

**JAYPEE INSTITUTE OF INFORMATION AND
TECHNOLOGY, NOIDA**



**DEPARTMENT OF CSE/IT
JAYPEE INSTITUTE OF INFORMATION AND TECHNOLOGY, NOIDA**

**PROJECT TITLE : DIGICOIN WEB APP
MINOR PROJECT -1
(15B19CI591)**

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**UNDER THE SUPERVISION OF :
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2023-2024

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To whomsoever it may concern

This is to certify that Komal Paliwal (Enrollment no. 9921103035), Riya Goyal (Enrollment no. 9921103017), Suryansh Singh (Enrollment no. 9921103208), Ayush Singh (Enrollment no. 9921103204), students of B. Tech. in Computer Science & Engineering from Jaypee Institute of Information Technology have successfully completed the minor project under the supervision of Ms. Ambalika Sarkar from 17th August 2023 to 2nd December 2023.

I wish them all success in the future.

Asst. Prof. Ambalika Sarkar

DECLARATION

We hereby declare that this minor project report entitled “**DIGICOIN**” submitted to **Jaypee Institute of Information Technology, Noida** is the bonafide record of the work done by us in the due course of fifth semester and the contents and facts prepared and presented by us without any bias and are authentic to the best of our knowledge. We also declare that it has not previously formed the basis of an award for us for any degree/ diploma, fellowship or other similar titles of any institute/society.

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ACKNOWLEDGEMENT

The time we spent on this minor project was a memorable one for us as it was rich in experience sharing and helped us to discover our potential. We had so many experiences and opportunities that we believe will forever shape and influence our professional skills while fostering personal growth and development.

With a sage sense of gratitude, we acknowledge various people who directly or indirectly contributed to the development of this work and who influenced my thinking, behaviour & acts during training. I express my deep sense of gratitude to **Ms. Ambalika Sarkar** for her technical support and constant supervision which contributed immensely to our development. We also thank her for her guidance which was a remarkable force that enabled us to complete the minor project.

We would like to thank our parents and our friends whose love and guidance are with us in whatever we pursue. Nobody has been more important to us than the members of our family and friends.

ABSTRACT

In today's fast-paced world, the DigiCoin Web-App is like a handy toolbox for cryptocurrency fans. It's not just about numbers; it's a user-friendly space where you can quickly catch up on what's happening in the cryptocurrency world. With real-time and historical data, interactive graphs, and easy-to-understand details about different cryptocurrencies, it's a go-to platform for making informed decisions. The added perk of voice navigation through Alan AI makes it accessible to everyone, turning the sometimes complex world of cryptocurrency into a more enjoyable and straightforward experience.

With a mission to be the ultimate resource for cryptocurrency aficionados, the DigiCoin seamlessly integrates data, news, interactive graphs, and AI-driven features. By combining these elements, the platform aims to deliver a user-centric experience that goes beyond mere data provision. Whether users are seeking real-time updates or historical perspectives, the DigiCoin aspires to offer a holistic and insightful environment for cryptocurrency analysis and engagement.

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Chapter 1: Introduction

1.1 General

Welcome to “DIGICOIN” , your gateway to the dynamic world of cryptocurrencies. Our platform seamlessly integrates the latest advancements, combining Alan AI for intelligent features and Firebase for a robust backend. With secure login functionalities, personalised watch lists, and a user-friendly interface,it ensures you're always in control of your crypto portfolio. Experience the convenience of voice-navigated screens, allowing you to effortlessly explore the vast landscape of digital assets. Stay informed and make informed decisions with interactive charts that visualise the latest trends in the cryptocurrency market. Join us on this journey where innovation meets user-centric design, and be your trusted companion in navigating the exciting realm of crypto investments.

1.2 Problem Statement

When it comes to dealing with cryptocurrencies, many people find it hard to use websites that are easy to understand and have all the useful features. The existing crypto sites often lack a simple layout, and tools to help users understand how the market is doing. People also have trouble keeping track of their crypto investments on different devices, and using voice commands on these websites can be tricky. To make things better, we need a crypto website that not only solves these issues but also includes a cool graph feature. This graph will show how different cryptocurrencies are changing in value over time, making it easier for users to make smart decisions. With a website that is easy to use, safe, and has this graph feature, people can have a better experience exploring, managing, and keeping up with the exciting world of digital money.

PROBLEMS IN THE CURRENT SCENARIO:

- 1. User Interface Issues:** Current cryptocurrency platforms lack user-friendly interfaces. Difficulty for users, especially beginners, in navigating and understanding the platforms.
- 2. Security Concerns:** Existing platforms face security vulnerabilities, raising concerns about the safety of user data and transactions.
- 3. Limited Real-time Visualisation:** Absence of tools for real-time visualisation of cryptocurrency trends.
- 4. Voice-Activated Controls Absent:** Current platforms lack voice-activated controls, limiting accessibility and ease of use.
- 5. Need for Accessibility and Security:** There is a critical need for a more accessible and secure cryptocurrency platform.
- 6. Integration of Dynamic Graphs:** Users lack access to dynamic graphs for visualising real-time trends in the cryptocurrency market. Integration of dynamic graphs is crucial for providing users with valuable insights.
- 7. Empowering Informed Decision-Making:** The aim is to create a platform that empowers users to make informed decisions in the dynamic cryptocurrency market. Access to real-time data and dynamic graphs is essential for enhancing decision-making capabilities.

1.2 Expected Outcome

The expected result of ‘**DIGICOIN**’ aims to be the preferred platform for cryptocurrency enthusiasts, seamlessly integrating data, news, interactive graphs, AI-driven features, and a customizable watchlist option to deliver a holistic and insightful user-centric experience.

Chapter 2: Project Objective

THE BASIC OBJECTIVES OF THE PROPOSED SYSTEM:

1. Make a super cool cryptocurrency platform.
2. Add smart features with Alan AI.
3. Use Firebase for a strong backend.
4. Let people make their own watchlist.
5. Make it all about what users want.
6. Keep things safe and easy to use.
7. Create a really advanced platform.
8. Always come up with new stuff for crypto fans.

Chapter 3: Project Description

3.1 Features

The platform employs Alan AI for voice commands, utilises Firebase for secure login and synced watchlists, prioritises a user-friendly design, displays real-time visual updates on cryptocurrency values, offers educational resources, and emphasises robust security and an intuitive interface for a seamless user experience.

1. Easy Talking: Alan AI for seamless voice commands.
2. Safe Login and List: Firebase for secure login and synced watchlists.
3. Simple Look: User-friendly design for easy exploration.
4. See Changes Live: Visual updates on real-time cryptocurrency values.
5. Learn with Us: Educational resources for cryptocurrency understanding.
6. Secure Login and Watchlist: Firebase integration for robust security.
7. User-Friendly Interface: Intuitive design for a smooth experience.
8. Real-Time Market Analysis: Dynamic graphs for instant insights.

3.2 Software Requirement

HTML

CSS

REACT.JS

FIREBASE

CHART.JS

ALAN AI

Chapter 4: Design Specification

4.1 Frontend

The Frontend part is the core of any web application project. The frontend part of this project is made using HTML, CSS, Material UI, Bootstrap & JAVASCRIPT. The frontend part is written using functional components of React JS.

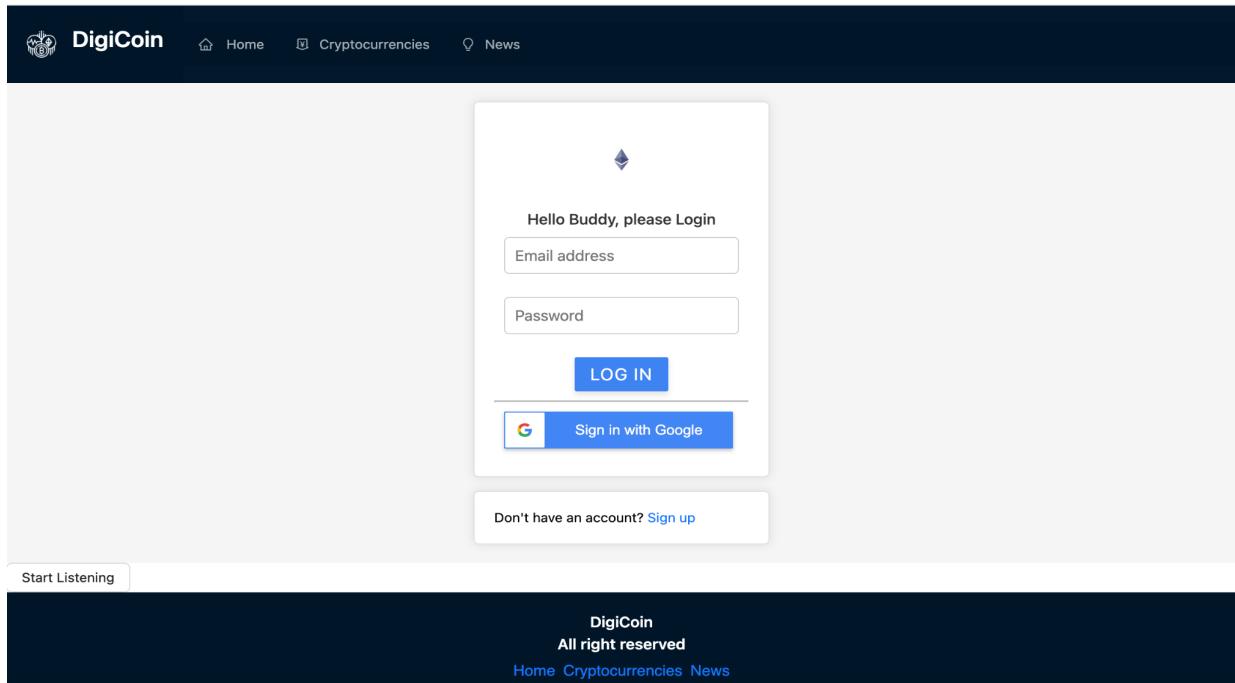


Figure 4.1.a-Login Page

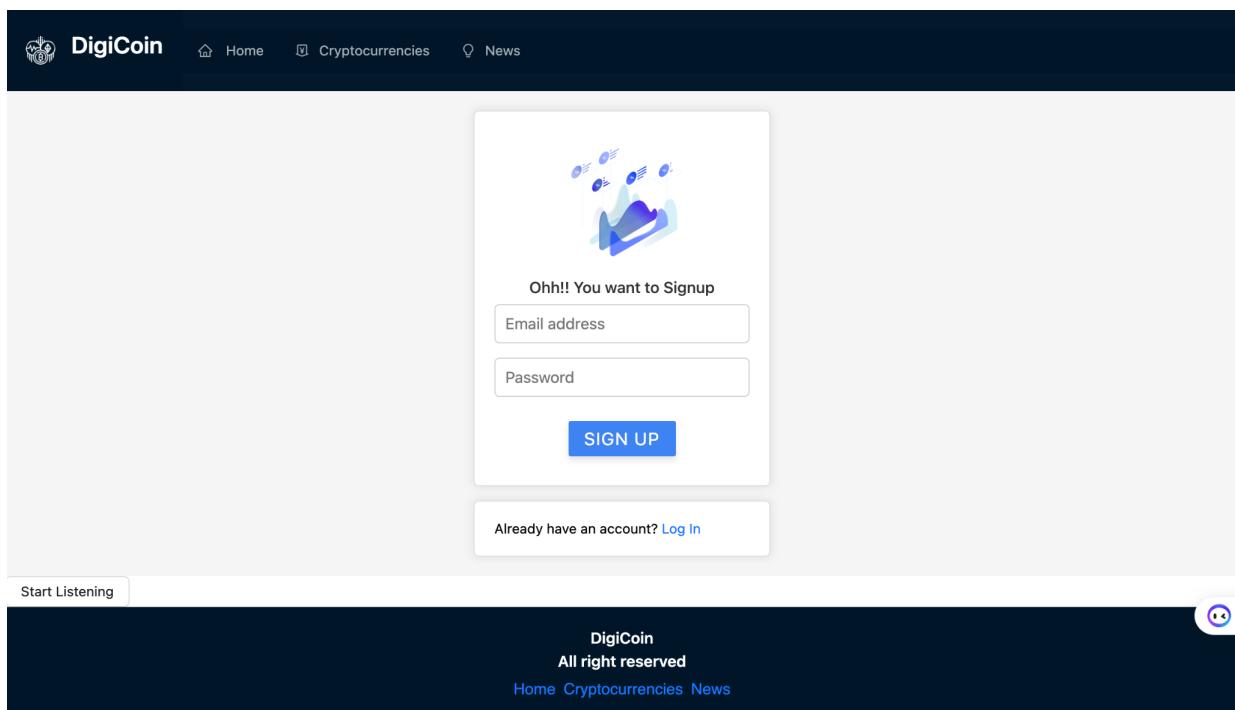


Figure 4.1.b-Signup Page

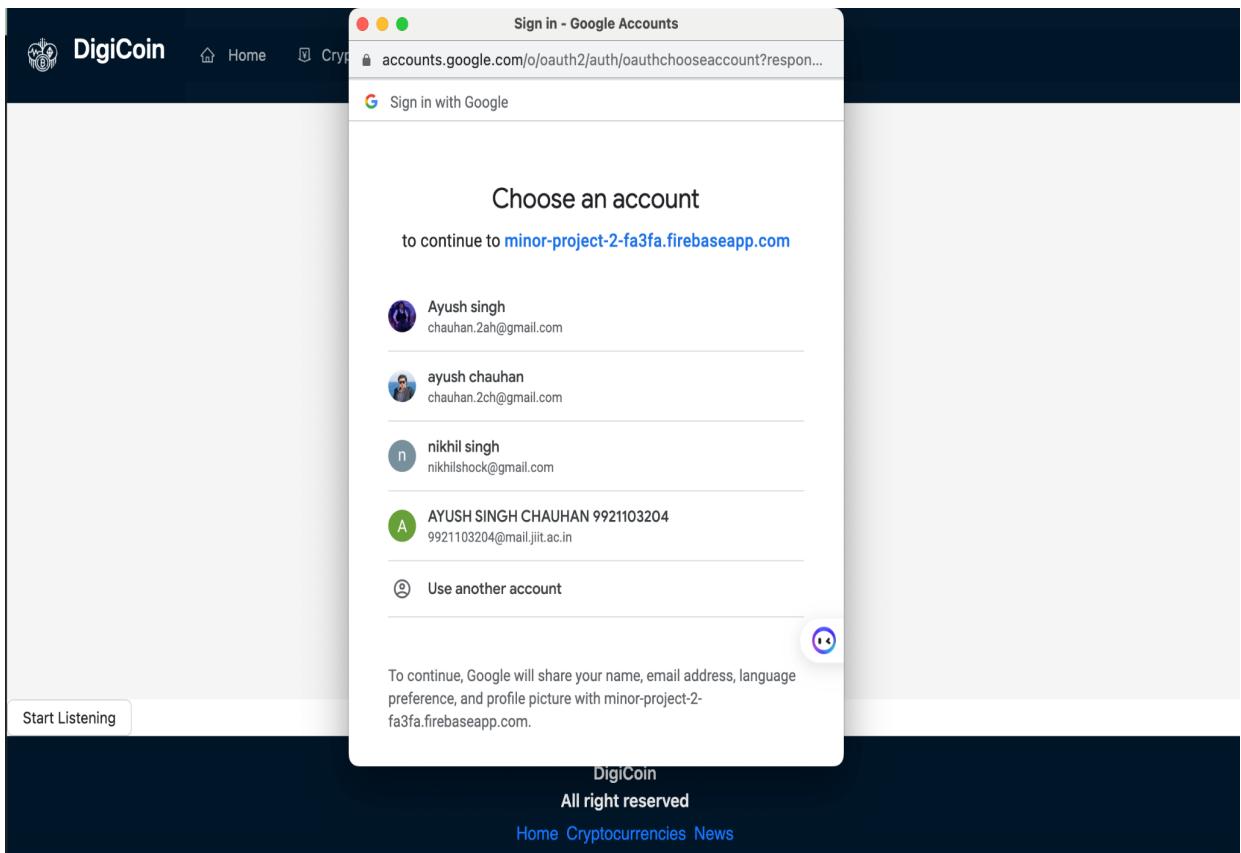


Figure 4.1.c - Google Login Page

The screenshot shows the DigiCoin website's home page with a dark header bar. Below the header, a section titled "Top Crypto Players" displays ten cryptocurrencies in a grid format. Each entry includes the coin's logo, name, current price, market cap, and daily change.

Rank	Coin	Symbol	Price	Market Cap	Daily Change
1	Bitcoin	₿	37.5K	732.8B	-0.7%
2	Ethereum	Ξ	2.1K	252.6B	-0.3%
3	Tether USD	₾	1	88.8B	-0.1%
4	Binance Coin	BNB	232.1	35B	-0.3%
5	XRP	Ripple	0.6	33.8B	0.8%
6	USDC	₳	1	24.7B	-0%
7	Solana	SOL	57.3	24.3B	-1.9%
8	Cardano	ADA	0.4	14.1B	-1.1%
9	Dogecoin	DOGE	0.1	11B	-0.7%
10	TRON	TRX	0.1	9.7B	1.9%

At the bottom of the page, there is a "Start Listening" button and a dark footer bar with the text "DigiCoin All right reserved Home Cryptocurrencies News".

Figure 4.1.d - HomePage

The screenshot shows the DigiCoin website interface. At the top, there is a navigation bar with links for Home, Cryptocurrencies, and News. Below this, a section titled "Top Crypto Players" displays a grid of ten cryptocurrencies. Each entry includes the coin name, symbol, current price, market cap, and daily change. A blue arrow points from a circled profile picture of a user to a sidebar on the right. The sidebar shows a circular profile picture of "Ayush singh", a "Watchlist" section listing Bitcoin, Ethereum, Tether, and BNB with their current prices, and a "LOG OUT" button.

Rank	Coin	Symbol	Price	Market Cap	Daily Change
1	Bitcoin	฿	\$37.4K	731.5B	-0.8%
2	Ethereum	ETH	\$2.1K	252.2B	-0.4%
3	Tether USD	₾	\$1	88.9B	0.1%
5	XRP	XR	0.6	33.8B	0.9%
6	USDC	USD	1	24.7B	0.1%
7	Solana	SOL	\$57.1	24.2B	-2.4%
9	Dogecoin	DOGE	0.1	10.9B	
10	TRON	TRX	0.1	9.7B	

Figure 4.1.e -Watchlist

The screenshot shows the "Cryptocurrency Prices by Market Cap" page. At the top, there is a search bar with the placeholder "Search For a Crypto Currency..". Below the search bar is a table listing ten cryptocurrencies based on their market capitalization. Each row includes the coin name, symbol, current price, 24-hour percentage change, and market cap. A blue arrow points from the "Start Listening" button at the bottom left to the table. The table has a light blue header and white rows.

Coin	Symbol	Price	24h Change	Market Cap
BTC	฿	\$37,453.00	-0.61%	731,420M
ETH	ETH	\$2,070.17	-0.13%	248,741M
USDT	₾	1.00	+0.01%	88,694M
BNB	BNB	\$232.28	-0.30%	35,675M
XRP	XRP	0.62	+0.81%	33,491M
USDC	USD	1.00	+0.04%	24,712M
SOL	SOL	\$57.17	-1.72%	24,164M
STETH	Lido Staked Ether	\$2,068.67	-0.17%	19,020M
ADA	ADA	0.39	-1.09%	13,545M
DOGE	DOGE	0.08	-0.63%	10,997M

Figure 4.1.f-CoinTable Page

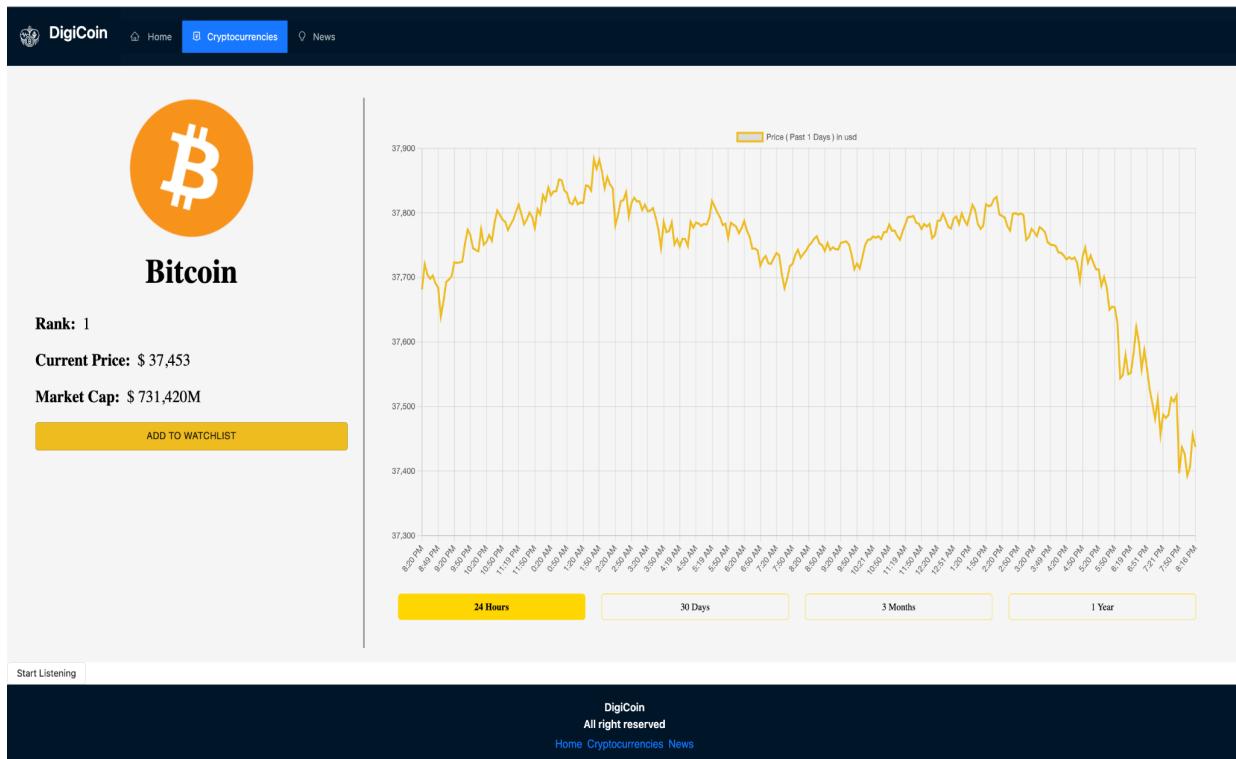


Figure 4.1.g -Charts Page(24 Hours)

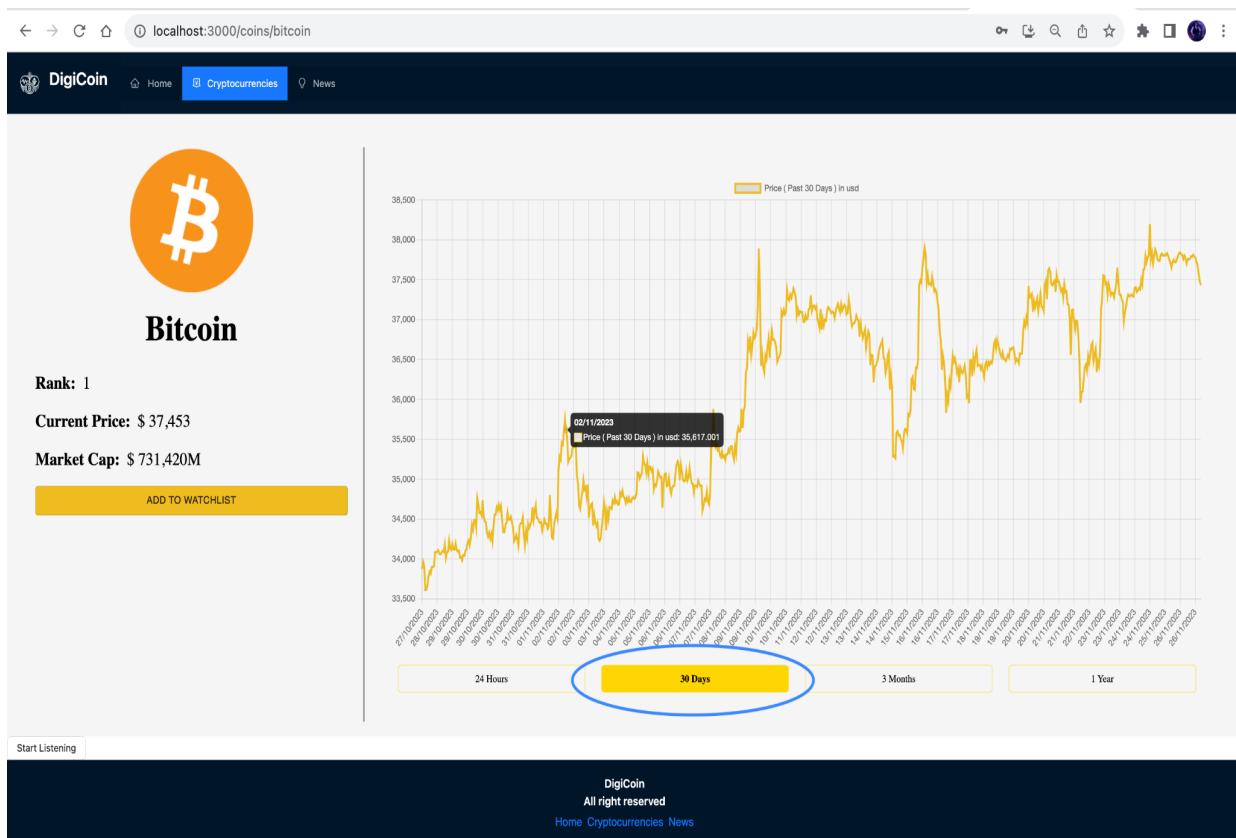


Figure 4.1.h-Charts Page(30 Days)



Figure 4.1.i-Added to watchlist

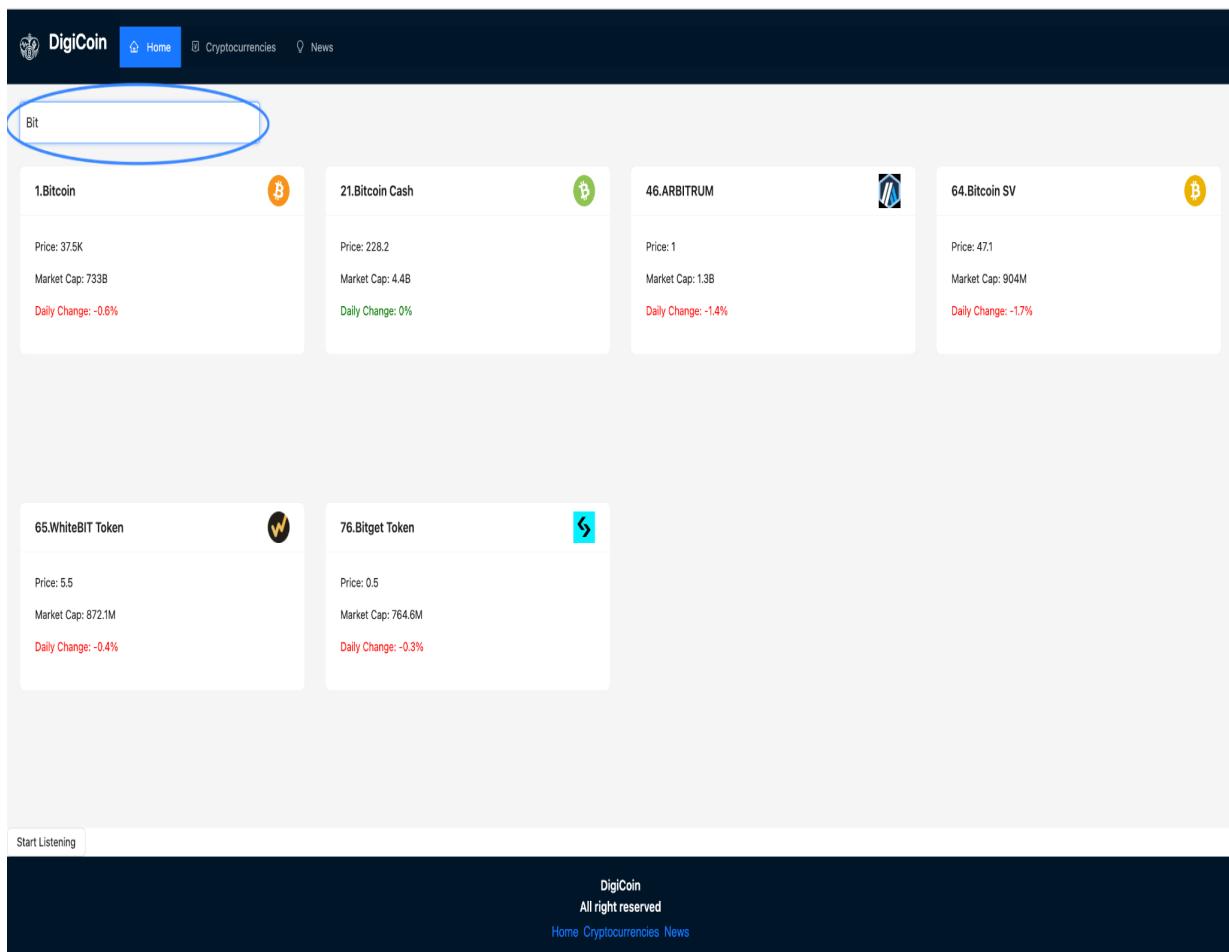


Figure 4.1.j-Search Cryptocurrency

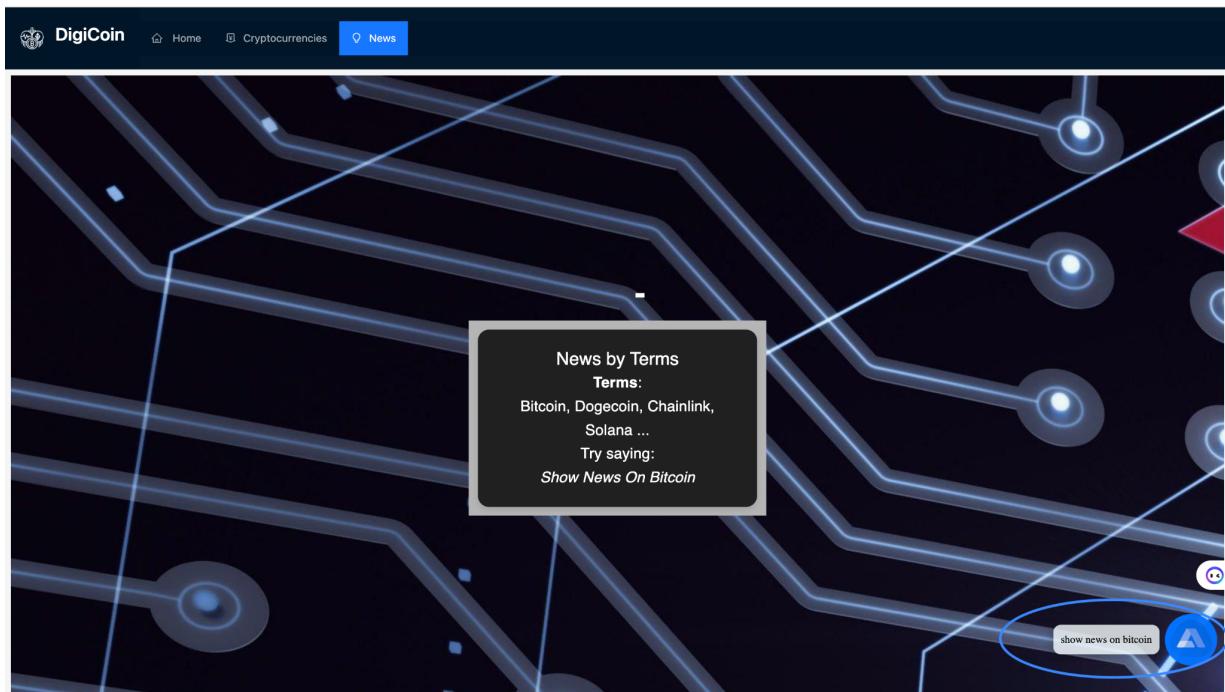


Figure 4.1.k -News Page (Alan AI API)

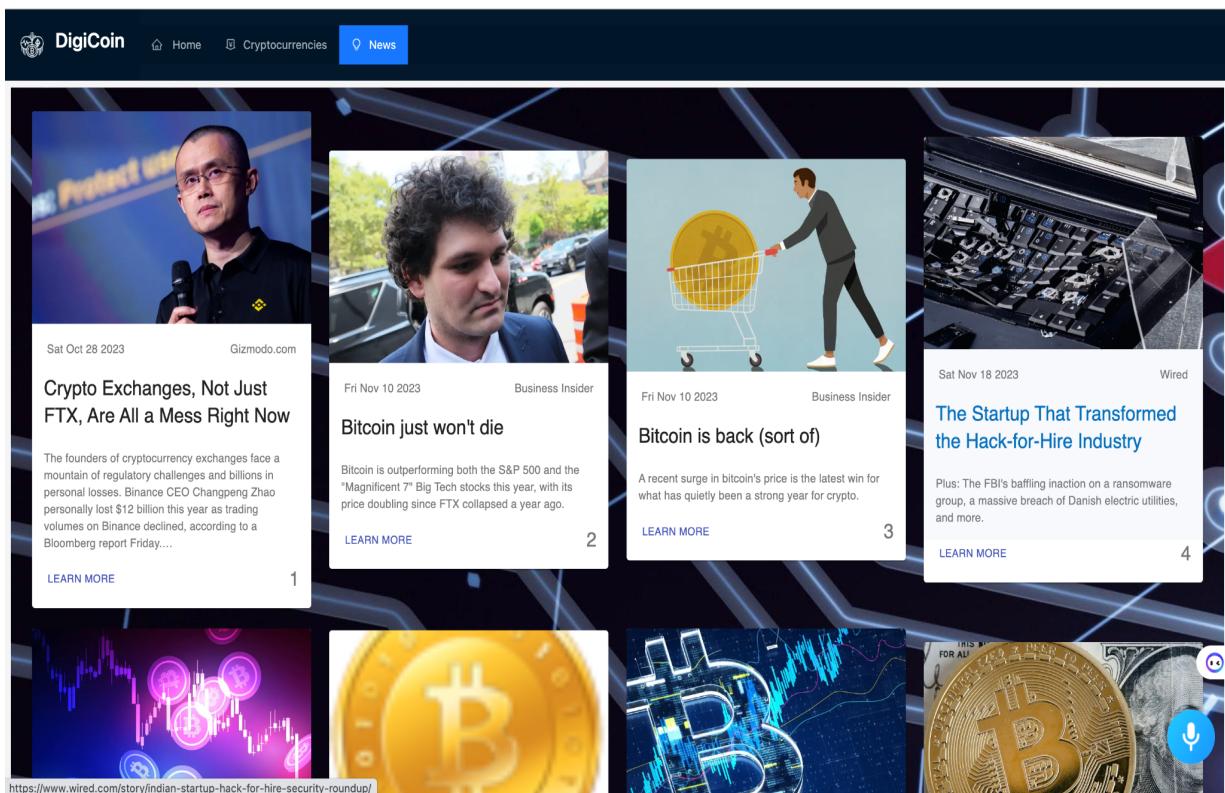


Figure 4.1.l -News Page

4.2 Backend

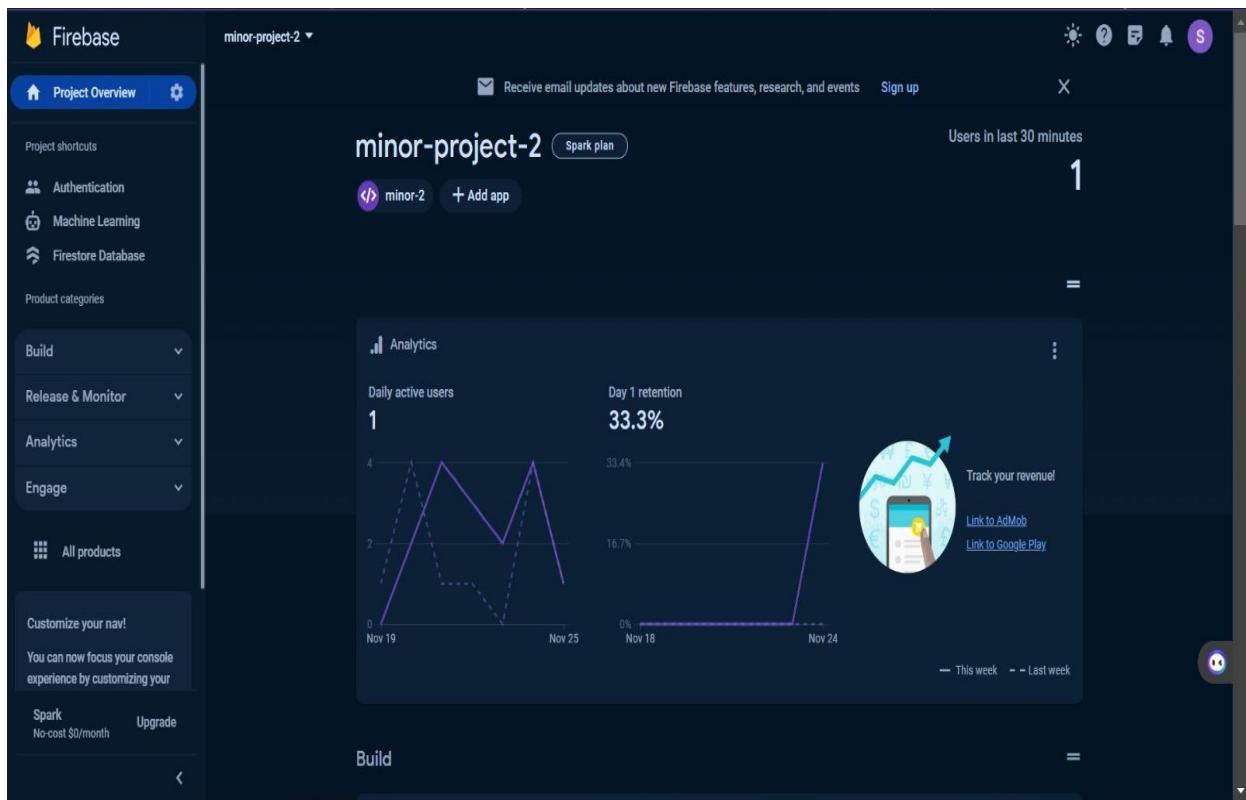


Figure 4.2.a -Firebase Homepage

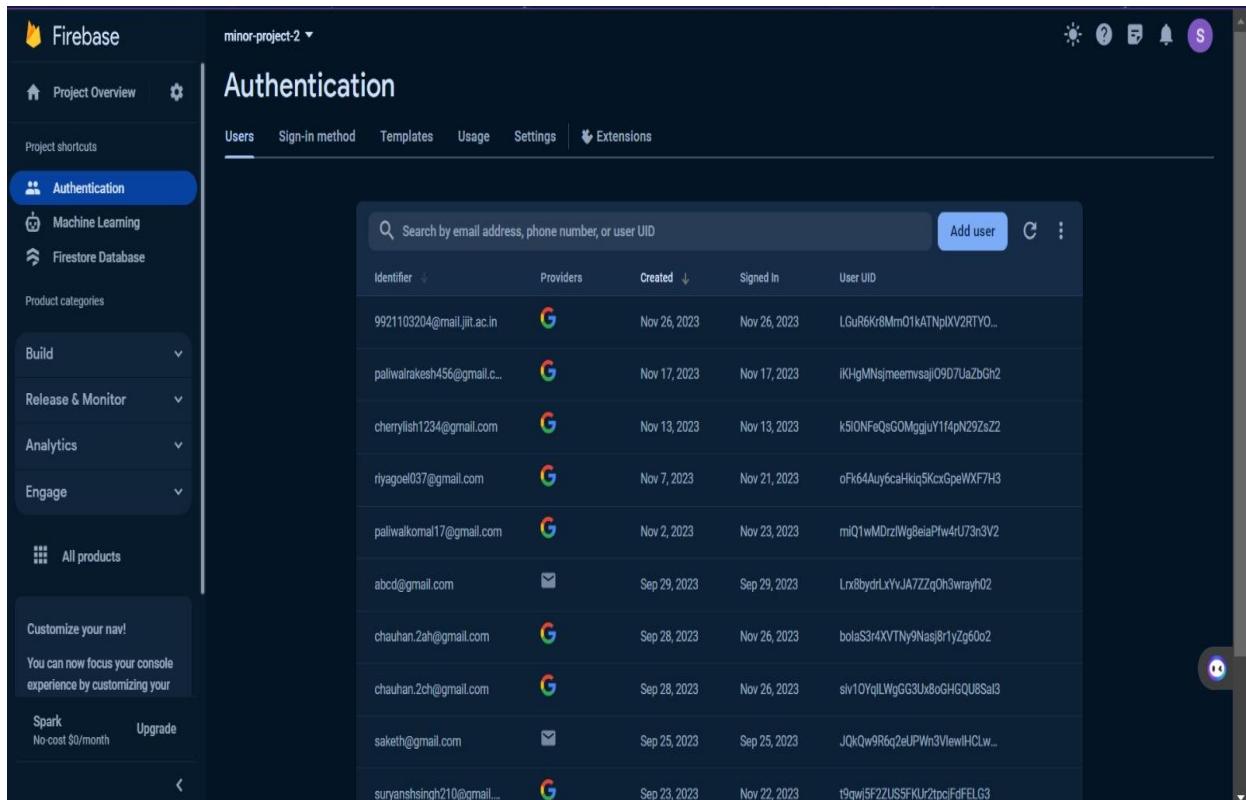


Figure 4.2.b - User Id's (Firebase)

The screenshot shows the Firebase Cloud Firestore interface for a project named "minor-project-2". The left sidebar is collapsed, and the main area displays a collection named "watchlist". A specific document, "bolaS3r4XVTNy", is selected. This document contains a field "coins" with four items: "binancecoin", "tether", "bitcoin", and "ethereum".

(default)	watchlist	bolaS3r4XVTNy9Nasj8r1yZg60o2
+ Start collection	+ Add document	+ Start collection
: watchlist >	boIaS3r4XVTNy9Nasj8r1yZg60o2 >	+ Add field
	eBNKzeDtPwETJ6uUf26fXI7kUU2	- coins
	iKHgMNsjeemvsaji09D7UaZbGh2	0 "binancecoin"
	miQ1wMDrz1Ng8eiaPfw4rU73n3V2	1 "tether"
	oFk64Auy6caHkiq5KcxGpeWXF7H3	2 "bitcoin"
	t9qwj5F2ZUS5FKUr2tpcJFdFELG3	3 "ethereum"

Figure 4.2.c -Watchlist Data(User id-1)

The screenshot shows the Firebase Cloud Firestore interface for a project named "minor-project-2". The left sidebar is collapsed, and the main area displays a collection named "watchlist". A specific document, "oFk64Auy6caHk", is selected. This document contains a field "coins" with one item: "cardano".

(default)	watchlist	oFk64Auy6caHk
+ Start collection	+ Add document	+ Start collection
: watchlist >	boIaS3r4XVTNy9Nasj8r1yZg60o2 >	+ Add field
	eBNKzeDtPwETJ6uUf26fXI7kUU2	- coins
	iKHgMNsjeemvsaji09D7UaZbGh2	0 "cardano"
	miQ1wMDrz1Ng8eiaPfw4rU73n3V2	
	oFk64Auy6caHkiq5KcxGpeWXF7H3 >	
	t9qwj5F2ZUS5FKUr2tpcJFdFELG3	

Figure 4.2.d -Watchlist Data (User id-2)

Chapter 5: Implementation

5.1 Frontend

1. Homepage: Display top ten cryptocurrencies and load more using Rapid Crypto API.
2. Voice Navigation: Use Alan AI for hands-free navigation between pages.
3. Graph Page: Utilise Chart.js and Graph API for dynamic chart visualisations.
4. News Section: Integrate Alan AI to provide voice-commanded news updates.
5. Voice-Activated Routes: Enable users to change routes seamlessly using voice commands.

5.2 Backend

Backend Integration (Firebase): Implement Firebase for secure user authentication and backend functionality, ensuring a seamless login experience and enabling the creation and management of personalised watchlists.

5.3 Database

Leverage Firebase as the database system, ensuring secure user authentication and enabling the storage and management of personalised watchlists for a seamless and personalised user experience.

5.4 Additional features

1. Alan AI : Imagine talking to your crypto app like you talk to a friend! Alan AI makes it understand your voice commands, making things super easy.
2. Your Personal Crypto List: Think of a special list in your app that keeps all your favourite cryptocurrencies. It helps you remember and keep an eye on the ones you like.
3. Voice-Guided Journey: Your app is like a smart friend that listens to your voice and takes you to different pages. Just tell it where you want to go!

Chapter 6: Skills Developed

1. React Development: Mastered building dynamic and responsive interfaces using React.js
2. HTML & CSS Skills: Developed proficiency in structuring web pages and styling interfaces.
3. Firebase Integration: Acquired skills in integrating Firebase for secure authentication and backend functionality.
4. Voice-Activated Controls (Alan AI): Implemented Alan AI for voice-activated interactions, enhancing user experience.
5. Chart.js Visualization: Utilised Chart.js to create interactive and visually appealing charts.
6. API Integration: Integrated external APIs, like Rapid Crypto API, for real-time data retrieval.
7. UX Design Principles: Applied user experience design principles for an intuitive platform.
8. Project Management: Developed project coordination skills for feature integration.
9. Problem-Solving Aptitude: Enhanced problem-solving skills in addressing security and data visualisation challenges.
10. Continuous Learning: Cultivated a mindset for ongoing learning, staying updated on emerging technologies.

Chapter 7: Results

Create a user-friendly cryptocurrency platform allowing login, signup, and watchlist functionalities. Enable voice-activated news searches, utilizing Alan AI, to effortlessly access and display the latest information on desired cryptocurrencies in card format for a seamless user experience.

Feature	Input	Output	Expected Output
Login	USERID , Password & Google Log In	User will login	If the username and password is correct it will log in else not
Search	Name of Cryptocurrency	All the Cryptocurrencies available which start or are related to that name.	All the Cryptocurrencies starting with the name.
Add User (Sign Up)	Details of user name, email , password etc.	New user added to the database	New user with its details added to the database
Add To Watchlist	-	Cryptocurrency with its Price is added to user's Watchlist	New Cryptocurrency with its details added to the database
Watch Latest News	Search Using Voice command(Alan AI)	News of desired Cryptocurrency according to given command	Shows all latest news in the form of cards of that Cryptocurrency

Table 7.1-Result

Chapter 8: Conclusion

This crypto app is all about making things easy and personalized. With homepage featuring the latest cryptocurrencies, hands-free navigation using Alan AI, and dynamic charts for insights, it's a user-friendly experience. The backend, powered by Firebase, ensures secure logins and personalized watchlists. Plus, with Alan AI, The app becomes a smart friend, understanding voice commands for news updates and guiding you through your personalized crypto journey . It's like having a helpful friend who makes understanding cryptocurrencies easy and simple.

Chapter 9: Future Work

9.1 Cryptocurrency price prediction model:

In exploring future trends within the cryptocurrency domain, the utilization of advanced predictive models, such as the Random Forest Regressor, emerges as a pivotal avenue for forecasting market movements. The application of this model holds promise in deciphering evolving patterns and trends in Bitcoin and other cryptocurrencies. The Random Forest Regressor, known for its robustness in handling large datasets and capturing complex relationships between variables, offers an opportunity to enhance our understanding of future price dynamics. Leveraging historical price data, trading volumes, sentiment analysis, and technical indicators, this model enables us to forecast potential market trajectories with a degree of accuracy. By harnessing the Random Forest Regressor's capabilities, we aim to glean insights into the nuanced intricacies of cryptocurrency markets, thereby empowering investors and stakeholders with informed decision-making tools to navigate the ever-evolving landscape of digital assets.

CERTIFICATE

This is to certify that the work titled “**DIGICOIN**” submitted by Komal Paliwal (Enrollment no. 9921103035), Riya Goyal (Enrollment no. 9921103017), Suryansh Singh (Enrollment no. 9921103208), Ayush Singh (Enrollment no. 9921103204) of B.Tech of Jaypee Institute of Information Technology, Noida has been carried out under my supervision. This work has not been submitted partially or wholly to any other University or Institute for the award of any other degree or diploma.

Digital Signature of Supervisor :

Name of Supervisor : Ambalika Sarkar
Designation : Assistant Professor
Date : 02/12/2023

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