JARVIS:THE NEWS APP

A MINI PROJECT REPORT

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BONAFIDE CERTIFICATE

Certified that this project report "**JARVIS:THE NEWSAPP**" isthe bonafide work of **"JITHEESWARAN V (220701108) ,JEROME SANTHIYAGU.A(220701106),JAYA PRAKASH.V(220701103) "** who carried out the project work under my supervision.

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EXTERNAL EXAMINER

ABSTRACT

JarvisNewsApp is a cutting-edge news aggregation application designed to keep users informed and connected with global events. Offering a seamless interface and personalized news feeds, JarvisNewsApp curates content from diverse sources, ensuring comprehensive coverage across various topics and regions. With features like real-time updates, customizable filters, and intuitive navigation, users can effortlessly access relevant news tailored to their interests. JarvisNewsApp redefines the news consumption experience, empowering users to stay abreast of current affairs and engage with the world around them like never before.

ACKNOWLEDGEMENT

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CHAPTER 1
INTRODUCTION

1.1 INTRODUCTION

In an era characterized by information overload and rapid technological advancements, staying informed about global events has become more crucial than ever. JarvisNewsApp emerges as a solution to address this need, offering users a streamlined platform to access curated news content from diverse sources.With the proliferation of digital media, traditional methods of news consumption have evolved. JarvisNewsApp recognizes the importance of providing users with personalized news feeds tailored to their preferences and interests. By leveraging sophisticated algorithms, JarvisNewsApp ensures that users receive relevant and timely updates on topics ranging from politics and technology to sports and entertainment.The user-centric design of JarvisNewsApp prioritizes accessibility and ease of use. Real-time updates and customizable filters empower users to navigate through vast amounts of information efficiently, allowing them to stay abreast of the latest developments without feeling overwhelmed.Through this introduction, we aim to provide an overview of JarvisNewsApp's mission and functionality. Subsequent sections will delve deeper into the features, technology stack, and future enhancements of the application, showcasing its potential to revolutionize the way users engage with news content in today's fast-paced digital landscape.

1.2 OBJECTIVE

Our primary objective with JarvisNewsApp is to offer users a seamless and personalized news consumption experience. Through an intuitive interface, users can easily access curated news content tailored to their interests and preferences. We aim to ensure comprehensive coverage of diverse topics and regions, enabling users to stay informed about global events. Additionally, JarvisNewsApp strives to enhance user engagement by providing real-time updates and customizable features, thereby fostering a deeper connection with the news and the world around them.

1.3 MODULE

- DAILY NEWS APP
- CATERIGORISHED COUNTRY NEWS
- LANGAUGE CHANGED
- DATAS SAVES IN MONGODB
- IF USER WANTS TO SEE EARLY NEWS THEY CAN SEARCH THE NEWS BY DATES
- LINK IS ALSO SAVED LIVE

Ch 2. SURVEY OF TECHNOLOGY

2.1 SOFTWARE DESCRIPTION

Visual studio Code

Visual Studio Code combines the simplicity of a source code editor with powerful developer tooling, like IntelliSense code completion and debugging.

First and foremost, it is an editor that gets out of your way. The delightfully frictionless edit-build-debug cycle means less time fiddling with your environment, and more time executing on your ideas.

2.2 LANGUAGES

2.2.1 HTML

Hypertext: text (often with embeds such as images, too) that is organized in order to connect related items

Markup: a style guide for typesetting anything to be printed in hardcopy or soft copy format

Language: a language that a computer system understands and uses to interpret commands.

HTML determines the structure of web pages. This structure alone is not enough to make a web page look good and interactive. So you'll use assisted technologies such as CSS and JavaScript to make your HTML beautiful and add interactivity, respectively.

2.2.2 CSS

CSS handles the look and feel part of a web page. Using CSS, you can control the color of the text, the style of fonts, the spacing between paragraphs, how columns are sized and laid out, what background images or colors are used, layout designs,variations in display for different devices and screen sizes as well as a variety of other effects.

2.2.3 PYTHON

Python, a high-level programming language, serves as the backbone of JarvisNewsApp's backend functionality. Leveraging its simplicity and versatility, Python enables rapid development and deployment of web applications. Within JarvisNewsApp, Python processes user requests, interacts with the MongoDB database to retrieve and manipulate news articles, and dynamically generates HTML content for presentation on the frontend. Its extensive library ecosystem provides access to tools and frameworks essential for building robust and scalable web applications, ensuring JarvisNewsApp operates seamlessly.

2.2.4 MONGODB

MongoDB operates as a document-oriented NoSQL database, storing data in flexible JSON-like documents. Each document can have its own unique structure, allowing for dynamic and scalable data modeling. MongoDB employs indexes to facilitate fast querying and retrieval of data, optimizing performance even with large datasets. Its distributed architecture enables horizontal scaling, ensuring seamless handling of increasing data volumes. Additionally, MongoDB offers features like sharding and replication for high availability and fault tolerance in distributed environments.

Ch 3. REQUIREMENT AND ANALYSIS

3.1 REQUIREMENTS SPECIFICATION

User Requirements

The system requirement in library management focuses on the possibility of search for books by title, author or subject by the member.

System Requirements

There should be a database backup of the library management system. Operating system should be WindowsXP or a higher version of windows.

3.2 HARDWARE AND SOFTWARE REQUIREMENTS

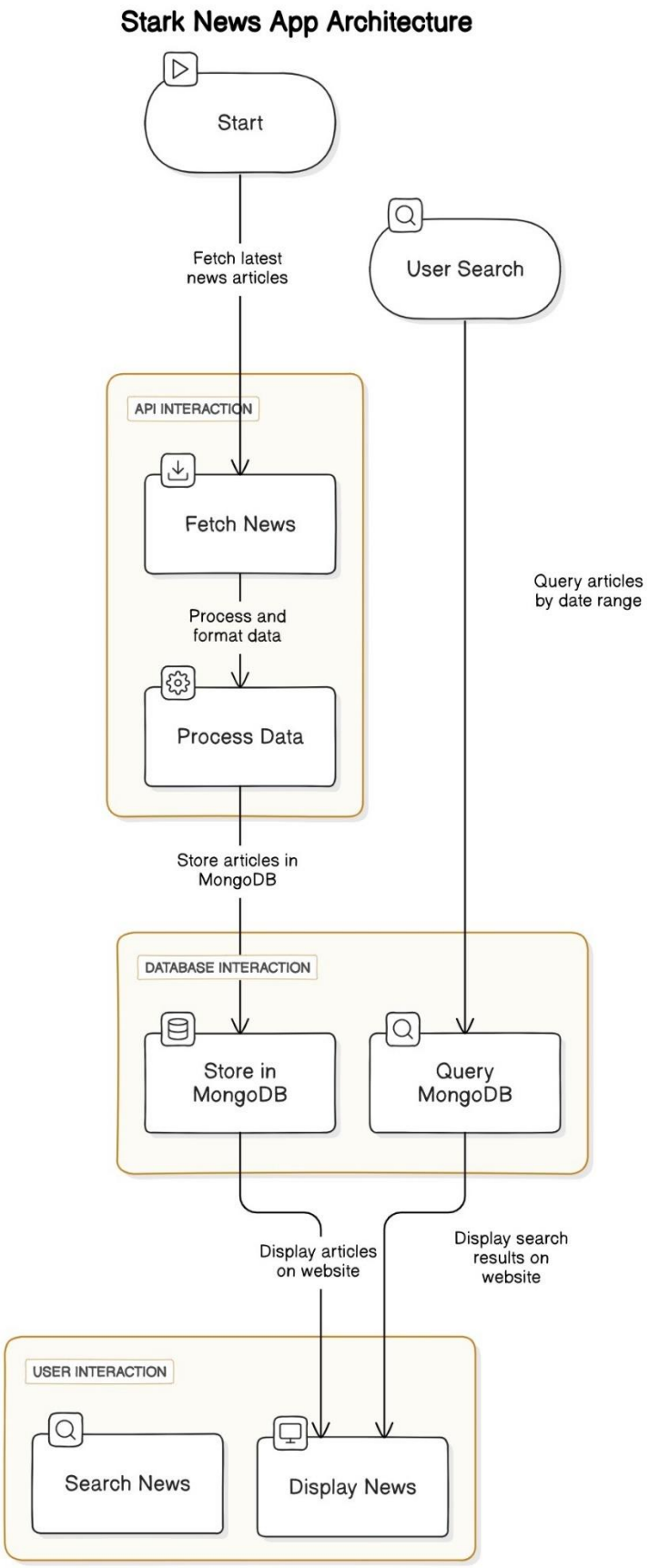
Software Requirements

- Operating System Windows 10
- Front End HTML , CSS , javascript
- Back End PYTHON, Postgre SQL

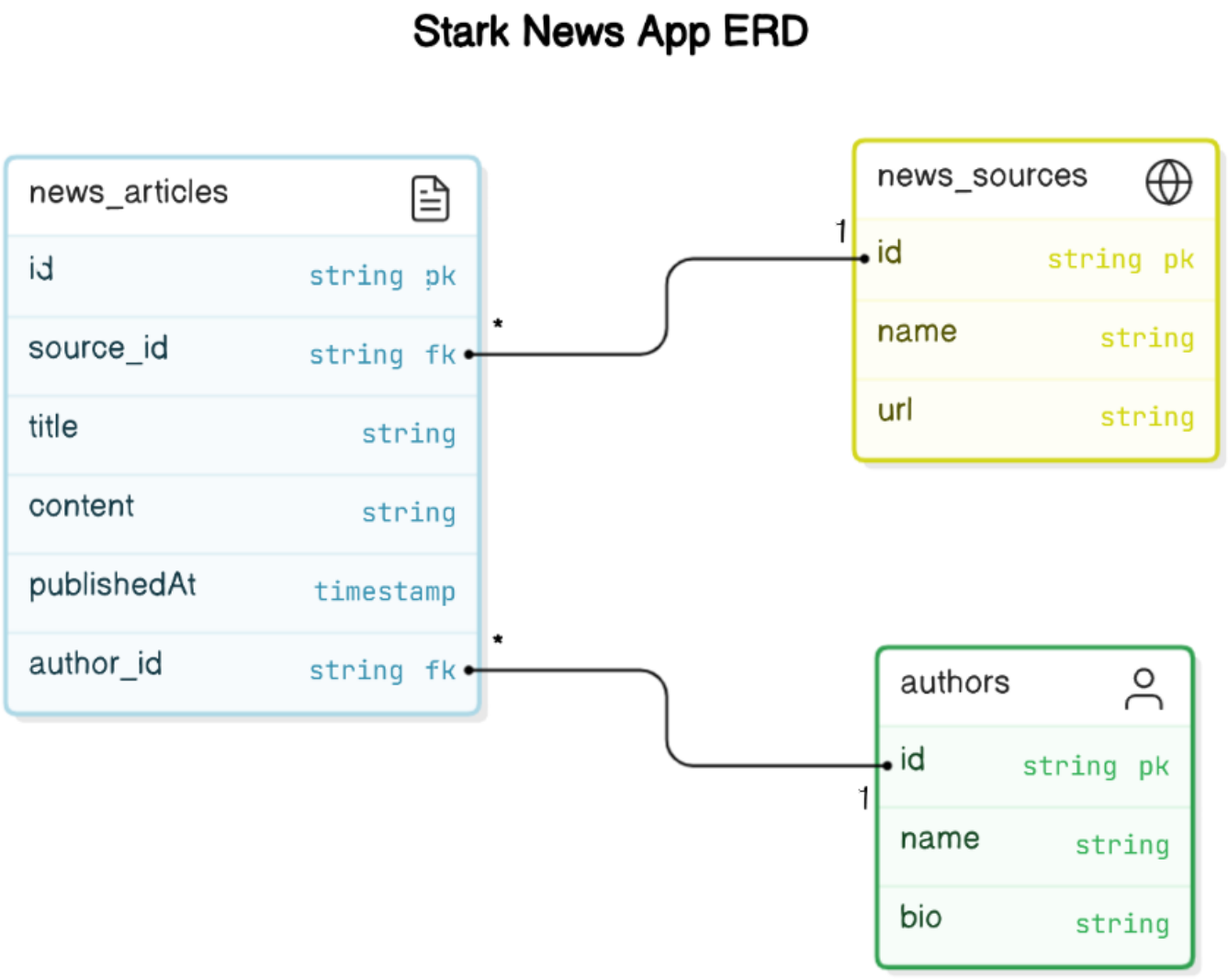
Hardware Requirements

- Desktop PC or a Laptop
- Printer
- Operating System – Windows 10
- Intel® CoreTM i3-6006U CPU @ 2.00GHz ● 4.00 GB RAM
- 64-bit operating system, x64 based processor ● 1024 x 768 monitor resolution
- Keyboard and Mouse

3.3 ARCHITECTURE DIAGRAM



3.4 ER-DIAGRAM



3.4 NORMALIZATION

Raw Data Table Schema

Column Name	DataType	Key Constraints
_id	ObjectId	Primary Key
url	String	None
author	String	None
content	String	None
date	Date	None
description	String	None
publishedAt	DateTime	None
source_id	String	Foreign Key
source_name	String	None
title	String	None
urlToImage	String	None

Normalized Tables

Articles Table

Column Name	DataType	Key Constraints
_id	ObjectId	Primary Key
url	String	None
author	String	None
content	String	None
date	Date	None
description	String	None
publishedAt	DateTime	None
source_id	String	Foreign Key
title	String	None
urlToImage	String	None

1NF

Articles Table

_id	url	author	content	date	description	publishedAt	source_id	title	urlT
ObjectId	String	String	String	Date	String	DateTime	String	String	Strir

2NF

Tables already meet the requirements of 2NF.

Ch 4. PROGRAM CODE

4.1 JARVISNEWSAPP

4.1.1 HTML/CSS AND JS

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>News Application</title>
    <link rel="icon" href="logo.png" type="image/png">
    <style>
        body {
            font-family: Arial, sans-serif;
            background-color: #f4f4f4;
            margin: 0;
            padding: 0;
            background-image: url('https://media.npr.org/assets/img/2013/05/06/tonyjarvis_wide-
92e2d9abcce4413d58f728f2b5f126cef71afd97.jpg');
            background-size: cover;
            background-repeat: no-repeat;
            background-attachment: fixed;
        }
        .container {
            width: 80%;
            margin: 20px auto;
            color: #ddd;
        }
        .selection {
            margin-bottom: 20px;
            display: flex;
            justify-content: space-between;
        }
        .selection form {
            display: inline-block;
        }
        .news-container {
            display: flex;
            flex-wrap: wrap;
            gap: 20px;
        }
        .news-card {
            background: #fff;
            border: 1px solid #ddd;
            border-radius: 5px;
            overflow: hidden;
            box-shadow: 0 2px 5px rgba(0, 0, 0, 0.1);
            width: 300px;
            cursor: pointer;
        }
        .news-card img {
            width: 100%;
            height: auto;
        }
        .news-card-content {
```

```
            padding: 15px;
        }
        .news-card-title {
            font-size: 18px;
            margin: 0 0 10px;
            color: #0e0c0c;
        }
        .news-card-description {
            font-size: 14px;
            color: #0e0c0c;
        }
        .news-card a {
            text-decoration: none;
            color: inherit;
        }
    </style>
</head>
<body>
    <div class="container">
        <div class="selection">
            <form method="get" action="/">
                <label for="country">Select Country: </label>
                <select name="country" id="country" onchange="this.form.submit()">
                    <option value="ae" {% if country == 'ae' %}selected{% endif %}>United Arab
Emirates</option>
<option value="ar" {% if country == 'ar' %}selected{% endif %}>Argentina</option>
<option value="at" {% if country == 'at' %}selected{% endif %}>Austria</option>
<option value="be" {% if country == 'be' %}selected{% endif %}>Belgium</option>
<option value="bg" {% if country == 'bg' %}selected{% endif %}>Bulgaria</option>
<option value="br" {% if country == 'br' %}selected{% endif %}>Brazil</option>
<option value="ch" {% if country == 'ch' %}selected{% endif %}>Switzerland</option>
<option value="cn" {% if country == 'cn' %}selected{% endif %}>China</option>
<option value="co" {% if country == 'co' %}selected{% endif %}>Colombia</option>
<option value="cu" {% if country == 'cu' %}selected{% endif %}>Cuba</option>
<option value="cz" {% if country == 'cz' %}selected{% endif %}>Czech Republic</option>
<option value="eg" {% if country == 'eg' %}selected{% endif %}>Egypt</option>
<option value="gr" {% if country == 'gr' %}selected{% endif %}>Greece</option>
<option value="hk" {% if country == 'hk' %}selected{% endif %}>Hong Kong</option>
<option value="hu" {% if country == 'hu' %}selected{% endif %}>Hungary</option>
<option value="id" {% if country == 'id' %}selected{% endif %}>Indonesia</option>
<option value="ie" {% if country == 'ie' %}selected{% endif %}>Ireland</option>
<option value="il" {% if country == 'il' %}selected{% endif %}>Israel</option>
<option value="in" {% if country == 'in' %}selected{% endif %}>India</option>
<option value="it" {% if country == 'it' %}selected{% endif %}>Italy</option>
<option value="jp" {% if country == 'jp' %}selected{% endif %}>Japan</option>
<option value="kr" {% if country == 'kr' %}selected{% endif %}>South Korea</option>
<option value="mx" {% if country == 'mx' %}selected{% endif %}>Mexico</option>
<option value="my" {% if country == 'my' %}selected{% endif %}>Malaysia</option>
<option value="ng" {% if country == 'ng' %}selected{% endif %}>Nigeria</option>
<option value="nl" {% if country == 'nl' %}selected{% endif %}>Netherlands</option>
<option value="no" {% if country == 'no' %}selected{% endif %}>Norway</option>
<option value="nz" {% if country == 'nz' %}selected{% endif %}>New Zealand</option>
<option value="ph" {% if country == 'ph' %}selected{% endif %}>Philippines</option>
<option value="pl" {% if country == 'pl' %}selected{% endif %}>Poland</option>
<option value="pt" {% if country == 'pt' %}selected{% endif %}>Portugal</option>
<option value="ro" {% if country == 'ro' %}selected{% endif %}>Romania</option>
<option value="ru" {% if country == 'ru' %}selected{% endif %}>Russia</option>
<option value="sa" {% if country == 'sa' %}selected{% endif %}>Saudi Arabia</option>
<option value="se" {% if country == 'se' %}selected{% endif %}>Sweden</option>
<option value="sg" {% if country == 'sg' %}selected{% endif %}>Singapore</option>
```

```
<option value="tr" {% if country == 'tr' %}selected{% endif %}>Turkey</option>
<option value="tw" {% if country == 'tw' %}selected{% endif %}>Taiwan</option>
<option value="ua" {% if country == 'ua' %}selected{% endif %}>Ukraine</option>
<option value="za" {% if country == 'za' %}selected{% endif %}>South Africa</option>

            </select>
        </form>
        <form method="get" action="/">
            <label for="category">Select Category: </label>
            <select name="category" id="category" onchange="this.form.submit()">
                <option value="" {% if not category %}selected{% endif %}>None</option>
                <option value="party" {% if category == 'party' %}selected{% endif
%}>Party</option>
                <o<option value="" {% if not category %}selected{% endif %}>None</option>
                <option value="party" {% if category == 'party' %}selected{% endif
%}>Party</option>
                <option value="actor" {% if category == 'actor' %}selected{% endif
%}>Actor</option>
                <option value="actress" {% if category == 'actress' %}selected{% endif
%}>Actress</option>
                <option value="sports" {% if category == 'sports' %}selected{% endif
%}>Sports</option>
                <option value="crime" {% if category == 'crime' %}selected{% endif
%}>Crime</option>
                <option value="movies" {% if category == 'movies' %}selected{% endif
%}>Movies</option>
                <option value="financial" {% if category == 'financial' %}selected{% endif
%}>Financial</option>
                <option value="share market" {% if category == 'share market' %}selected{%
endif %}>Share Market</option>
                <option value="gold" {% if category == 'gold' %}selected{% endif
%}>Gold</option>
                <option value="marvel" {% if category == 'marvel' %}selected{% endif
%}>Marvel</option>
                <option value="dceu" {% if category == 'dceu' %}selected{% endif
%}>DCEU</option>
                <option value="anime" {% if category == 'anime' %}selected{% endif
%}>Anime</option>
            </select>
        </form>
    </div>
    <div class="news-container">
        {% for article in articles %}
        <div class="news-card">
            <a href="/article?title={{ article.title }}&image={{ article.urlToImage
}}&description={{ article.description }}&content={{ article.content }}">
                <img src="{{ article.urlToImage }}" alt="News Image">
                <div class="news-card-content">
                    <h3 class="news-card-title">{{ article.title }}</h3>
                    <p class="news-card-description">{{ article.description }}</p>
                </div>
            </a>
        </div>
        {% endfor %}
    </div>
  </div>
</body>
</html>
```

ARTICLE VIEW

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>{{ title }}</title>
    <link rel="icon" href="logo.png" type="image/png">
    <style>
        body {
            font-family: Arial, sans-serif;
            background-color: #f4f4f4;
            margin: 0;
            padding: 0;
            background-image:
url('https://media.npr.org/assets/img/2013/05/06/tonyjarvis_wide-
92e2d9abcce4413d58f728f2b5f126cef71afd97.jpg');
            background-size: cover;
            background-repeat: no-repeat;
            background-attachment: fixed;
        }

.container {
  width: 80%;
  margin: 20px auto;
  max-width: 1000px; /* Adjust for larger screens */
}

.news-article {
  background: #fff;
  border: 1px solid #ddd;
  border-radius: 5px;
  overflow: hidden;
  box-shadow: 0 2px 5px rgba(0, 0, 0, 0.1);
  padding: 20px;
}

.news-article img {
  width: 100%;
  height: auto;
  margin-bottom: 15px; /* Add space between image and text */
}

.news-article-title {
  font-size: 24px;
  margin: 10px 0;
```

```
  font-weight: bold; /* Make title stand out */
}

.news-article-description {
  font-size: 18px;
  color: #555;
  margin: 10px 0;
  line-height: 1.5; /* Improve readability with spacing between lines */
}

.news-article-content {
  font-size: 16px;
  color: #333;
  margin: 10px 0;
}
    </style>
</head>
<body>
    <div class="container">
        <div class="news-article">
            <img src="{{ image_url }}" alt="News Image">
            <h1 class="news-article-title">{{ title }}</h1>
            <p class="news-article-description">{{ description }}</p>
            <p class="news-article-content">{{ content }}</p>
        </div>
    </div>
</body>
</html>
```

4.1.2 PYTHON

```
from flask import Flask, render_template, jsonify, request
import requests
from pymongo import MongoClient
from datetime import datetime

app = Flask(__name__)

# MongoDB setup
client = MongoClient('mongodb://localhost:27017/')
db = client.jarvis_news
news_collection = db.newsapp

def fetch_news(api_key, country='us', category=None):
    if category:
        url = f"https://newsapi.org/v2/everything?q={category}&apiKey={api_key}"
    else:
        url = f"https://newsapi.org/v2/top-headlines?country={country}&apiKey={api_key}"

    response = requests.get(url)
    news_data = response.json()

    if 'articles' in news_data:
        articles = news_data['articles']
        # Save articles to MongoDB with today's date
        for article in articles:
            article['country'] = country
            article['category'] = category
            article['date'] = datetime.today().strftime('%Y-%m-%d')
            news_collection.update_one(
                {'title': article['title'], 'date': article['date']},
                {'$set': article},
                upsert=True
            )
        return articles
    else:
        print(f"Error fetching news: {news_data}")
        return []

api_key = '3c2dc110a037439ab3eb00f313a9cd8e'

@app.route('/')
def home():
    country = request.args.get('country', 'us')
```

```
    category = request.args.get('category')
    news_articles = fetch_news(api_key, country, category)
    return render_template('ig.html', articles=news_articles, country=country, category=category)

@app.route('/article')
def article():
    title = request.args.get('title')
    image_url = request.args.get('image')
    description = request.args.get('description')
    content = request.args.get('content')
    return render_template('article.html', title=title, image_url=image_url,
description=description, content=content)

@app.route('/api/news')
def api_news():
    country = request.args.get('country', 'us')
    category = request.args.get('category')
    news_articles = fetch_news(api_key, country, category)
    return jsonify(news_articles)

if __name__ == '__main__':
    app.run(debug=True)
```

4.2 JARVISNEWSAPPSEARCH

4.2.1 html,css and js

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>News Articles for {{ date }}</title>
    <link rel="icon" href="logo.png" type="image/png">
    <style>
        body {
            font-family: Arial, sans-serif;
            background-color: #f4f4f4;
            margin: 0;
            padding: 0;
            background-image: url('https://media.npr.org/assets/img/2013/05/06/tonyjarvis_wide-
92e2d9abcce4413d58f728f2b5f126cef71afd97.jpg');
            background-size: cover;
            background-repeat: no-repeat;
            background-attachment: fixed;
        }
        .container {
            width: 80%;
            margin: 20px auto;
            color: #f4f4f4;
        }
        .selection {
            margin-bottom: 20px;
            display: flex;
            justify-content: space-between;
        }
        .selection form {
            display: inline-block;
        }
        .news-container {
            display: flex;
            flex-wrap: wrap;
            gap: 20px;
        }
        .news-card {
            background: #fff;
            border: 1px solid #ddd;
            border-radius: 5px;
            overflow: hidden;
            box-shadow: 0 2px 5px rgba(5, 5, 5, 0.1);
            width: 300px;
            cursor: pointer;
        }
        .news-card img {
            width: 100%;
            height: auto;
        }
        .news-card-content {
            padding: 15px;
        }
```

```
        .news-card-title {
            font-size: 18px;
            margin: 0 0 10px;
            color: black;
        }
        .news-card-description {
            font-size: 14px;
            color: #111010;
        }
        .news-card a {
            text-decoration: none;
            color: inherit;
        }
        .back-link {
            display: block;
            margin-top: 20px;
            text-align: center;
            color: #007BFF;
            text-decoration: none;
        }
        .back-link:hover {
            text-decoration: underline;
        }
        .error {
            color: red;
            margin-bottom: 20px;
        }
    </style>
</head>
<body>
    <div class="container">
        <h1>Search News Articles</h1>
        <form method="POST" action="/">
            <label for="date">Enter Date (YYYY-MM-DD):</label>
            <input type="text" id="date" name="date" required>
            <button type="submit">Search</button>
        </form>
        {% if error %}
            <p class="error">{{ error }}</p>
        {% endif %}
        {% if articles is not none %}
            <h1>News Articles for {{ date }}</h1>
            <div class="news-container">
                {% if articles %}
                    {% for article in articles %}
                        <div class="news-card">
                            {% if article.urlToImage %}
                                <img src="{{ article.urlToImage }}" alt="Article Image">
                            {% endif %}
                            <div class="news-card-content">
                                <h2 class="news-card-title">{{ article.title }}</h2>
                                <p class="news-card-description">{{ article.description }}</p>
                                <a href="{{ article.url }}" target="_blank">Read more</a>
                            </div>
                        </div>
                    {% endfor %}
                {% else %}
                    <p>No articles found for this date.</p>
                {% endif %}
            </div>
```

```
            <a href="/" class="back-link">Back to Search</a>
        {% endif %}
    </div>
</body>
</html>
```

4.2.2 PYTHON

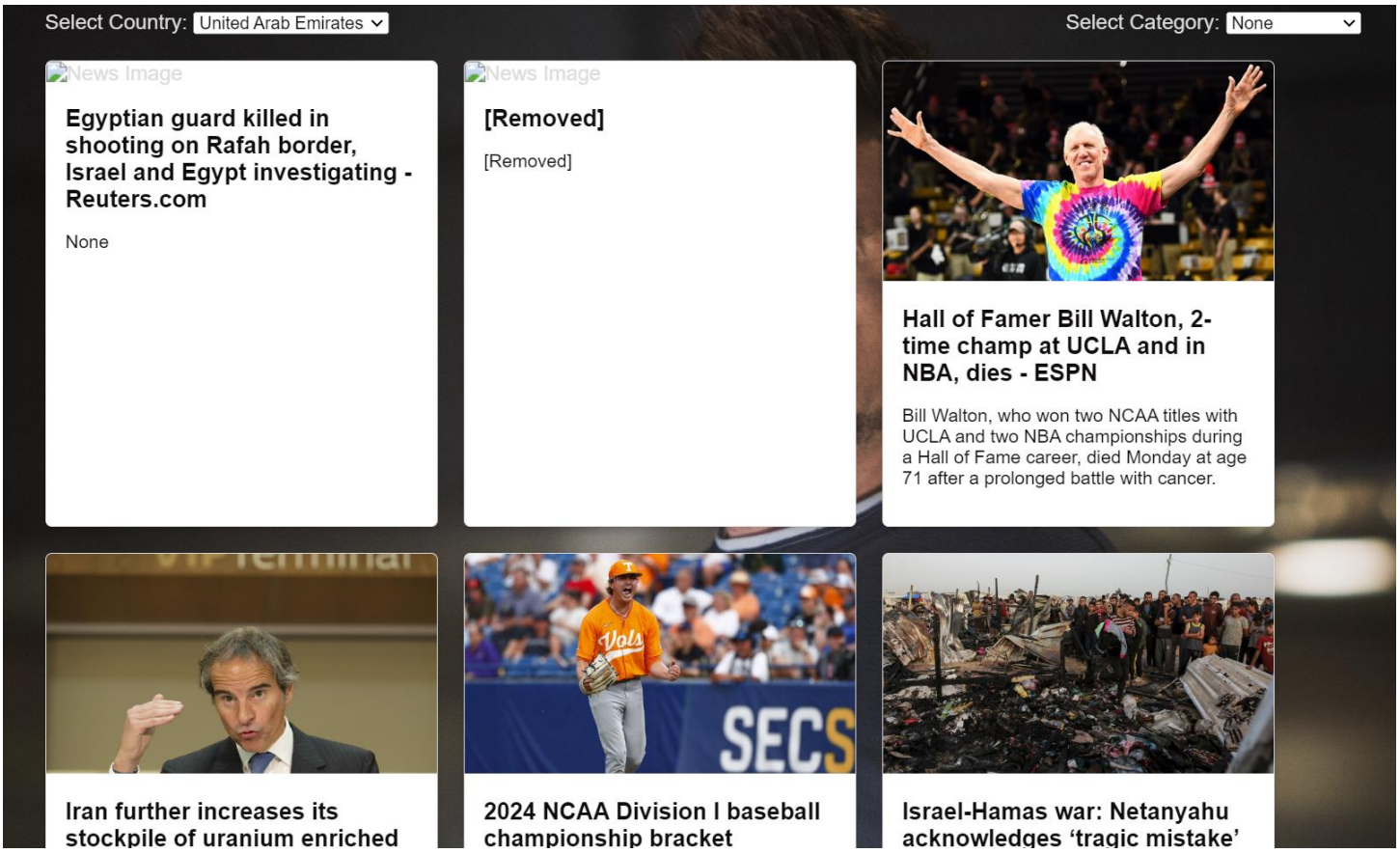
```
from flask import Flask, render_template, request
from pymongo import MongoClient
from datetime import datetime

app = Flask(__name__)

client = MongoClient('mongodb://localhost:27017/')
db = client.jarvis_news
news_collection = db.newsapp

@app.route('/', methods=['GET', 'POST'])
def index():
    articles = None
    date_str = None
    if request.method == 'POST':
        date_str = request.form.get('date')
        if not date_str:
            return render_template('index.html', error="Please provide a date in the format YYYY-
MM-DD")

        try:
            query_date = datetime.strptime(date_str, '%Y-%m-%d').date()
        except ValueError:
            return render_template('index.html', error="Invalid date format. Please use YYYY-MM-
DD")

        # Query the collection for articles matching the date
        articles = news_collection.find({"date": str(query_date)})
        # Convert articles to a list
        articles = list(articles)

    return render_template('index.html', articles=articles, date=date_str)

if __name__ == '__main__':
    app.run(debug=True)
```

Ch 5. RESULTS AND DISCUSSION

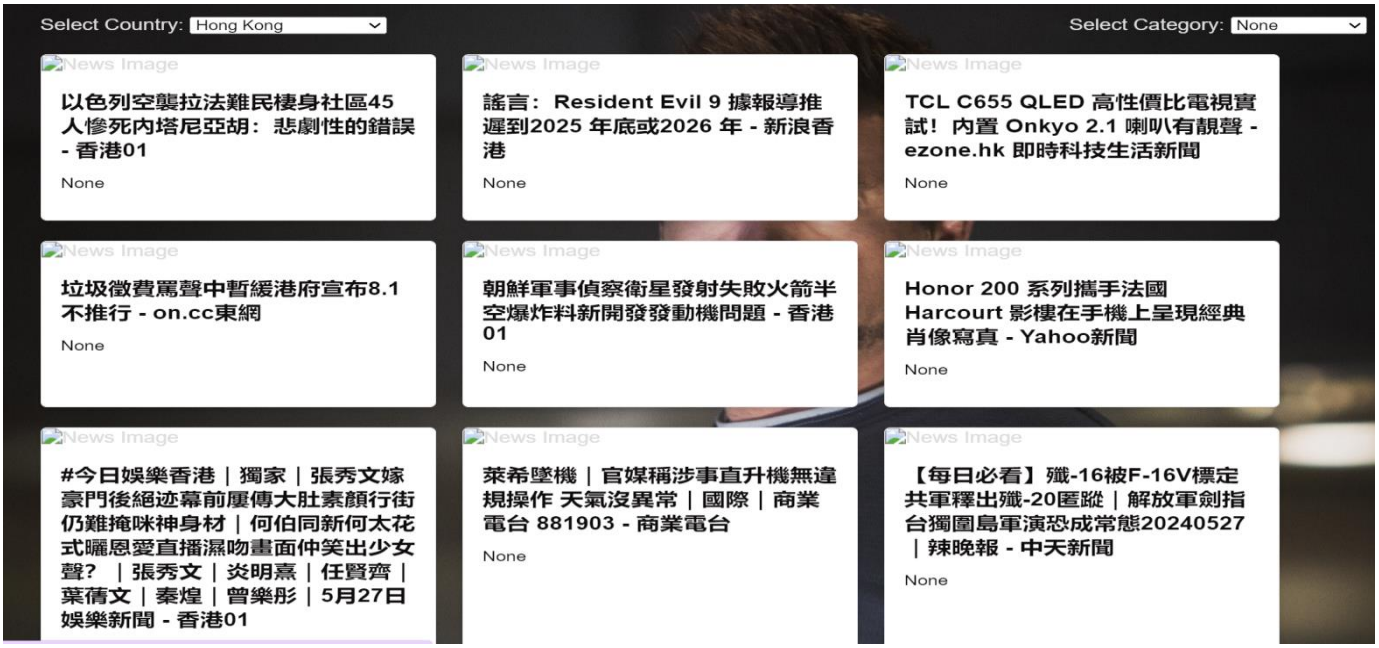
5.1 USER DOCUMENTATION

JARVISNEWSAPP

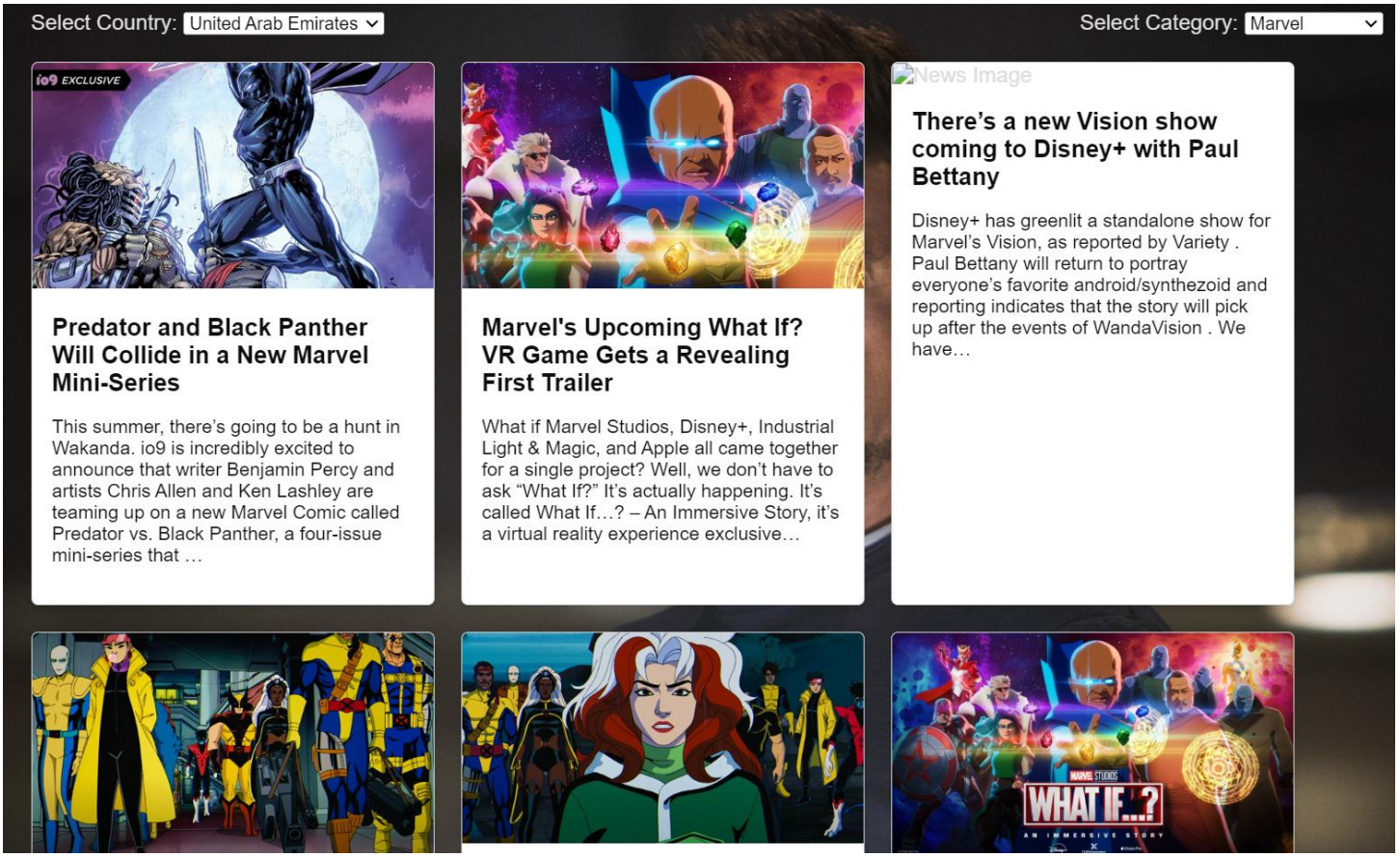
COUNTRY NEWS



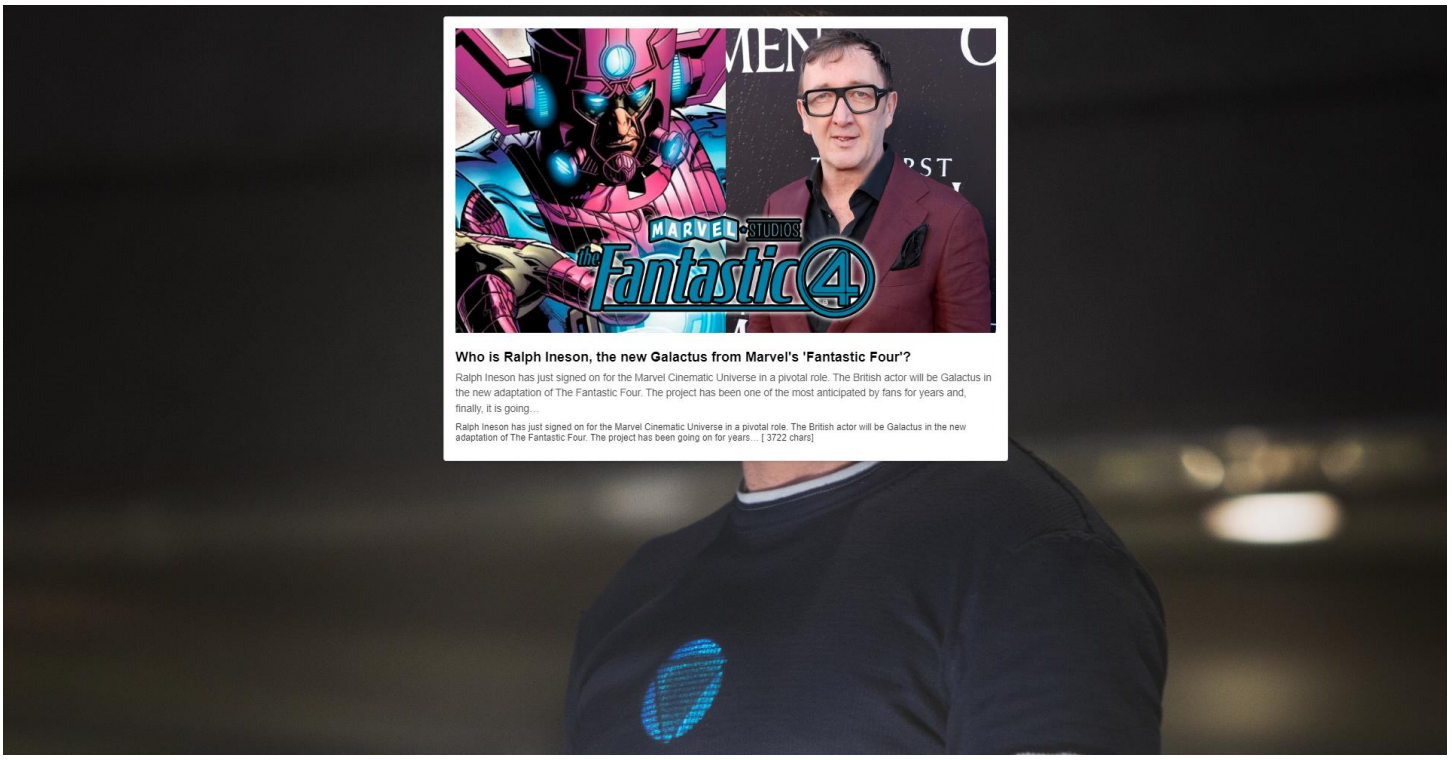
COUNTRY NEWS 40+ LANGAUGES



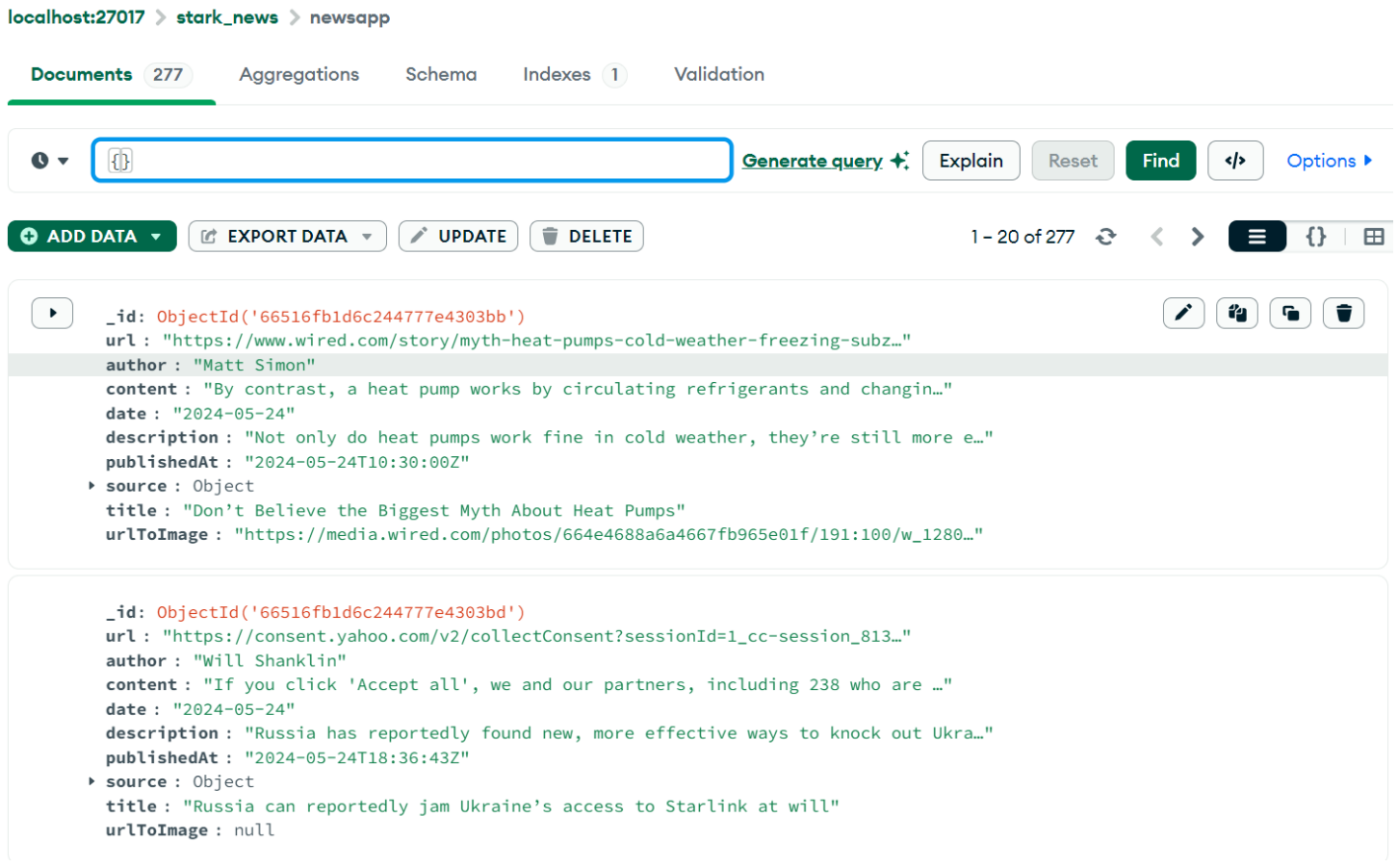
CATEGORY NEWS



DETAIL ARTICLE VIEWER

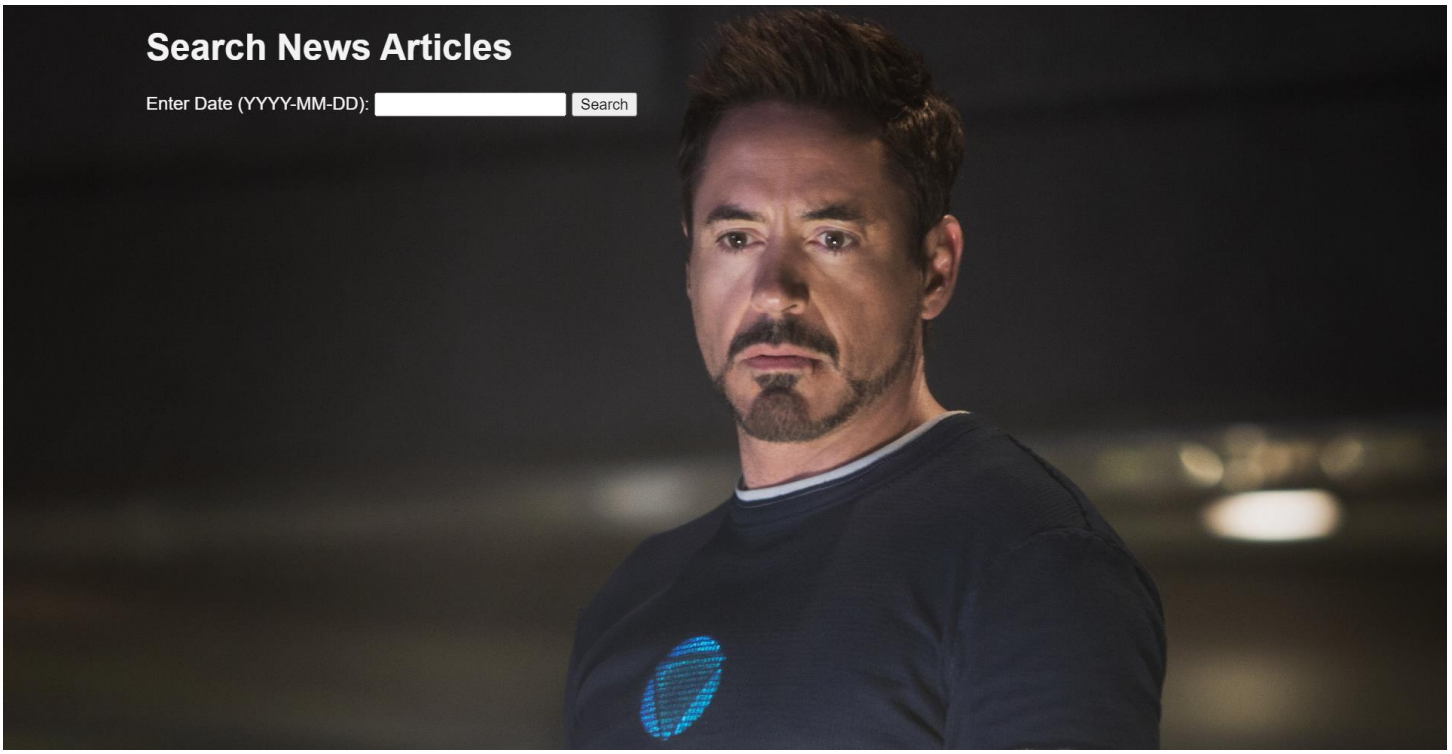


MONGODB DATABASE VIEW

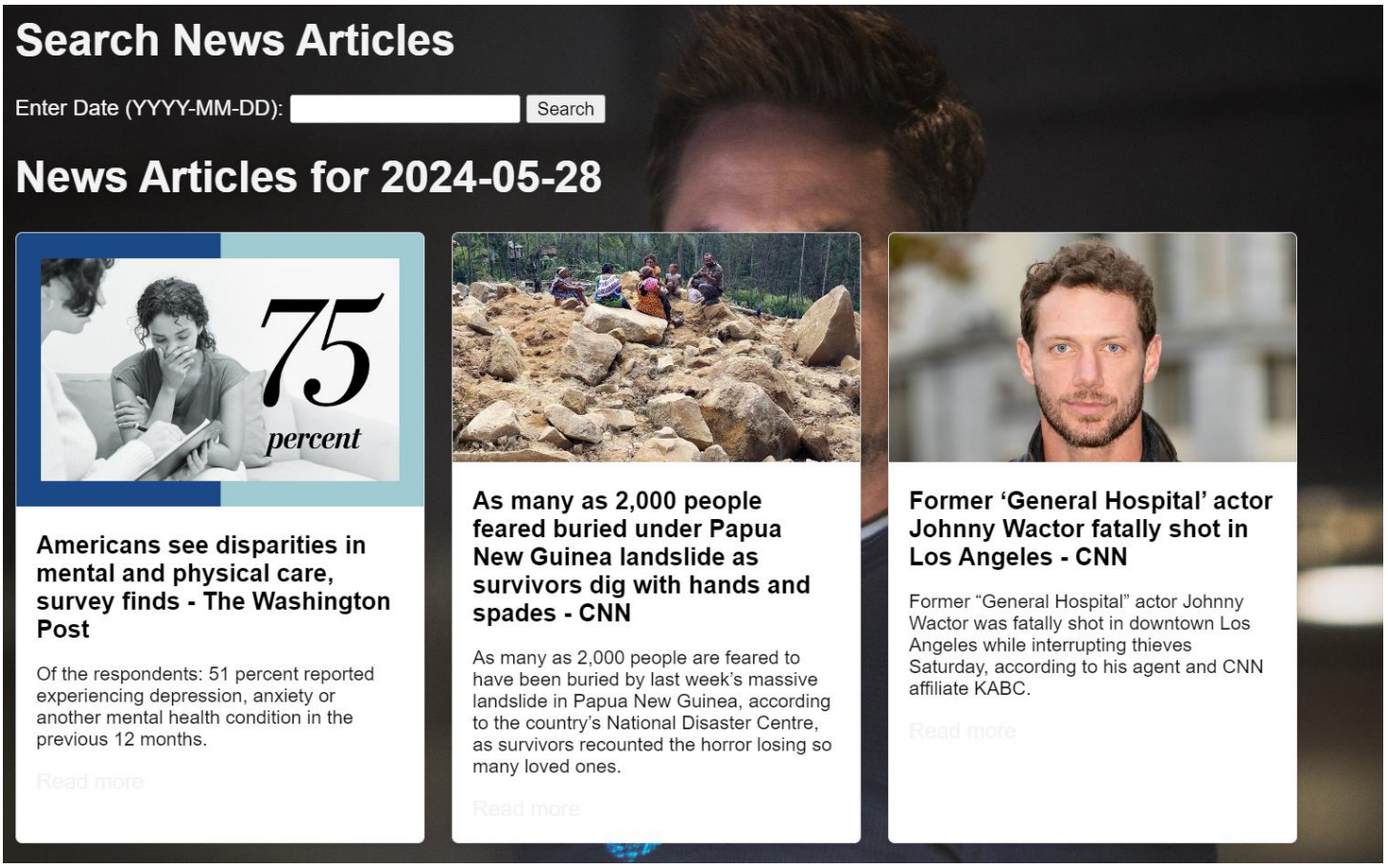


SEARCH OF PREVIOUS

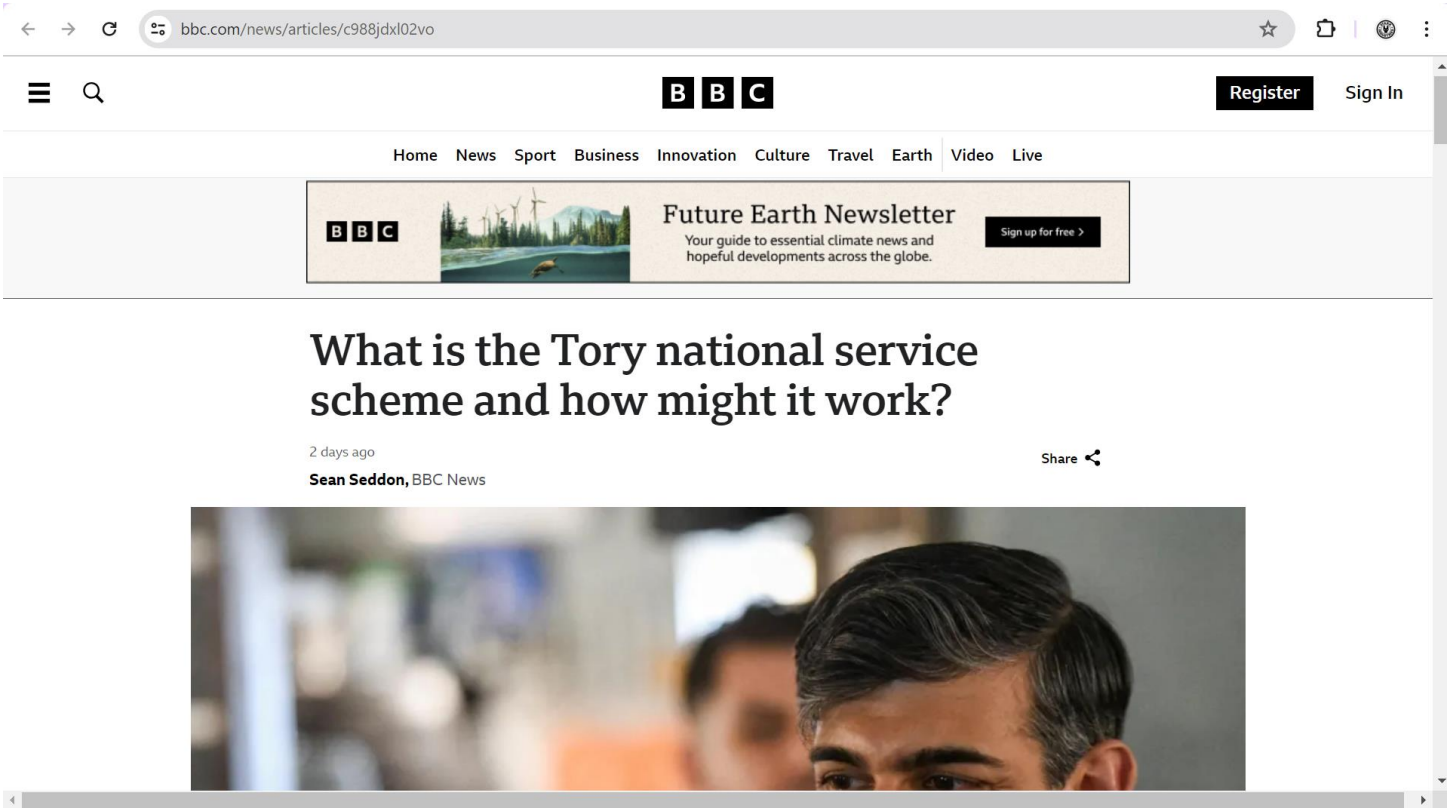
PAGE



SEARCH VIEW



ONLINE LINK VIEW



5.2 DISCUSSION

- **Scalability**: The architecture is designed to handle large volumes of news articles efficiently. By utilizing MongoDB as the database, the app can scale horizontally to accommodate increasing data loads. This ensures that as the number of users and news articles grows, the system remains responsive and performs well.

- **Flexibility**: The integration with the News API allows for flexibility in sourcing news content. Users can specify various parameters such as sources, categories, or keywords to tailor their news feed according to their interests. This flexibility enhances the user experience by providing personalized content.

- **Reliability**: The use of MongoDB as the backend database contributes to the reliability of the system. MongoDB's robust replication and failover mechanisms ensure high availability and data durability. This reliability is crucial for ensuring that users can access news articles consistently without interruptions.

- **Search Functionality**: The ability to search for news articles by date adds value to the app. Users can easily retrieve past news articles based on their specific interests or events they want to revisit. This feature enhances the usability of the app and improves user satisfaction.

- **Data Management**: MongoDB's document-oriented nature simplifies the storage and retrieval of news articles. Each article is stored as a JSON document, allowing for flexible schema design and efficient querying. This enables fast retrieval of news articles based on various criteria, enhancing the overall performance of the app.

Ch 6. CONCLUSION

In conclusion, the architecture of the Jarvis News app embodies a robust and efficient system for fetching, storing, and displaying news articles. By integrating the News API for sourcing real-time news content and MongoDB for storing articles, the app offers scalability, flexibility, and reliability.

The app's ability to scale horizontally ensures it can handle increasing data loads as user traffic and news volumes grow. Additionally, the flexibility provided by the News API allows users to personalize their news feed according to their interests, enhancing the overall user experience.

The inclusion of a search functionality based on date enables users to retrieve past news articles easily, adding value to the app and improving user satisfaction. MongoDB's document-oriented approach simplifies data management, facilitating fast and efficient storage and retrieval of news articles.

Overall, the architecture of the Jarvis News app is well-designed to meet the demands of a modern news consumption platform. It provides a seamless user experience, ensuring reliable access to up-to-date news content while offering flexibility and scalability for future growth and development.

Ch 7. REFERENCE

- MONGODB DATABASE CONNECTIVITY BY GEEKS OF GEEKS
- NEWS APP CREATOR ZOHO CREATORS