

IBM – NALAIYATHIRAN PROJECT

PROJECT REPORT

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PROJECT NAME	News Tracker Application
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1.INTRODUCTION:

1.1 PROJECT OVERVIEW:

As news is increasingly accessed on smartphones 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 unnecessary 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 their life. So throughout the process, we'll also be able to empathize with our customers, which helps us better understand how they perceive our product or service.

2.2 REFERENCES:

- 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

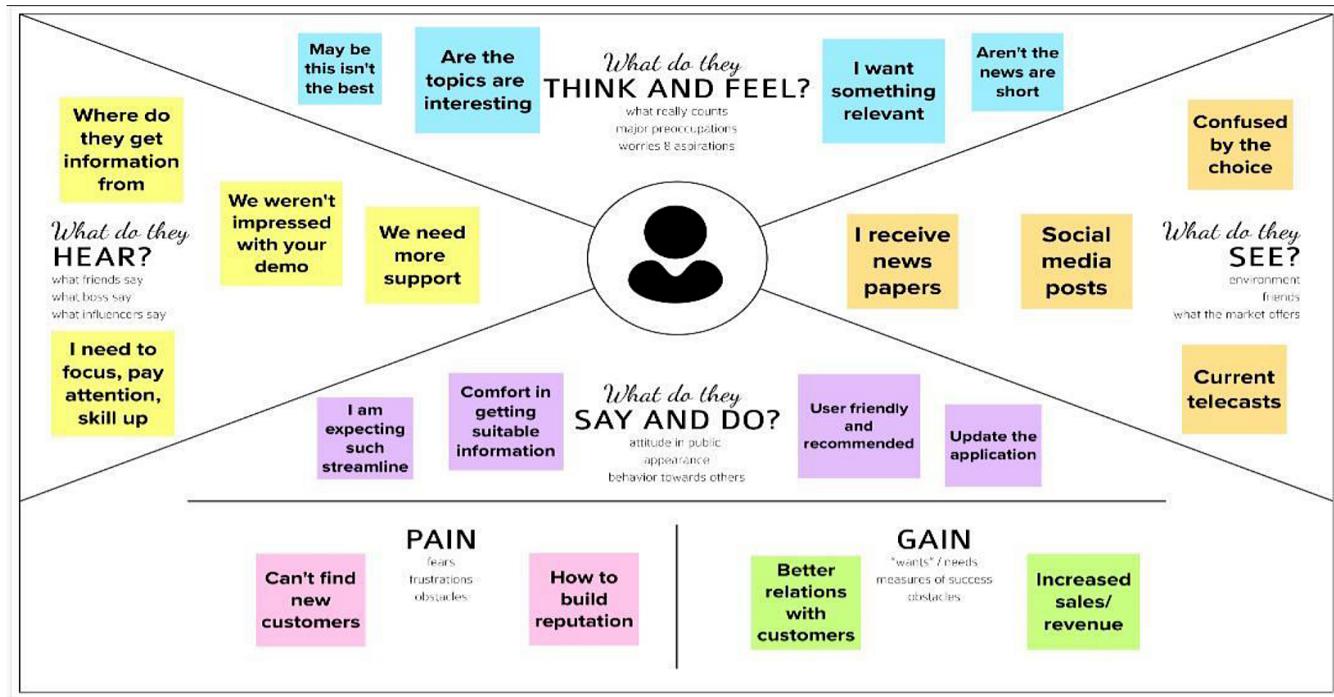
2.3 PROBLEM STATEMENT DEFINITION:

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 gotten proper news, subscribe to get news and user time is not saved and they can't be 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 be 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 contains quick short news where user's time is saved. As we are using IBM CLOUD so as users increase 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 experiencing it. 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.

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.

STEP 1: Team Gathering, Collaboration and Select the Problem Statement:

The interface features a vertical blue sidebar on the left labeled 'Template' at the top. Below it, there's a circular icon with a lightbulb and wavy lines, followed by the title 'Brainstorm & idea prioritization'. A sub-section below the title reads: '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.' To the right of this are three main sections:

- 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
- A Team gathering**:
Define who should participate in the session and send an invite. Share relevant information or pre-work ahead.
- B Set the goal**:
Think about the problem you'll be focusing on solving in the brainstorming session.
- C Learn how to use the facilitation tools**:
Use the Facilitation Superpowers to run a happy and productive session.
[Open article](#)

To the right of the main content area, there's a sidebar with the heading 'Reducing the time by personalization like interested topic, category .Providing all latest World Wide news, by customizing based on city country.'

At the bottom of the main content area, there's a button labeled '(i) Share template feedback'.

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.

STEP-2: Brainstorm, Idea Listing and Grouping:

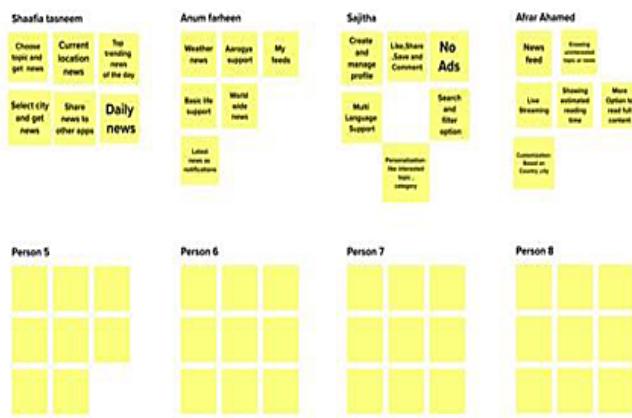
2

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!



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 can break it up into smaller sub-groups.

20 minutes



Step-3: Idea Prioritization:

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

The grid is a 2x2 matrix with 'Importance' on the Y-axis and 'Feasibility' on the X-axis. Ideas are plotted as colored boxes:

- High Importance, High Feasibility:** Top trending news of the day, My Feeds, Live Streaming, Current location, Search and filter option, Create and manage Profile.
- High Importance, Low Feasibility:** News Feed, Personalization-like interested topic category, Weather news, Arogya support, Like, Share, and Comment, Multi Language support, Select city and get news, Customization-based on country/city.
- Low Importance, High Feasibility:** Latest news as notifications, World wide news, Daily news, Choose topic and get news.
- Low Importance, Low Feasibility:** Share news to other apps.

TIP: Participants can use their cursor to move ideas around the grid. The facilitator can comment the spot by using the Insert key or pressing the H key on the keyboard.

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.

Quick add-ons

- Share the mural** Share a view link to the mural with stakeholders 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

- Strategy 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 →](#)

Share template feedback

3.3 PROPOSED SOLUTION:

1. Problem Statement (Problem to be solved):

Users are not possible to get latest news in their busy schedule.

2. Idea / Solution description:

In context of changing the conventional reading method. We will aware of knowing the interested and uninterested topics of the user through which user will get relevant content what they need. By providing the news feed feature which contain quick short news where user time is saved.

3. Novelty / Uniqueness:

Implementing unique features like no ads, Basic life support and knowing uninterested topics which makes our customer useful in their daily life.

4. Social Impact / Customer Satisfaction:

Since we provide short and crisp news user time is saved. User using the app regularly will create awareness of their surrounding.

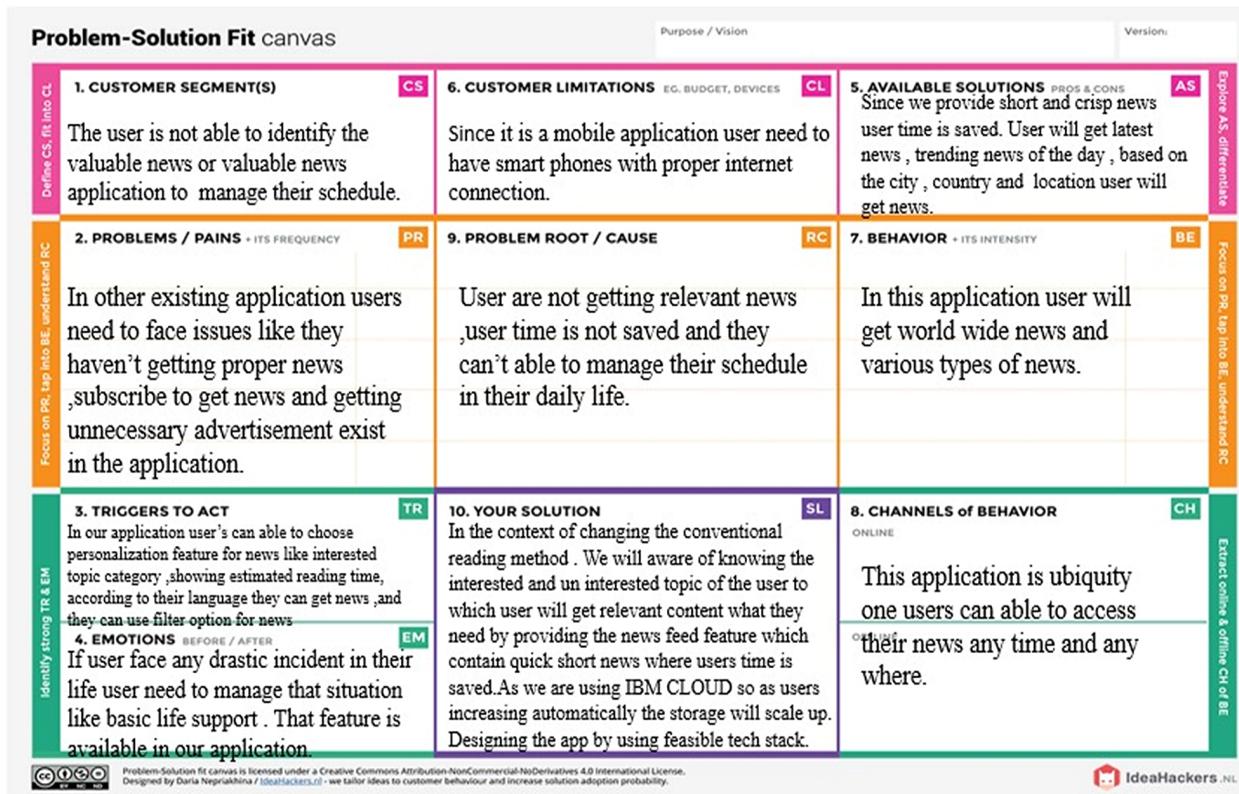
5. Business Model (Revenue Model):

The main source of profit will be from affiliated marketing. We receive profit from increasing the count of visitors and some kind of user activities such as like, share, comment and save the news.

6. Scalability of the Solution:

As we are using IBM CLOUD so as users increasing automatically the storage will scale up. Designing the app by using feasible tech stack.

3.4 PROBLEM SOLUTION FIT:



4.REQUIREMENT ANALYSIS:

4.1 FUNCTIONAL REQUIREMENTS:

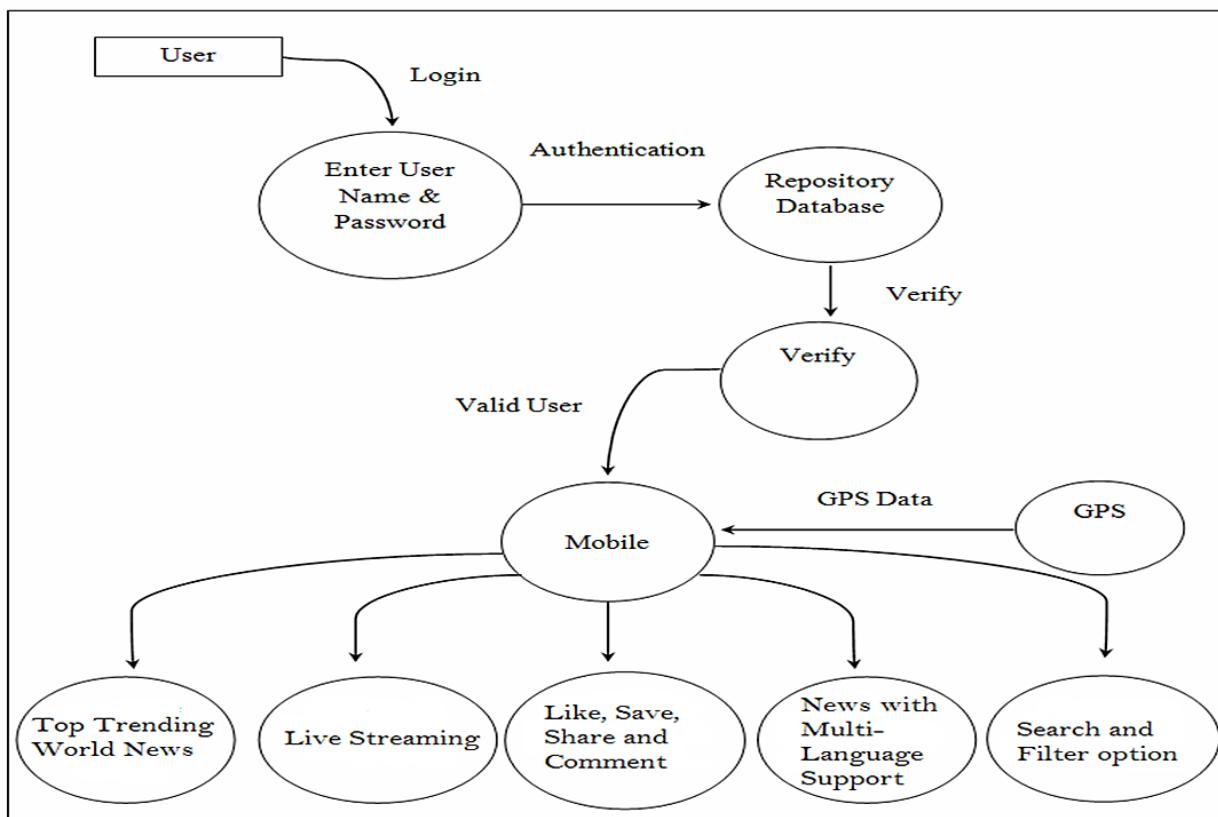
FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	User Registration
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	Reading News	Application have simple interface with possibility to observe many news with small description in one page.Pressing Link/Button “Read More” to see full information.
FR-4	Searching	Application have text field and button for “Search” and “Filter” to find any news user needed.
FR-5	Sharing	Application have tools to share this news in social networks.

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:

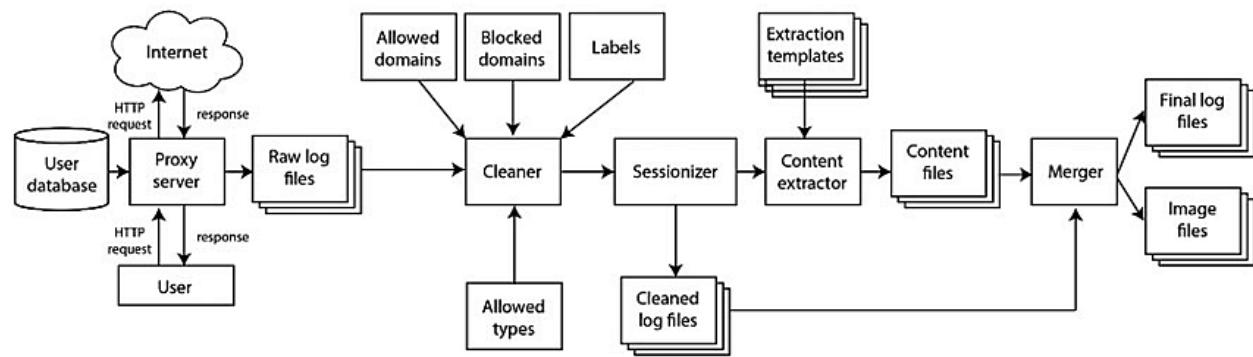


5.2 SOLUTION AND TECHNICAL ARCHITECTURE:

SOLUTION ARCHITECTURE:

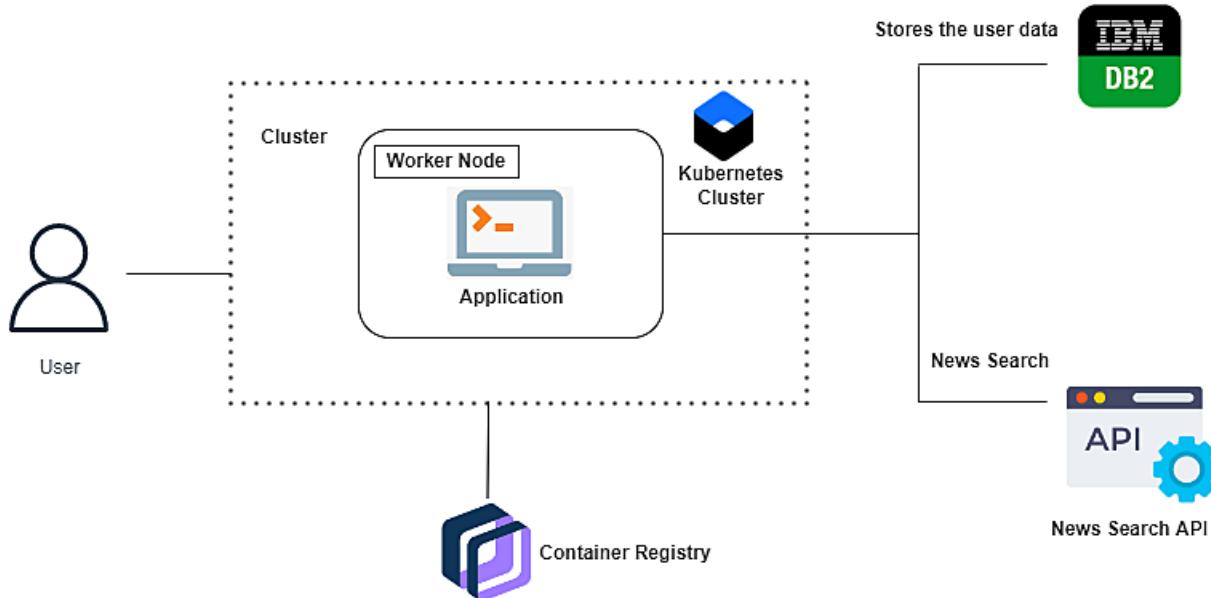
It is a complex process-wiyth many sub process-that bridges the gap between business problems and technology solutions.

- 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 ffeatures,developement 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 preferred 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).

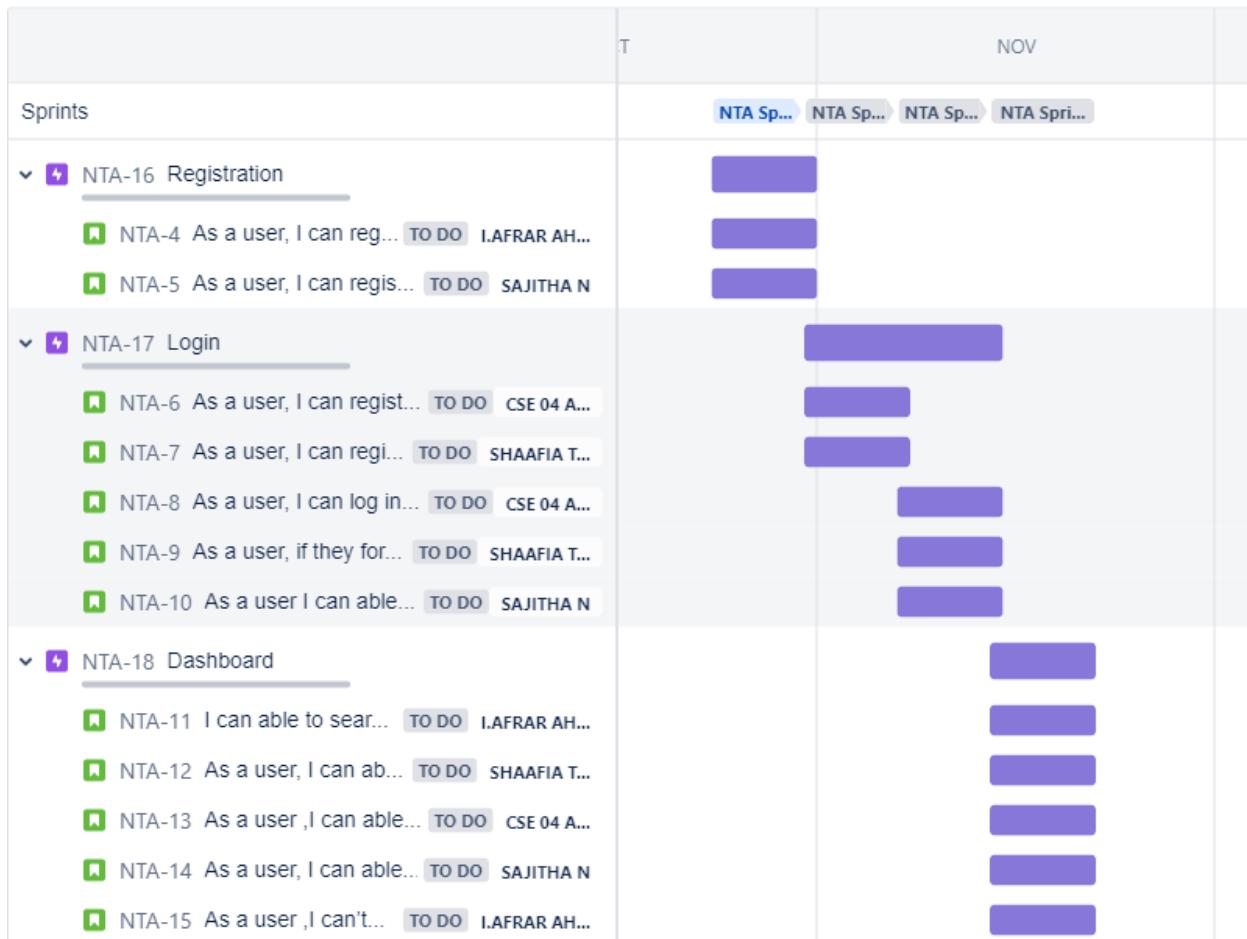
$$AV = \text{sprint duration} / \text{velocity}$$

$$= 20 / 10 = 2$$

6.2 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.

6.3 REPORTS FROM JIRA:



7. CODING & SOLUTIONING:

7.1 FEATURE - 1:

EMAIL SENDER:

If a new user login to our webapplication email will be sent to them like "Welcome To News Tracker 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'] = "Verfy 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 registered 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(f"Exception when calling SMTPApi->send_transac_email: {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 Bookmark(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.

Test case	Feature	Components	Test scenario	Expected result	Actual result	Status	Comment	Bug
Sign in	Functional	Login page	Identify whether User can see sign in option	Its visible	yes	Pass	Successful	No
Sign up	Functional	Login page	Identify whether User can see sign up option	Its visible	yes	Pass	Successful	No
Forgot password	Functional	Login page	Identify whether user can see forgot password	Its available	yes	Pass	Successful	No
Get news	Functional	Home page	Identify whether user can able to see news	Its available	yes	Pass	Successful	No
Various news	Functional	Dashboard	Identify whether the user can able to see various news	Its available	yes	Pass	Successful	No

8.2 USER ACCEPTANCE TESTING:

PURPOSE OF DOCUMENT:

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

DEFECT ANALYSIS:

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

Resolution	Severity 1	Severity 2	Severity 3	Severity 4	Sub total
By Design	11	5	2	3	21
Duplicate	1	0	3	0	4
External	3	2	0	1	6
Fixed	15	5	4	21	45
Not reproduced	0	0	1	0	1
Skipped	0	0	1	1	2
Won' Fix	0	5	2	1	8
Totals	30	17	13	27	87

TEST CASE ANALYSIS:

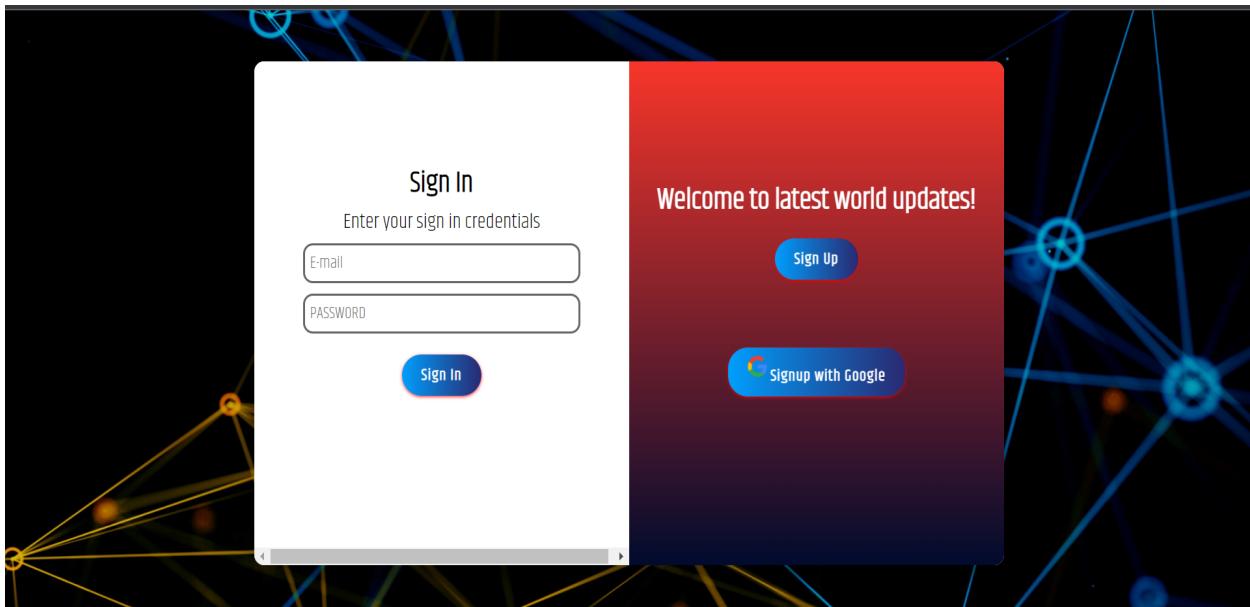
This report shows the number of test cases that have passed, failed, and untested.

Section	Total cases	Not Tested	Fail	Pass
Print Engine	8	0	0	8
Client Application	41	0	0	42
Security	4	0	0	4
Outsource Shipping	5	0	0	5
Exception Reporting	3	0	0	9
Final Report Output	4	0	0	4
Version Control	2	0	0	2

9.RESULTS:

9.1 PERFORMANCE METRICS:

Sign Up /Login Page :



Dashboard:

A screenshot of a news tracking application's dashboard. The top navigation bar is blue with the text 'News Tracker' in the center. Below the navigation bar are four news cards. The first card shows four small images of breakfast dishes and the text '5 High protein Egg breakfasts that can be made under 15 mins'. The second card shows a man speaking at a podium with the text 'PM Modi is 'kalpvriksha', Kejriwal 'babul tree', Rahul Gandhi 'shrub': Shivraj Singh Chouhan in Gujarat'. The third card shows a Jet Airways airplane on the tarmac with the text 'Turbulent times: Jet Airways to cut salaries, send many staff on leave without pay'. The fourth card shows a dark background with the word 'COVID-19' in large letters and some medical icons, with the text 'COVID-19 infection may reactivate several latent viruses in body: Study'. At the bottom of the dashboard, there is a single news card showing a small image and the text 'India among top 3 fastest growing research and insights markets in Asia Pacific; industry size touched \$2.7 billion in 2021: MRSI report' along with the date '20/11/2022' and the word 'news'.

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 for news.

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 location user will get news

This application is ubiquity one users can able to access their news any time 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](#)
- [PROJECT DEMO LINK](#)

