print Engine	6	0	0	6
Client Application	25	0	0	20
Security	2	0	0	2
Outsource Shipping	3	0	0	3
Exception Reporting	7	0	0	7
Final Report Output	4	0	0	4
Version Control	2	0	0	2

8.2 USER ACCEPTANCE TESTING:

1. Purpose of Document

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

2. Defect Analysis

Resolution	Severity 1	Severity 2	Severity 3	Severity 4	Subtotal
By Design	10	4	2	3	19
Duplicate	1	0	3	0	4
External	2	3	0	1	6
Fixed	11	2	4	20	37
Not Reproduced	0	0	1	0	1
Skipped	0	0	1	1	2
Won't Fix	0	5	2	1	8
Totals	24	14	13	26	77

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

3. Test Case Analysis

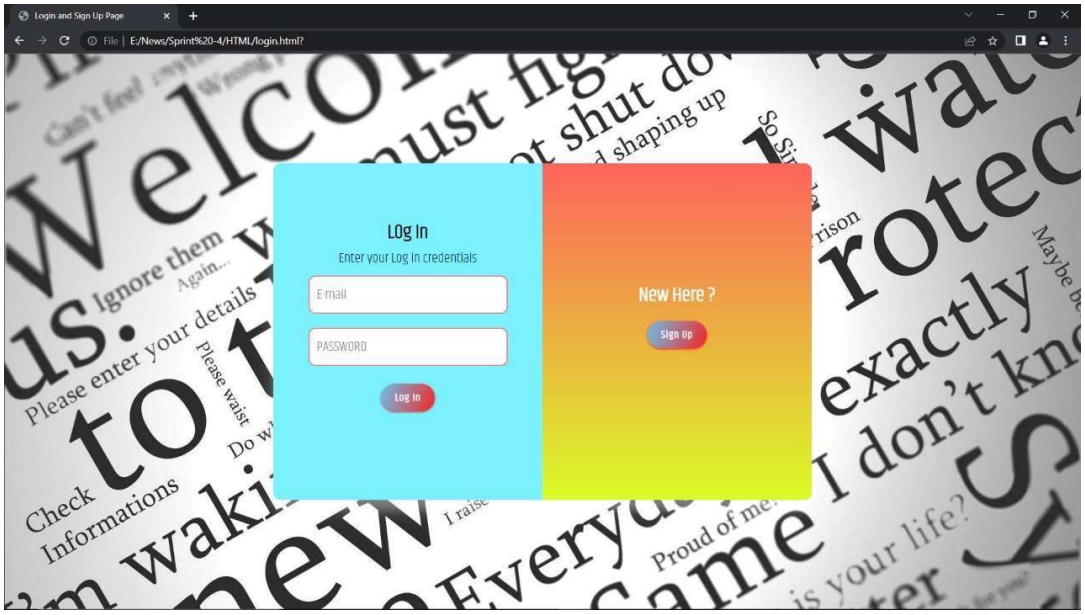
This report shows the number of test cases that have passed, failed and untested.

Section	Total Cases	Not Tested	Fail	Pass
Print Engine	6	0	0	6
Client Application	25	0	0	20
Security	2	0	0	2
Outsource Shipping	3	0	0	3
Exception Reporting	7	0	0	7
Final Report Output	4	0	0	4
Version Control	2	0	0	2

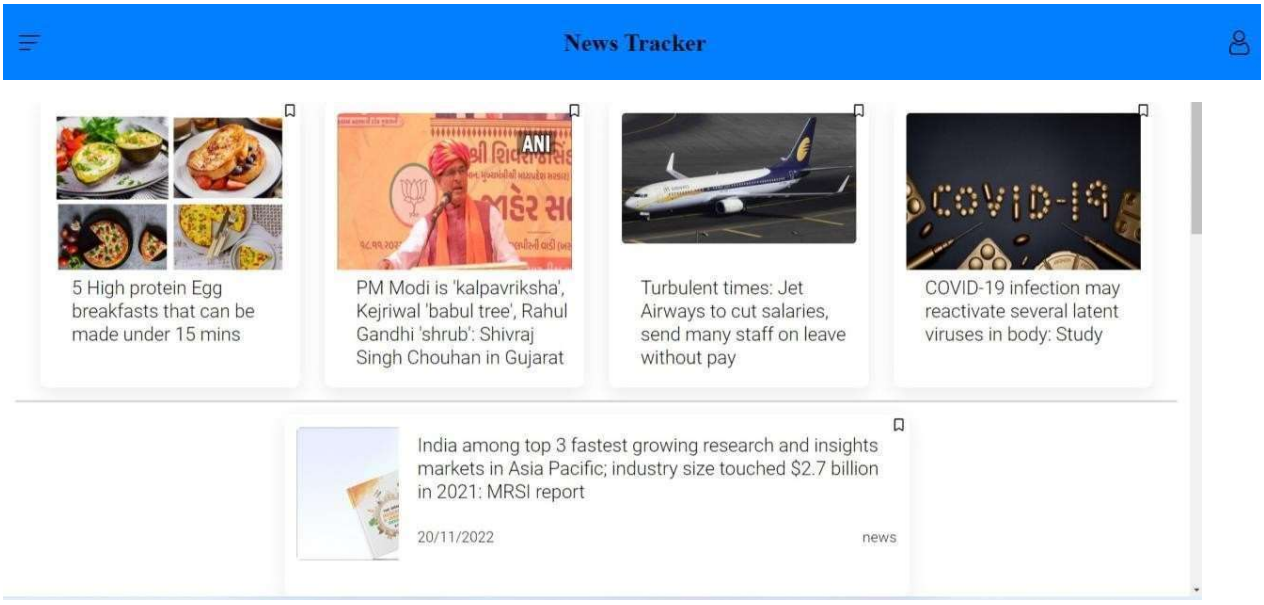
9. RESULTS:

9.1 PERFORMANCE METRICS:

Sign Up /Login Page:



Dashboard:



10. ADVANTAGES AND DISADVANTAGES:

Advantages:

- User Interface.
- Portability.
- Security.
- No Ads.
- Easier, Simpler, Requires less time, resources and capacity.
- Meets widest set of stakeholder needs.

Disadvantages:

- Internet and power connectivity dependents.
- Implemented only for android Phones.

11. CONCLUSION:

In our application user's can able to choose personalization feature for news like interested topic category feature for news like interested topic category,showing estimated reading time, according to their language they can get news,and they can use filter option fornews.

If user face any drastic incident in their life user need to manage that situation like basic life support. That feature is available in our application.

In the context of changing the conventional reading method. We will aware of knowing the interested and uninterested topic of the user in which user will get relevant content what they need by providing the news feed feature which contain quick short news where users time is saved. As we are using IBM CLOUD so as users increasing automatically the storage will scale up. Designing the app by using feasible tech stack.

Since we provide short and crisp news user time is saved.

User will get latest news, trending news of the day, based on the city, country and locationuser will get news

This application is ubiquity one users can able to access their news anytime and anywhere.

12. FUTURE SCOPE:

Since it is a news application we are planning to implement our application with more features and better version of UI. And we may integrate our own news API instead of third party API and may develop a mobile native application which will be used by both android and ios users.

13. APPENDIX:

Source Code: https://drive.google.com/drive/folders/1v7TvOm9hCBmd18Y6N1r7Uinew7GKoBZw

Project Demo Link:https://drive.google.com/file/d/1eQqbTuleRK5DgEqKK2xwv6YHA2-hU_Lf/view?usp=share_link

Github: https://github.com/IBM-EPBL/IBM-Project-30784-1660189573