Project Report

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.

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

The template shows a "Brainstorm & idea prioritization" board with the following readable text:

Brainstorm & idea prioritization

Over half the population of the world regardless of their identity are the users who consume news on social media. The major issue is whether or not to trust the news fed by the various websites and the frequent topics which are irrelevant to the user. This issue arises when the user has no knowledge to identify whether the websites visited are certifed or not. This issue must be solved so as to avoid fake news and to feed the user with relevant news instantly

3.3 Proposed Solution

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	A News Sharing app aims to make it simple for users to obtain daily relevant and vital news, as well as Whoever using App can upload reliable news(Content) from anywhere. Because 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	A cloud-based web application which enables the user to get the news as per their interests, choices andlocation.
		News will be filtered as per the user's wish and it will be displayed to the user.
3.	Novelty / Uniqueness	1. This application provides users with a trusted and secured ecosystem. News shared through the application is original and spam free.
		2. Creating a user experience that is appealing to clients and delivering news headlines with more details
4.	Social Impact / CustomerSatisfaction	The user will not have to spend a lot of time in searching for the relevant news.
		The customer will be finally able to view news without ads.

| | | Since we are using the News API, the news will be reliable and accurate.

The customer can be aware of recent happenings. |
|---|---|---|
| 5. | Business Model (Revenue Model) | The revenue stream can be from the news channels and news sites whose news will be published in this application. Based on the number of users who view a particular news, the news channel that published that news article will have to pay a small amount as commission.

● Multiplatform Support

● Design consistent experience |
| 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

Define CS, fit into CC	1. CUSTOMER SEGMENT(S) CS For young people to old people For poor persons to rich persons Also for village people to city people For working professionals to jobless persons		6. CUSTOMER CONSTRAINTS CC No network, Provide Download option No well organized content No related and interesting and educating content Click Bait(Topic and content are not related) Annoying user interface No customization option		5. AVAILABLE SOLUTIONS AS Chat bot that solves user queries User will customize what the content to read and search Will Providing quick access to favorite topics User friendly interface, avoiding misleading ads Prioritize news according to user interest and location.	Explore AS, differentiate

Focus on J&P, tap into

2. JOBS-TO-BE-DONE / PROBLEMS J&P

Reading an unwanted and irrelevant and repeated content

very Bad user interface

Searching related news

Unwanted Ads contents and unorganized contents

user unable to customize news content

Using internet for previously watched content

Providing dark mode

4. PROBLEM ROOT CAUSE RC

No user customization. This leads to unorganized and uninterested news.

No search bars leads frustration to search contents

No service to complain(Chat bot solves queries.)

No download option user may not have internet

Light mode may not good for eye.

User interface needs to be attractive and easy to use or it make user to lose interest on app

Provide notification which related to user wish

7. BEHAVIOUR BE

User searching news and wasting time on it

User gets frustrated while using bad user interface

Misleading ads or topics wasting user time and confuse user

User need all types of content but needs their favorite content to be prioritized.

User may feel stressed eye

User may avoid notification if it is not related.

Focus on J&P, tap int C

Identify strong TR

3. TRIGGERS TR

People expecting about latest news

When a news goes viral

Need report about weather, market, sports and etc

10. YOUR SOLUTION SL

Providing search bars and content customization tiles

Enabling download options and save or pin post options

Providing Chat bot

Providing Dark Mode

8. CHANNELS of BEHAVIOUR CH

8. 1 ONLINE

User can customize their news according to their interest.

User can interact with community feed and user can report any queries

8. 2 OFFLINE

Extract online &

4. EMOTIONS: BEFORE / AFTER EM

While reading irrelevant content make to

Feels waste of time to read

Feels getting lack of information from contents

Providing like, comments, tag, polling options to develop to develop user interface further more.

User can control their notification. They can select content which they need to notified.

User can save post and then read it for later

User can download post and can share it to other people.

4. REQUIREMENT ANALYSIS

4.1 Functional requirement

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through Form
FR-2	User Confirmation	Confirmation via Email
FR-3	User Login	Login Via Email ID & Password
FR-4	Home Page	Shows the NEWS Headlines.
FR-5	Tracker Page	Shows the NEWS elaboratively when the NEWS Headlineo the Home page is clicked.

4.2 Non-Functional requirements

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

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	Our Website is used to Read News and gain Knowledge according to user's interest.

| NFR-2	Security	User can only login with their own Email ID and password without their Email and password no one can use the App.
NFR-3	Reliability	Our Website delivers the reliable content only fromNEWS API.
NFR-4	Performance	It is a high performable App with friendly User Interface and shares lot of information without any Issues.
NFR-5	Availability	Our Website is supported with all search Engine so it will Avail foUser at any time.

5. PROJECT DESIGN

5.1 Data Flow Diagrams

DataFlowDiagrams:

A Data Flow Diagram(DFD) is a traditional visual representation of the information flows with in a system .An eat 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.

Example:(Simplified)

Flow
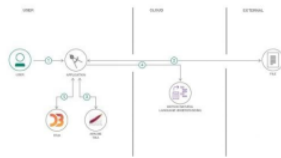
1. User configures credentials for the Watson Natural Language Understanding service and starts the app.
2. User selects data file to process and load.
3. Apache Tika extracts text from the data file.
4. Extracted text is passed to Watson NLU for enrichment.
5. Enriched data is visualized in the UI using the D3.js library.

DFDLevel0–NewsTrackerApplication
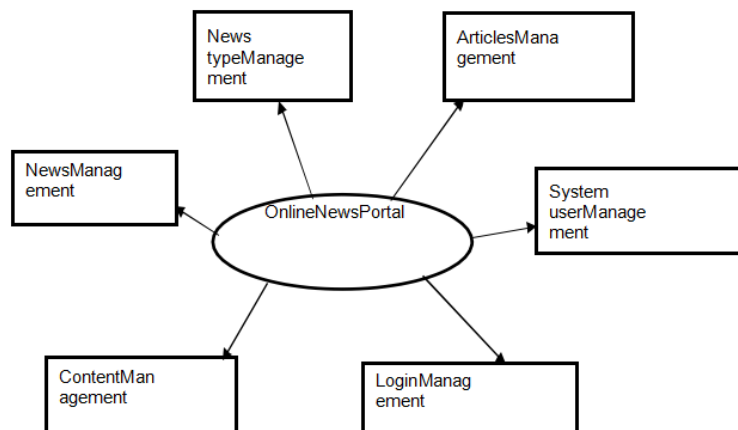
5.2 Solution & Technical Architecture

TechnicalArchitecture:
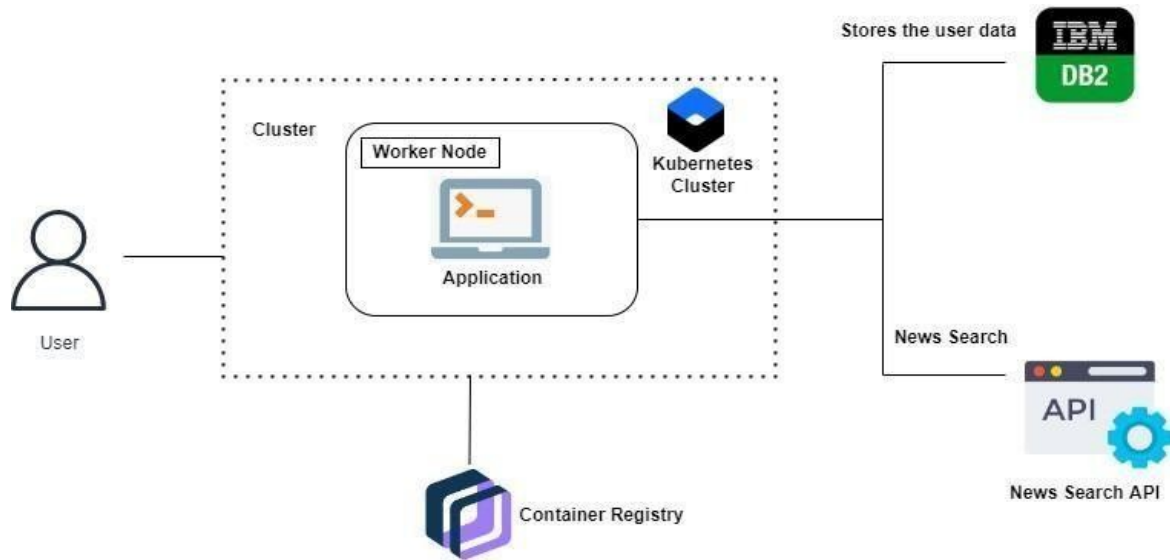
ProjectWorkflow:

- Theuserinteractswith theapplication.
- Registersbygivingthe details.
- Integratethe applicationwithnews APIs andstorethedatainthedatabase.
- Thedatabase willhaveallthe detailsandthe usercansearchthe newsbyusingasearchbar.

S.No	Component	Description	Technology
1.	User Interface	Theusercaninteractwith theapplicationtoknowabou tthetrendingnews	HTML, CSS, JavaScript /AngularJs/ReactJsetc.
2.	Application Logic-1	Theapplicationcontainsthi s resourcegivesyo ubasicunderstandin gofFlask.	Flask.
3.	Application Logic-2	The application contains thenewssub- divisionlike geographical news, economicnews andsocietynews.	IBMWatsonSTTservice
4.	ApplicationLogic-3	Theusercanviewtheg rowthof the economy in industrythroughgraph.	IBMWatsonAssistant
5.	Database	Updatingoftrendingnews are storedinthe MySQLdatabase.	MySQL,NoSQL,etc.
6.	CloudDatabase	Withtheuseof cloud,media coverage issue cannot beoccurred.	IBMDB2.

Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-SourceFrame works	Flaskisflexibleanddoesn'trequiretouseany particularprojectorcodelayoutusedin thisapplication.	Python-Flask
2.	SecurityImple mentations	This can be access only by the journalist. So,it isahighSecurity.	Container registry,Kube rnetesCluster.
3.	ScalableA rchitecture	News Tracker is associate-economic access becausehelpsto knowaboutthe dailyactivityoftheworld.	Container registry,Kube rnetesCluster.
4.	Availability	This application will be available to the all theuser who areusingthis application.	Container registry,Kube rnetes Cluster.
5.	Performance	Theupdatingoftrendingnewsoccurs withoutanyinterruption.So,itsperforma nceisgood.	Container registry,Kube rnetesCluster.

5.3 User Stories

User Stories

Use the below template to list all the user stories for the product.

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
Customer(Mobile user)		USN-2	As a user,IwillreceiveconfirmationemailonceIhavere gisteredfortheapplication	I can receive confirmation email& clickconfirm	High	Sprint-1
		USN-3	As a user,IcanregisterfortheapplicationthroughFace book	I canregister&accessthe dashboard withFacebookLogin	Low	Sprint-1
		USN-4	Asauser,Icanregisterfortheapplicationthrough Gmail	I can register & access the dashboard with Gmai laccount Login	Medium	Sprint-1
	Login	USN-5	As a user, I can log into the application byenteringemail&password	I canlogintotheofficialpage	High	Sprint-1
	Dashboard	USN-6	Daytodaynews, feeds,categories, tech newsand otherupdates	I canseeallthenews whichIwanted	High	Sprint-1
Customer (Web user)	Browsing	USN-7	Enter the website on the browser	I can even login through browser	Medium	Sprint-1

6. PROJECT PLANNING & SCHEDULING

6.1 Sprint Planning & Estimation

Product Backlog, Sprint Schedule, and Estimation (4 Marks)

Use the below template to create product backlog and sprint schedule

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Registration	USN-1	Creating Login page Creating Registration page	10	High	Panneer selvam, pushparaj
Sprint-1	Database Connec	USN-2	To Store details of the customer Connecting	10	Medium	Panneer selvam, Sivaganesh, yuvan shankar

	tivity		UI with Database			
Sprint-2	News Tracker UI	USN-3	Building UI News Tracker Application	10	High	Sivaganesh,pushparaj, Panneer Selvam
Sprint-2	API	USN-4	Connecting UI with News API, Google News API	10	High	Panneer selvam, Sivaganesh,pushparaj
Sprint-3	Send Grid Integration	USN-5	SendGrid Integration With Python Code	10	Low	Sivaganesh,pushparaj, yuvan shankar
Sprint-3	News Reader (Voice)	USN-6	Building Voice Assistant to read the news	10	Medium	Panneer selvam, Sivaganesh, yuvan shankar
Sprint-4	Containerization	USN-7	Containerizing the app	10	High	Panneer selvam, Sivaganesh, pushparaj,yuvan shankar
Sprint -4	Upload image and deployment	USN-8	Upload Docker image to the IBMRegistry and deploy it in the Kubernetes Cluster	10	High	Panneer selvam, Sivaganesh, yuvan shankar

Project Tracker, Velocity & Burndown Chart: (4 Marks)

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	20	6 Days	24 Oct 2022	29 Oct 2022	20	29 Oct 2022

Sprint-2	20	6 Days	31 Oct 2022	05 Nov 2022	20	05 Nov 2022
Sprint-3	20	6 Days	07 Nov 2022	12 Nov 2022	20	12 Nov 2022
Sprint-4	20	6 Days	14 Nov 2022	19 Nov 2022	20	19 Nov 2022

6.2 Sprint Delivery Schedule

Sprints ultimately provide a framework for taking large, complex software projects and breaking them down into digestible phases. When a sprint ends, the team shows their work to the project owner, who reviews it. If the project meets expectations, the team moves on to the next sprint.

sprints take place over a fixed period of time, it's critical to avoid wasting time during planning and development. And this is precisely where sprint scheduling enters the equation.

A sprint schedule is a document that outlines sprint planning from end to end. It's one of the first steps in the agile sprint planning process—and something that requires adequate research, planning, and communication. Agile sprints can be highly effective and collaborative. At the same time, they can be chaotic and inefficient if they lack proper planning and guidance. And for this reason, making a sprint schedule is one of the most important things you can do to ensure that your efforts are successful.

6.3 Reports from JIRA

Navigate to the project you want to report on. From the project sidebar, select Reports. The reports overview page displays. Select a report from the overview or from the project sidebar to begin generating the report.

1. Click Jira Settings > System. In the Import and Export section, click Import Jira Server. Select Import data and select the ZIP file you downloaded

2. Back up your Jira Server database. We'll check your file for errors, and ask you to choose settings for how you want your data imported.

Jira Software is an agile project management tool that supports any agile methodology, be it scrum, Kanban or your own unique flavour . From agile boards, backlogs, roadmaps, reports, to integrations and add-ons you can plan, track, and manage all your agile software development projects from a single tool.To login to JIRA, go to your sample website. It will open a login page. Fill in your registered email address/username and Password. Click on the Login button. The following screenshot shows how to login into JIRA using your credentials.

7. CODING & SOLUTIONING (Explain the features added in the project along with code)
7.1 Feature 1

1. Self-service On-Demand

This is one of the most essential and significant characteristics of cloud computing.

This means that cloud computing enables clients to regularly monitor the abilities,

allotted network storage, and server uptime. Therefore, it is one of the most

fundamental features of cloud computing that helps clients control various

computing abilities as per their requirements.

2. Resources Pooling

This is also a fundamental characteristic of cloud computing. Pooling resources

means that a cloud service provider can distribute resources for more than one

client and provide them with different services according to their needs. Resource

Pooling is a multi-client plan useful for data storing, bandwidth services and data

processing services. The provider administers the data stored in real-time without

conflicting with the client's need for data.

3. Easy Maintenance

This is one of the best cloud characteristics. Cloud servers are easy to maintain

with low to almost zero downtime. Cloud Computing powered resources undergo

several updates frequently to optimise their capabilities and potential. The updates

are more viable with the devices and perform quicker than the previous versions.

4. Economical

This kind of service is economical as it efficiently reduces IT costs and data

storage expenditure. Moreover, most cloud computing services are free. Even if

there are paid plans, it's only to expand storage capacity, and these costs are often

very nominal. This is a massive advantage of using cloud computing services.

5. Rapid Elasticity and Scalability

The best part of using cloud storage is that it can easily handle all the workload and

data load concerning storage. Furthermore, as it is fully automated, businesses and

organisations can save heavily on manual labour and technical staffing as cloudservices
are elastic, scalable and automated. This is one of the significant

advantages of using cloud services.

API Features:

1. HTTPS/SSL certificates

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⬚ Bash Shell Scripting Cheat Sheet

⬚ eBook: Modernizing Enterprise Java

The gold standard for the web is HTTPS using SSL certificates, and Let's

Encrypt can help you achieve this. It is a free, automated, and open certificate

authority from the non-profit Internet Security Research Group (ISRG).

2. Cross-origin resource sharing

CORS is a browser-specific security policy preflight check. If your API server is

not in the same domain as the requesting client's domain, you will need to deal

with CORS. For example, if your server is running on api.domain-a.com and gets

a client request from domain-b.com, CORS sends an HTTP precheck request to

see if your API service will accept client-side requests from the client's

domain.

3. Authentication and JSON Web Tokens

There are several approaches to validate an authenticated user in your API, but one

of the best ways is to use JSON Web Tokens (JWT). These tokens are signed using

various types of well-known cryptographic libraries.

When a client logs in, an identity-management service provides the client with a

JWT. The client can then use this token to make requests to the API. The API has

access to a public key or a secret that it uses to verify the token.

There are several libraries available to help verify tokens, including jsonwebtoken.

For more information about JWT and the libraries that support it in every

language, check out JWT.io.

4. Authorizations and scopes

Authentication (or identity verification) is important, but so is authorization,

i.e., does the verified client have the privilege to execute this request? This is

where scopes are valuable. When the client authenticates with the identity

management server and a JWT token is created, having the identity management

service provide the scopes for the given authenticated client can enable the API

service to determine if this verified client request can be performed without having

to perform an additional costly lookup to an access control list.

7.2 FEATURE 2

Docker Features:

1. Faster and Easier configuration:

It is one of the key features of Docker that helps you in configuring the system in

a faster and easier manner. Due to this feature, codes can be deployed in less

time and with fewer efforts. The infrastructure is not linked with the

environment of the application as Docker is used with a wide variety of

environments.

2. Application isolation:

Docker provides containers that are used to run applications in an isolated

environment. Since each container is independent, Docker can execute any kind

of application.

3. Increase in productivity:

It helps in increasing productivity by easing up the technical configuration and

rapidly deploying applications. Moreover, it not only provides an isolated

environment to execute applications, but it reduces the resources as well.

4. Swarm:

Swarm is a clustering and scheduling tool for Docker containers. At the front

end, it uses the Docker API, which helps us to use various tools to control it. It

is a self-organizing group of engines that enables pluggable backends.

5. Services:

Services is a list of tasks that specifies the state of a container inside a cluster.

Each task in the Services lists one instance of a container that should be running,

while Swarm schedules them across the nodes.

Kubernetes Features:

1. Auto-scaling. Automatically scale containerized applications and their

resources up or down based on usage

2. Lifecycle management. Automate deployments and updates with the ability

to:

a. Rollback to previous versions

b. Pause and continue a deployment

3. Declarative model. Declare the desired state, and K8s works in the

background to maintain that state and recover from any failures.2. Application isolation:

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4. Resilience and self-healing. Auto placement, auto restart, auto replication and auto scaling provide application self-healing

5. Persistent storage. Ability to mount and add storage dynamically

6. Load balancing. Kubernetes supports a variety of internal and external load

balancing options to address diverse needs.

7. DevSecOps support. DevSecOps is an advanced approach to security that simplifies and automates container operations across clouds, integrates security throughout the container lifecycle, and enables teams to deliver secure, high-quality software more quickly. Combining DevSecOps practices and Kubernetes improves developer productivity.

7.3 DATABASE SCHEMA

Username: Varchar (32)

Email: Varchar (32)

Phone Number: Varchar (32)

Password: Varchar (32)

Pin: Varchar (32)