

Cryptoverse - Project Documentation

Introduction

Project Title: Cryptoverse Team

TEAM MEMBERS: 4

TEAM ID	SWTID1741150814
TEAM LEADER	H PAVITHRA
TEAM MEMBER	M YOGALAKSHNI
TEAM MEMBER	M SANGEETHA
TEAM MEMBER	A PRIYA

Project Overview

Purpose:

The **Cryptoverse** project aims to provide a **user-friendly, real-time cryptocurrency tracking platform** that enables users to **analyze, compare, and stay updated** with market trends. It is designed for both **beginners and experienced traders**, offering comprehensive data visualization and insights to make informed decisions.

Features:

- Live cryptocurrency price tracking
- Historical price data visualization
- Interactive charts and graphs
- User authentication
- News updates

Architecture

Component Structure:

- Header: Navigation bar
- Dashboard: Live market data
- Crypto Details: Individual cryptocurrency info
- Portfolio: User holdings tracking
- News Section: Real-time updates

State Management:

Using Redux Toolkit

Routing:



Edit with WPS Office

Cryptoverse - Project Documentation

React Router with paths: Home (/), Crypto Details (/crypto/:id), Portfolio (/portfolio), News (/news)



Cryptoverse - Project Documentation

Setup Instructions

Prerequisites:

- Node.js
- npm or yarn
- React.js
- Redux Toolkit

Installation:

1. Clone repository: `git clone https://github.com/your-repo/cryptoverse.git`
2. Install dependencies: `npm install`
3. Configure environment variables

Folder Structure

/cryptoverse

```
|---/src
|--- /components
|--- /pages
|--- /redux
|--- /utils
|--- /assets
|--- package.json
|---README.md
```

Running the Application To

start development server: `npm start`

Component Documentation

Key Components:

- CryptoCard: Cryptocurrency overview
- PriceChart: Historical price data
- NewsFeed: Crypto news

Reusable Components:



Edit with WPS Office

Cryptoverse - Project Documentation

- Button: Customizable
- Loader: Loading animations

State Management

Global State: Managed using Redux Toolkit

Local State: Managed with React's useState

Styling

Using Tailwind CSS with a custom theme for a modern UI

Testing

Testing Strategy:

- Unit Testing: Jest & React Testing Library
- Integration Testing: Cypress for E2E tests



Cryptoverse - Project Documentation

Screenshots



















Cryptoverse - Project Documentation

Cryptoverse

ne

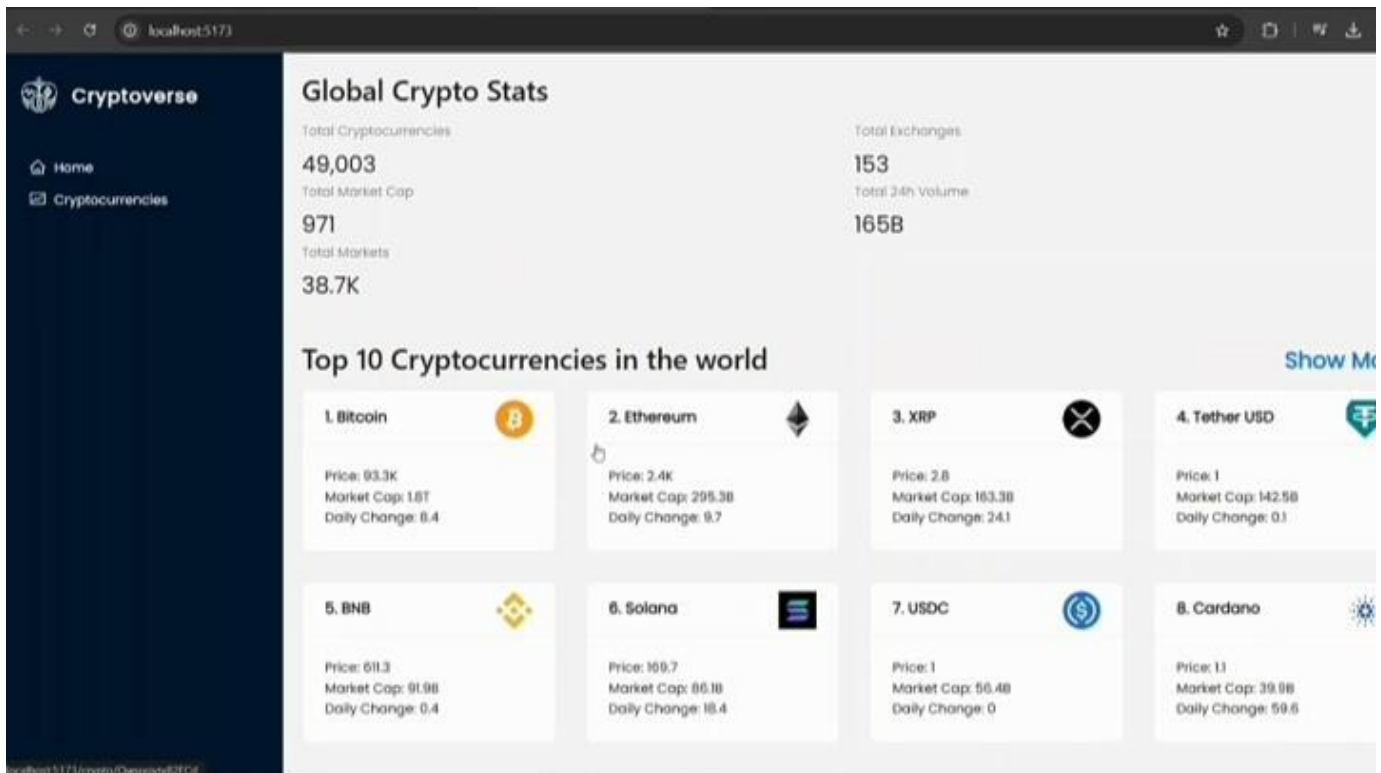
ptocurrencies

Search Cryptocurrency

<div>1. Bitcoin</div> <div></div> <div>Price: 93.3K Market Cap: 1.8T Daily Change: 8.4</div>	<div>2. Ethereum</div> <div></div> <div>Price: 2.4K Market Cap: 295.3B Daily Change: 9.7</div>	<div>3. XRP</div> <div></div> <div>Price: 2.8 Market Cap: 163.3B Daily Change: 24.1</div>	<div>4. Tether USD</div> <div></div> <div>Price: 1 Market Cap: 142.5B Daily Change: 0.1</div>
<div>5. BNB</div> <div></div> <div>Price: 611.4 Market Cap: 91.9B Daily Change: 0.5</div>	<div>6. Solana</div> <div></div> <div>Price: 169.6 Market Cap: 86.1B Daily Change: 18.3</div>	<div>7. USDC</div> <div></div> <div>Price: 1 Market Cap: 56.4B Daily Change: 0</div>	<div>8. Cardano</div> <div></div> <div>Price: 1.1 Market Cap: 39.9B Daily Change: 59.8</div>
<div>9. Dogecoin</div> <div></div> <div>Price: 0.2 Market Cap: 33.6B Daily Change: 10.6</div>	<div>10. Lido Staked Ether</div> <div></div> <div>Price: 2.4K Market Cap: 23.1B Daily Change: 9.9</div>	<div>11. TRON</div> <div></div> <div>Price: 0.2 Market Cap: 21B Daily Change: 4</div>	<div>12. Wrapped BTC</div> <div></div> <div>Price: 93.1K Market Cap: 13.3B Daily Change: 8.3</div>
<div>13. Hedera</div> <div></div> <div></div>	<div>14. Chainlink</div> <div></div> <div></div>	<div>15. Stellar</div> <div></div> <div></div>	<div>16. Pi Network Coin</div> <div></div> <div></div>



Cryptoverse - Project Documentation



Cryptoverse - Project Documentation

Known Issues

API rate limits may affect updates.

Dark mode support in progress.

Future Enhancements

Future Plans:

- Push notifications for price alerts
- AI-driven price predictions
- Staking feature for rewards

Security Considerations

Ensuring the security of user data and transactions is a critical aspect of Cryptoverse.

1. Secure API Communication: All API requests use HTTPS for encryption.
2. Authentication & Authorization: JWT tokens are used for secure authentication.
3. Rate Limiting: Prevents abuse by restricting excessive API requests.
4. Data Encryption: Sensitive user data is encrypted before storage.
5. Regular Security Audits: Routine security tests to identify vulnerabilities.



Cryptoverse - Project Documentation

Performance Optimizations

To ensure smooth performance and fast load times, the following optimizations are applied:

1. Lazy Loading: Loads components only when needed, reducing initial load time.
2. Code Splitting: Uses Webpack for splitting bundles and optimizing resource usage.
3. Caching Strategies: Implements caching mechanisms for API responses.
4. Database Indexing: Ensures faster queries when fetching cryptocurrency data.



Cryptoverse - Project Documentation

Use Cases:

Cryptoverse is useful for different types of users, including:

1. Crypto Investors: Helps users track price changes and market trends.
2. Traders: Provides real-time data, making it easier to buy/sell at the right time.
3. Beginners: Offers an intuitive platform to learn about cryptocurrencies.
4. Analysts: Enables professionals to analyze market patterns through historical data.



Cryptoverse - Project Documentation

Troubleshooting Guide:

Below are common issues users may encounter and their solutions:

1. App Not Loading: Ensure that the backend API is running and environment variables are set correctly.
2. Slow Performance: Check internet connection and clear browser cache.
3. Authentication Issues: Verify login credentials and reset password if needed.
4. Data Not Updating: API rate limits might be exceeded, try again later.

