Project Report

TEAM ID :PNT2022TMID25237
PROJECT :NEWS TRACKER

1. INTRODUCTION

- 1.1 Project Overview
- 1.2 Purpose

2. LITERATURE SURVEY

- 2.1 Existing problem
- 2.2 References
- 2.3 Problem Statement Definition

3. IDEATION & PROPOSED SOLUTION

- 3.1 Empathy Map Canvas
- 3.2 Ideation & Brainstorming
- 3.3 Proposed Solution
- 3.4 Problem Solution fit

4. REQUIREMENT ANALYSIS

- 4.1 Functional requirement
- 4.2 Non-Functional requirements

5. PROJECT DESIGN

- 5.1 Data Flow Diagrams
- 5.2 Solution & Technical Architecture
- 5.3 User Stories

6. PROJECT PLANNING & SCHEDULING

- 6.1 Sprint Planning & Estimation
- 6.2 Sprint Delivery Schedule

7. CODING & SOLUTIONING (Explain the features added in the project along with code)

- 7.1 Feature 1
- 7.2 Feature 2
- 7.3 Database Schema (if Applicable)

8. ADVANTAGES & DISADVANTAGES

- 9. Testing
- 10. CONCLUSION

11. FUTURE SCOPE 12. APPENDIX

Source Code

Live Page Url

1. INTRODUCTION

1.1 **Project Overview**

NewsTracker is a fullstack web application which allows users to register along with their favourite topics, upon login the app displays the news based on the user's interest. The news displayed in the app is based on the Newcatcher API and Cricbuzz API from Rapid API site. A news-sharing app wants to help users find relevant and important news easily every day and also provide explicitly news from that users locality/region which may of help to the user.

1.2 Purpose

Enabling users to view news from anywhere at anytime. It also helps to reduce the time to get information about a specific topic. Also enables a person to get an updated news which may help Business people to make business related decisions quickly and correctly.

2. LITERATURE SURVEY

2.1 Existing problem

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. Sometimes may show unrelevant and updated news.

2.2 References

S. no	Paper title	Author	Published date	Implementation	Resource link
1	Following the Fed with a News Tracker	Michael William McCracken	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.	(PDF) Following the Fed with a News Tracker (researchga te.net)
2	Topic Detection and Tracking in News Articles	Sagar Patel, Sanket Suthar, Sandip Patel, Neha Patel	March, 2015	 Pre-processing Tokenization Stemming/Lemmization Vector Space Model Topic tracking 	(PDF) Topic Detection and Tracking in News Articles (researchga te.net)
3	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 and aggregate unlabeled news texts and ultimately generate visualized results containing news categories, news topics, and temporal topic relationships. This paper uses constructed knowledge thesaurus and the Snorkel method to weakly supervise the classification of	An End-to-end Weakly-supe rvised News Aggregation Framework Request PDF (researchga te.net)

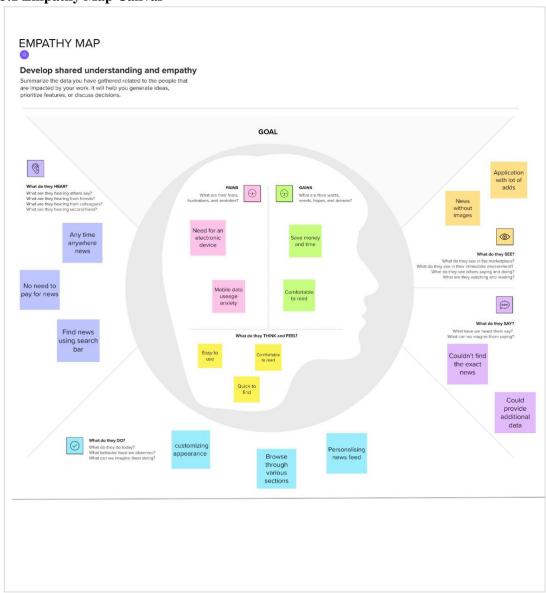
				unlabeled news with no manual tagging. Subsequently, we utilize LDA to generate the topics and	
				obtain the signal value of each topic based on the topic signal detection function. Finally, we establish the temporal topic relationships and get the visualized results of news aggregation.	
4	Exploring mobile news reading interactions for news app personalisati on	Marios Constantinides ,John Dowell , David Johson, Sylvain Malacria	August, 2015	 Identification of newsreader types Interaction logging and classification study Deployment and datacollection Predicting News readertypes Adaptive UI 	(PDF) Exploring mobile news reading interaction s for news app personalisa tion (researchga te.net)

2.3 Problem Statement Definition

Newspaper contains limited, non user/reader specific, Location specific news. There are multiple news-sharing apps available which can be used by a single user and are often spammed with notifications. There is also a lot of unwanted news which gets shared. So it may take a lot of time for the user to find the news he/she likes. A news-sharing app wants to help users find relevant and important news easily every day and also provide explicitly news from that users locality/region which may of help to the user.

3. IDEATION & PROPOSED SOLUTION

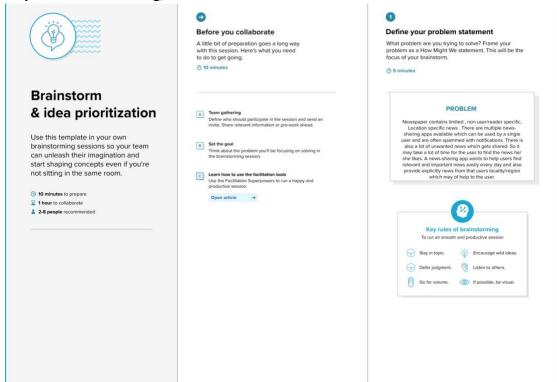
3.1 Empathy Map Canvas



3.2 Ideation & Brainstorming

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.

Step-1: Team Gathering, Collaboration and Select the Problem Statement

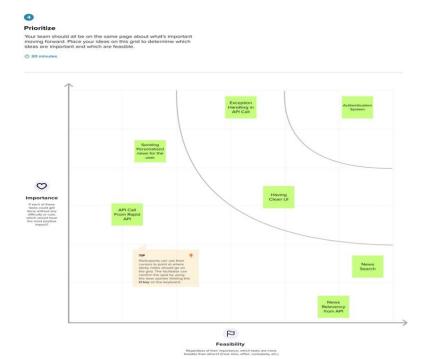


Step-2: Brainstorm, Idea Listing and Grouping





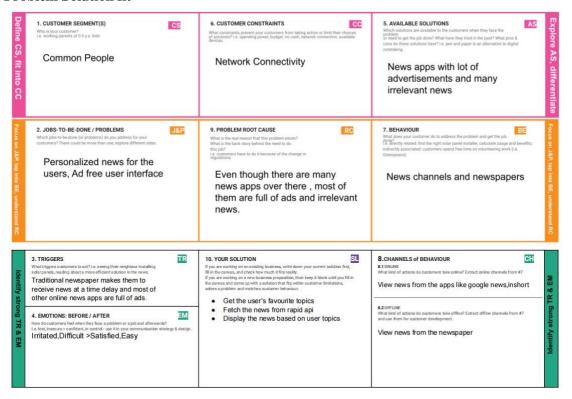
Step-3: Idea Prioritization



3.3 Proposed Solution

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Most people don't like to carry a newspaper with them. Some people want them to be updated only in the area they are interested in
2.	Idea / Solution description	An application needs to be developed in which users can read news whenever they want and they will be able to customize their area of interest. So that they will be notified, if any new news is updated in their interested areas.
3.	Novelty / Uniqueness	A user can read news only from their interested fields rather than reading all the news. This application provides users with a trusted and secured ecosystem. News shared through the application is original and spam free.
4.	Social Impact / Customer Satisfaction	This application encourages its users to provide feedback. Based on that feedback, developments were made eventually.
5.	Business Model (Revenue Model)	Add advertisements to the application, so that we can get revenue from those advertisement-sponsored organizations. More advertisements may irritate the user. Add premium subscription, users who subscribe for premium won't get advertisements.
6.	Scalability of the Solution	As it was an application-based project, correct ideation and execution can develop an application with no bugs and errors, so that the user might like our application and some might suggest and share it to their surroundings, resulting in an increase in our application insights.

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 Email						
FR-2	User Confirmation	Confirmation via Email using Sendgrid						
FR-3	User Preffered Topics	Collecting user's favourite topics						
FR-4	Collecting News	Collecting news from rapid API at regular Intervals						
FR-5	Bookmark	Bookmarking Favourite news for the user						
FR-6	Login	Loging in the user using the registered email and password						
FR-7	News Feed	Showing the news fetched from the API to the user						

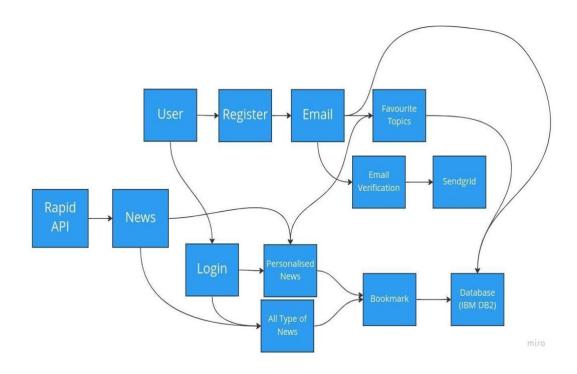
4.2 Non-Functional requirements

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	The app should be able to used by all people
NFR-2	Security	The app should authenticate the legitimate users and should restrict bot attacks
NFR-3	Reliability	The app should show the news which are non fake and spam free
NFR-4	Performance	The app should be accessible in older devices too
NFR-5	Availability	The app should be available to all devices
NFR-6	Scalability	The app should handle multiple users and be designed in such a way for future upgrade

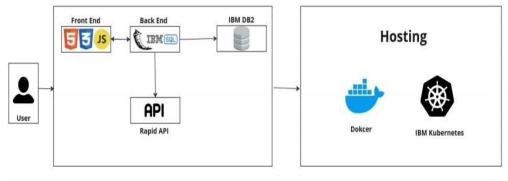
5. PROJECT DESIGN

5.1 Data Flow Diagrams

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



5.2 Solution & Technical Architecture



miro

5.3 User Stories

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Normal User	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	can access my account / dashboard	High	Sprint-1
	Email Verification	USN-2	As a user, I will receive confirmation email once I have registered for the application	can receive confirmation email & click confirm	High	Sprint-1
	Favourite topics	USN-3	As a user, I can choose my favourite topics	can see all my preferred news under for you category	Medium	Sprint-2
	Login	USN-4	As a user, I can login with the email and password into the app	can access to all the news	High	Sprint-1
	Dashboard	USN-5	As a user, I can see all the news under specific tab	can view all the news	Medium	Sprint-3
	Bookmark	USN-6	As a user, I can my bookmark favourite news topics	can later view my bookmarked news	Low	Sprint-2
	Access	USN-7	As a user, I can access the site anywhere and everywhere	can view the site by typing the URL of the site	High	Sprint-4

6. PROJECT PLANNING & SCHEDULING

6.1 Sprint Planning & Estimation

6.1 Sprint Planning & Estimation										
Sprint	Functional Requiremen t (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members				
Sprint-1	Registeration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	or the application by ntering my email, assword, and onfirming my password.						
Sprint-1	Login	USN-2	As a user, I will receive confirmation email once I have registered for the application	5	High	Roshini,Nandhini, Dhanushya, Ramya				
Sprint-1	Email Verification	USN-3	As a user I can verify my email using the link sent to my mailid	5	High	Roshini,Nandhini, Dhanushya, Ramya				
Sprint-2	API Fetch	USN-4	Fetch News from Rapid API at regular interval	10	High	Roshini,Nandhini, Dhanushya, Ramya				
Sprint-2	REST Endpoints for backend	USN-5	Creating endpoints at the backend inorder to interact with frontend	10	Medium	Roshini,Nandhini, Dhanushya, Ramya				
Sprint-3	Designing Frontend	USN-6	Create a minimalisting design in figma to create frontend	2	Medium	Roshini,Nandhini, Dhanushya, Ramya				
Sprint-3	Creating Frontend	USN-7	Create the frontend webpage using the design	10	Low	Roshini,Nandhini, Dhanushya, Ramya				
Sprint-3	Connect frontend and backend	USN-8	Connect the frontend and backend and complete the application	8	High	Roshini,Nandhini, Dhanushya, Ramya				
Sprint-4	Testing	USN-9	Testing the application before final release	10 High		Roshini,Nandhini, Dhanushya, Ramya				
Sprint-4	Deployment	USN-10	Deployment of the application	10	High	Roshini,Nandhini, Dhanushya, Ramya				

6.2 Sprint Delivery Schedule

Mlestonelist	24-Ott	25-Ot	26-O:t	27-Ot	28-Ot	29-Ot	30-Ot	31-Ot	1-Nov	2-No	34Vbv	4-Nov	5-Nov	6-Nov	7-Nov	8-Nov	9-Nov	10-Nov	11-Nov	12-Nov	13/Nov	14-Nov	15-Nov	16-Nov	17-Nov	18-Nov	19-Nov
Sprint 1 - Registration and Sign in																											
Design Sign Up & Sign in Page	1 Day																										
Email Auth		20	Bys .																								
DB2 DatabaseDesign			1 Day																								
Email and Password Sign in				1 Day																							
Email Confirmation on user account creation					1 Day																						
Sprint 2 - API Fetching and Backend Endpoints																											
Fetch data from Rapid API						2	2 Days																				
Flask-REST API coding								2	Days																		
Greatetimed function for fetch from API using threeding										1 Day	/																
Test bedvend																											
Sprint3 - UI and UX design and Connecting frontend and																											
Design main Welcome Page														3 Days													
News Card Design																2	Days										
Explore Designs and Saved Design																		1Day									
Bookmarks design																			1 Day								
Connecting Frontend and backend																				1 Day							
U responsiveness																				2	Days						
Sprint 4 - Deployment, Testing and Integrations																											
Deployingthe App on doud																							3Da	ys .			
ImplementingLogges																									2	2 Days	
Find Testing																										2	Days

7. CODING & SOLUTIONING (Explain the features added in the project along with code)

7.1 Feature 1

Verification email Sender

```
def emailSender(email, token):
      configuration = sib_api_v3_sdk.Confi
guration()
configuration.api_key['api-key'] = a
pp.data['mail_api_key']
      api_instance = sib_api_v3_sdk.Transa
ctionalEmailsApi(
             sib_api_v3_sdk.ApiClient(configu
ration))
      now = datetime.now()
      dt_string = now.strftime("%d/%m/%Y %
H:%M:%S")
      msg = {}
      msg['Subject'] = "Verfiy your NewsTr
acker Account'
      msg['From'] = {"name": "News Tracker
Dev Team",
                                 "email": "verify@news
tracker.com"}
msg['To'] = [{"email": email}]
msg['Text']=f'Please click this <a h
ref="http://127.0.0.1:5500/frontend/page
s/verify.html?token={token}">link</a> to
verify your account'
   html = f"""\
       <html>
             <head></head>
             <body>
             நன்றி, for joining NewsTracke
r / 
             <br>
              Hurray, you just registerd
  at NewsTracker<br>
             Please click the following link
 to verify your account:<br>
<a href="http://127.0.0.1:5500/f"
rontend/pages/verify.html?token={token}
">Click Here to Verify <a></a>
             ^♠Note: This link expires wit
hin one hour from the time sent
             <br><br><
             Regrads, <br><a href="https://localhost:50"><a href="https://localhost:50">
00">NewsTracker Dev Team</a>
             <br><br><br>
              Email sent at {dt_string}
             </body>
       </html>
       send_smtp_email = sib_api_v3_sdk.Sen
dSmtpEmail(
to=msg['To'], html_content=html,
sender=msg['From'], subject=msg['Subjec
t'],text_content=msg['Text'])
             api_response = api_instance.send
_transac_email(send_smtp_email)
            print(api_response)
       except ApiException as e:
            print("Exception when calling SM
TPApi→send_transac_email: %s\n" % e)
```

The above function is used to sned the verification code to the desired email.

7.2 Feature 2

Cookie Checker

This code is used to check the cookie from the client side and checks wether the user is signed in or not.

7.3 Database Schema (if Applicable) User Table

SER				Approximate Updated on 2022	2 rows (4.03 MB 2-10-17 15:43:2
Name	Data type	Nullable	Length	Scale	
ID	INTEGER	N		0	0
NAME	VARCHAR	N	255	0	0
EMAIL	VARCHAR	N	255	0	0
PASSWORD	VARCHAR	N	255	0	0
FAVOURITES	CLOB	Υ	1048576	0	0
BOOKMARKS	CLOB	Υ	1048576	0	0
VERIFIED	BOOLEAN	0	0		
RESEND_TIME	VARCHAR	N	255	0	0

Bookmarks Table:

able defini	LIOH				: ×
OOKMARK				Approximate	-1 rows (4.00 MB) Updated on
Name	Data type	Nullable	Length	Scale	
ID	INTEGER	N		0	0
DATA	CLOB	N	1048576	0	0

8. ADVANTAGES & DISADVANTAGES

- This app can be accessed anywhere and anytime, So that the user can view the news
- Its ad free
- The news is only based on the API
- It may contain some unwanted content but we don't have control over it The user can bookmark their favourite news.

9. TESTING • TEST CASE

Test case ID	Featur e Type	Co m po ne nt	Test Scenario	Pre-Re quisite	Steps To Execute	Test Data	Expecte d Result	A ct u al R es ul t		Com ments	TC for Auto mati on(Y /N)	B U G I D	Executed By
Login Page _TC_ OO1	Functio nal	Ho m e Pa ge	Verify user is able to see the Login/Sig nup page when user land on the page		1.Enter URL and click go 2.Verify login/Si ngup page displaye d or not		Login/Si gnup page should display	W or ki ng as ex pe ct ed	P a s s		Ν		
Login Page _TC_ OO2	UI	Lo gin pa ge	Verify the UI elements in Login/Sig nup page		1.Enter URL and click go 3.Verify login/Si ngup page with below UI		Applicati on should show below UI element s: a.email text box	W or ki ng as ex pe ct ed	Pass		Z		

				element s: a.email text box b.passw ord text box c.Login button d.New custom er? SignUp button e.News topics buttons		b.passw ord text box c.Login button d.New custome r? Sign UP button. e.Favour ite topics card in signup section.				
Login Page _TC_ OO3	Functio nal	Lo gin pa ge	Verify user is able to log into applicati on with Valid credentia ls	1.Enter URL and click go 2.Enter the credenti als in the text box. 3.If the user is verified you will be redirect ed to the home page.	test@ gmail. com passw ord:	User should be redirect ed towards the home page.	W or ki ng as ex pe ct ed	P a s s	Z	

Login Page _TC_ OO4	Functio nal	Lo gin pa ge	Verify user is able to log into applicati on with InValid credentia Is	1.Enter URL and click go 2.Click on button 3.Enter Valid userna	ame: test@	on sho sho 'Inc t e or	ould ow correc mail	or ki ng	P a s s		N			
				me/em ail in Email text box 4.Ent Invalid passwor c in passwor c text box 5.Click on login butt	er I	ŀ	validati 1 messag							
Hom ePag e_TC _001	Fuction al	Ho m e pa ge	Verify user is able to see the news page	1. Login a go to the site	nd	9	Applica on should show the news	k r a e p	W or it in g in sex in the control of the control o		N			
Hom ePag e_TC _002	Functio nal	Ho m e	Verify user is able to view news under specific categories	1. Go tothe site 2. Cl on topics button		5 5 1 1	Applica on should show news releate to that topic	d e	W or ki ng ns sex sex sex sex sex sex sex sex sex se	P a s s	N			

Hom ePag e_TC _003	nal	pa	Verify user is able to view recomme nded news	1. Go tothe site 2. Click on recomm ended tab	o s s tl n b o u	pplicati n hould how ne ews ased n ser's e	r i g a s s x e		N	I	
Hom ePag e_TC _004	Functio nal	Ho m e pa ge	Verify user is able to bookmark a product	 Go tothe site Click on bookma rk icon in the news card. 	ζ.	Applicati on should show saving icon and the news is bookma rked	W or ki ng as ex pe ct ed	P a s s		Ν	
Hom ePag e_TC _005	Functio nal	Ho m e pa	Verify user is able to navigate to the news article page	1. Go to the site 2. Click or any news care		Application should navigate to the article page where the actual article is displaye d.	W or ki ng as ex pe ct ed	a s		Ζ	
Book mark Page _TC_ 001	Functio	ok ma rk	Verify user is able to view the bookamar ks	 Go tothe site Click on bookma rks tab under the user icon 		Applicati on should view all the user bookma rks	W or ki ng as ex pe ct ed	P a s s		N	

_	ı		1		T			1	
Book mark Page _TC_ 002	Functio nal	ok ma rk pa	Verify user is able to delete a bookamar k	 Go tothe bookam arks page. Clickon the bookma rk icon in the page 	Application should show the deleting icon and the bookmark should be	W or ki ng as ex pe ct ed	a s	Z	
					deleted.				
News Page _TC_ 001	Functio nal	ws pa	Verify user is able to view the news	 Go tothe site Clickon a news card 	Applicati on should show the news article	W or ki ng as ex pe ct ed	Pass	N	
News Page _TC_ 002	Functio nal	Ne ws pa	Verify user is able to view page not loading text	 Go tothe site Clickon a news card 	Applicati on should show page not loading text	W or ki ng as ex pe ct ed	P a s	Z	
News Page _TC_ 003	Functio nal	ws pa	Verify user is able to view the news article by click on page not loading text	 Go tothe site Clickon a news card Click on page not loading text. 	Applicat oin should redirect to the actual article page	W or ki ng as ex pe ct ed	P a s	N	

Logo ut_TC Fur 001 nal	ut nctio Lo	able to logout of the applicatio	1. Go to the site 2. Click on user icon 3. Click on logout		should logout the user.	or ki ng	P a s		Z		
------------------------------	----------------	----------------------------------	--	--	-------------------------------	----------------	-------------	--	---	--	--

• USER ACCEPTANCE TESTING:

1. Defect Analysis

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

Resolution	Severity 1	Severity 2	Severity 3	Severity 4	Subtotal
By Design	0	0	0	0	0
Duplicate	0	0	2	0	2
External	0	0	0	0	0
Fixed	0	0	0	3	0
Not Reproduced	0	0	0	1	1
Skipped	0	0	0	0	0
Won't Fix	0	0	1	0	1
Totals	0	0	3	4	4

2. Test Case Analysis

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

Section	Total Cases	Not Tested	Fail	Pass
Login	4	0	0	4
Home	5	0	0	5
Bookmark	2	0	0	2
News	3	0	0	3
Logout	1	0	0	1

• PERFORMANCE TESTING:

No	Project Name	Scope/feature	Functional Changes	Hardware Changes	Software Changes	Impact of Downtime	Load/Voluem Changes	Risk Score	Justificati
1	News Tracker	New	Low .	No Changes	- Moderate	-	>5 to 10%	ORANGE	and the second
					NFT - Detailed 1	Test Plan	·-		
			S.No	Project Overview	NFT Test approach	ssumptions/Dependencies/Risk	Approvals/SignOff		
			1	News Tracker	Manual	Device with internet	200-03003000000000000000000000000000000		
	0				End Of Test Re	port	2		
5.No	Project Overview	NFT Test approach	NFR - Met	Test Outcome	GO/NO-GO decision	Recommendations	Identified Defects (Detected/Closed/Open)	Approvals/SignOff	
1	News Tracker	Mamuel		As expected, working fine		Laptop or Desktop gives better use	None		

10. CONCLUSION

Thus we have developed a full stack application based on the plans and within the given time. We have tested the application in both desktop and mobile and it worked well, Overall it was a great experience.

11. FUTURE SCOPE

In future we may integrate our own news API instead of third party APIs and may develop a mobile native application so that it can be used in both android and ios.

12. APPENDIX

- Source Code (Github)
- Live Page URL
- <u>Video Demo Link</u>