NASA HomePage Clone Project Documentation

Internship Provider: CodewithbismiAllah

Internship Role: Frontend Web Developer

Technology Utilized:

- HTML
- CSS
- Boostrap,
- React Bootstrap
- Tailwind CSS
- JavaScript
- React JS

Integrated Development Environment(IDE): Visual Studio Code

Version Control System: GitHub

Submitted By:

Name: Kanza Yasir

University: NFC-IET Multan

Semester: 5th

Submission Date: 08/09/24

Project Title: NASA HomePage Clone Project

Project Documentation

Project documentation provides a comprehensive guide to understanding, setting up, and maintaining the NASA HomePage Clone Project. This document serves as an essential resource for developers, contributors, and stakeholders to ensure proper usage, development, and deployment of the project.

1. Project Overview

The **NASA HomePage Clone Project** is a **dynamic react web application** developed during an internship with **CodeWithBismiAllah**. This project aims to replicate and modify some features of NASA website, providing users with an engaging and interactive platform to explore NASA's extensive range of space-related content.

1.1 Purpose

The primary goal of this project is to create a modern, user-friendly interface that allows visitors to access and interact with NASA's data and media resources. Utilizing React's component-based architecture, the project enhances the usability and accessibility of NASA's information.

1.2 Key Features

- **Interactive User Interface:** A responsive and intuitive UI built with React, ensuring a seamless browsing experience across various devices.
- **Search Functionality:** Advanced search capabilities to help users easily find specific space missions, astronomical images, and related content.
- **Dynamic Content Display:** Real-time updates and dynamic content rendering to keep users informed with the latest NASA news and media.
- **Educational Resources:** Access to educational materials and resources to help users learn more about space exploration and astronomy.

2. Installation and Setup

2.1 Prerequisites

Before beginning, ensure that the following software and tools are installed on your development machine:

- **Node.js:** A JavaScript runtime necessary for running the development server and building your React application.
- **npm or Yarn:** Package managers for installing and managing project dependencies.
- **Visual Studio Code:** A recommended code editor for developing and managing your React application.

2.2 Installing Dependencies

Install the project dependencies using either npm or Yarn.

- **Using npm:**

  npm install

- **Using Yarn:**

  yarn install

2.3 Running the Project

To start the development server and launch the React application, use one of the following commands:

- **Using npm:**

  npm start

- **Using Yarn:**

  yarn start

This command will start the development server and open the application in your default web browser. By default, it should be accessible at http://localhost:3000.

2.4 Development and Version Control

- **Development Server:** The development server automatically reloads the application whenever changes are made to the source code, allowing for real-time feedback during development.
- **Version Control:** Git is used for version control. Regularly commit your changes and push them to the repository on GitHub to maintain version history and collaborate effectively.

4. Troubleshooting

If you encounter issues during development, consider the following:

- **Check Console Errors:** Review the browser console for error messages that might provide clues about the issue.
- **Review Documentation:** Ensure you've followed all setup and configuration steps correctly.
- **Seek Help:** Consult the React documentation or seek help from the community or project maintainers.

Instership Tasks Documentation:

Task 1: NASA Website Homepage Clone

Overview

The NASA website homepage clone project successfully replicates the design and functionality of the original NASA homepage. By leveraging HTML, Bootstrap, the project achieves a responsive and visually appealing design that closely matches the original layout, typography, and color scheme.

Task 2: Accordion Integration

Overview

This document details the implementation of an accordion component integrated into the homepage. The accordion enhances the user experience by providing collapsible sections for "News," "Missions," and "Podcasts," allowing users to access content efficiently while keeping the interface clean and organized.

Features

- **Collapsible Sections**: Sections for "News," "Missions," and "Podcasts" can be expanded or collapsed.
- **Smooth Transitions**: The accordion features smooth animations for collapsing and expanding sections, ensuring a seamless user experience.
- **Responsive Design**: The accordion is designed to work well across all screen sizes, maintaining usability on both desktop and mobile devices.

Task 3: YouTube Video Embedding with iFrames

Overview

This document outlines the implementation of YouTube video embedding on the homepage. The objective was to embed videos related to space missions using iframes. The embedded videos are designed to be responsive and properly aligned within the content grid, ensuring no overflow on smaller screens.

Features

- **Responsive Videos**: Videos resize dynamically based on screen size to ensure optimal viewing across all devices.
- **Proper Alignment**: Embedded videos are aligned within the content grid for a clean and organized layout.
- **No Overflow**: Videos are styled to prevent overflow and maintain a consistent appearance on smaller screens.

Task 4: Podcast Section in Accordion

Overview

This document provides details on integrating a dedicated podcast section into the accordion component of the homepage. The section includes a list of podcast episodes with embedded audio players, allowing users to expand and collapse panels to view or listen to episodes.

Features

- **Collapsible Panels**: The podcast section is incorporated into the accordion, allowing users to expand and collapse the list of episodes.
- **Embedded Audio Players**: Each podcast episode includes an embedded audio player for direct listening.
- **User-Friendly Design**: Panels are designed to be user-friendly, with clear labels and controls for interaction.

Task 5: Advanced Customization with Tailwind CSS

Overview

This document details the advanced customization with Tailwind CSS to align with NASA's branding. The customization involved modifying Tailwind CSS styles to reflect NASA’s colors, fonts, and spacing requirements, ensuring a cohesive and branded appearance.

Customization Objectives

- **Colors**: Define custom colors to reflect NASA's branding.
- **Fonts**: Implement custom fonts to match NASA's typography.
- **Spacing**: Adjust spacing utilities to fit NASA’s design requirements

Task 6: Interactive Space Mission Timeline

Overview

This document provides details on the development of an interactive space mission timeline using HTML, CSS, and JavaScript. The timeline features expandable accordion sections for each space mission, displaying details and embedded videos. The design focuses on visual engagement and ease of navigation.

Features

- **Interactive Accordion Sections**: Each space mission is contained within an expandable accordion panel that reveals additional details and embedded videos when expanded.
- **Embedded Videos**: Videos related to each mission are embedded within the accordion panels for direct viewing.

- **Responsive Design**: The timeline is designed to be visually engaging and navigable across various devices and screen sizes.

Task 7: Performance Optimization

Overview

This document details the performance optimization efforts undertaken to improve page load times. Key tasks included implementing lazy loading for images and videos and using Google Lighthouse to assess and enhance performance metrics.

Optimization Objectives

- **Lazy Loading**: Implement lazy loading for images and videos to improve initial page load time.
- **Performance Assessment**: Use Google Lighthouse to evaluate and enhance performance metrics.

Task 8: Custom Animations

Overview

This document outlines the implementation of subtle animations for accordion panels, video embeds, and other interactive elements on the website. The goal is to enhance user experience with smooth transitions while maintaining optimal performance.

Task 9: Building a Custom Footer with Contact Form

Overview

This document outlines the design and implementation of a custom footer for a website using styles of Tailwind CSS. The footer includes links to NASA's social media profiles, contact information, and a fully functional and responsive contact form.

1. Footer Design and Layout

Footer Structure

The footer consists of three main sections:

1. **Social Media Links**
2. **Contact Information**
3. **Contact Form**

Task 10: Integrating Aeternity UI

Overview

This document provides a detailed guide for integrating Aeternity UI into the homepage of the website. Aeternity UI components are used to enhance the design and functionality, ensuring that the integration complements the overall design and maintains responsiveness.

. Objectives

- Integrate Aeternity UI components into the homepage.
- Ensure the integration complements the existing design.
- Maintain responsive design principles.

Task 11: SEO Optimization

Objective

Optimize the HTML structure of the homepage for search engines. This includes adding meta tags, using a proper heading hierarchy, and incorporating semantic HTML elements to ensure that content is crawlable and indexable by search engines.

1. Meta Tags

Meta tags are essential for SEO as they provide metadata about the webpage, which search engines use to understand the content and purpose of the page.

Task 12: Deploying the NASA Homepage on GitHub Pages

1. Introduction

This document outlines the process of deploying the completed NASA homepage to GitHub Pages. The deployment ensures that all embedded videos, accordion features, and other interactive elements function seamlessly after deployment.

2. Prerequisites

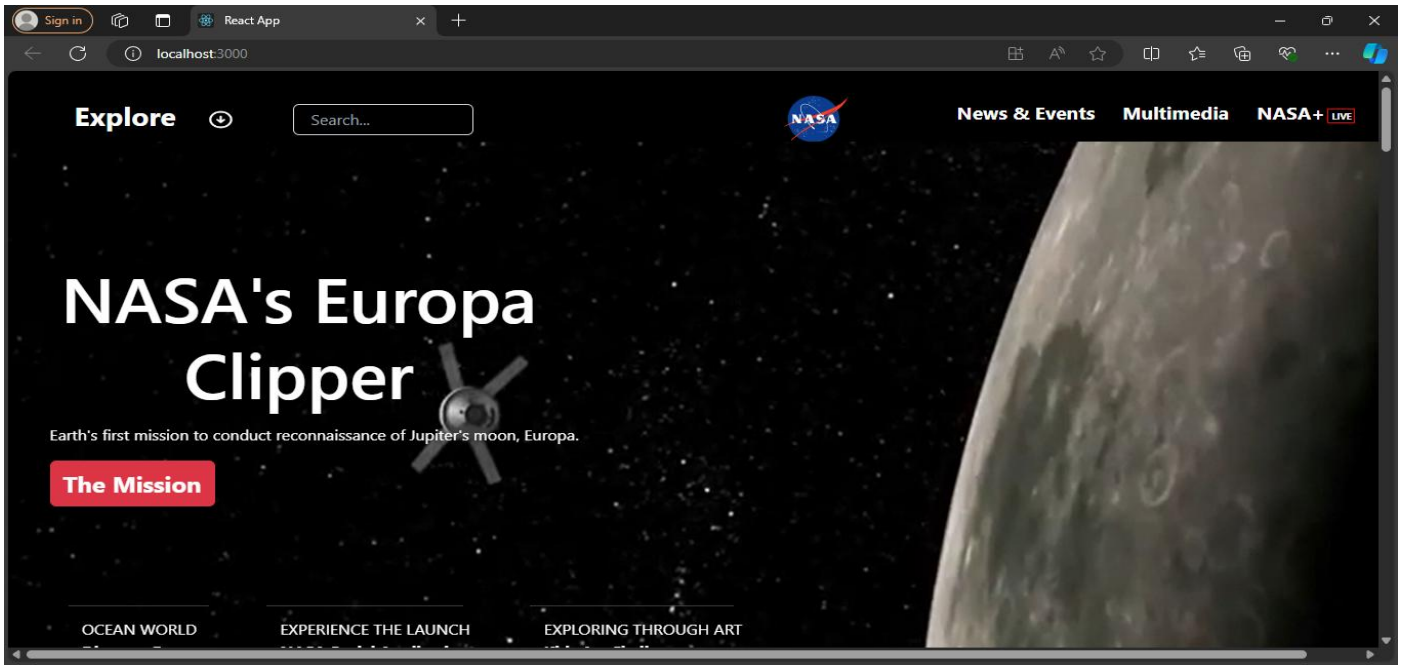
- Completed NASA homepage project with all features (embedded videos, accordion components, etc.).
- A GitHub account and a repository created for the project.
- Node.js and npm installed on your development machine (if using a build tool like Create React App).

Screenshots and Descriptions:

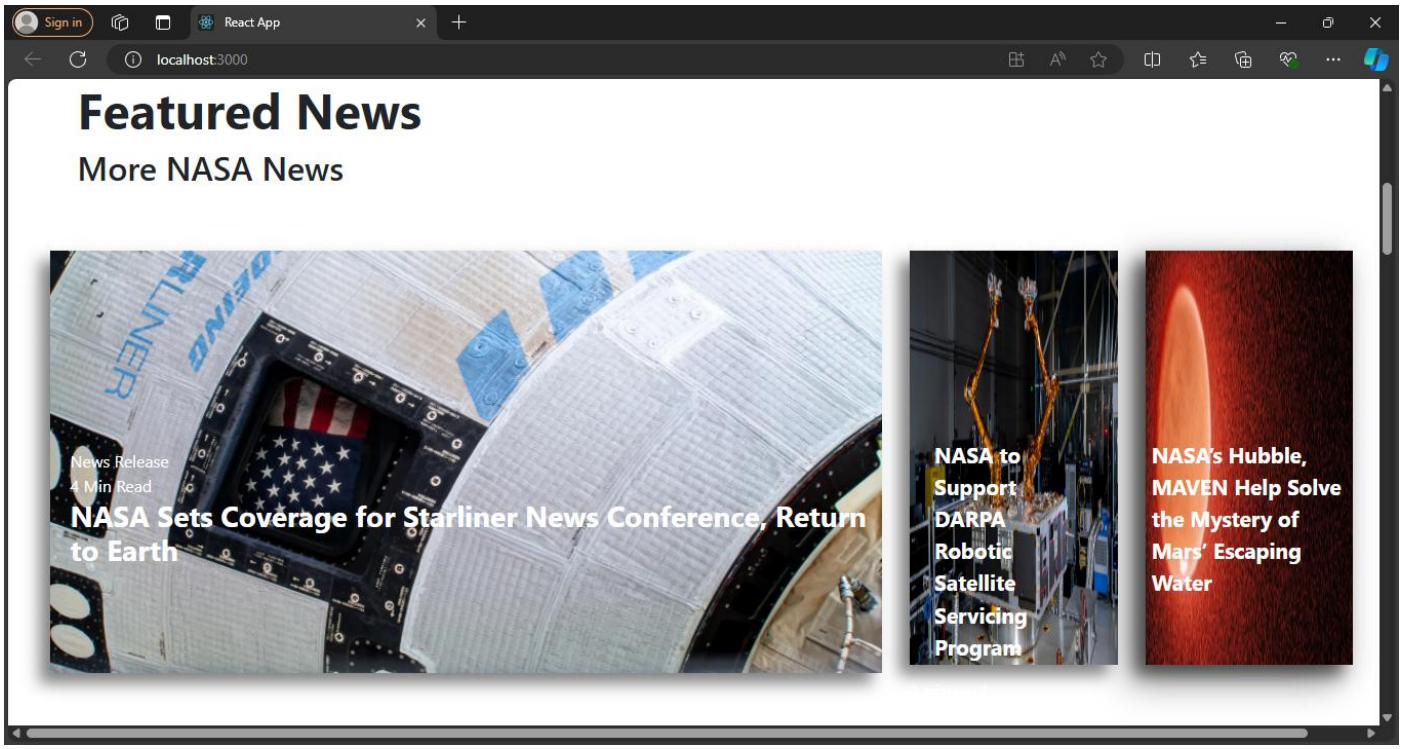
1. Desktop Screenshots

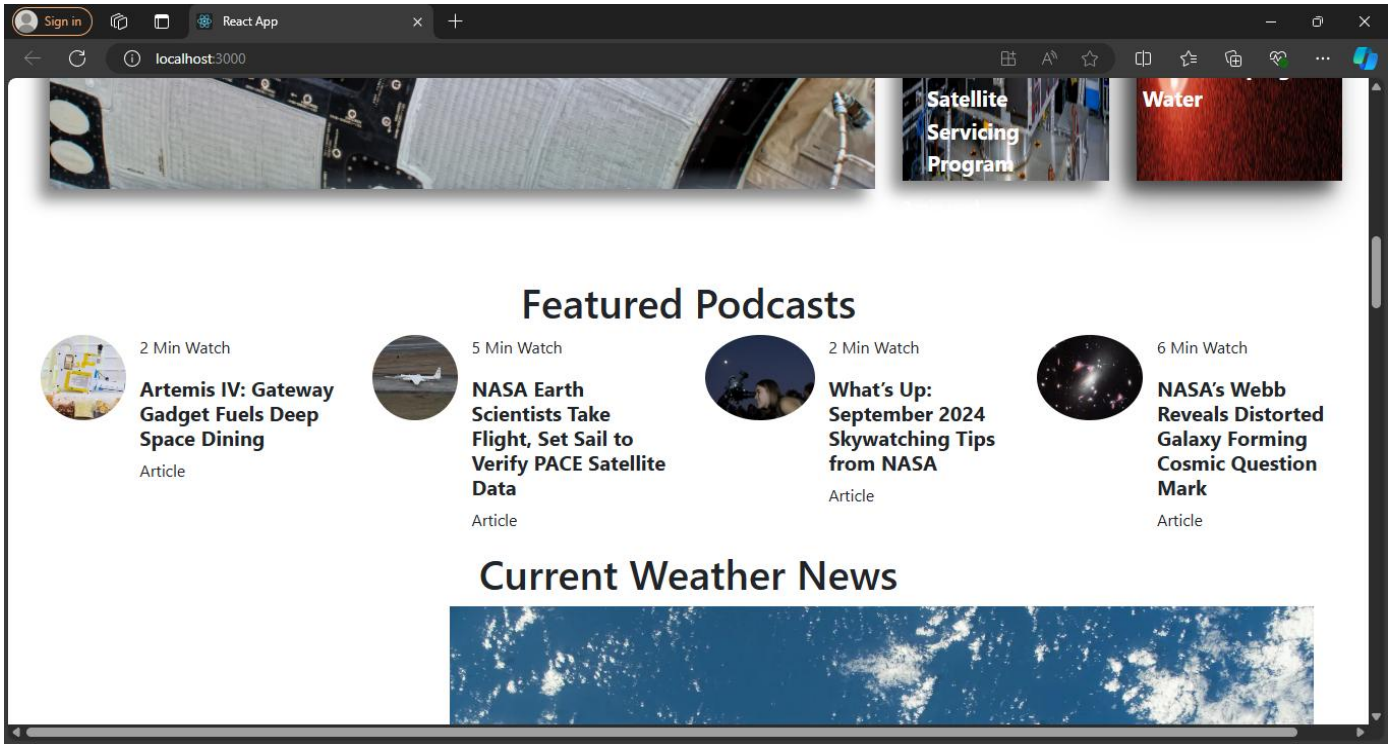
Description:

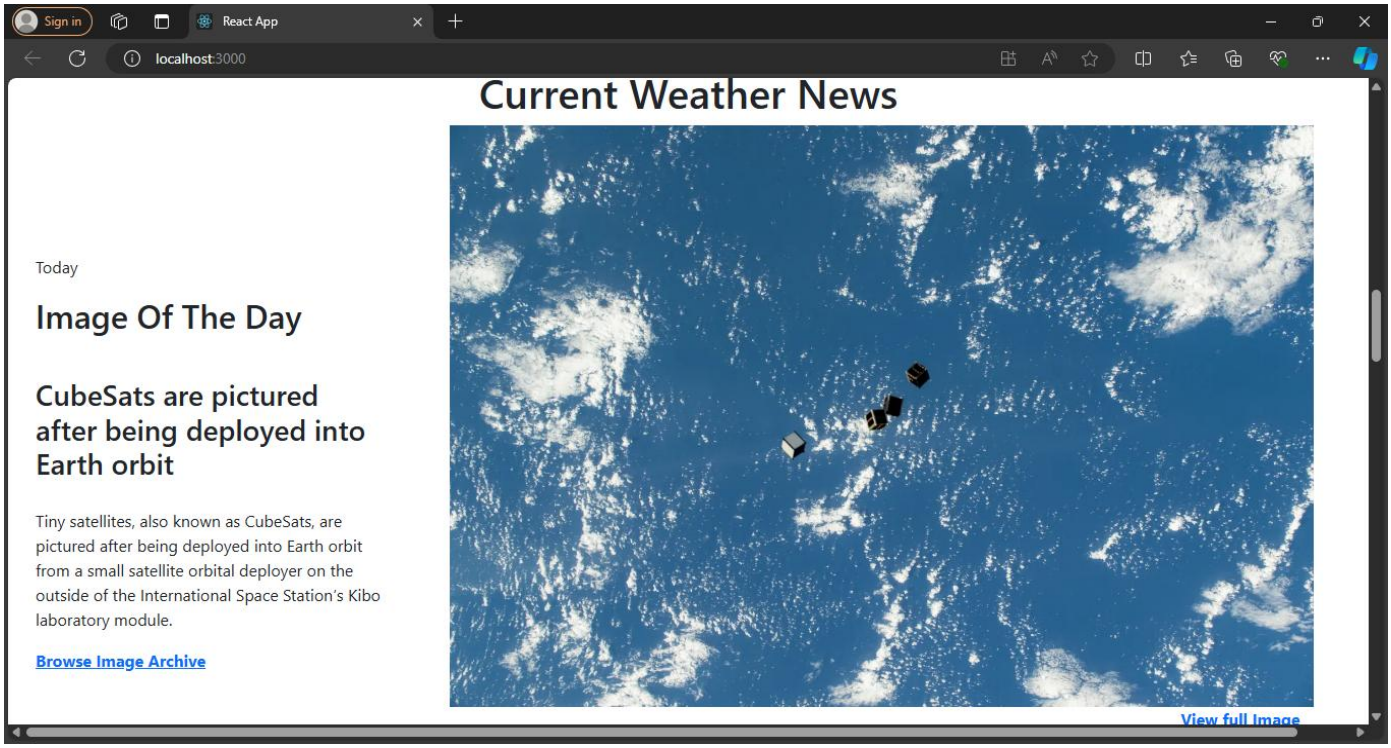
The homepage of the NASA HomePage Clone Project features a dynamic header with navigation links, a hero section showcasing the latest news, and sections for featured articles and educational resources. The design is responsive and ensures a seamless user experience across different devices.



Description: This section highlights the latest news from NASA. It includes interactive elements such as collapsible cards to display detailed information about each news item. The layout is designed to provide an engaging way for users to explore recent updates and announcements.




Sign in
React App
localhost:3000
Satellite Servicing Program
Water
Featured Podcasts
2 Min Watch
Artemis IV: Gateway Gadget Fuels Deep Space Dining
Article
5 Min Watch
NASA Earth Scientists Take Flight, Set Sail to Verify PACE Satellite Data
Article
2 Min Watch
What's Up: September 2024 Skywatching Tips from NASA
Article
6 Min Watch
NASA's Webb Reveals Distorted Galaxy Forming Cosmic Question Mark
Article
Current Weather News


Sign in
React App
localhost:3000
Current Weather News
Today
Image Of The Day
CubeSats are pictured after being deployed into Earth orbit
Tiny satellites, also known as CubeSats, are pictured after being deployed into Earth orbit from a small satellite orbital deployer on the outside of the International Space Station's Kibo laboratory module.
Browse Image Archive
View full Image


Sign in
React App
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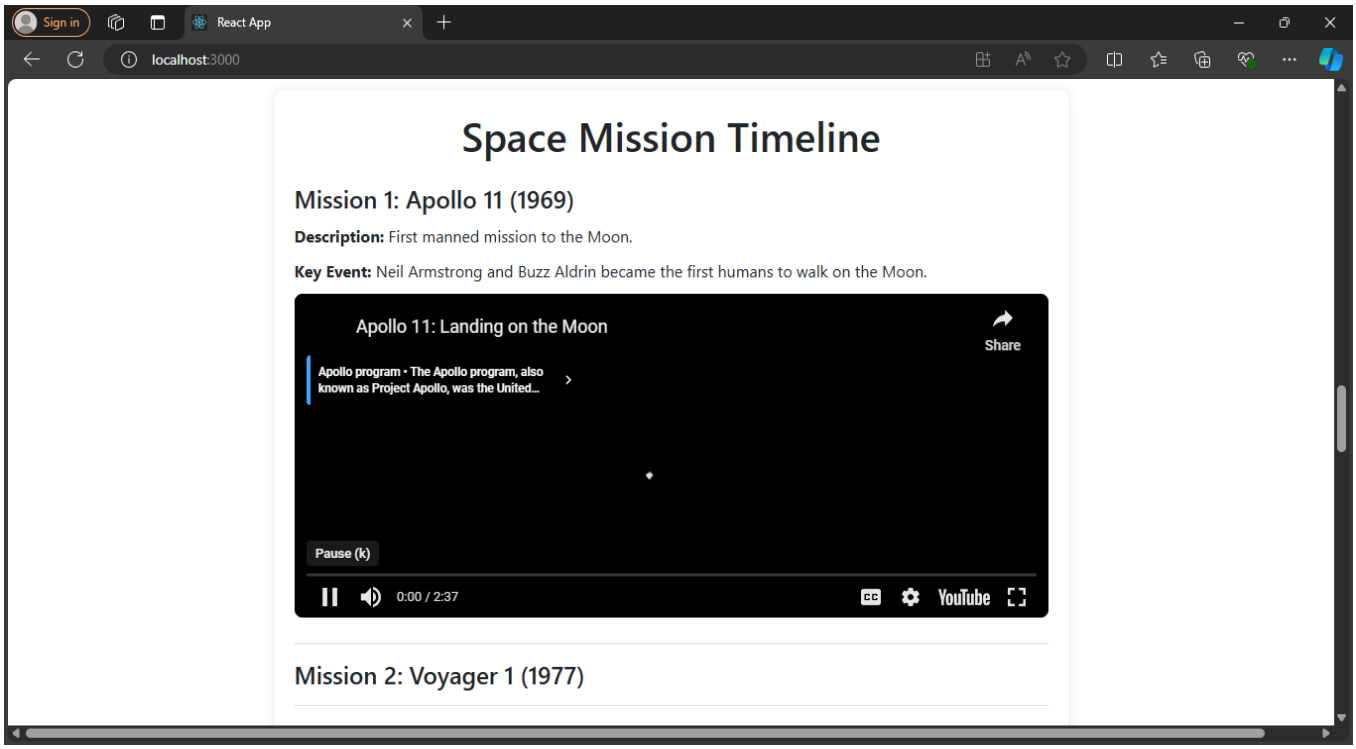
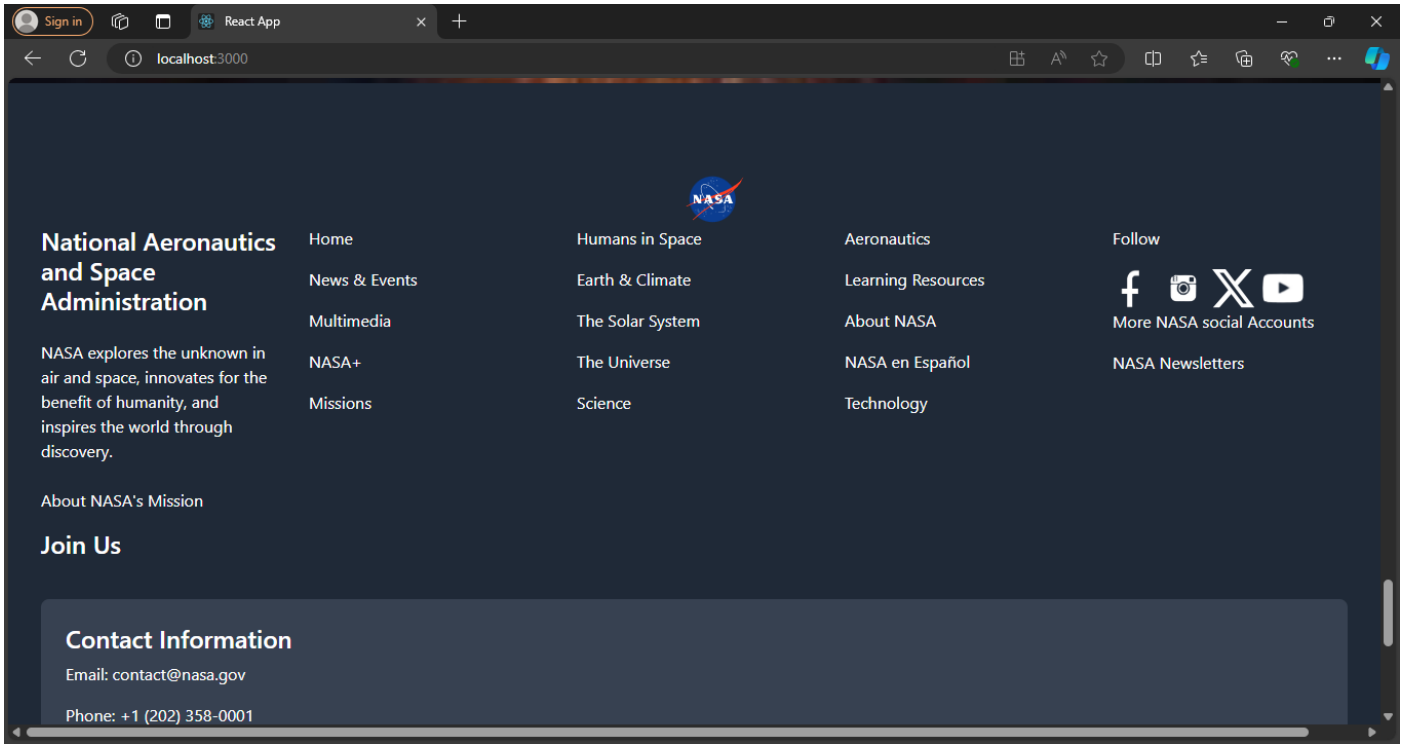
View full Image
Space Missions
The Mars – [Hindi] – Quick Support
The Mars
Hindi
Mars Sample Return: Bringing Mars ...
MARS SAMPLE RETURN
Human Exploration of Mars
Pull up for precise seeking
0:10
0:00 / 3:43
YouTube
Space Mission Timeline
Mission 1: Apollo 11 (1969)
Mission 2: Voyager 1 (1977)


Sign in
React App
localhost:3000
Space Mission Timeline
Mission 1: Apollo 11 (1969)
Description: First manned mission to the Moon.
Key Event: Neil Armstrong and Buzz Aldrin became the first humans to walk on the Moon.
Apollo 11: Landing on the Moon
Share
Apollo program • The Apollo program, also known as Project Apollo, was the United...
Pause (k)
0:00 / 2:37
YouTube
Mission 2: Voyager 1 (1977)


Sign in
React App
localhost:3000
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NASA explores the unknown in air and space, innovates for the benefit of humanity, and inspires the world through discovery.
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Humans in Space
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About NASA
NASA en Español
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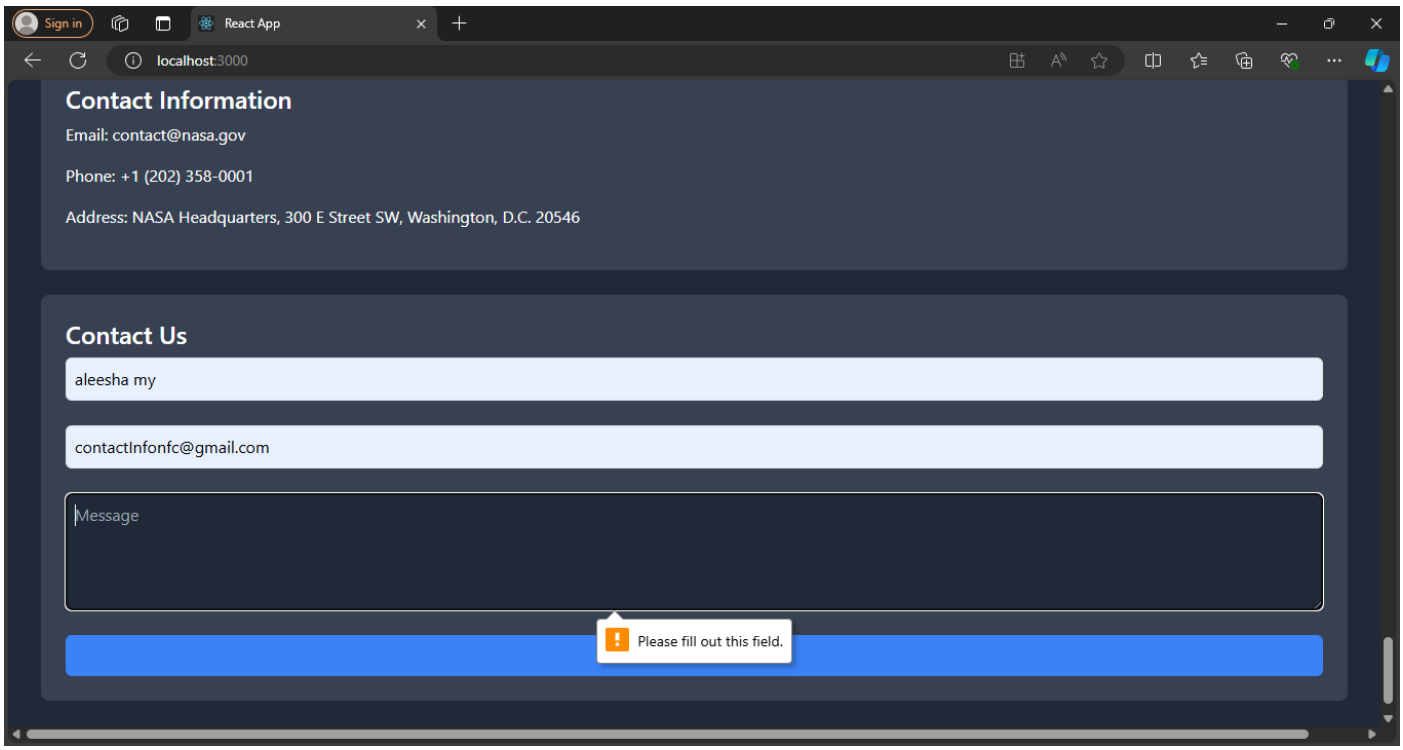
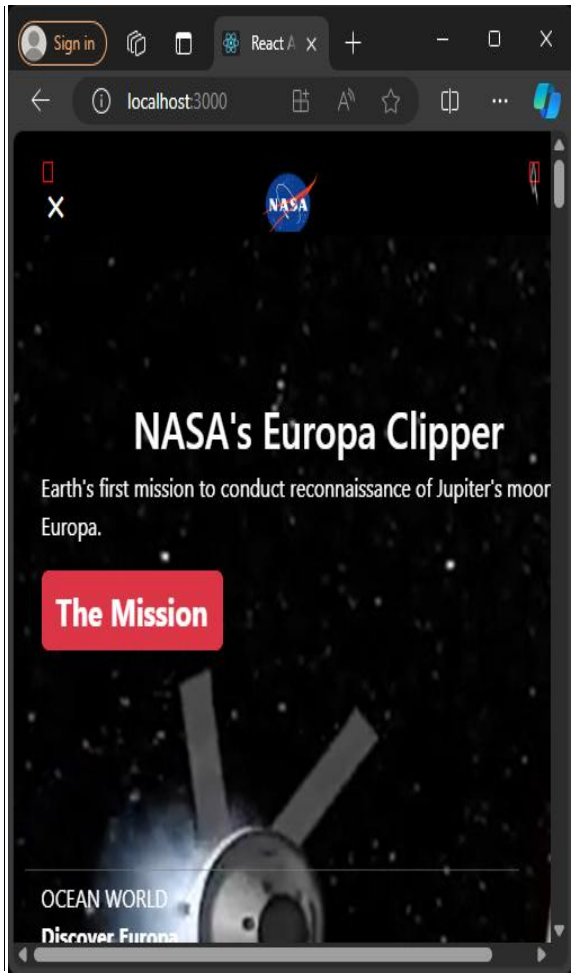
Follow
More NASA social Accounts
NASA Newsletters
Contact Information
Email: contact@nasa.gov
Phone: +1 (202) 358-0001

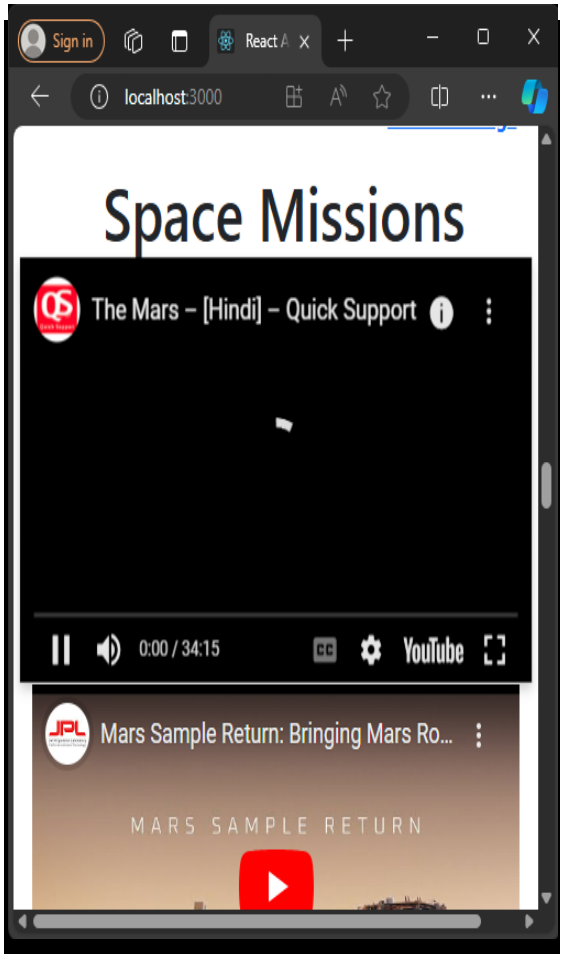

Sign in
React App
localhost:3000
Contact Information
Email: contact@nasa.gov
Phone: +1 (202) 358-0001
Address: NASA Headquarters, 300 E Street SW, Washington, D.C. 20546
Contact Us
aleesha my
contactInfonfc@gmail.com
Message
Please fill out this field.

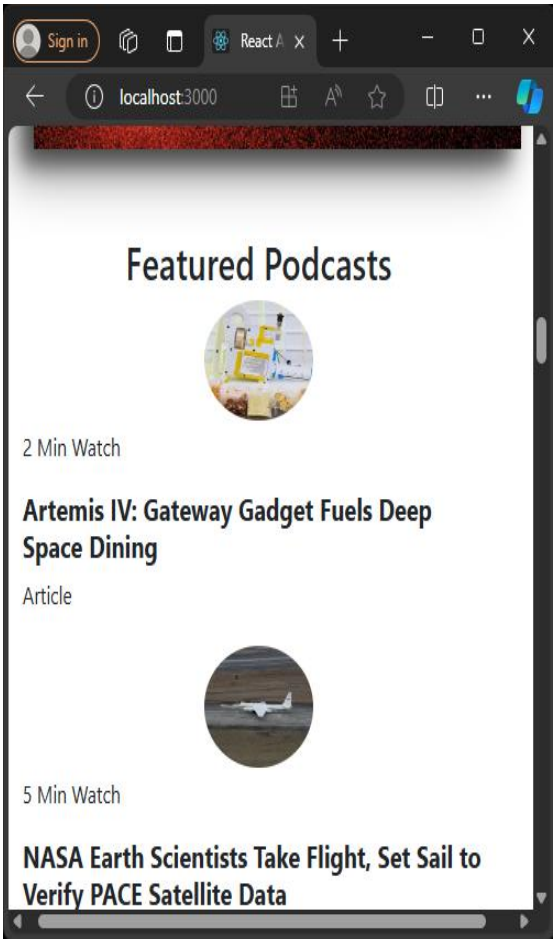
2. Mobile Screenshots

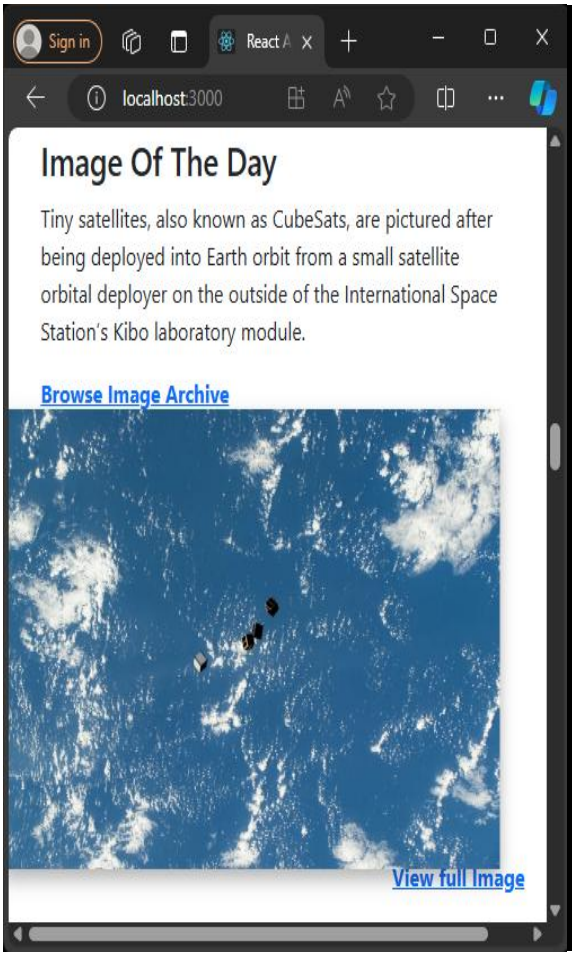
- **Description:** A responsive version of the homepage optimized for mobile devices. It includes a simplified navigation menu and adjusts the layout to fit smaller screens while maintaining key functionalities.

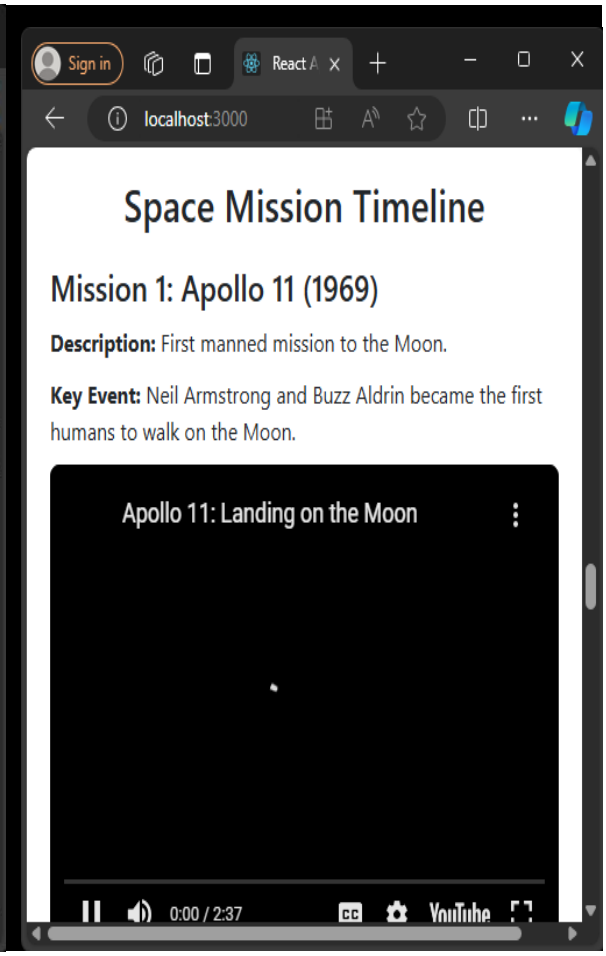


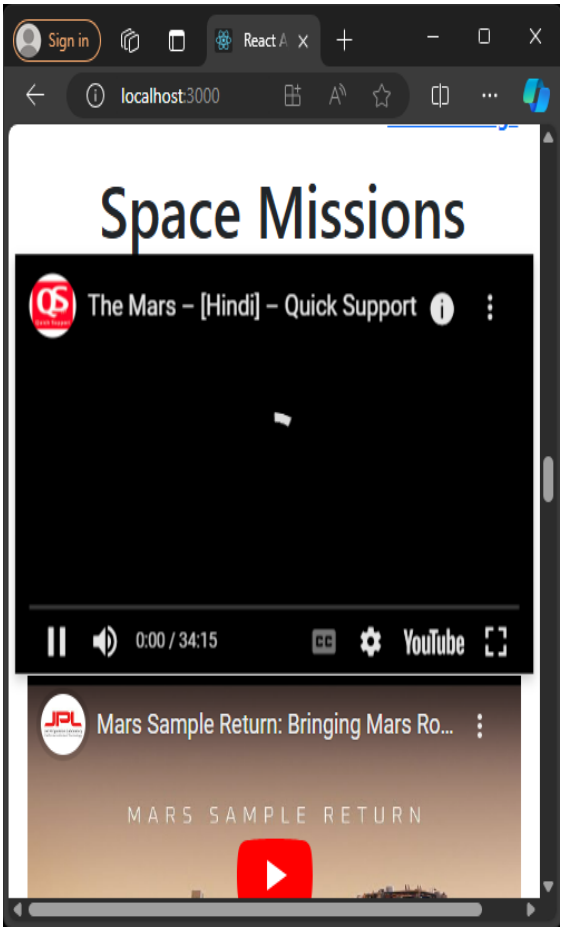
Description: The mobile version of the featured news section provides a compact view of news items with touch-friendly interactions. The design ensures readability and ease of use on smaller screens.


Sign in
React A
localhost:3000
Space Missions
The Mars – [Hindi] – Quick Support
0:00 / 34:15
YouTube
Mars Sample Return: Bringing Mars Ro...
MARS SAMPLE RETURN


Sign in
React A
localhost:3000
Featured Podcasts
2 Min Watch
Artemis IV: Gateway Gadget Fuels Deep Space Dining
Article
5 Min Watch
NASA Earth Scientists Take Flight, Set Sail to Verify PACE Satellite Data


Sign in
React A
localhost:3000
Image Of The Day
Tiny satellites, also known as CubeSats, are pictured after being deployed into Earth orbit from a small satellite orbital deployer on the outside of the International Space Station's Kibo laboratory module.
Browse Image Archive
View full Image


Sign in
React A
localhost:3000
Space Mission Timeline
Mission 1: Apollo 11 (1969)
Description: First manned mission to the Moon.
Key Event: Neil Armstrong and Buzz Aldrin became the first humans to walk on the Moon.
Apollo 11: Landing on the Moon
0:00 / 2:37
YouTube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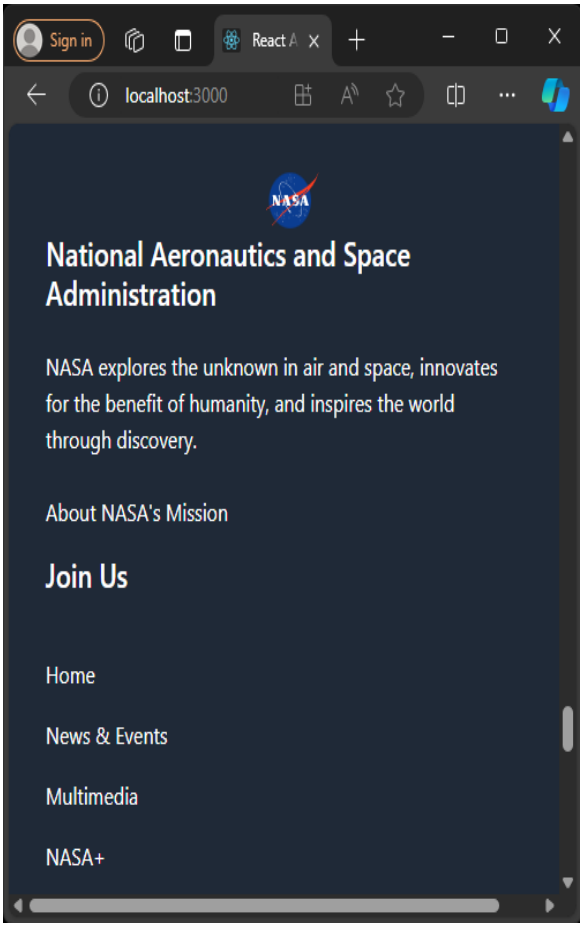
React A
localhost:3000
Space Missions
The Mars – [Hindi] – Quick Support
0:00 / 34:15
YouTube
Mars Sample Return: Bringing Mars Ro...
MARS SAMPLE RETURN


Sign in
React A
localhost:3000
Mission 2: Voyager 1 (1977)
Mission 3: Hubble Space Telescope (1990)
Mission 4: International Space Station (1998 - present)
Mission 5: Curiosity Rover (2012)
Mission 6: SpaceX Falcon Heavy (2018)
Mission 7: China's Chang'e 5 (2020)
Mission 8: James Webb Space Telescope (2021)


Sign in
React A
localhost:3000
Space Mission Timeline
Mission 1: Apollo 11 (1969)
Description: First manned mission to the Moon.
Key Event: Neil Armstrong and Buzz Aldrin became the first humans to walk on the Moon.
Apollo 11: Landing on the Moon
0:00 / 2:37
YouTube


Sign in
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localhost:3000
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NASA explores the unknown in air and space, innovates for the benefit of humanity, and inspires the world through discovery.
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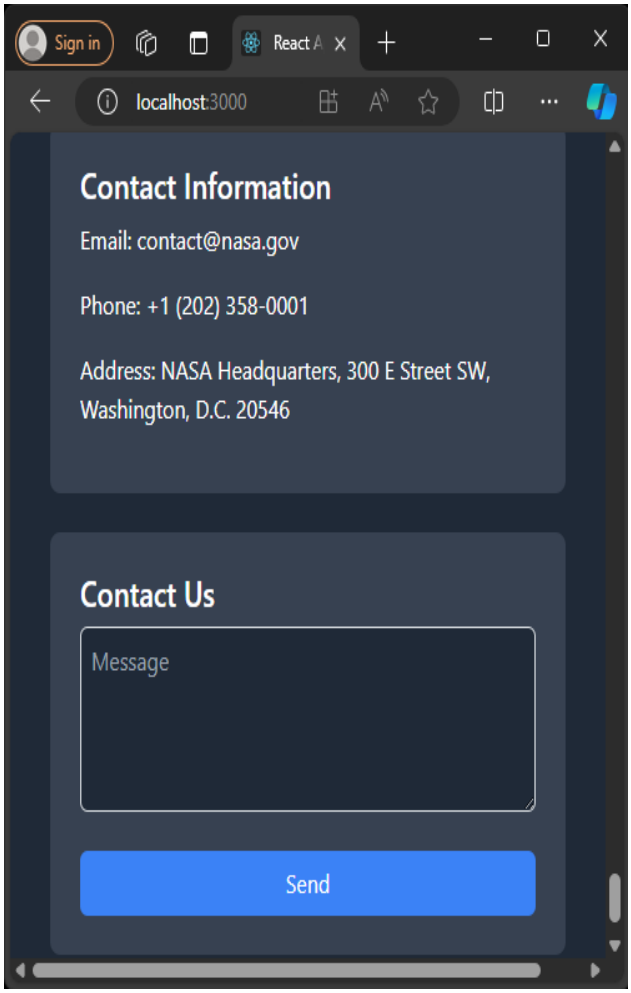

Verification:

- **Browser Testing**: Design is verified in multiple browsers (Chrome, Firefox, Safari, Edge).
- **Device Testing**: Responsiveness is verified on various devices, including desktops, tablets, and smartphones.