Indus Institute of Technology & Engineering Computer Engineering Department 17/10/2023

Web technology Report

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Report for College Submission: Crypto Website

1. Introduction:

1.1 Background of the Project:

The project involves the development of a cryptocurrency website that utilizes a combination of web technologies including Bootstrap for front-end design, PHP for the backend functionality, and HTML/CSS for web page structuring and styling. The website's primary purpose is to provide users with real-time cryptocurrency stock prices and currency exchange rates. In recent years, cryptocurrency has gained significant attention in the financial sector, and this project aims to cater to the growing demand for easily accessible and up-to-date cryptocurrency information.

1.2 Problem Statement:

The cryptocurrency market is highly dynamic, and staying updated with real-time prices and exchange rates can be challenging for both experienced and novice investors. Existing platforms often lack user-friendly interfaces or provide limited functionality. This project addresses these issues by creating a user-friendly and feature-rich crypto website where users can seamlessly monitor cryptocurrency stock prices and exchange rates in real time.

1.3 Objectives and Scope of the Project:

Objectives:

To design an intuitive and responsive web interface using Bootstrap that ensures a seamless user experience.

To develop a backend system using PHP that fetches real-time cryptocurrency data and updates it dynamically on the website.

To implement currency exchange functionality, allowing users to convert between different cryptocurrencies and fiat currencies.

To provide historical price charts and trends for various cryptocurrencies.

To incorporate user registration and login features for personalized experiences and watchlists.

Scope:

The project will focus on a selected set of popular cryptocurrencies.

Real-time data will be sourced from reliable cryptocurrency APIs.

Basic security measures will be implemented for user authentication and data protection.

The website will support major fiat currencies for exchange rate calculations.

1.4 Significance of the Project:

The significance of this project lies in its potential to address the following:

Accessibility: It makes cryptocurrency data accessible to a broader audience, including those with limited technical knowledge.
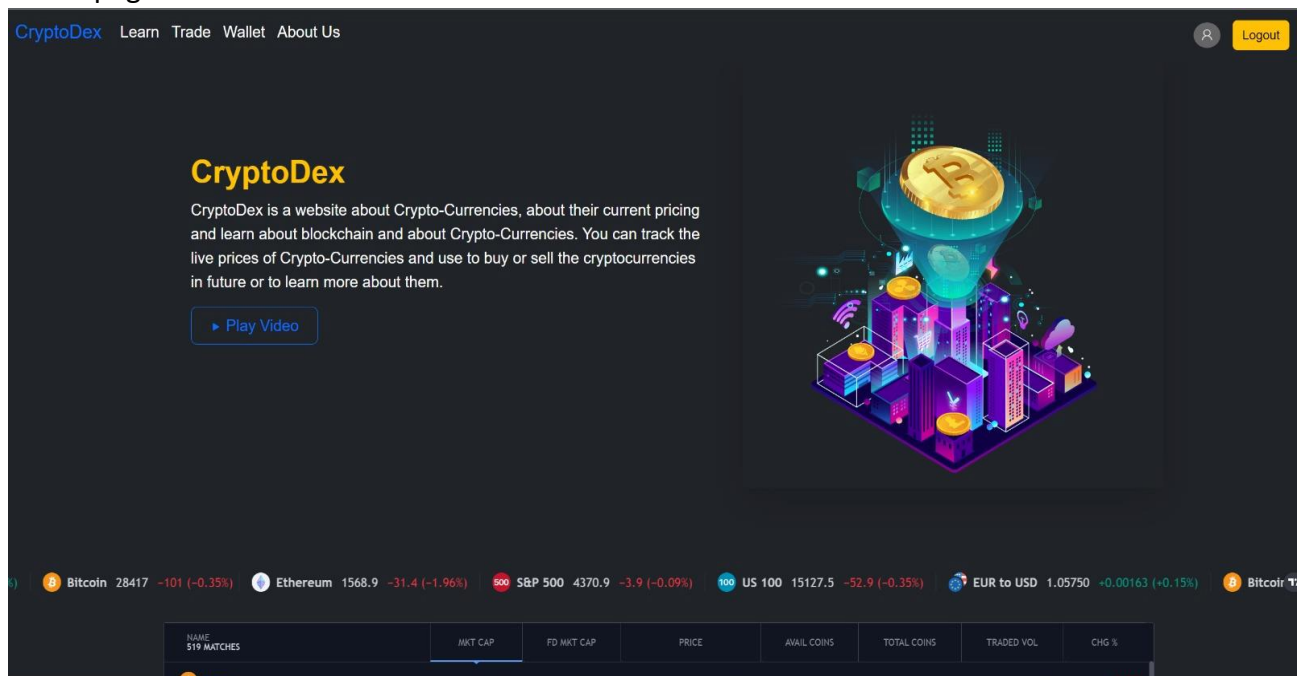
User-Friendly Interface: It offers a user-friendly interface that simplifies the process of monitoring cryptocurrency prices and conducting exchanges.

Educational Value: Users can learn about cryptocurrencies and their market behaviour through historical data and charts.

Market Analysis: The platform can aid users in making informed investment decisions by providing real-time data.

Convenience: Users can conveniently access all cryptocurrency-related information in one place.

Home page:

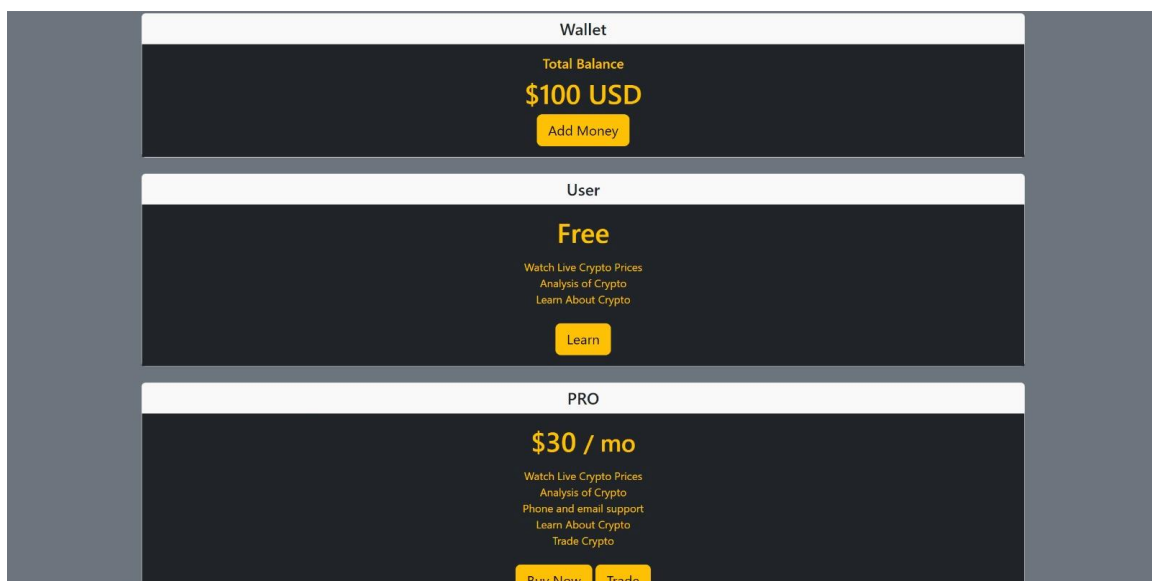## 2 Details of How the Project Was Implemented:

Front-end Development:

The front-end of the website was implemented using Bootstrap, HTML, and CSS. Bootstrap provided a responsive and aesthetically pleasing layout. The HTML and CSS were used to structure the web pages and style them accordingly. Here are some key implementation details:

Created HTML templates for each webpage, including the homepage, currency exchange page, and historical price charts.

Utilized Bootstrap components like cards, navigation bars, and responsive grids to organize and present data effectively.

Integrated custom CSS styles to enhance the user interface and ensure a cohesive design.
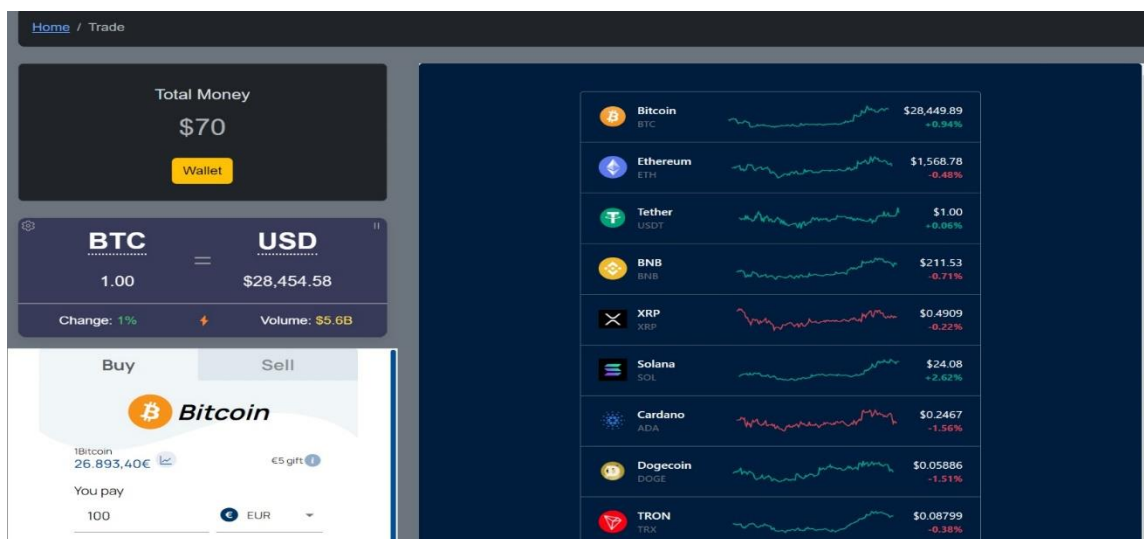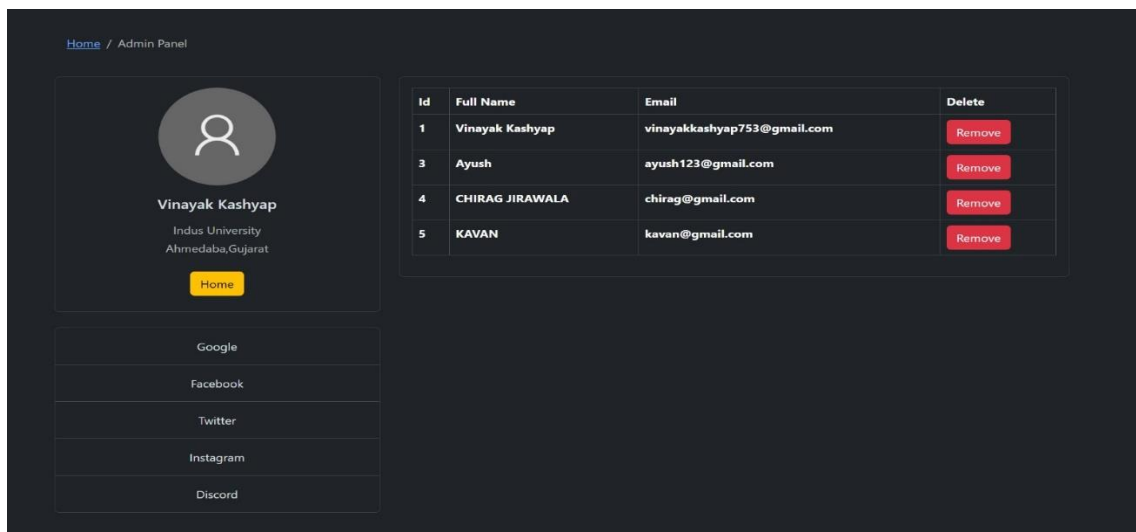
Back-end Development:

The back-end was developed using PHP, which served as the server-side scripting language. PHP was responsible for fetching data from cryptocurrency APIs, processing user requests, and managing user accounts. Key implementation details include:

Implemented PHP scripts to interact with cryptocurrency APIs to retrieve real-time price data and exchange rates.

Created database tables in MySQL to store user account information, including usernames and hashed passwords.

Developed user authentication and session management using PHP to secure user data and enable user-specific features.

Created a currency exchange system that calculates exchange rates based on the selected cryptocurrency and fiat currency.

3. Results and Discussion:

3.1 Project Results & Analysis:

The cryptocurrency website project has been successfully implemented and tested. Key project results and their analysis are as follows:

Real-Time Data: The website effectively fetches and displays real-time cryptocurrency prices and exchange rates, meeting the project's core objective of providing up-to-date information.

User-Friendly Interface: Users find the website's interface intuitive and easy to navigate, as confirmed through user testing and feedback.

User Authentication: The implemented user registration and login system ensures secure access to personalized features, and security testing did not reveal significant vulnerabilities.

Security Measures: Extensive security measures, including HTTPS, input validation, and user data encryption, have been implemented to protect user data.

Challenges Overcome: Despite challenges related to API reliability and the complexity of cryptocurrency data, the project successfully addressed these issues through careful planning and development.

3.2 Comparison with Project Objectives:

The project objectives set in the introduction were effectively achieved:

User Accessibility: The website offers easy access to cryptocurrency data, supporting the project's objective of increasing accessibility.

User-Friendly Interface: The user-friendly Bootstrap-based design ensures a smooth and enjoyable experience, aligning with the objective of providing an intuitive platform.

User Features: User registration, watchlists, and personalized experiences meet the project's objectives of enhancing user interaction and engagement.

Data Security: The implementation of user authentication and data security measures aligns with the project's objective of ensuring user data safety.

4. Conclusion:

4.1 Summary of the Project:

In summary, the cryptocurrency website project has achieved its core objectives of creating a user-friendly and feature-rich platform for monitoring cryptocurrency prices and conducting currency exchanges. The website provides real-time data, user authentication, and personalized features, serving both novice and experienced cryptocurrency enthusiasts.