

News Website Project

Abstract of the Project Online News Portal:

The purpose of the Online News Website is to provide users a system to update, read and view news data, fulfilling their requirements, so that they can be easily be updated by the admin from verified data sources and thus open access to reliable sources of news openly across the internet.

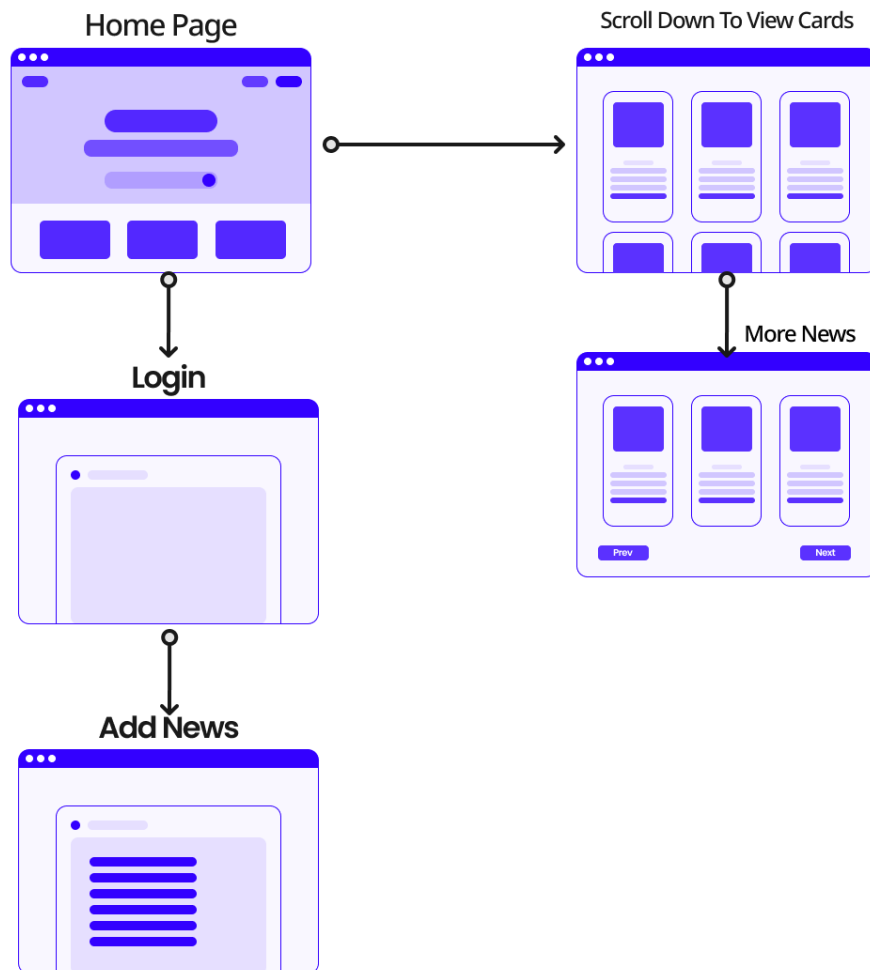
With easy access to news data. The required software and hardware Are readily available and easy to work with.

Online News websites, as described above, will help in providing secure, reliable, and fast news through trusted and authentic sources either within an organization or globally.

Thus it will help if used by an organization in Better utilization of resources. They can be used internally within an organization to provide organization updates and data through reliable sources in the organization. It can also be used by a University/School or an Institute as for accessible news.

The Project aim is to provide an automated system as a replacement for the manual newspaper system with the help of the internet and web development that is accessible throughout the internet

User Flow Diagram



Problem Statment -

Create a News Website to Show News and to be updated by verified users through Database

Solution -

The Solution involves Implementing a RESTFUL API to perform CRUD Operations over the Database which is to be hosted on SQL Google Cloud Platform.

What is Rest?

A REST API (also known as RESTful API) is an application programming interface (API or web API) that conforms to the constraints of REST architectural style and allows for interaction with RESTful web services. REST stands for representational state transfer.

The API provides data to to the React Service in JSON Format, which is used to provide the latest news data to the users

Sample JSON Data Provided by the API -

```
"source": {  
  "id": null,
```

```

"name": "Citytoday.news"
},
"author": "Murali",
"title": "Liver cancer is increasing because of unhealthy lifestyle - Mysuru Today - citytoday",
"description": "Prime News, National, Karnataka, Health, Disease, Mysuru, April 21:- Liver cancer is rising because of an unhealthy lifestyle",
"url": "https://citytoday.news/liver-cancer-is-increasing-because-of-unhealthy-lifestyle/",
"urlToImage": null,
"publishedAt": "2022-04-21T05:41:53Z",
"content": "Prime News, National, Karnataka, Health, Disease, Mysuru, April 21:- Liver cancer is rising because of an unhealthy lifestyle,

```

The Data is provided to NewsComponent.js which uses useState Hook over Class Component Architecture to pass the data to Newsitem.js over react props which renders the card components for displaying dynamic data.

Software and Hardware Requirments

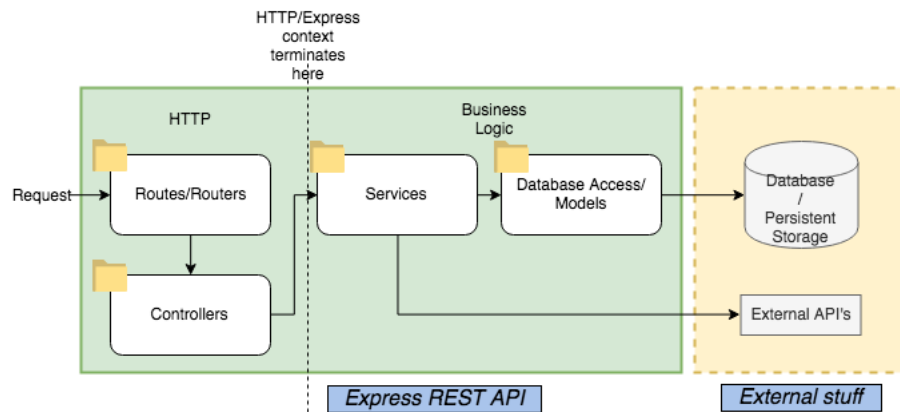
Operating System: Windows 10 version 1507. Node. js (<https://nodejs.org/en/>) Supported Internet browser: Chrome - Latest version, or the penultimate version.

Hardware Requirments:

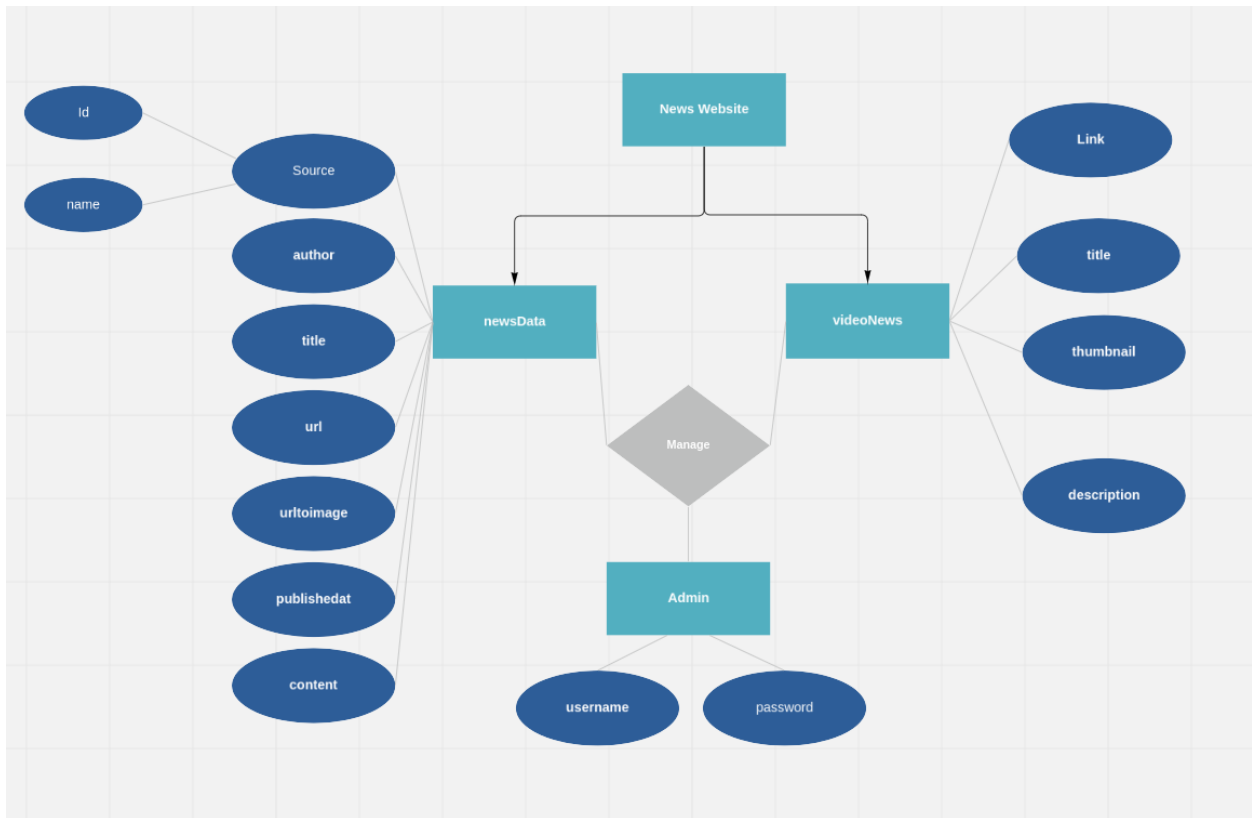
active internet connection, mobile phone, PC Computer with web browser

Software Design Architecture

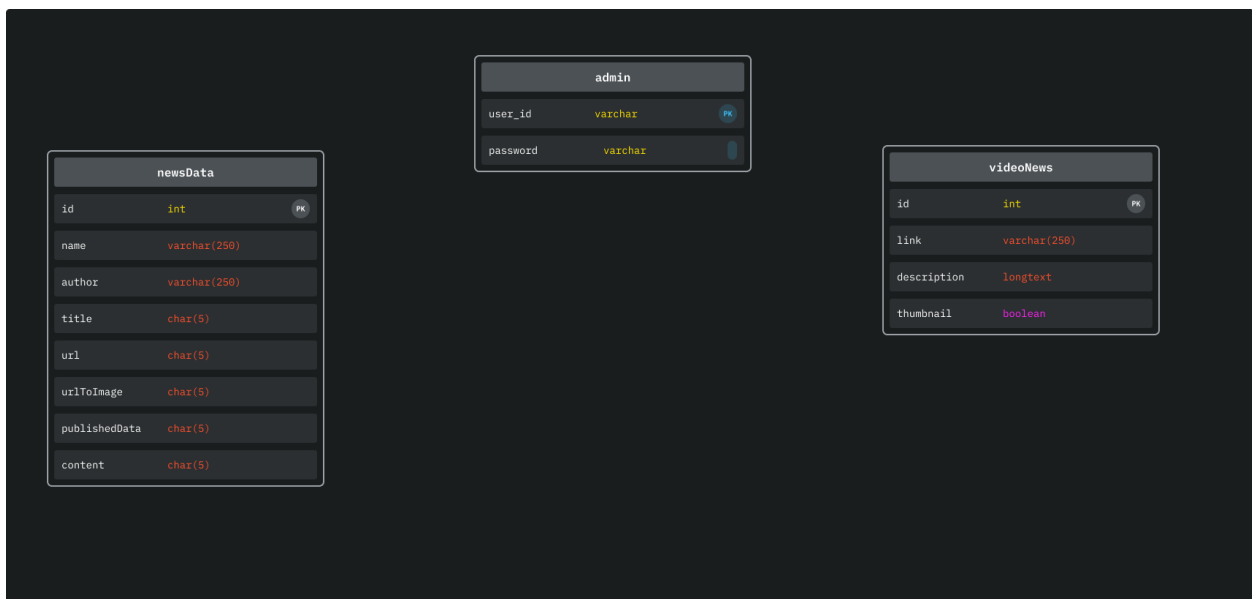
Architecture For Rest API



ER Diagram



Architecture Schema For Database



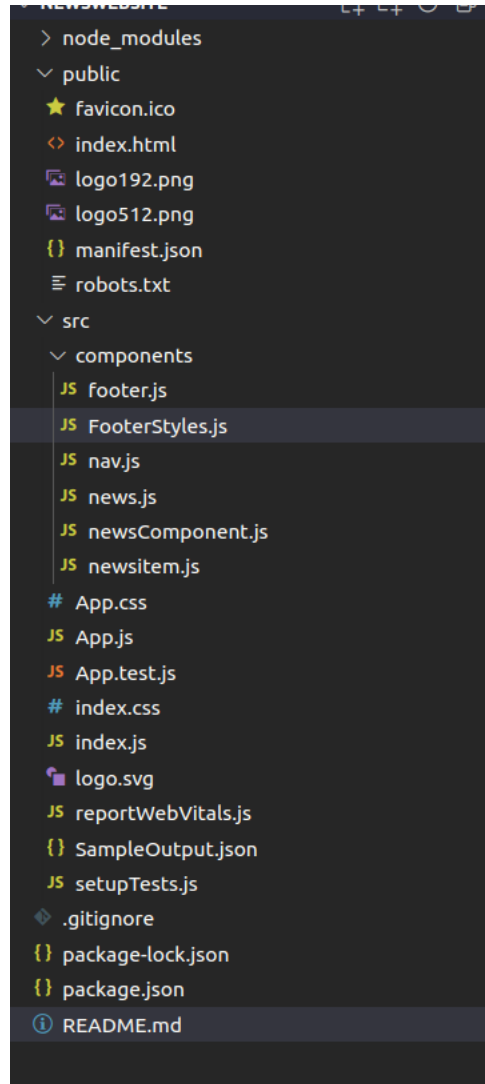
Coding Overview

Frontend

Frontend Framework is based On React and designed using Atomic Design Aproach by Brad Frost, Component Based Architecture has been implimented to reduce repetition and have a cleaner understandable code base.

API based architecture provides secure access to Data with encryption and custom end points to access data.

Folder Architecture For Front End



Backend

The backend Service Includes an SQL database with an API with 2 endpoints. The API endpoints enable CRUD Operations in the database so as to update the website with the latest news with a separate endpoint. The website uses a read endpoint to get data from the source in form of JSON data, parse it with a map function and render data for each JSON item with React.

The Backend currently Offline will be hosted online on a server so as to make the website CRUD Operations faster and more accessible. The CRUD operations can be further secured using JWT Auth tokens to a secure the login system and protect API Endpoints.

Limitations and Scope

The Future Scope of Project circles around -

- ▼ Accessible News to limited users with user login functionality

ML Based on fake news recognition and removal

Advanced Facility for Video and Blog based News Portal

Implementing JWT Tokens to secure API End Points

The Above points and enhancements will improve the practical scope and approach of the project for the industry. Including Video, Blogs and other types of news sources will help the project grow dynamically and cater to a wide range of audiences.

Limitations -

A limited type of News data and API Access limit on the current project

High Loading time due to server-side rendering and content waterfalls.

Delay in News updation and insecure API endpoints