

A project report  
on  
**News Tracker Application**

Powered by IBM India

Submitted by

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Project ID: PNT2022TMID07083

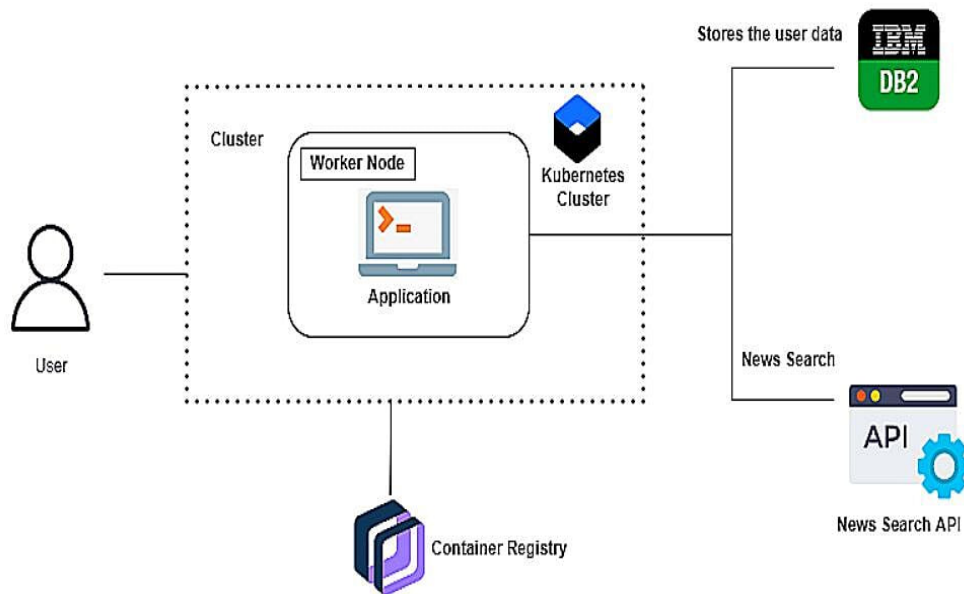
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## 1.INTRODUCTION

### 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 is relevant and save your time. This app helps you to query for all information about Indices, Commodities, Currencies, Future Rates, Bonds, etc.... as on official websites.



Technical Architecture

**Project Workflow:**

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

**2.LITERATURE SURVEY****2.1 Existing problem:**

With the rapid development of the Internet and its permeability, people get to know the latest news through online media, blogs and news feeds. Nowadays, news reading is an indispensable daily activity of many people. With the recent popularity of smart mobiles and the rapid development of the mobile Web, more and more people tend to read news online via their mobiles or other handheld devices, e.g., tablets. However, due to the huge volume of news articles generated every day, readers cannot afford to go through all the news online. So, news recommendation systems, which aim to filter out irrelevant online information and recommend to users their preferred news, have been widely studied. For easy organization, news aggregators that allow a single place to view news from various sources using API.

## 2.2 References

| S. NO | Paper Title  | Author(s)  | Month/ Year   | Method/Implementation techniques  |
|-------|--|--|---------------|---|
| 1.    | An End-to-end Weaklysupervised News Aggregation Framework              | Xijin Tang, Xiaohui Huang  | June, 2022    | The framework combines Snorkel-based weakly- supervised classification, Latent Dirichlet Allocation (LDA) topic modeling, and topic signal detection model to classify andaggregate unlabeled news.                             |
| 2.    | Exploring mobile news reading interactions for news app personalisatio | Marios Constantinid e s, John Dowell, David Johson, Sylvain Malacria | August, 2015  | 1. Identification of news reader types<br>2. Interaction logging and classification study.<br>3. Deployment and data collection<br>4. Predicting News reader types.<br>5. Adaptive UI   |
| 3.    | Detection and Tracking in News Articles                                | Sagar Patel, Sanket Suthar, Sandip Patel, Neha Patel.                | March, 2015   | 1. Pre- processing<br>2. Tokenization<br>3. Stemming/L emmization<br>4. Vector Space Model<br>5. Topic tracking   |
| 4.    | Following the Fed with a News Tracker                                  | Michael William McCrack  | January, 2012 | The paper is not a technical paper but is essentially a statistical paper on how should one conclude whether the data have come in stronger, weaker or as expected. This is based on the CitiGroup U.S Economic Surprise Index. |

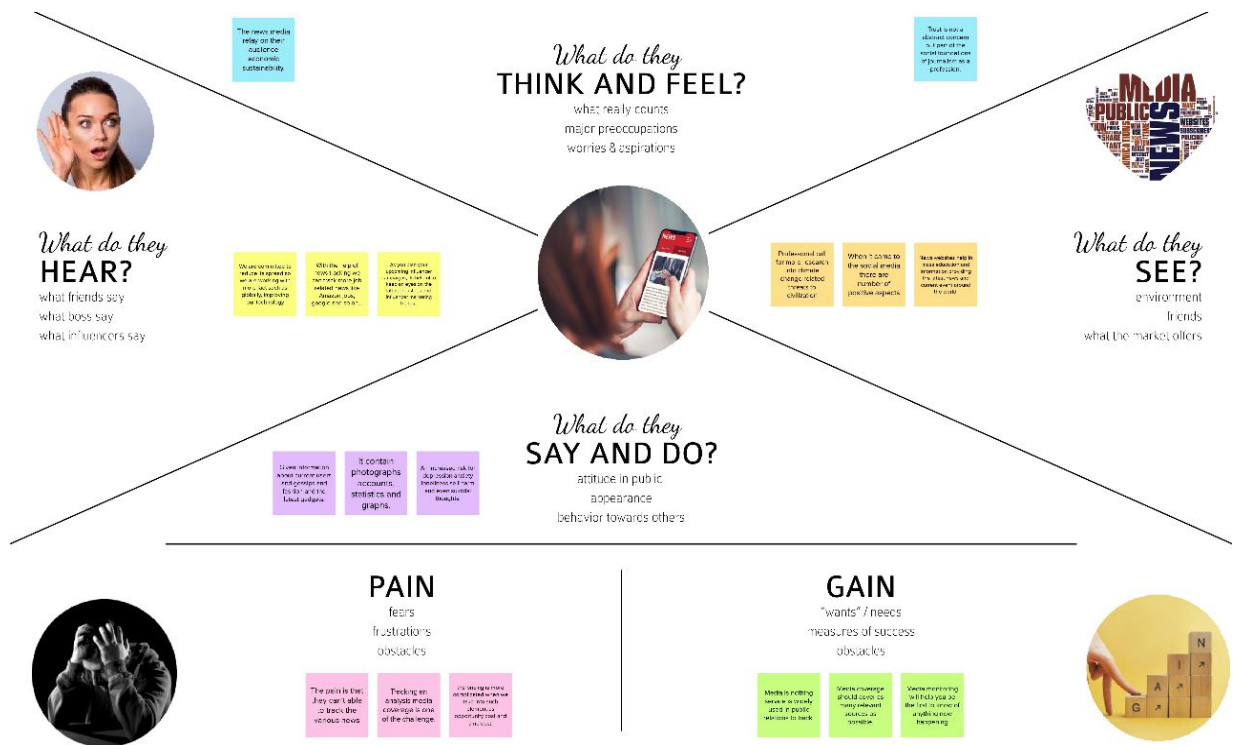
### **2.3 Reference:**

1. Hulth A. Combining machine learning and natural language processing for automatic keyword extraction. Stockholm University, Faculty of Social Sciences, Department of Computer and Systems Sciences (together with KTH), 2004.
2. Anton Mykhailiuk, A creation of the linguistic ontology based on a structured electronic encyclopedic resource, Anton Mykhailiuk, Olena Mykhailiuk, Oleksiy Pylypchuk, Volodymyr Tarasenko, International Journal of Computing, 13(1) 2014, 1-2.
3. Role of Natural Language Processing in Community Structure Detection - [http://www.academia.edu/768236/Role\\_of\\_Natural\\_Language\\_Processing](http://www.academia.edu/768236/Role_of_Natural_Language_Processing).

## 3.IDEATION AND PROPOSED SOLUTION

### 3.1 Empathy Map Canvas:

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.



## 3.2. Ideation and Brainstorming

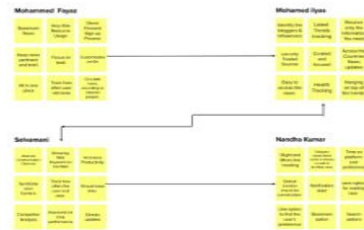
2

### Brainstorm

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

15 minutes

Tip  
You can select a sticky note and hit the pencil icon to edit it.



3

### Group ideas

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

20 minutes

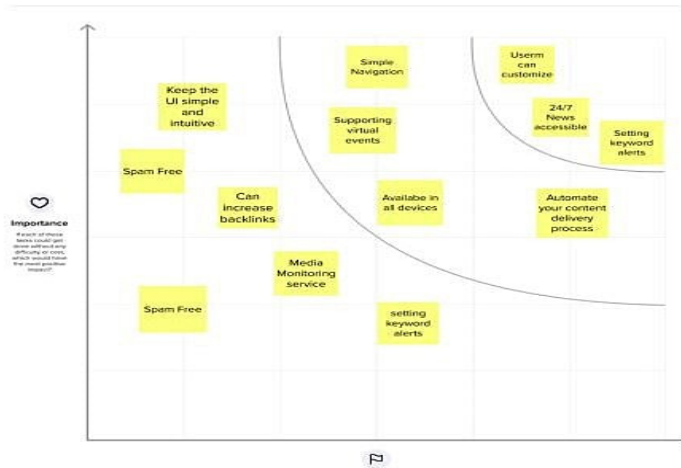


4

### 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



5

### 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 new 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, reports, or slides, or save to your device.

#### 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:

Customer Problem Statement Template: Jhon is a busy business man who needs to read news on the go without any hassles while travelling because he considers carrying around a physical newspaper a nuisance to him and the people around him. He needs to read news in such a way that he doesn't have to worry about ever buying physical newspapers or carrying with him everywhere. Something which should fit in the palm of his hands, which he could carry everywhere, access from everywhere, something digital such as an application hosted on the internet which could be accessed from any device that is connected to the Internet. Such as smartphones and computers.

| Question                                | Description   |
|---|---|
| Who does the problem affect?            | Customers such as Jhon.   |
| What are the boundaries of the problem? | geographic, workflow, daily life  |
| What is the issue?                      | Physical newspapers are old fashioned in this digital era. They cost money to buy, can easily be damaged, limited amount of information, not flexible to modifications, poor quality. Fixing these in such a way can make physical newspapers become extinct and their use can be abolished. If the problem isn't solved, it would become a greater problem to integrate people to become digitally aware |
| When does this issue occur?             | The issue occurs when the customer wants to read the news.  |
| Where is the issue occurring?           | The issue occurs when people try to access information i.e., during the usage. Accessing information is flawed through the usage of physical newspapers in the digital era.   |



## 4.Requirement Analysis

### 4.1 Non Functional Requirement

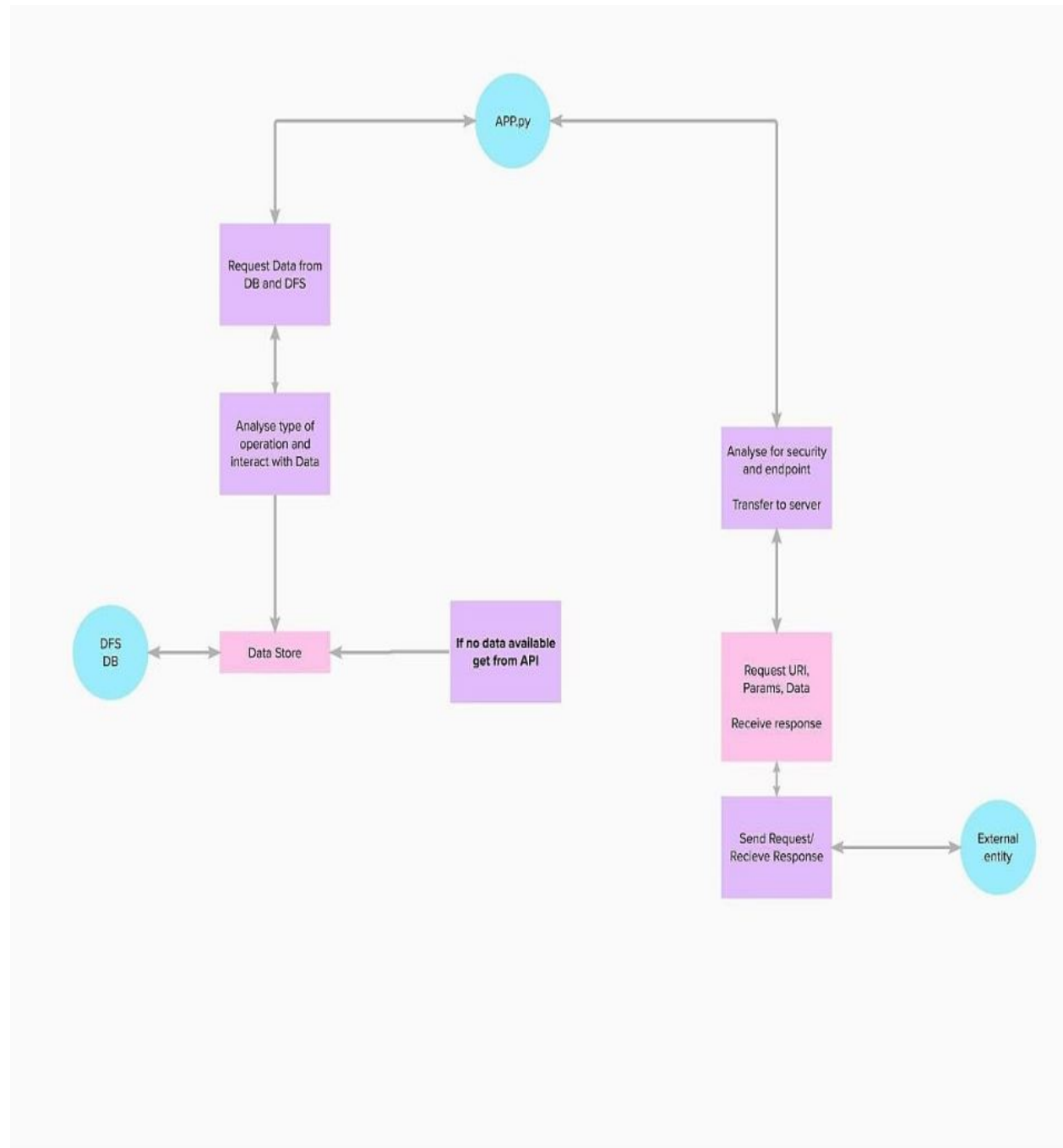
| FR No. | Non-Functional Requirement | Description  |
|--------|----------------------------|--|
| NFR-1  | Usability                  | Clean UI/UX Principles Less ads, faster loadtimes Providing Adequate data                  |
| NFR-2  | Security                   | Reverse XSS , Oauth Logging and monitoring for Security Broken access control Lazy loading |
| NFR-3  | Reliability                | Consistent Load time Logging and monitoring for Flaws NFR-4 Performance                    |
| NFR-4  | Performance                | Improving load times with local DB   |

### 4.2 Functional Requirement

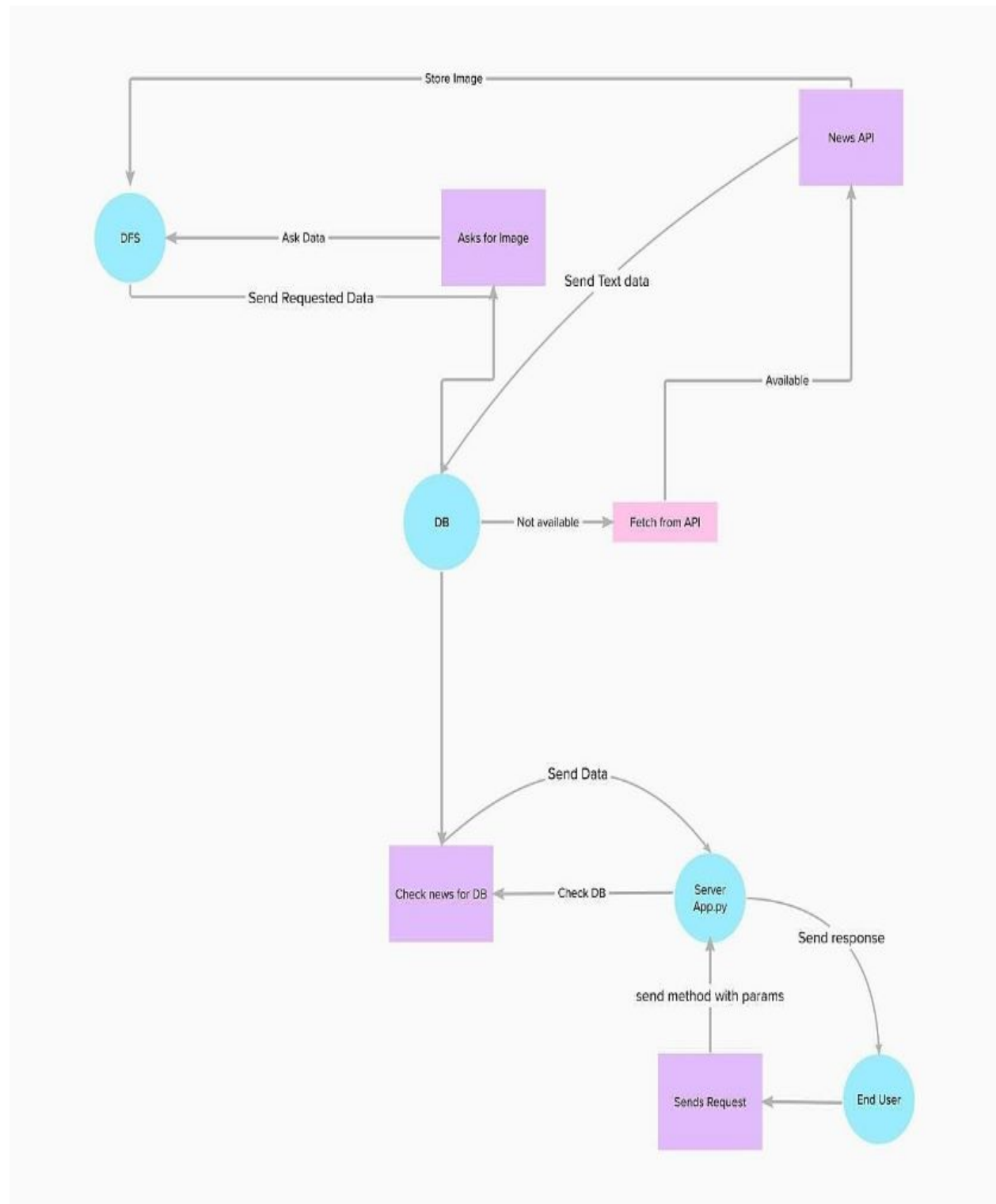
| FR No. | Functional Requirement (Epic)    | Sub Requirement (Story / Sub-Task)   |
|--------|----------------------------------|--|
| FR-1   | User Registration                | Registration through Form Registration through Auth  |
| FR-2   | User Confirmation                | Confirmation via OTP   |
| FR-3   | Fetch News Items                 | DB Registration of user Input news items into common table with PK PK mapping of news items to users |
| FR-4   | Interactions likes,dislikes,save | PK mapping to individual interaction tables Foreign key mapping for safe deletion                    |
| FR-5   | User Stickiness                  | L7 mapping (browser based cache system for user identification and authentication)                   |

## 5. PROJECT DESIGN

### 5.1 Data Flow Diagram



## 5.2 Solution and Technical 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   | I can register through my gmail account                   | Medium   | Sprint-1 |
|                         | Login                            | USN-5             | As a user, I can log into the application by entering email & password                                    | I can access my account without integrations              | High     | Sprint-1 |
|                         | Dashboard                        | USN-6             | As a user I should be able to navigate and access all the features hassle free                            | The UI is clear with all features and apt themeing        | High     | Sprint-2 |
| Customer (Web user)     | Layout                           | USN-7             | As a user I should be able to access the portal with different devices with the same comfort              | I can access the portal through all my devices            | Medium   | Sprint-1 |
| Customer Care Executive | User Segregation and data access | USN-8             | As a CC executive I should be able to uniquely identify the customer and offer help                       | I can provide support with logs and data provided         | Low      | Sprint-2 |
| Administrator           | Change code                      | USN-9             | As a administrator I should be able to modify code according to the future requirements.                  | I can access the code and the code is concise             | High     | Sprint-1 |

|  |                    |        |   |  |        |          |
|--|--------------------|--------|---|--|--------|----------|
|  | Monitor the system | USN-10 | As a administrator I should be able to monitor the cloud system and fix errors before customer. | I can monitor the health and stats of the cloud system | Medium | Sprint-2 |
|--|--------------------|--------|---|--|--------|----------|

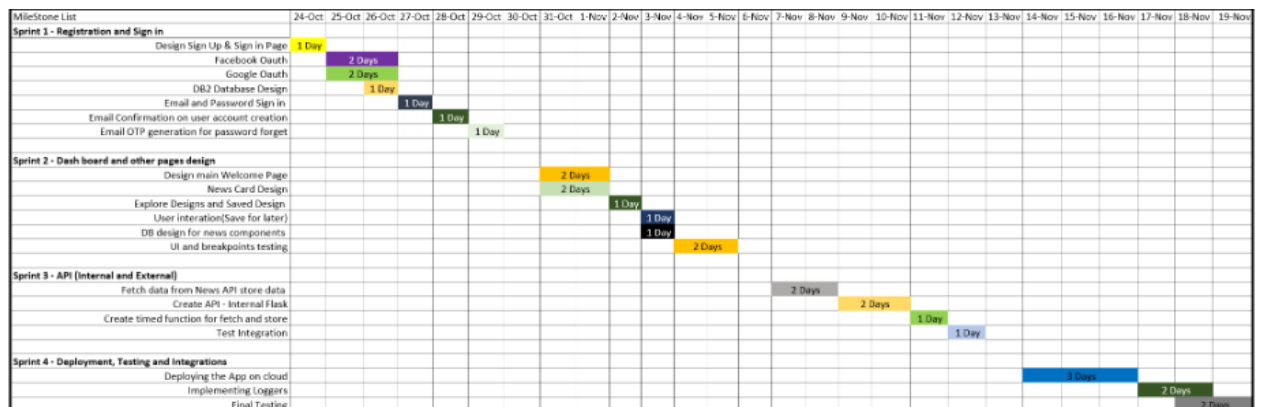
## 6. PROJECT PLANNING AND SCHEDULING

### 6.1 Sprint planning and estimation

| Sprint   | Functional Requirement (Epic) | User Story Number | User Story / Task   | Story Points | Priority | Team Members                |
|----------|-------------------------------|-------------------|---|--------------|----------|-----------------------------|
| Sprint-1 |                               | USN-1             | As a user, I can register for the application by entering my email, password, and confirming my password. | 2            | High     | Mohamed Ilyas               |
| Sprint-1 |                               | USN-2             | As a user, I will receive confirmation email once I have registered for the application                   | 1            | High     | Nandha Kumar, Mohamed Ilyas |
| Sprint-1 |                               | USN-3             | As a user, I can register for the application through Facebook  | 2            | Low      | Selvamani, Mohamed Fayaz    |
| Sprint-1 |                               | USN-4             | As a user, I can register for the application through Gmail   | 2            | Medium   | Nandha Kumar, Selvamani     |
| Sprint-1 | Login                         | USN-5             | As a user, I can log into the application by entering email & password                                    | 1            | High     | Mohamed Fayaz               |
| Sprint-2 | Dashboard                     | USN-6             | As a user I should be able to navigate and access all the features hassle free                            | 2            | High     | Nandha Kumar, Mohamed Fayaz |

|          |                                  |        |  |   |        |  |
|----------|----------------------------------|--------|--|---|--------|--|
| Sprint-2 | Layout                           | USN-7  | As a user I should be able to access the portal with different devices with the same comfort   | 2 | High   | Mohamed Fayaz                          |
| Sprint-3 | User Segregation and data access | USN-8  | Get Data from API and store as JSON in DB2   | 3 | High   | Selvamani                              |
| Sprint-3 |                                  | USN-9  | Get bin data from API and store in DFS   | 2 | High   | Nandha Kumar                           |
| Sprint-4 | User Segregation and data access | USN-10 | As a CC executive I should be able to uniquely identify the customer and offer help            | 1 | Low    | Mohamed Ilyas                          |
| Sprint-4 | Change code                      | USN-11 | As a administrator I should be able to modify code according to the future requirements.       | 2 | Medium | Mohamed Fayaz, Selvamani               |
| Sprint-4 | Monitor the system               | USN-12 | As a administrator I should be able to monitor the cloud system and fix errors before customer | 1 | High   | Mohamed Ilyas, Selvamani, Nandha Kumar |

## 6.2 Reports on JIRA

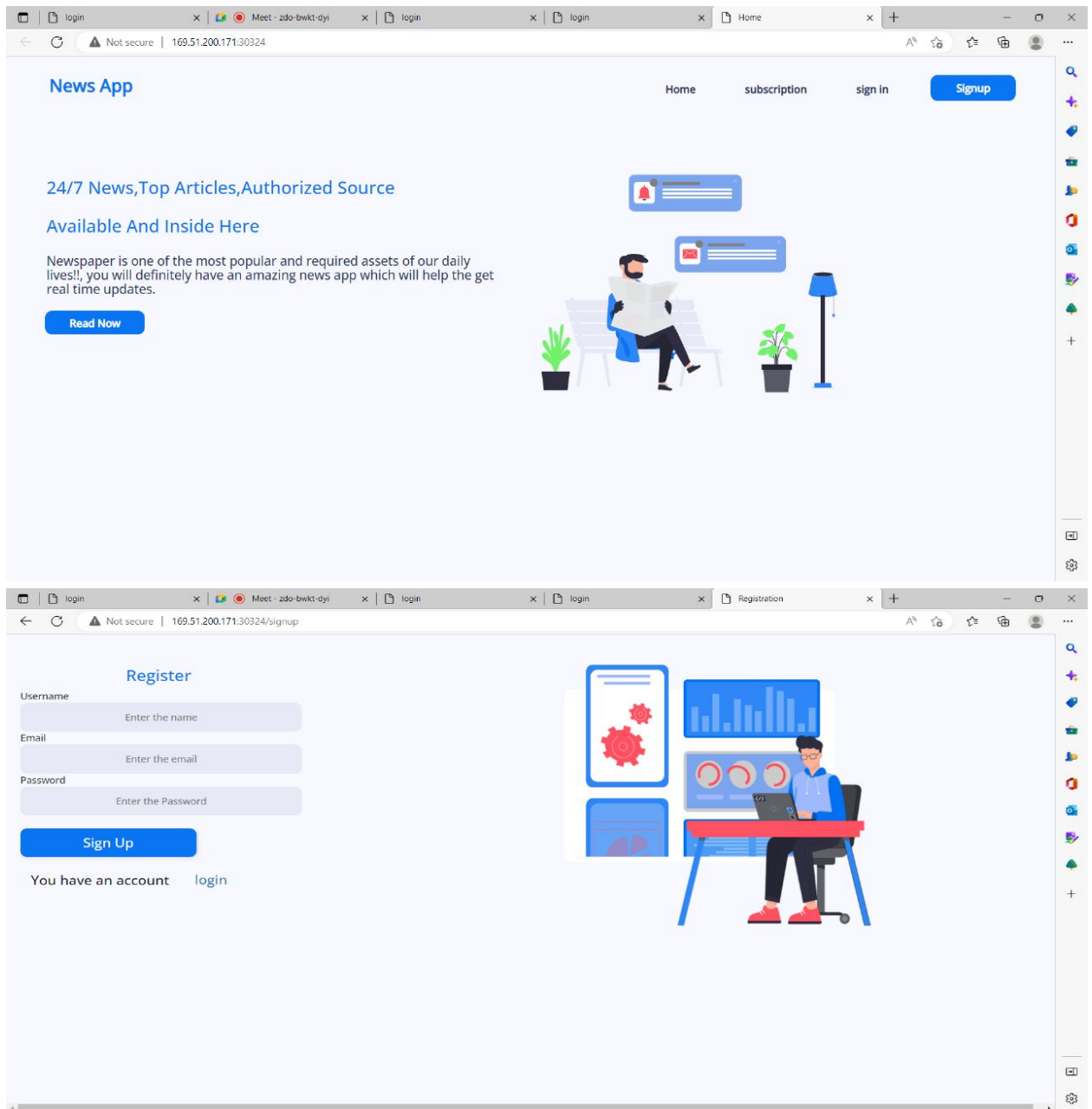


## 7.CODING

### GITHUB REPO LINK :

<https://github.com/IBM-EPBL/IBM-Project-29936-1668681242>

## 8.Screenshots



login

Not secure | 169.51.200.171:30324/signin

## Login


Email

Password

login

Don't have an account [Register](#)

[Forget password](#)



login

Not secure | 169.51.200.171:30324/home/api/headlines?page=1

Account

USERNAME: selva

EMAIL: selva@gmail.com

[change password](#)

[send](#)


[logout](#)

Close

Category

business entertainment


headlines:



Amid Gehlot-Pilot rift shadow on Rahul Yatra, Rajasthan Cong scrambles for a united face - The Indian Express

Both CM Ashok Gehlot and Sachin Pilot, along with their loyalists, have been inducted by Rajasthan Congress for a coordination committee for overseeing preparations for Bharat Jodo Yatra, which will enter the state on Dec 2.


[Read more](#)



Mangaluru Auto Blast Accused Shareeq's Home Raided, Bomb Squad At Site - NDTV

Searches were conducted at the house of a man allegedly involved in an auto-rickshaw blast in Karnataka last evening. Shareeq, who was injured in the blast, is in hospital. Preliminary investigation indicates that he has terror links, the police said.

[Read more](#)



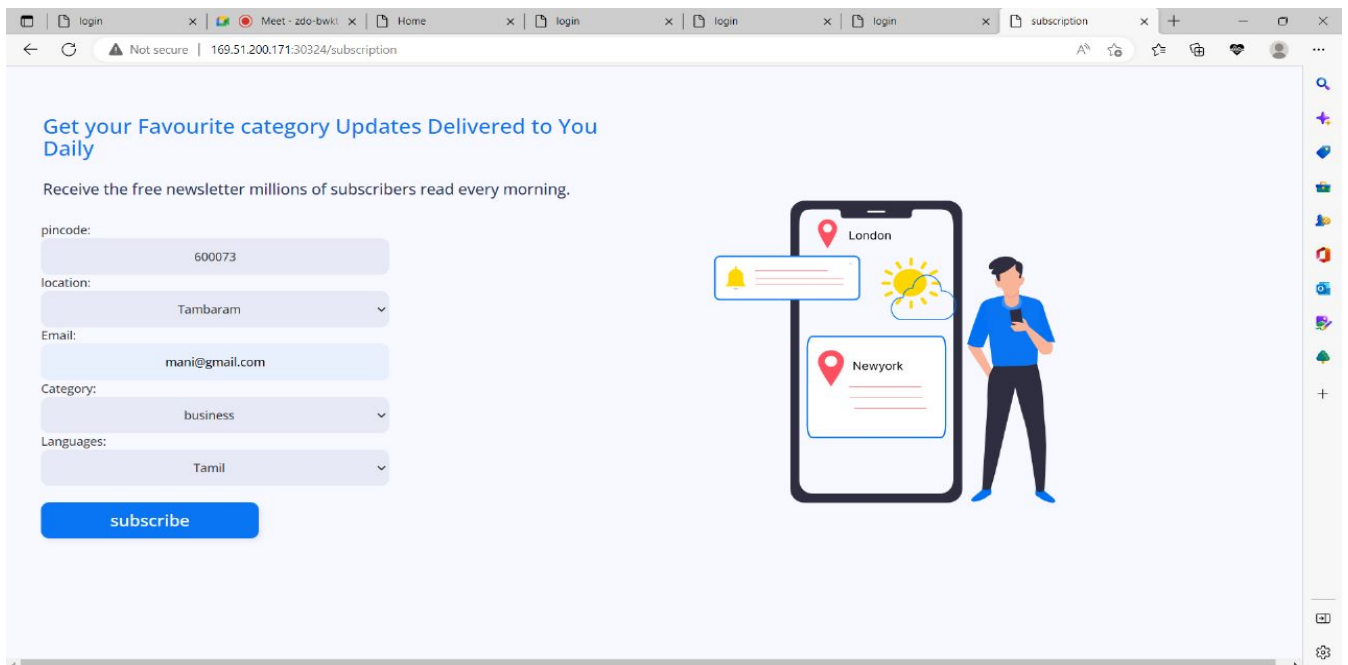
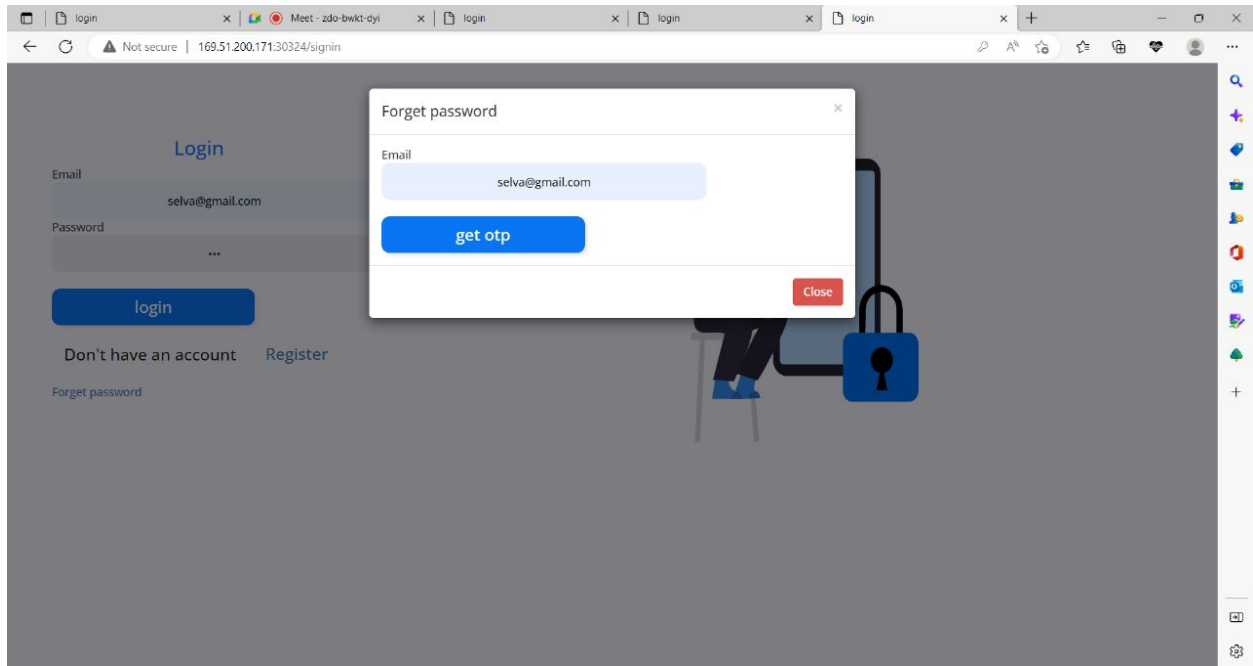
IND vs NZ, 2nd T20I: Suryakumar Yadav's century guide India to massive 65-run win over New Zealand - Zee News

IND vs NZ, 2nd T20I: Suryakumar Yadav's century guide India to massive 65-run win over New Zealand - Zee News

Updates: India beat New Zealand by 65 runs to take 1-0 lead in series. A convincing victory for elimination as they beat New Zealand by 65 runs with 7 deliveries to spare. India lead the series 1-0.

[Read more](#)





login x Meet - zdo/bwki x Home x login x login x login x Home x


Not secure | 169.51.200.171:30324/home/api/headlines?page=1

search

Category

business entertainment


headlines:



Amid Gehlot-Pilot rift shadow on Rahul Yatra, Rajasthan Cong scrambles for a united face - The Indian Express

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[Read more](#)



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Searches were conducted at the house of a man allegedly involved in an auto-blast in Karnataka last evening. Shareeq, who was injured in the blast, is in hospital. Preliminary investigation indicates that he has terror links, the police said.

[Read more](#)



IND vs NZ, 2nd T20: Suryakumar Yadav's century guide India to massive 65-run win over New Zealand - Zee News

IND vs NZ, 2nd T20 LIVE: Closest score and updates. India lead New Zealand by 65 runs to take 1-0 lead in series. A convincing victory for @TeamIndia as they beat New Zealand by 65 runs with 7 wickets to spare. India lead the series 1-0.

[Read more](#)

Account

USERNAME: mani

EMAIL: mani@gmail.com

change password

[subscribe](#)

[logout](#)

Close


login x Meet - zdo/bwki x Home x login x login x login x Home x

Not secure | 169.51.200.171:30324/home/api/query?search=games

Category

business entertainment general health science sports technology


games:



This Google-Backed Nonprofit Proves Games Can Teach and Be Fun

Games for Change works to support and promote video games that encourage players to be the best versions of themselves.

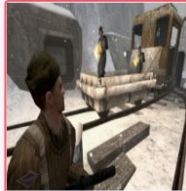
[Read more](#)



Everything Coming to PlayStation Plus and Xbox Game Pass in November 2022

November is the height of the new video release season, but amid all the new full-price games are batches of new stuff to play on PlayStation Plus and Xbox Game Pass. We've rounded up all the new games both companies are adding to their paid subscription serv...

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Download These Two First-Person Shooter Games for Free on PC Right Now

The glory of taking down a whole squad of heavily armed enemy soldiers while running from grenade explosions and taking cover from snipers... it's even better when it's free. Right now, there are two FPS war games you can download and play right now, for free, o...

[Read more](#)

## 8. TESTING:

### 8.1 TEST CASES:

#### Test Scenarios

|   |
|---|
| verify user is able to see the Login page when user clicked on login button |
| Verify the UI elements in Login/Signup page                                 |
| Verify user is able to log into application with Valid credentials          |
| Verify user is able to log into application with InValid credentials        |
| verify user is able to sign up the valid email account                      |
| verify user is able to sign up the Invalid email account                    |
| verify the headlines news will be displayed or not?                         |
| verify the selected category news displayed or not?                         |
| verify the search results are displayed or not?                             |
| Verifying the user details displayed or not?                                |
| Verify the Random OTP send or not?  |
| verify the valid OTP and password and confirm password must be same         |
| verifying the user can receive mail or not in our favourite category        |
| verify user can logged out or not   |

### 8.2 USER ACCEPTANCE TESTING:

| Test case ID     | Feature Type | Component | Test Scenario   | Pre-Requisite | Steps To Execute  | Test Data   | Expected Result   | Actual Result       | Status |
|------------------|--------------|-----------|---|---------------|---|---|---|---------------------|--------|
| LoginPage_TC_001 | Functional   | Home Page | verify user is able to see the Login page when user clicked on login button |               | 1.Enter URL and click go<br>2.Click on the login button<br>3.Verify login page displayed or not   | <a href="http://169.51.200.171:3032/4/">http://169.51.200.171:3032/4/</a>                 | Login page should displayed   | Working as expected | Pass   |
| LoginPage_TC_002 | UI           | Home Page | Verify the UI elements in Login/Signup page                                 |               | 1.Enter URL and click go<br>2.Click on login button<br>3.Verify login page with below UI elements:<br>a. email text box<br>b. password text box<br>c. Login button<br>d. Create new account link<br>e. Forgot password? Recovery password link                              | <a href="http://169.51.200.171:3032/4/signup">http://169.51.200.171:3032/4/signup</a>     | Application should show below UI elements:<br>a. email text box<br>b. password text box<br>c. Login button with blue colour<br>d. Create new account link<br>e. Forgot password? Recovery password link | Working as expected | pass   |
| LoginPage_TC_003 | Functional   | Home page | Verify user is able to log into application with Valid credentials          |               | 1.Enter URL( <a href="http://169.51.200.171:3032/4/signup">http://169.51.200.171:3032/4/signup</a> ) and click go<br>2.Click on login in button<br>3.Enter Valid username/email in Email text box<br>4.Enter valid password in password text box<br>5.Click on login button | Username: <a href="mailto:ilyasnm555@gmail.com">ilyasnm555@gmail.com</a><br>password: 123 | User should navigate to user account homepage   | working as expected | pass   |
|                  |              |           |   |               | 1.Enter   | Username:   | Application should show   |                     |        |

| Test case ID         | Feature Type | Component    | Test Scenario  | Pre-Requirement | Steps To Execute  | Test Data  | Expected Result   | Actual Result       | Status |
|----------------------|--------------|--------------|--|-----------------|---|--|---|---------------------|--------|
| LoginPage_TC_004     | Functional   | Login page   | Verify user is able to log into application with Invalid credentials |                 | 1.Enter URL:http://169.51.200.171:3032<br>4/signup) and click go<br>2. Click on login in button<br>3.Enter Valid username/email in Email text box<br>4. Enter valid password in password text box<br>5. Click on login button | Username: chalam@gmail<br>password: Testing123     | Application should show 'Incorrect email or password' validation message. | Working as expected | Pass   |
| Sign up page _TC_001 | Functional   | sign up page | verify user is able to sign up the valid email account               |                 | 1.Enter URL:http://169.51.200.171:3032<br>4/signup) and click go<br>2. Click on login in button<br>3.Enter Valid username/email in Email text box<br>4. Enter valid password in password text box<br>5. Click on login button | Username: ganapathys027@gmail.com<br>password: 123 | Account created successfully. Redirect to the login page                  | Working as expected | Pass   |
| Sign up page _TC_002 | Functional   | sign up page | verify user is able to sign up the Invalid email account             |                 | 1.Enter URL:http://169.51.200.171:3032<br>4/signup) and click go<br>2. Click on login in button<br>3.Enter Valid username/email in Email text box   | Username: chalam@gmail<br>password: Testing123     | Will return to the same and error message will appear.                    | Working as expected | Pass   |

## 9. RESULT :

Users are usually overwhelmed by the regular news updates, especially if received during busy hours. Regular updates at unequal intervals of time by multiple apps tend to disturb and also spam the user's notifications bar thus causing him to feel annoyed and clearing which makes him miss out on relevant updates from other apps too.

This solves this problem by allowing the user to decide when he can receive articles. This way he will at least be more inclined to read the article and the irritating from spamming will be relieved.

### 9.1 Performance Metrics:

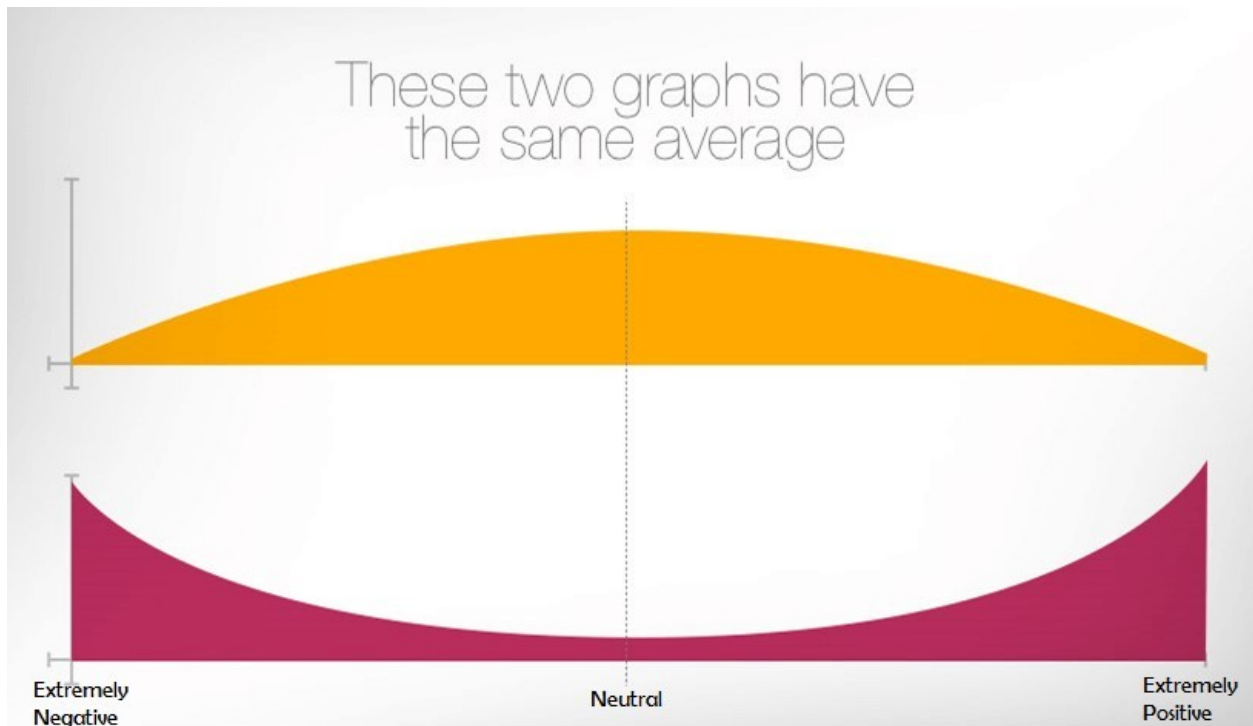
#### 1. User Satisfaction Scores

The application performance index, score, has become an industry standard for tracking the relative performance of an application.

It works by specifying a goal for how long a specific web request or transaction should take.

#### 2. Average Response Time

Let me start by saying that **averages suck**. I highly recommend using the aforementioned user satisfaction scores as a preferred way to track overall performance. That said, averages are still a useful application performance metric.



### 3. Error Rates

*The last thing you want your users to see are errors. Monitoring error rates is a critical application performance metric.*

There are potentially 3 different ways to track application errors:

1. HTTP Error % – Number of web requests that ended in an error
2. Logged Exceptions – Number of unhandled and logged errors from your application

### 4. Count of Application Instances

If your application scales up and down in the cloud, it is important to know how many server/application instances you have running. Auto-scaling can help ensure your application scales to meet demand and saves you money during off-peak times. This also creates some

unique monitoring challenges.

## **5. Request Rate**

Understanding how much traffic your application receives will impact the success of your application. Potentially all other application performance metrics are affected by increases or decreases in traffic.

## **6. Application & Server CPU**

If the CPU usage on your server is extremely high, you can guarantee you will have application performance problems. Monitoring the CPU usage of your server and applications is a basic and critical metric.

## **10.ADVANTAGES AND DISADVANTAGES:**

### **ADVANTAGES:**

There are many sites that provide free app for iPhone, Android, and other platforms. The user gets free app downloads from the websites. There are many features in the applications that give live details to the user.

**Home screen widgets:** The user can set the home screen widgets of these apps that help in quick access of the application and stories. From there the user can easily read the news in a single click.

These applications also allow to post comments to the users on the stories.

**Automatic updates:** These applications provide the latest

information about the world. The user doesn't need to refresh the app window, they get automatically updated with the time. The user can get regular updates of sports, lifestyle, business, and other things on their device with easy navigation.

**Live articles & coverages:** These apps provide the latest articles and coverages of news on the device. The user can browse or watch live videos through their devices.

These applications give access to all the current or live details in a single tap on the home screen.

**Offline reads(mail):** The user can read the news or view the results offline with the apps. They store the favorite topics and bookmarks in the device memory for future use. More so, the user can post comments on the news articles after logging in the application.

**Push notifications(mail):** These apps provide push notifications when the user is offline or opening any other window on the device. These notifications display in the notification panel of the device and the user can directly access the stories from there.

## **DISADVANTAGES:**

Disadvantages. Development time and cost is much higher than optimizing a website and creating a WebApp. To make application available to the whole market you will also need to develop Apps for the Android and Blackberry platforms. Code cannot be reused across the platforms.



1. Mobile apps don't substitute a website.
2. You'll need Android and iOS applications and listings.
3. Update and maintenance efforts are multiplied.
4. There is extra Marketing pressure too.
5. You need a separate URL.
6. Native applications don't help with SEO.

### **Is it better to use apps or websites?**

Analysis shows that the applications are more popular than equivalent websites, as they're more convenient. Mobile apps provide better user experiences, load content faster, and are easier to use. Besides, unlike websites, apps have push notifications.

## **11.CONCLUSION**

Thus our application is a big interactive database that tells us the news everyday. This will help the users to share news on various platforms. This will not only give an amazing user experience and also will increase the views. Readers can now leave comments, view photos, slideshow and often times contribute their own opinion and written pieces to the paper.