

**DAYANAND ACADEMY OF MANAGEMENT STUDIES**  
**KANPUR**  
**DEPARTMENT OF COMPUTER APPLICATION**



**SESSION (2022-2025)**  
**"News App"**

**SUBMITTED IN PARTIAL FULFILLMENT FOR AWARD OF**  
**DEGREE OF**  
**BACHELOR OF COMPUTER APPLICATION**

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**TITLE OF THE PROJECT**

**"NEWS APP"**

## **ABOUT ORGANIZATION**



SKDeft Technologies is a leading IT company which deals in complete web solutions, mobile application development, digital marketing, and IT security services. SKDeft Technologies is a full-service supplier for companies or individuals.

### **OUR MISSION**

To exceed our customers' expectations with our innovative and professional ideas. We keep in mind all your expectations to provide the best services to be the world's most trusted partner for quality assurance at an affordable price.

### **WHAT WE DO**

We always do the right thing with technicalities, pace, and passion. We create sustainable growth. Our quality-centered work culture focuses on client success through customized approaches and best practices to meet their demands. Our strong domain experience makes us an ideal partner for your IT outsourcing needs.

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## **Introduction**

The News App is a dynamic web application that delivers the latest news across categories like finance, sports, crypto, and AI. Built with HTML, CSS, JavaScript, and the News API, it offers a user-friendly interface with category navigation, a search bar, and a card-based layout for articles.

With new user authentication features, the app allows users to create accounts for a personalized experience. This integration of frontend and backend technologies enhances the News App's interactivity, making it a responsive and user-centric platform for staying informed.

## **Objective of the Project**

The objective of the News App is to deliver a dynamic and user-friendly web platform that provides users with up-to-date news articles across diverse categories. By leveraging HTML, CSS, JavaScript, and the News API, the project aims to create an engaging interface that allows users to explore news topics like finance, sports, crypto, international affairs, technical advancements, AI, and education. This project is designed to offer a seamless, interactive experience, combining aesthetic design with technical functionality to meet the growing demand for accessible and customizable news content online.

# Input and Output of the Project

## 1. Input

The primary input for the News App comes from user interactions and the News API:

- **User Inputs:** Users can select news categories through the navigation bar, enter keywords in the search bar for customized queries, and click on various buttons to view articles in specific categories.
- **API Requests:** The News App sends requests to the News API using an API key and query parameters based on user selections, fetching relevant news articles based on chosen categories or search keywords.
- *New User Inputs:* User registration and login data (username, email, password) will now be stored in MongoDB.

## 2. Output

The output of the News App is a visually organized display of news articles in a responsive format:

- **News Cards:** The app dynamically generates news cards, each displaying an image, title, source, and brief description of the article. The cards are arranged in a user-friendly, card-based layout.
- **Category-Based Filtering:** The app displays only the articles related to the selected category or search term, providing a streamlined and personalized news browsing experience.

## **Software Module**

The News App is structured around several key software modules that enable its dynamic functionality and user-friendly interface:

### **1. UI Module**

This module is responsible for rendering the visual elements of the application. It includes the navigation bar for category selection, the search bar for customized news queries, and the card-based layout for displaying news articles. HTML and CSS are used to design these components, ensuring that the interface is responsive and aesthetically pleasing.

### **2. API Integration Module**

This module manages communication with the News API. It uses JavaScript functions to send requests, receive news data, and filter it based on the user's selected category or search term. It handles API key authentication and processes JSON responses from the API, ensuring that relevant data is available for display.

### **3. Data Binding and Rendering Module**

This module binds the fetched news data to the app's visual components. Functions like `bindData` and `fillDataInCard` dynamically populate the news cards with images, titles, sources, and descriptions from the API data. It ensures that the content remains updated and aligned with user interactions.

### **4. Event Handling Module**

This module captures user interactions, such as clicking on a category or



submitting a search query. It triggers functions like `fetchNews`, `onNavItemClick`, and the search functionality to update the displayed news. This module enhances interactivity, making the application responsive to user actions.

## 5 Backend Module

- *Description:* This module uses Node.js and Express to set up a backend server. It manages requests for user data, such as signing up, logging. It also handles secure communication between the frontend and the database.
- *Technologies Used:* Node.js, Express, body-parser (to parse incoming request data).

## 6 Database Module

- *Description:* This module uses MongoDB to store and manage user data. User accounts, stored in a MongoDB database, allowing persistent data storage and retrieval for personalized user experiences.
- *Technologies Used:* MongoDB, Mongoose (for modeling data in MongoDB with a structured schema).

## System Resource Requirement

### 1. Hardware Resource Requirement

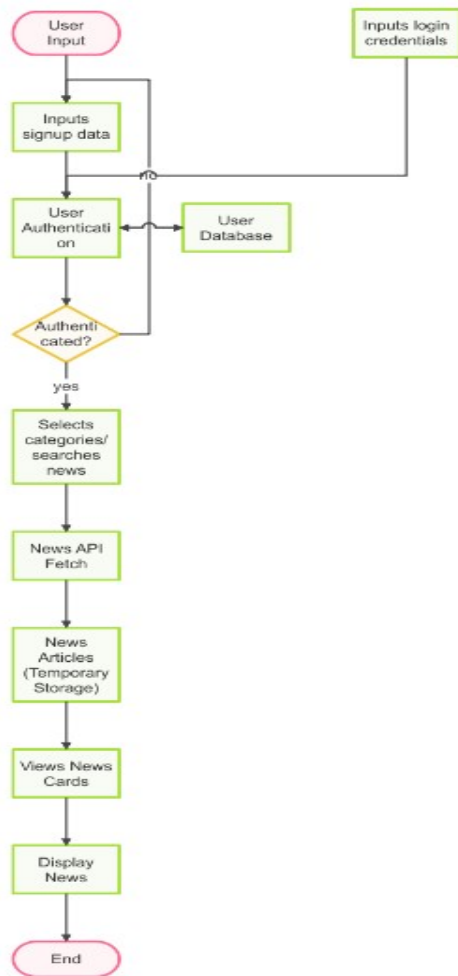
<b>Component</b>	<b>: Requirement</b>
<b>Hard Drive</b>	: 2 GB or above
<b>Processor</b>	: Intel Core i5 or above
<b>RAM</b>	: 2 GB or above
<b>Processor Speed</b>	: 2.30 GHz

### 2. Software Resource Requirement

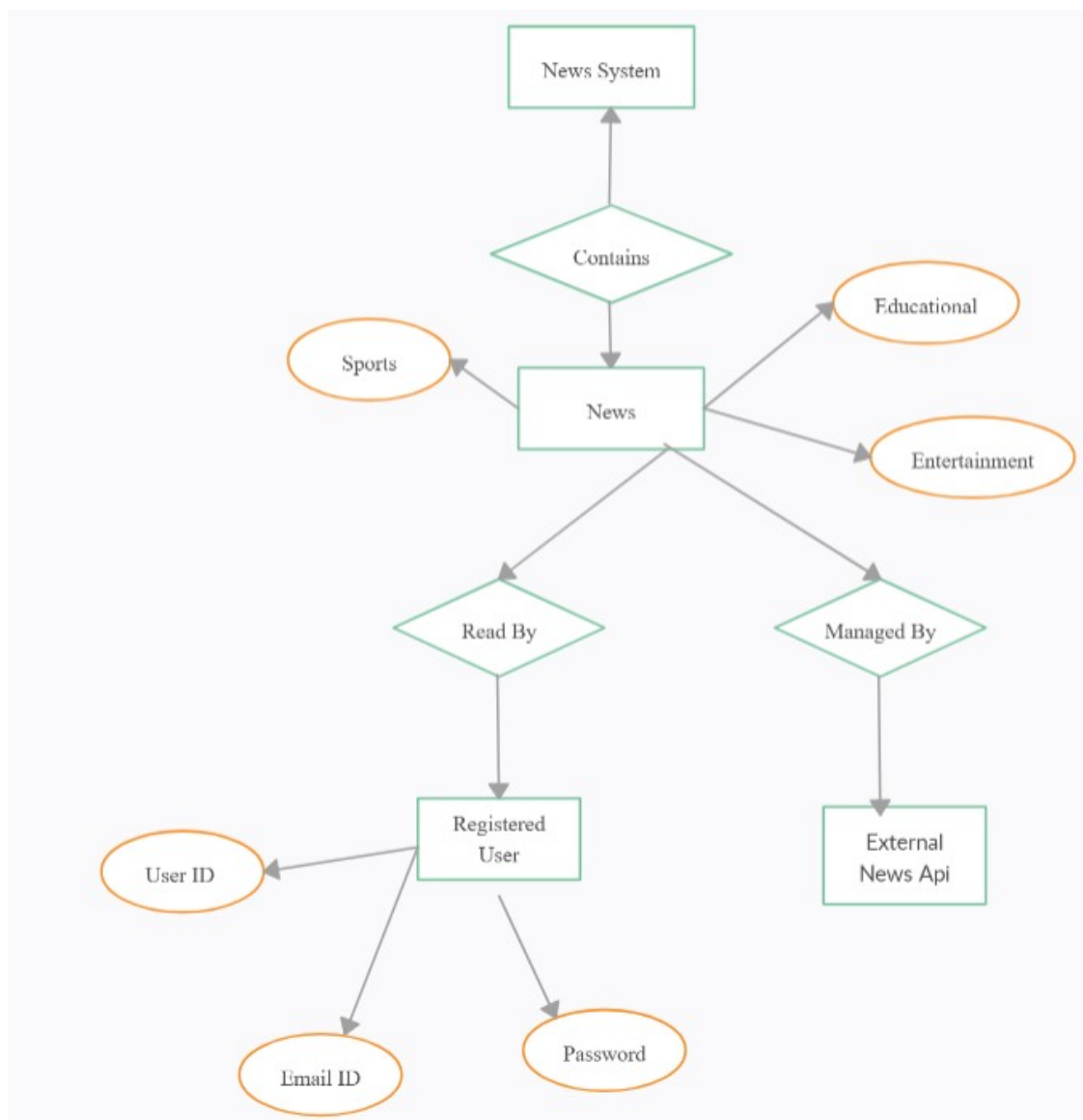
<b>Requirement Type</b>	<b>: Specification</b>
<b>Operating System</b>	: Windows 7 or above
<b>Frontend Technologies</b>	: HTML, CSS, JavaScript
<b>APIs</b>	: News API
<b>Database Technology</b>	: MongoDB
<b>Backend Technologies</b>	: Node.js, Express.js

## System Design

### Data flow diagram



## ER Daigram -:



## Database design-:

User table:

<u>Attributes</u>	<u>Data-type</u>	size
username	String	30
email	String	30
password	String	30

## **Future Scope of the Project**

**Enhancements:** The News App can expand by offering features like article-saving options or a viewing history, allowing users to easily revisit content. Additionally, optimizing the website for mobile devices will improve accessibility and ensure a smooth experience across various platforms.

**Advanced Features:** Future improvements could include enhanced search functionality, real-time news updates, and refined category-based filtering. As the app evolves, advanced recommendations based on trending topics or user activity patterns could be introduced. These upgrades will make the News App a more valuable and interactive resource, tailored to users' needs.

## *Limitations of the Project*

1. **Dependency on External API:** The News App relies on the News API, making it vulnerable to any downtime or changes in the API, which could affect content availability.
2. **Limited Customization:** Users currently have minimal options for customizing their news feed beyond basic category selection.
3. **No Offline Functionality:** The website does not support offline access, requiring an active internet connection to fetch and read articles
4. **Scalability Concerns:** The website may face performance issues as the number of users increases if not optimized for high traffic.

# Preferences

## *Website Preferences:*

- <https://newsapi.org>
- <https://www.w3schools.com/html/>
- <https://expressjs.com/>
- <https://www.mongodb.com/docs>