Project Documentation

Introduction

Project Title: CryptoVerse(Dashboard)

Team Leader :

• Jai Sureya.P - 22g323jaisureya@gmail.com

Team Members:

• Siva Sidharth. J - sivasid06@gmail.com

• Surya. S – hitracermass@gmail.com

• Ranjith .R– 22g326ranjith@gmail.com

Project Overview

Purpose

Crypto Verse a web application designed to provide users with real-time information on various cryptocurrencies, including their current prices, market trends, and detailed statistics. The platform aims to offer both novice and experienced investors a comprehensive tool to track and analyse digital currencies.

Features

- Real-time cryptocurrency price tracking
- Detailed statistics and market trends
- Search functionality for specific cryptocurrencies
- Responsive design for optimal viewing on various devices
- Interactive charts for price visualization

Architecture

Component Structure

```
CryptoVerse_NaanMudhalvan/

│── public              # Public

│   ├── _redirects         # Redirect settings

│   ├── vite.png   # icon image
```

```
│
│── src/                    # Main source code
│   ├── app/                # Global state management
│   │   ├── store.js        # Redux or Context API store
│   ├──  assets/
│   │   ├── cryptocurrenpr.png
│   ├── components/         # React components
│   │   ├── CryptoDetails.jsx
│   │   ├── Cryptocurrencies.jsx
│   │   ├── Homepage.jsx
│   │   ├── index.js
│   │   ├── LineChart.jsx
│   │   ├── Loader.jsx
│   │   ├── Navbar.jsx
│   │
│   ├── services/           # API services
│   │   ├── cryptoApi.js     # API calls for cryptocurrency data
│   │
│   ├── App.css             # Global styles
│   ├── App.js              # Main App component
│   ├── main.js             # Entry point
│
│── .env             # Example environment variables
│── .eslintrc.js            # ESLint configuration
│── .gitignore              # Git ignored files
```

```
|── index.html.    # Main HTML file
  |── README.md            # Documentation
  |── package-lock.json      # Dependency lock file
  |── package.json          # Project dependencies.
```

State Management

The application utilizes **Redux Toolkit** for efficient state management, allowing centralized and predictable state updates. It includes slices for:

- Cryptocurrencies
- Virtual currencies

Routing

React Router is employed to handle navigation between different pages, ensuring a seamless user experience.

Setup Instructions

Prerequisites

- Node.js msi (version 14.x or higher)
- npm package manager

Installation

1. Clone the repository:
2. `git clone` https://github.com/asumn130122g323/cryptoverse-main.git
3. Navigate to the project directory:
4. `cd CryptoVerse-main`
5. Install dependencies:
6. `npm install`

Folder Structure

Client

- **src/**: Contains the source code of the React application.
  - **components/**: Reusable UI components (e.g., Navbar, CryptoCard).
  - **pages/**: Page components corresponding to different routes (e.g., Homepage, Cryptocurrencies, CryptoDetails, News).
  - **app/**: Contains the main App component and routing logic.
  - **services/**: API service functions for fetching data from external sources.

    - **app/store.js**: Redux store configuration.

Running the Application

To start the application locally:

```
Npm run dev
```

This will launch the application at `http://localhost:5173`.

Component Documentation

Key Components

- **Navbar**: Renders navigation links to different sections of the application.
- **Homepage**: Displays top cryptocurrencies and latest market news.
- **Cryptocurrencies**: Lists all cryptocurrencies with pagination support.
- **Crypto Details**: Provides detailed information about a selected cryptocurrency, including charts and statistics.
- **News**: Shows the latest news articles related to cryptocurrencies.
- **Line Chart**: Visualizes cryptocurrency price trends.
- **Loader**: Displays a loading indicator when fetching data.

Reusable Components

- **Crypto Card**: Displays brief information about a cryptocurrency, used in lists and search results.
- **Button**: Custom-styled button used across the application.
- **Search Bar**: Enables searching for cryptocurrencies.

State Management

Global State

Managed using **Redux Toolkit**, encompassing:

- **Cryptocurrencies**: State slice for storing cryptocurrency data.

Local State

Handled within components using the `useState` hook for UI-specific states, such as form inputs and modal visibility.

User Interface

Screenshots or GIFs showcasing different UI features, such as pages, forms, or interactions.

Styling

CSS Frameworks/Libraries

- The application uses **Ant Design** for consistent and responsive UI components.

Theming

- Custom theming is applied using Ant Design's theming capabilities to align with the application's branding.

Testing

Testing Strategy

- The project employs **Jest** and **React Testing Library** for unit and integration testing of components and Redux slices.

Code Coverage

- Code coverage is monitored using Jest's built-in coverage tools, aiming for comprehensive test coverage across all modules.

Screenshots or Demo

Live Demo

https://drive.google.com/file/d/1rvqKQq4k2rtHlQi97V1rqPeaHAm4dHPn/view?usp=drivesdk

Screenshots

https://drive.google.com/drive/folders/1AKOlo4hsN3FHMw-rRXziR48f1HyW7Srx

Known Issues

- The Exchange and News options are not working properly.
- API Rate Limits: Some cryptocurrency APIs impose rate limits, which might cause occasional delays or failures in fetching data.
- Incomplete Data Display: Certain cryptocurrencies may not have all the required details, leading to missing information in the Crypto Details page.
- Pagination Bug: In the Cryptocurrencies list, sometimes pagination does not update properly when switching between filters.
- Mobile Responsiveness: Some UI elements may not be fully optimized for smaller screens, causing layout inconsistencies.
- Loading Performance: The app might take longer to fetch and display data when dealing with large datasets or slower networks.

Future Enhancements

- Dark mode toggle feature
- Real-time WebSocket price updates
- Improved UI animations
- Additional charting options
- User authentication for personalized watchlists