

QUANTAVIEW

The Crypto Analyser

¹Sushant A. Tare, ²Dr. Juita T. Raut

¹Student, ²Assitant Professor

Department of Information Technology

S. D. S. M. College, Palghar, Maharashtra, India

Abstract: Quantaview is a Flutter application that pulls real-time data for a curated list of 20 cryptocurrencies from the CoinGecko API and the Binance WebSocket. Instead of simple price alerts, Quantaview performs a prediction analysis using attributes such as market capitalisation factor, liquidity, and a volatility estimate to forecast Fundamentals, Market activity, and Valuation. It also provides an estimated return on investment by combining user inputs like investment amount and holding days with on-chain and market metrics like 24-hour price change percentage, market capitalisation, total volume, and circulating supply to model potential profit scenarios. To help visualise market structure immediately, Quantaview includes a market-capitalisation heatmap that highlights where value and activity are concentrated across the 20 tracked cryptos. Whether the user is a seasoned trader or just starting, the Quantaview application is designed to serve all the needs and simplify the crypto journey. Start optimising your cryptocurrency investments today with the Quantaview application.

Keywords: Quantaview, Cryptocurrency, Flutter development, CoinGecko API, Binance WebSocket, Prediction Analysis, Investment optimisation.

1. Introduction:

Cryptocurrency is a virtual or digital currency that uses cryptography for security. It operates independently without any interference from the central bank. Cryptocurrency can be transferred directly between any individuals around the world without the need for intermediaries like banks or financial institutions. Crypto investment is a fast-moving market that requires investors to act quickly. It fluctuates every second. One suitable investment can change your life. But the main issue is that investors can't continuously process the complex, fast-moving signals that drive crypto markets. Resulting in missed opportunities not because prices aren't visible, but because deriving reliable, actionable predictions from raw market data, like market cap, liquidity, volatility, volume, supply and short-term price moves, is time-consuming and technically demanding. Quantaview solves this by continuously ingesting real-time feeds for a focused list of 20 cryptocurrencies and turning those noisy metrics into clear prediction analyses, forecasting fundamentals, market activity, valuation, and estimated returns, while a market-cap heatmap reveals where value and risk are concentrated, so users can make informed decisions without watching the market 24/7. Staying on top of your cryptocurrency investments is crucial in this dynamically ever-evolving digital landscape. Quantaview App is here to simplify your journey by providing an all-inclusive and user-friendly platform to monitor, analyse, and optimise your cryptocurrency portfolio. With the Quantaview App, you can track the performance of your favourite cryptocurrencies in real time effortlessly. Gone are the days of manually searching various platforms and exchanges for updated information. Our app consolidates data from trusted sources, giving you a holistic

view of your investments right at your fingertips. Stay informed with personalised prediction insights and scenario simulations tailored to your preferences. Configure investment scenarios with amount, holding days, and risk sensitivity to receive forecasted Fundamentals, Market Activity, Valuation scores, and estimated return projections, allowing you to compare what-if outcomes and make timely, data-driven investment decisions. Our app keeps you up to date with the latest market prices, ensuring you stay ahead of the market in this fast-paced industry. Dive deep into historical data and trends to gain helpful insights into the market. Users can easily analyse the performance of individual coins, identify patterns, and make decisions based on the data to maximise their returns. With the guarantee that your sensitive information is protected, you can track your crypto coins with peace of mind. Whether you are a seasoned trader or just starting, our app is designed to provide for all your needs and simplify your crypto journey. Start optimising your cryptocurrency investments today with the Quantaview App. Gain clarity, control, and confidence in managing your portfolio. Embrace the upcoming of the future in crypto tracking and get on a successful investment journey with the Quantaview App.

2. Literature Review:

[1] **“Crypto-Tracker Browser Extension”** by Gauri Rao, Sourabh Kumar Jha, Sadiq Hussain, Swastik Gupta, Pune. It’s a browser extension that shows the values of the top ten cryptocurrencies in real time. Whenever the extension is clicked, the values get updated. The target browser for this application is 'Google Chrome'. The application is recognised by the browser via the "manifest.json" file. The application uses a background script that doesn’t affect any content of the webpage whenever it is used.

[2] **“Cryptocurrencies Performance Tracker and Data Visualisation App”** by Saransh Bhardwaj, Sankalpa Basu, Mridul Pal, Gautam Buddha Nagar. The team has used programming languages such as HTML, CSS, and JavaScript to build the platform, and with that, they also used an API to get the cryptocurrency data. The platform they built gives insight into the performance of cryptocurrencies with an attractive User Interface. The cryptocurrency data that is received is updated every day and includes price changes over a period of 24 hours and 1 week. This also includes the valuation of cryptocurrencies. The main objective of creating this platform was to provide easy access to crypto insights to the user. They have built their User Interface in such a way that it makes it easy for the user to explore every page without any problem.

[3] **“Cryptocurrency Tracker Extension”** by Ms Arti Bhatlawande, Mr Akbar Shaikh, Prof. Sachin, Dept. of Computer Science & Engineering, SMSMPITR Akluj, Maharashtra. The main goal of creating this platform was to provide easy access to cryptocurrency overviews for users. The team designed their user interface to make it easy for the user to explore each page seamlessly. The web application offers compactness, and it is user-friendly. The main motto of this project was to give information from the current to up to one year past the crypto market and provide a simple, user-friendly web application. It is a web application that displays the values of the top 10 cryptocurrencies in real time. The target browser for this application is 'Google Chrome'.

[4] **“DELLA - Cryptocurrency Price Tracker”** by Shweta Saxena, Priyanshi Goyal, Prachi, Meerut. It makes use of encryption to provide the secure transfer and trade of digital dockets across a distributed and decentralised network. These dockets can be traded for cash at market prices. The primary goal of this study was to provide information to people or individuals who are unfamiliar with cryptocurrency. It's for those who wish to invest online while simultaneously dealing with economic operations like purchasing, selling, and trading. Della was shown as a cryptocurrency consultant in this study. It implies that it will happen.

[5] **“CryptoCurrency Tracker App”** by Shaikh Mohd Ashfaq, Vaibhav Prakash Palande, Akshaya Madan Samant, Ashish Kamalakar Naik, Assistant Professor of the Computer Department, B.E. Computer Engineering, Rizvi College of Engineering, Mumbai. The main goal of creating this application was to provide live cryptocurrency prices for users. The team designed their user interface to make it easy for the user to explore everything seamlessly.

[6] **“CRYPTONIK – Live Cryptocurrency Tracker”** by Deepesh Dandriyal in June 2023. Cryptonik was developed as a cryptocurrency tracker using React.js and the CoinGecko API. This paper describes the development of Cryptonik, its features, and its potential applications. Cryptonik was designed to be a simple and user-friendly cryptocurrency tracker. The user interface includes a dashboard that displays the value of various cryptocurrencies in real time. Users were able to select their preferred cryptocurrencies and were able to check detailed information about each one. Additionally, Cryptonik uses Firebase authentication to provide secure access to users with their personalised dashboard.

[7] **“Cryptocurrency tracker for real-time market analysis and monitoring using React.js”** by Rahul Kumar, Aditya Mishra, Misbahul Mollick, Harish Prasad Chaurasiya, and Kunal Roy, Durgapur. The development process involves the utilisation of APIs provided by cryptocurrency exchanges to fetch and update market data in real time. The integration of charting libraries enables users to visualise historical price data and identify patterns or trends that can aid in decision-making. Furthermore, the cryptocurrency tracker incorporates advanced features such as portfolio management, where users can track the performance of their cryptocurrency holdings and analyse their overall investment portfolio. Customizable alerts can also be set to notify users of specific market conditions or price movements, enhancing the tool's functionality and providing users with timely information. The research discusses the design and implementation of the cryptocurrency tracker, highlighting the key components, data flow, and user interface considerations. Additionally, it evaluates the performance and usability of the tracker through user testing and provides insights into potential areas for future enhancements and research.

3. Research Methodology:

The research methodology for the Quantaview project followed a structured approach. It emphasised a seamless blend of innovative technology and user-centred design to create an efficient cryptocurrency analytics application. The methodology focused on ensuring real-time data accuracy and an intuitive user interface. Key stages of development were grounded in agile principles, allowing iterative improvements based on ongoing testing and user feedback. The technical choices reflected a commitment to delivering a robust, scalable, and user-friendly application. Below is a breakdown of the core technologies used in this project and their roles:

- **Flutter (Front-end Development):** Used to build the mobile interface, ensuring the app works smoothly on Android devices with a single codebase.
- **Firebase (Back-end & Database Management):** Integrated to store user data securely, manage user authentication, and synchronise information across devices in real-time.
- **Binance WebSocket:** Employed to fetch real-time cryptocurrency data, including current prices and 24-hour price changes.
- **CoinGecko API:** Employed to fetch cryptocurrency data like market capitalisation, total volume, and circulation supply.
- **Manually Created Models and Controllers:** Custom-built models and controllers to manage specific cryptocurrency data, ensuring smooth and fast integration with the APIs and allowing flexibility in handling data display and user interactions.
- **Dart Language:** Powers the logic and structure of the application, enabling efficient handling of asynchronous tasks such as fetching and updating data.

By leveraging these technologies, the Quantaview app delivers a comprehensive solution to real-time cryptocurrency analysis, ensuring an engaging, efficient, and secure user experience.

4. Results:

The Quantaview project achieved its objective of delivering a real-time cryptocurrency analytics application successfully. The application enables users to effortlessly monitor and manage their cryptocurrency investments, leveraging features such as real-time data and a user-friendly interface. Below are the key outcomes from the user interface design.

[1] **Home Page:** The home Page offers a streamlined, intuitive layout where users can view a list of cryptocurrencies with real-time updating current prices and 24-hour price changes. This allows the users to assess market conditions quickly. Cryptocurrencies are displayed in a tabular format with clear data points, such as current prices and 24-hour price changes, enabling users to interact with individual cryptocurrencies by clicking on their respective rows.

[2] **Crypto Page:** The Crypto Page provides detailed information on each selected cryptocurrency, such as market capitalisation, total supply, and price changes over 24 hours. This page is very important for investors who want to dive deeper into the specific coin's performance metrics. Users can also check the prediction analysis for that cryptocurrency.

The outcome of this project highlights the app's capability to serve users with a responsive, data-driven experience. Through its seamless integration of APIs and WebSockets, user-friendly interface, and robust notification system, Quantaview empowers users to make well-informed cryptocurrency investment decisions. The successful deployment of these features demonstrates the app's value as an indispensable tool for both novice and experienced investors alike.

5. Conclusion:

We are delighted to announce the successful development and deployment of our application, in line with the initial project proposal. Our team diligently adhered to the project's specifications and implemented a rigorous testing regimen to ensure a robust and reliable product for cryptocurrency investors. We firmly believe that our application represents a significant advancement in addressing the analysis challenges prevalent in the cryptocurrency market. By providing investors with timely and relevant information, our solution aims to empower users to make informed decisions amidst rapidly changing market conditions. Moving forward, we are deeply committed to further enhancing our system by incorporating additional features and functionalities to improve the convenience and efficacy of crypto investments. Our dedication to excellence drives us to continually refine our solution to meet the evolving needs of the cryptocurrency community.

6. Reference:

- [1] **Crypto-Tracker Browser Extension** Gauri Rao, Sourabh Kumar Jha, Sadiq Hussain, Swastik Gupta, Pune
- [2] **Cryptocurrencies Performance Tracker and Data Visualisation App** Saransh Bhardwaj, Sankalpa Basu, Mridul Pal, Gautam Buddha Nagar
- [3] **Cryptocurrency Tracker Extension** Ms Arti Bhatlawande, Mr Akbar Shaikh, Prof. Sachin, Maharashtra
- [4] **DELLA - CRYPTOCURRENCY PRICE TRACKER** Shweta Saxena, Priyanshi Goyal, Prachi, Meerut
- [5] **CryptoCurrency Tracker App** Shaikh Mohd Ashfaque, Vaibhav Prakash Palande, Akshaya Madan Samant, Ashish Kamlakar Naik, Mumbai
- [6] **CRYPTONIK – Live Cryptocurrency Tracker** Deepesh Dandriyal, Dehradun, in June 2023.
- [7] **Cryptocurrency tracker for real-time market analysis and monitoring using React.js**, Rahul Kumar, Aditya Mishra, Misbahul Mollick, Harish Prasad Chaurasiya, and Kunal Roy, Durgapur
- [8] https://youtu.be/j-LOab_PzzU?si=x3q7JvpYCsOSDvph - Master Flutter in Just 8 Hours | Full Course in Hindi by HindiCodepur for learning the Flutter language and its concepts.