



An Android Application for CryptoCurrency Tracker

Tracking Realtime prices of various Cryptocurrencies .

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Abstract : CryptoCurrency nowadays is in most demand and many people are investing in these currencies to get high returns. Its is more frequently used as it is theft proof, accessible anywhere and anytime. By using crypto currency the settlement of money is instant. Many websites and applications provide us information about the rates of different crypto currencies available in the Crypto Market. So we will be building an application in which we will be displaying the real time rates of different crypto currencies inside our application.

Index Terms - Component, formatting, style, styling, insert

1. Problem Statement :

One of the reasons Bitcoin was created is to provide a fairer system that does not depend on corrupt politicians, greedy bankers, or obsolete financial institutions. According to many cryptocurrency experts, Indian investors can reap the full benefits of the crypto currency economy, only if they have enough financial literacy in all aspects of the digital token industry . Indians started investing in cryptocurrencies from 2020 as the Covid-19 pandemic led to a global economic crisis, resulting in higher volatility and depreciation in traditional assets like currencies, bonds and equities.

As a result, more people around the globe started investing in cryptocurrencies and the cryptocurrency industry in India as well as around the globe is increasing day by day. The Indian cryptocurrency market has been growing exponentially over the last few years and is expected to reach up to \$241 million by 2030 in India and \$2.3 billion by 2026 globally. And having in hand knowledge about the crypto market would be great. Hence building an application that will give necessary information about the crypto market will be very helpful for investors in our country and around the world.

By using the application in this project, anyone can get the updates and required information on various cryptocurrencies. The ultimate goal of this project is to provide time to time updates on cryptocurrencies price.

2. Literature Review:

- A Complete Beginner's Guide To Bitcoin. Bernard Marr (2021).

Money is clearly a primary need of every human being that cannot be avoided, human needs can be realized by using money. Seeing from the lack of systematic literature review papers discussing cryptocurrency, this is a challenge as well as the main purpose of this paper. Along with the development of modernization and globalization which has now entered the industrial era 4.0 revolution there is a blockchain based technology, Cryptocurrency. Cryptocurrency is one of the developments of the blockchain that is often used as a decentralized digital currency. The word Cryptocurrency means a virtual currency that has no physical form, and Cryptocurrency also means that the transaction currency cannot be seen and is safe. This digital currency has many types such as Bitcoin, Ethereum, Litecoin, Monero, and many other types. Although it has no physical form, this currency

functions the same as conventional currencies in general and has an exchange rate. Exchange rates on Cryptocurrency fluctuate which means unexpected, this is often exploited by traders.

When it comes to cryptocurrencies, investors routinely spend a lot of time searching for the latest coin: the one with the most exciting prospects or the one that's the most undervalued. Savvy investors also look to different cryptocurrency exchanges, applications, and services to maximize their investment potential. But fewer individuals who invest time and money into the cryptocurrency space spend an adequate amount of time considering the impact that a digital currency price tracker has on their experience. Read on for a comparison of several of the most popular price tracking sites and services.

A cryptocurrency price tracker monitors the current value of digital currencies, in addition to information about market capitalization, trading volume, price charts, and other types of data. The tracker's accuracy can have a significant bearing on an investor's decisions; because of this, investors should choose their price tracker carefully. Cryptocurrency price trackers should use reliable data and consistently update their data. CoinMarketCap is the industry's most popular and recognizable cryptocurrency price tracker; other trackers include Coinlib and Bitgur.

Many researchers have studied cryptocurrency management and have come up with some apps like – Coin tracking Application: If a person wants the latest price of cryptocurrencies on a regular basis then this is the best application. Coin Tracking can be found on both IOS apps and android apps. Coin tracking is a user-friendly application where the current price is accessible to the user along with the data that helps in making better decisions on when to sell or buy coins according to the market which may profit the user. Also, it is easy to connect to all popular exchanges by using the API feature which gives the new ongoing trading data.

➤ Live API Documentation. Siddharth Subramanian 2019.

API stands for Application Programming Interface. An API is a software intermediary that allows two applications to talk to each other. In other words, an API is the messenger that delivers your request to the provider that you're requesting it from and then delivers the response back to you. An API defines functionalities that are independent of their respective implementations, which allows those implementations and definitions to vary without compromising each other. Therefore, a good API makes it easier to develop a program by providing the building blocks. Therefore, the service provider is given a great deal of flexibility when it comes to how its services are offered. For example, if the infrastructure behind the API involves physical servers at a data center, the service provider can easily switch to virtual servers that run in the cloud. Application Programming Interfaces (APIs) provide powerful abstraction mechanisms that enable complex functionality to be used by client programs. However, this abstraction does not come for free: understanding how to use an API can be difficult. While API documentation can help, it is often insufficient on its own. Online sites like Stack Overflow and Github Gists have grown to fill the gap between traditional API documentation and more example-based resources. Unfortunately, these two important classes of documentation are independent. Most APIs work using either XML or JSON. These languages allow us to send and retrieve large amounts of useful information in the form of objects.

Similarly we have created an android based mobile application through which a user or investor can get the recent price of a particular cryptocurrency in which they are interested and also other cryptocurrency which are growing day by day. To gain the information about a cryptocurrency we have made use of API (Application programming interface) feature. Also we made use of various algorithms to get the highest cryptocurrency to be displayed on the top of our application. Using an Application Programming Interface (API) simplifies the task of processing an XML language, thus APIs are important to the exchange of information. The application uses Flutter APIs, or interfaces within classes that let objects talk to each other in the Flutter language.

2.1 Comparison Table:

The other applications does not provide detailed description of cryptocurrencies. Also it is not a realtime application.	Our Application provides detailed description of the currency with realtime prices and graphs. Hence giving more clarity.
Doesn't have any feature like Sign-up or Login.	Our application contains Sign-up and Login feature. Which is a very important feature now-a-days.
Due to which the application becomes Less secure.	Because of the Login feature user's account and profile remains secure and the user can easily access his account remotely using Login credentials.
They do have any additional features or section apart from the prices of Cryptocurrencies.	Our application has a News section which gives daily update about the currencies and other articles and blogs related to the Cryptocurrencies.

3. Methodology:

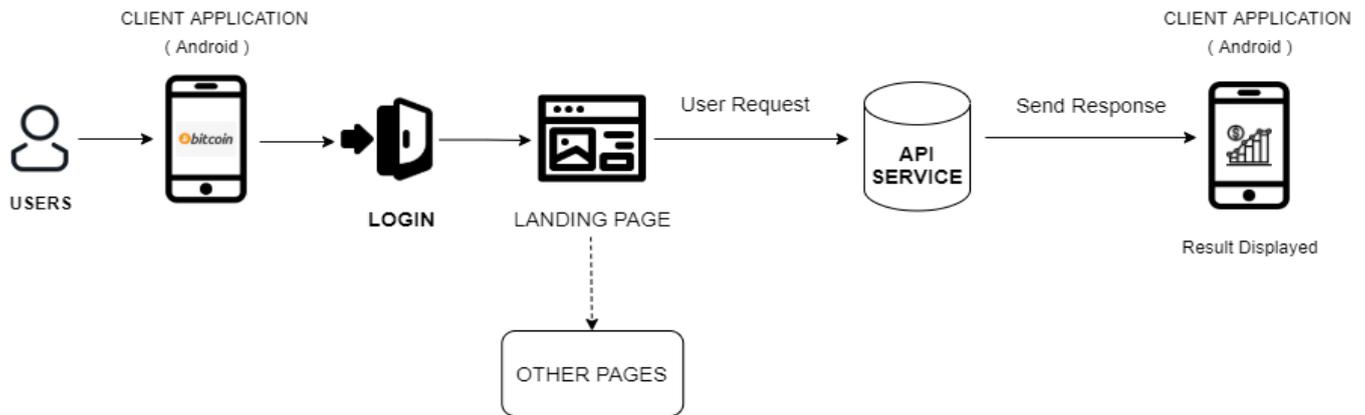


Fig. Project Overview

3.1 Technologies & Resources:

This section discusses the project planning and workflow of the application. The project is categorised into front-end, backend, database and resources.

Front End Technologies: -

- 1) Java / Flutter

Back End Technologies: -

- 1) Java / Flutter

Database Technologies: -

- 1) Firebase

Resources:-

- 1) CryptoCompare API
- 2) Login API
- 3) Android Studio Editor

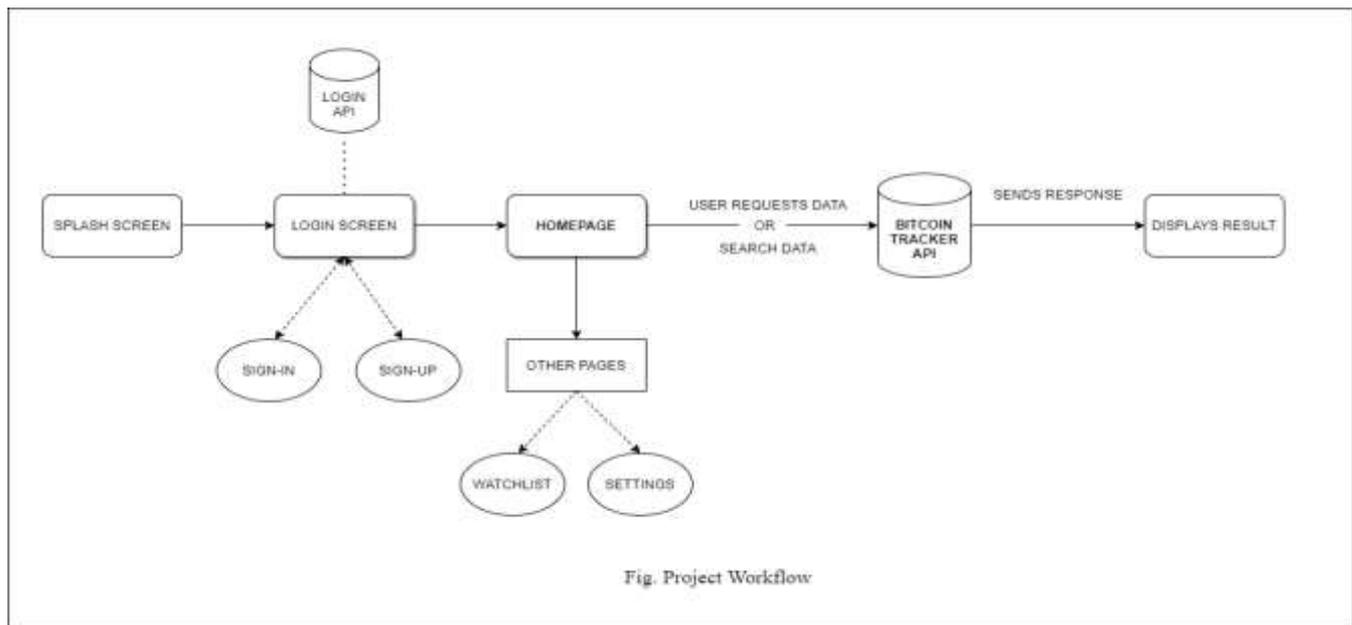
3.2 Hardware & Software Requirements

Hardware requirements

- Processor: 64-bit, four-core, 2.5 GHz minimum per core
- Ram: Minimum 8GB
- Hard disk: 80 GB

Software requirements

- Android Studio
- Java sdk



Front-End: -

The Front-End of this application is made with the help of Android Studio as it is the most popular editor for building native applications in Android. The Android API provides numerous tools for building an application. The cross platform support helps to develop on macOS, Windows, or Linux without losing functionality between platforms.

The home screen isn't very complex. It would consist of a main screen - where all the different cryptocurrencies will be displayed, beside that watchlist - where all the favourite cryptocurrencies will be displayed according to the user's choice, and the last would be settings - where you can see your profile and can also make necessary settings preferable to user in the application.

Backend :-

Along with Java / Flutter we will be using firebase for the backend. Firebase will be used to call API in the application. We will be using Login API and CryptoCompare API in this project for login and cryptocurrencies information respectively.

4. Algorithm:

Storing and searching of data :

There are many ways to store data, such as in an online database, in a local SQLite database, or even in a text file. It is up to you to decide what is the best solution for application.

- Create the Virtual Table : A virtual table behaves similarly to a SQLite table, but reads and writes to an object in memory via callbacks, instead of to a database file. To create a virtual table, create a class for the table.
- Populate the Virtual Table
- Search for the Query: After the virtual table is created and populated, use the query supplied by your SearchView to search the data.

5. Conclusion:

We can finally conclude that in this project we have successfully developed a mobile application that displays the value of top cryptocurrencies in real time. There are lots of crypto currency out there and tracking all of it is hectic. With the help of this app we can have tabular form at one place making it easier to track prices and information about the crypto currency.

As the data is in tabular form and consists of all time high, low and also real time data, it is easier to plot graphs and deduce the future trends and also theories about the market. We can test our hypothesis with models and some machine learning code. We can build algorithms to predict the future trends, whether it will go up or down. Cryptocurrency is in everyone's mind and it is the upcoming future in India. Also, many have started investing and trading in the crypto market. With this application it will be easier to track prices and hence improve profitability of individuals as they do not have to go browsing for prices on different websites.

6. Reference:

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