CRYPTO NEWS

Mini Project Report

Submitted in partial fulfillment for the award of the degree of

BACHELOR OF TECHNOLOGY

in

ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

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CERTIFICATE

This is to certify that the project report entitled "**CRYPTO NEWS USING REACTJS**" is the Bonafide record of project work carried out under my supervision by B.SAI LIKHITH**(20L31A5409),** K.CHANDRA KARTHIK**(20L31A5435),** CH.KEERTHI**(20L31A5416),** P.SAI SANDEEP**(21L35A5404) and** M.ROHIT**(20L31A5441)**, during the academic year 2021-2022, in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in A of Jawaharlal Nehru Technological University, Kakinada. The results embodied in this project report have not been submitted to any other University or Institute for the award of any Degree or Diploma.

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ACKNOWLEDGEMENT

We feel great pleasure in submitting the project report on "**Crypto News**". Every orientation work has the imprint of many people and this work is no different. This work gives us an opportunity to explore the same. While preparing the project report. We received endless help from several people. This report would be incomplete if we don't convey my sincere thanks to all those who were involved. We are highly thankful for the cooperation extended by **Mr. CH.VISWANATHASARMA,** Assistant Professor Department of Artificial Intelligence and Data Science for giving comments for improvement of work, encouragement, and help during the completion of the project. We would like to personally thank Prof. G. N. Jorvekar Sir (Head of Computer Department.) for providing us with all the necessary facilities for the successful completion of the project. Last but not the least; I should say thanks from the bottom of my heart to my family and friends for their never-ending love, help, and support in so many ways through all this time.

We also take the opportunity to acknowledge the contribution of Prof. Dr. **Dr. Madhusudan Rao,** Head, Department of Artificial Intelligence and Data Science, for his full support and assistance during the development of the project.

ABSTRACT

Cryptocurrency,an encrypted, peer-to-peer network for facilitating digital barter, is a technology developed eight years ago. Bitcoin, the first and most popular cryptocurrency, is paving the way as a disruptive technology to long-standing and unchanged financial payment systems that have been in place for many decades. While cryptocurrencies are not likely to replace traditional fiat currency, they could change the way Internet-connected global markets interact with each other, clearing away barriers surrounding normative national currencies and exchange rates.

Cryptocurrencies may revolutionize digital trade markets by creating a free-flowing trading system without fees. A SWOT analysis of Bitcoin is presented, which illuminates some of the recent events and movements that could influence whether Bitcoin contributes to a shift in economic paradigms.

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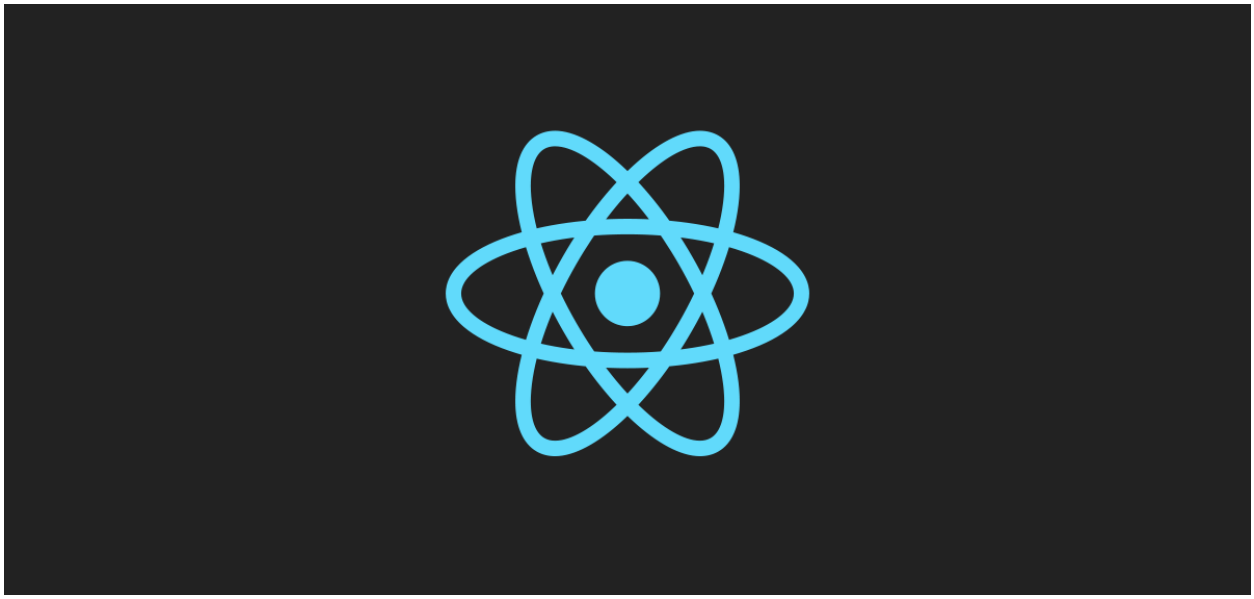
CHAPTER-1

INTRODUCTION

1.1 Introduction



A cryptocurrency is just like a digital form of cash. You can use it to pay friends for your share, buy that new pair of shoes you've been eyeing up 👀, or book flights ✈️ and hotels 🏨 for your next holiday. Because cryptocurrency is digital, it can also be sent to friends and family anywhere.

> Cryptocurrency leaped from being an academic concept to (virtual) reality with the creation of **Bitcoin in 2009**. Some economic analysts predict a big change in crypto is forthcoming as institutional money enters the market. Moreover, there is the possibility that crypto will be floated on the Nasdaq, which would further add credibility to blockchain and its uses as an alternative to conventional currencies. This section is an explanation of the concepts and theories about Cryptocurrency and blockchain which have several implementations that have been applied. The adoption and acceptance level of cryptocurrency has increased and can be recognized by the following indicators ,market capitalization, estimated number of users, and transaction volume. The cryptocurrency market value reached its peak at thee. The cryptocurrency market value reached its peak at the end of 2017 with **more than $800B.**

1.2 Importance of Crypto-News

The cryptocurrency market is a high-octane, action-packed, and powerful market. You may imagine that news about the market has a similar influence. As with other industries, there are a few shady characters who try to take advantage of innocent individuals by disseminating biased, deceptive, or outright false news and information. They utilize their position as a news source to manipulate viewers for their **personal profit**, whether they are working with specific blockchain startups or simply spreading fear, uncertainty and doubt.

The **blockchain and crypto industry** is continuously evolving, paving ways for innovations and advancements. If you are investing or intend to invest in distributed ledger technology, it is essential to remain aware of the industry happenings. These news websites will give latest and authentic news articles:

CHAPTER – 2

TECHNOLOGIES USED

2.1 Web Development

Web development broadly refers to the tasks associated with developing websites for hosting via intranet or internet. The web development process includes web design, web content development, client-side/server-side scripting and network security configuration, among other tasks.
Web development is also known as website development.

Web development is the coding or programming that enables website functionality, per the owner's requirements. It mainly deals with the non-design aspect of building websites, which includes coding and writing markup.
Web development ranges from creating plain text pages to complex web-based applications, social network applications and electronic business applications.

The web development hierarchy is as follows:

Client-side coding

Server-side coding

Database technology

2.1.1 Web Applications

Web application development is the creation of application program that reside on remote servers and are delivered to the user's device over the Internet. A web application (web app) does not need to be downloaded and is instead accessed through a network. An end user can access a web application through a web browser such as Google Chrome, Safari, or Mozilla Firefox. A majority of web applications can be written in Javascript, Cascading Style Sheets (CSS), and HTML.

Web application development will typically have a short development life-cycle lead by a small development team. **Front-end** development for web applications is accomplished through client-side programming. Client refers to a computer application such as a web browser. **Client-side** programming will typically utilize HTML, CSS and JavaScript. HTML programming will instruct a browser how to display the on-screen content of web pages, while CSS keeps displayed information in the correct format. JavaScript will run JavaScript code on a web page, making some of the content interactive.

Server-side programming powers the client-side programming and is used to create the scripts that web applications use. Scripts can be written in multiple scripting languages such as Ruby, Java and Python. Server-side scripting will create a custom interface for the end-user and will hide the source code that makes up the interface.A database such as MySQL or MongoDB can be used to store data in web application development.

2.2 Front-end development

The part of a website that user interacts with directly is termed as front end. It is also referred to as the ‘client side’ of the application. It includes everything that users experience directly: text colors and styles, images, graphs and tables, buttons, colors, and navigation menu. **HTML, CSS, and JavaScript** are the languages used for Front End development. The structure, design, behavior, and content of everything seen on browser screen when websites, web applications, or mobile apps are opened up, is implemented by front End developers. Responsiveness and performance are two main objectives of the front End. The developer must ensure that the site is responsive i.e. it appears correctly on devices of all sizes no part of the website should behave abnormally irrespective of the size of the screen.

2.2.2 Front end Languages

The front end portion is built by using some languages which are discussed below:

HTML

CSS

JavaScript

2.3 Cascading Style Sheets(CSS)

Cascading **S**tyle **S**heets, fondly referred to as CSS, is a simple design language intended to simplify the process of making web pages presentable.

CSS handles the look and feel part of a web page. Using CSS, you can control the color of the text, the style of fonts, the spacing between paragraphs, how columns are sized and laid out, what background images or colors are used, layout designs,variations in display for different devices and screen sizes as well as a variety of other effects.

CSS is easy to learn and understand but it provides powerful control over the presentation of an HTML document. Most commonly, CSS is combined with the markup languages HTML or XHTML.

2.3.1 Advantages of CSS

- **CSS saves time** − You can write CSS once and then reuse same sheet in multiple HTML pages. You can define a style for each HTML element and apply it to as many Web pages as you want.
- **Pages load faster** − If you are using CSS, you do not need to write HTML tag attributes every time. Just write one CSS rule of a tag and apply it to all the occurrences of that tag. So less code means faster download times.
- **Easy maintenance** − To make a global change, simply change the style, and all elements in all the web pages will be updated automatically.
- **Superior styles to HTML** − CSS has a much wider array of attributes than HTML, so you can give a far better look to your HTML page in comparison to HTML attributes.
- **Multiple Device Compatibility** − Style sheets allow content to be optimized for more than one type of device. By using the same HTML document, different versions of a website can be presented for handheld devices such as PDAs and cell phones or for printing.
- **Global web standards** − Now HTML attributes are being deprecated and it is being recommended to use CSS. So it's a good idea to start using CSS in all the HTML pages to make them compatible with future browsers.

2.3.2 Who Creates and Maintains CSS?

CSS is created and maintained through a group of people within the W3C called the CSS Working Group. The CSS Working Group creates documents called specifications. When a specification has been discussed and officially ratified by the W3C members, it becomes a recommendation. These ratified specifications are called recommendations because the W3C has no control over the actual implementation of the language. Independent companies and organizations create that software.

NOTE − The World Wide Web Consortium, or W3C is a group that makes recommendations about how the Internet works and how it should evolve.

2.3.3 CSS Versions

Cascading Style Sheets level 1 (CSS1) came out of W3C as a recommendation in December 1996. This version describes the CSS language as well as a simple visual formatting model for all the HTML tags.

CSS2 became a W3C recommendation in May 1998 and builds on CSS1. This version adds support for media-specific style sheets e.g. printers and aural devices, downloadable fonts, element positioning and tables.

2.4 JavaScript

JavaScript reached the height of its popularity when it entered the fields of cross-platform mobile application development and server-side development. Since Node.js framework can be used for both frontend and backend development; JavaScript became highly popular among web developers. With the rise of React Native by Facebook, also mobile app developers started to move towards JavaScript. As a result, JavaScript remains the most popular programming language to this day.

2.4.1 Ease of Use

JavaScript has been around longer in the industry and is a mature and stable language. JavaScript is very easy to use. It has numerous frameworks and libraries available online, so developers can use the existing code for developing apps faster. However, in order to learn the JavaScript syntax, we need to have a basic technical knowledge of programming in general.

Dart is a fairly new language for most of the developers outside of Google. Although Google has put a lot of effort into documenting the Dart programming language, it's still hard for developers to find solutions for specific problems. In terms of coding style and syntax, it has Java-like syntax, so developers from OOPS background can master and use Dart easily once they learn the basics.

Popularity

At the moment, JavaScript is everywhere. There is no device in the world that doesn't run JavaScript. There are many companies that are using JavaScript frameworks for developing web and mobile applications. JavaScript can also be used for writing server-side applications and backends, so more and more developers have got hooked on JavaScript as a language during their career.

Before Google announced Flutter, Dart was nowhere to be found. However, since the announcement of Flutter in Google I/O, Dart has got drastic attention among the mobile developers as an alternative to React Native. The developers who didn't like JavaScript as the programming language found Dart as an alternative option. As big companies like Google, Alibaba etc. adopted Flutter, the popularity of Dart raised considerably, but it's not near as popular as JavaScript.

Productivity

JavaScript has countless frameworks and new JavaScript frameworks land in the market almost every year. As there is a need for developers to share and distribute code, there are thousands of JS packages available online. With the use of an existing package and experience of the developers, it's easy for new developers to learn and adopt the JavaScript programming language. As JavaScript is a fast, lightweight and dynamic programming language, it boosts the developer productivity. Solutions to common problems can be found online easily, which is another reason that developers prefer JavaScript over other programming languages. Although JavaScript has countless libraries and frameworks available, not all of them are equally good. Also new JavaScript frameworks are released after a regular interval, so the developers constantly need to learn new frameworks, which hinders their productivity.

JavaScript as both Frontend And Backend

JavaScript was originally used for frontend web development with HTML and CSS. However, with the rise of the Node.js framework, JavaScript is now widely used for server-side and backend development as well.

2.5 Back-end Development

Backend development (also stylized as back-end or back end development) is the skill that powers the web. Yet it does it modestly, without fanfare—allowing people to browse their favorite sites without even knowing about all the work put in by the backend developer or team.

Backend development languages handle the ‘behind-the-scenes’ functionality of web applications. It’s code that connects the web to a database, manages user connections, and powers the web application itself. Backend development works in tandem with the front end to deliver the final product to the end user. Backend developers are primarily focused on how a website works. They write code that focuses on the functionality and logic powering the application they’re working on, and the technology they work on is never directly seen by users.The tech of the **back end is a combination of servers, applications, and databases.**

Responsibilities of backend programmers could involve writing APIs, writing code to interact with a database, creating libraries, working on business processes and data architecture, and much more. It often depends on the specific role and company.

CHAPTER – 3

LITERATURE REVIEW

3.1 LITERATURE REVIEW

Mobile news access perfectly complements the continuously updating, 24-hour nature of digital news services. But if users are now never out of range of the news, they need more than ever for that access to be adaptive and personalized. Personalized news services are already able to help people find news that is relevant to them, to recommend the right news to the right users, and to help users keep abreast of news by aggregation over multiple sources. This adaptivity is achieved through several methods including: news content personalisation by pushing filtered articles predicted to match the user's interests; adaptive news browsing by changing the order of news categories; contextual news access by offering users access to additional information related to the news they are reading; and news aggregation, by automatically identifying main news topics emerging from multiple sources. This previous work on adaptivity in digital news access has focused on recommendation of news content. But, adaptation of the way people interact with news services has not been investigated.

In this section is an explanation of the concepts and theories about Cryptocurrency and blockchain which have several implementations that have been applied. The adoption and acceptance level of cryptocurrency has increased and can be recognized by the following indicators: market capitalization, estimated number of users, and transaction volume.

CHAPTER – 4

METHODOLOGY

4 METHODOLOGY

4.1 Planning

- First of all, we divided the webapp into several components such as Navbar, Footer and so on. So to make it work effectively we used a JS library called **ReactJS**.
- In react the **DOM is declarative**. We can make interactive UIs by changing the state of the component and React takes care of updating the DOM according to it. This means we never interact with DOM.
- Hence, it makes it easier to design UI and debug them. We can just change the program's state and see how the UI will look at that particular time. This makes our code more predictable and easier to debug.
- We have designed the initial frontend part of the website using the frontend js framework **Ant Design**.
- **Ant Design** is an enterprise-class UI design language and React UI library with a set of high-quality React components, one of best React UI libraries for enterprises.
- Then moving further, we have attached the CSS, adding CSS file to the project made the project more attractive.

4.2 Implementation and Development

- **Frontend:**

  ReactJS (JavaScript library),AntD,CSS

- **Backend:**

  API's are linked with axios, redux-toolkit

4.3 Revision

Finally, all the group members have done a revision test. To give good quality and expected output.

CHAPTER – 5

IMPLEMENTATION

5.1 Introduction

ReactJS - Environment Setup

Using the **create-react-app** command

Step 1 - install create-react-app

Browse through the desktop and install the Create React App using command prompt as shown below −

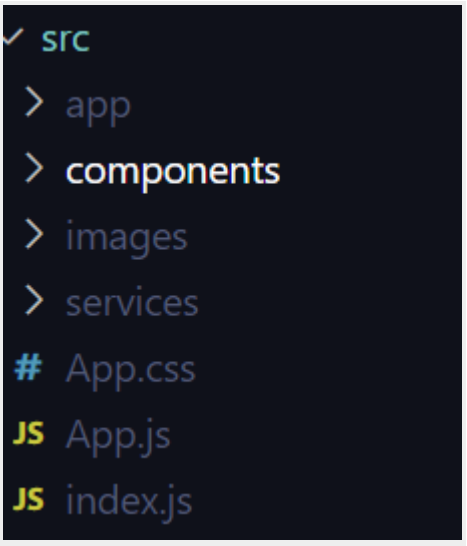
This will create a folder named crypto-news on the desktop and install all the required files in it.

Step 2 - Delete all the source files

Browse through the src folder in the generated my-app folder and remove all the files in it as shown below −

Step 3 - Add folders/files in src

Add folders with names app, components, images and service in the **src folder** and also add App.css, App.js and index.js



What does the src/components folder consist of and what are components?

Components:

Components are independent and reusable bits of code. They serve the same purpose as JavaScript functions, but work in isolation and return HTML. Components come in two types, Class components and Function components, in this project we will concentrate on Function components.

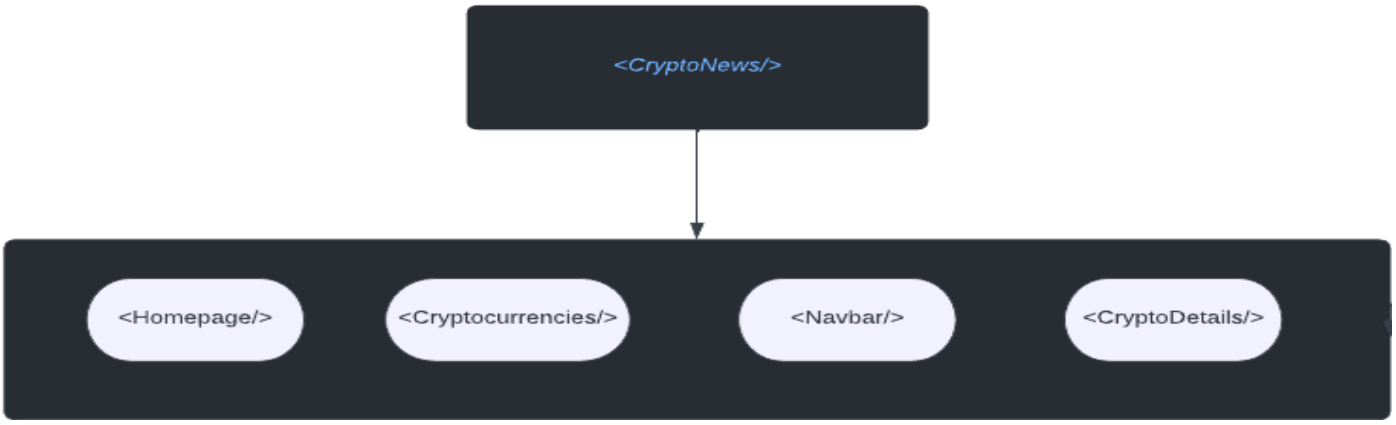
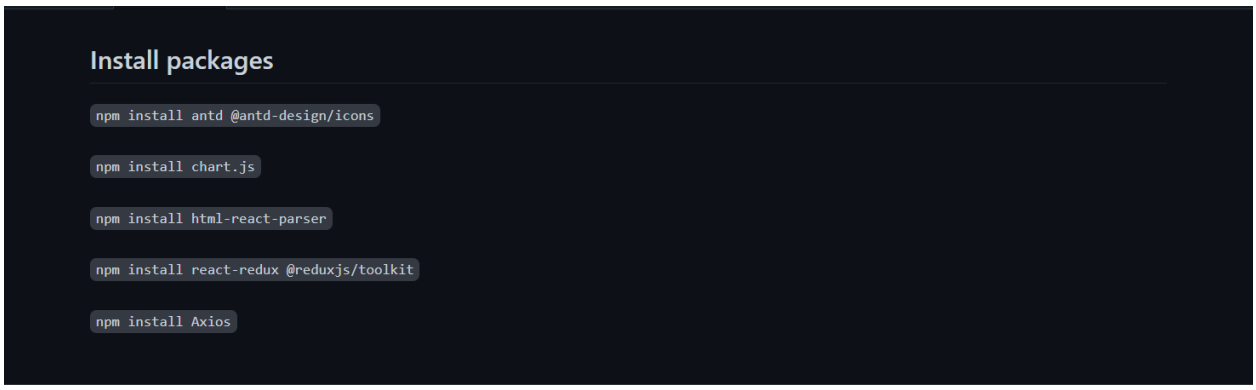


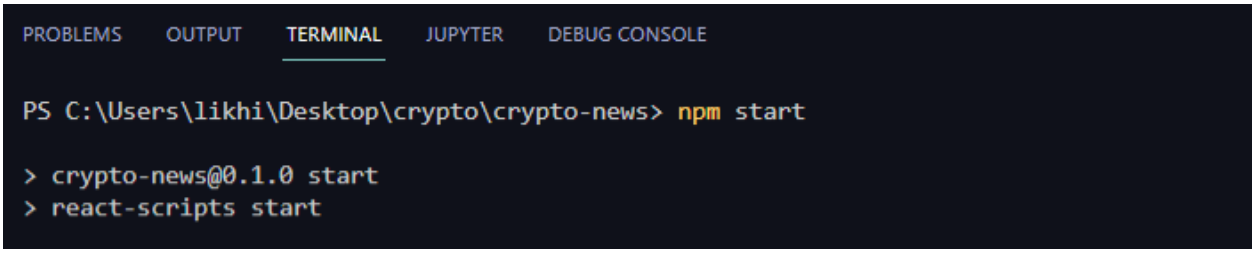
Fig. Components that are used in Crypto News

5.2 Code Snippets

- **Installing packages:**



- **For compiling:**



- **<u>In the index.js file add the following code :</u>**

```
JS index.js
src > JS index.js

import React from 'react';
import ReactDOM from 'react-dom';
import { Provider } from 'react-redux';
import { BrowserRouter as Router } from 'react-router-dom';

import App from './App';
import store from './app/store';

import 'antd/dist/antd.css';

ReactDOM.render(
  <React.StrictMode>
    <Router>
      <Provider store={store}>
        <App />
      </Provider>
    </Router>
  </React.StrictMode>,
  document.getElementById('root'),
);
```

- **React Redux**

```
# If you use npm:
npm install react-redux

# Or if you use Yarn:
yarn add react-redux
```

React-Redux is conceptually pretty simple. It subscribes to the Redux store, checks to see if the data your component wants has changed, and re-renders your component.

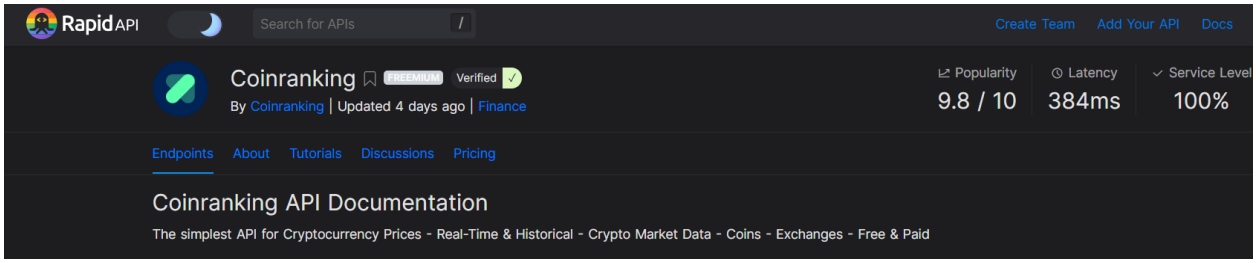
However, there's a lot of internal complexity to make that happen, and most people aren't aware of all the work that React-Redux does internally. I'd like to dig through some of the design decisions and implementation details of how React-Redux works, and how those implementation details have changed over time.

- **In the App.js file add the following code :**

```
App.js
src > App.js > App
import React from "react";
import { Switch, Route, Link } from "react-router-dom";
import { Layout, Typography } from "antd";

import {
  Homepage,
  Cryptocurrencies,
  CryptoDetails,
  Navbar,
} from "./components";
import "./App.css";

const App = () => (
  <div className="app">
    <div className="navbar">
      <Navbar />
    </div>
    <div className="main">
      <Layout>
        <div className="routes">
          <Switch>
            <Route exact path="/">
              <Homepage />
            </Route>
            <Route exact path="/cryptocurrencies">
              <Cryptocurrencies />
            </Route>
            <Route exact path="/crypto/:coinId">
              <CryptoDetails />
            </Route>
          </Switch>
        </div>
      </Layout>
      <div className="footer">
        <Typography.Title
          level={5}
          style={{ color: "white", textAlign: "center" }}
        >
          Copyright © 2022
          <Link to="/"> Crypto-News Inc.</Link> <br />
          All Rights Reserved.
        </Typography.Title>
      </div>
    </div>
  </div>
);

export default App;
```

5.3 Results/Screenshots

Obtaining results using **RapidAPI** makes the data to be updated day to day.



What is an API?

API stands for “application programming interface.” An API is essentially a set of rules that dictate how two machines talk to each other. Some examples of API-based interactions include a cloud application communicating with a server, servers pinging each other, or applications interacting with an operating system. Whenever you use an app on your phone or computer or log onto Twitter or Facebook, you’re interacting with several different APIs behind the scenes. Nearly all businesses that use any kind of modern technology use APIs at some level to retrieve data or interact with a database for customers to use.

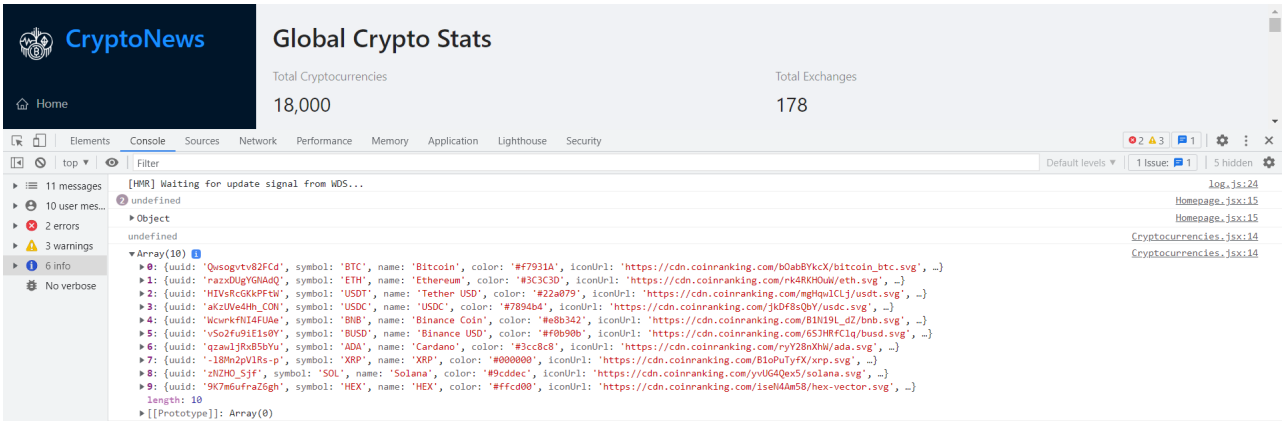


Fig. Data that is fetched from the Coin ranking API.

```
▼Array(10) i
  ▼0:
      24hVolume: "22432327606"
      btcPrice: "1"
      change: "-4.65"
      coinrankingUrl: "https://coinranking.com/coin/Qwsogvtv82FCd+bitcoin-btc"
      color: "#f7931A"
      iconUrl: "https://cdn.coinranking.com/bOabBYkcX/bitcoin_btc.svg"
      listedAt: 1330214400
      lowVolume: false
      marketCap: "364709145924"
      name: "Bitcoin"
      price: "19113.30161371399"
      rank: 1
    ▶ sparkline: (25) ['20029.459467025245', '20082.285069949747', '20182.02182792328',
      symbol: "BTC"
      tier: 1
      uuid: "Qwsogvtv82FCd"
```


Fig.Individual Data of each coin that is fetched from the Coin ranking API.

5.3.1 Home Page

- **Home Page**

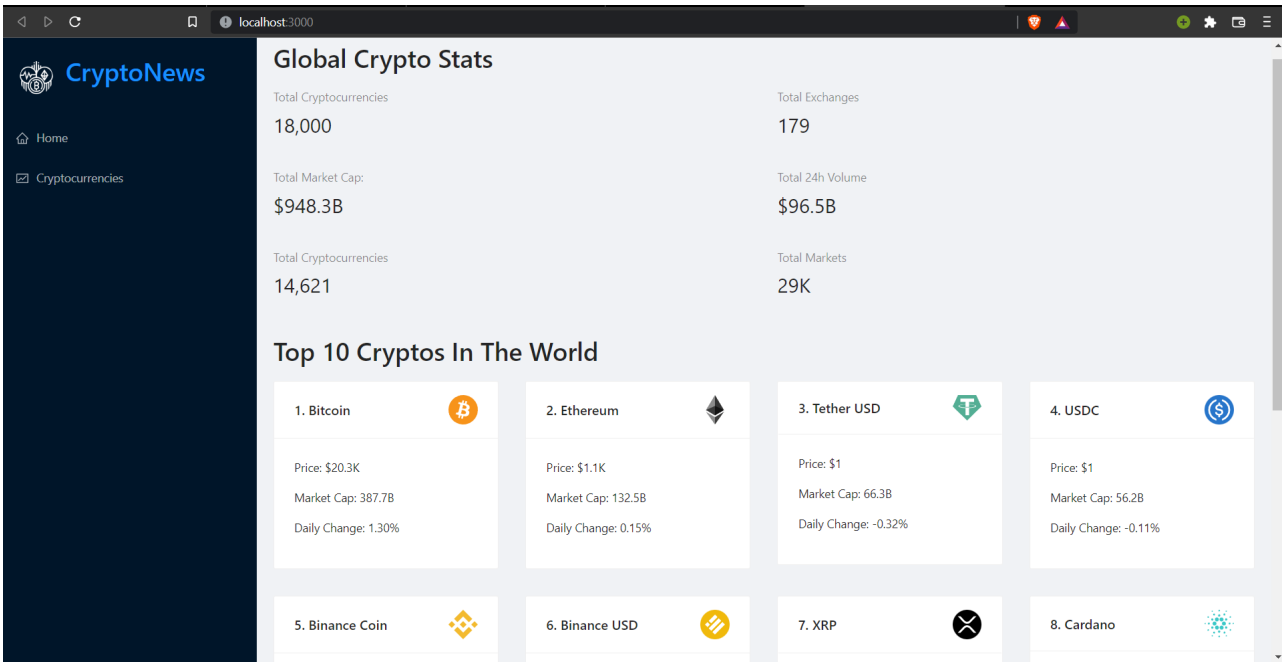


Fig. Homepage of the Crypto-News , it displays the top 10 crypto's that are trending. It displays all the coins in well designed cards. We get the detailed information of the cards if we click on them.

- **Individual Cards**

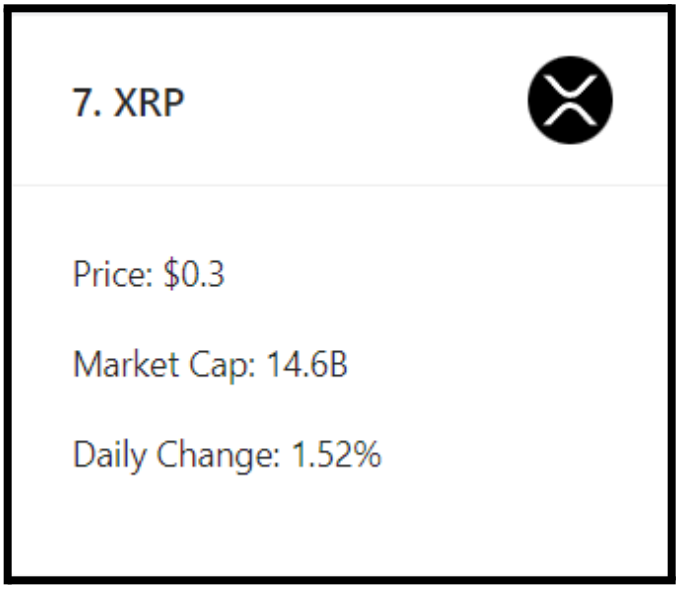


Fig. It displays the icon of the coin and basic information of the coin like **price**, **market cap** and **daily change**.

- **Detailed View of Individual Cards**

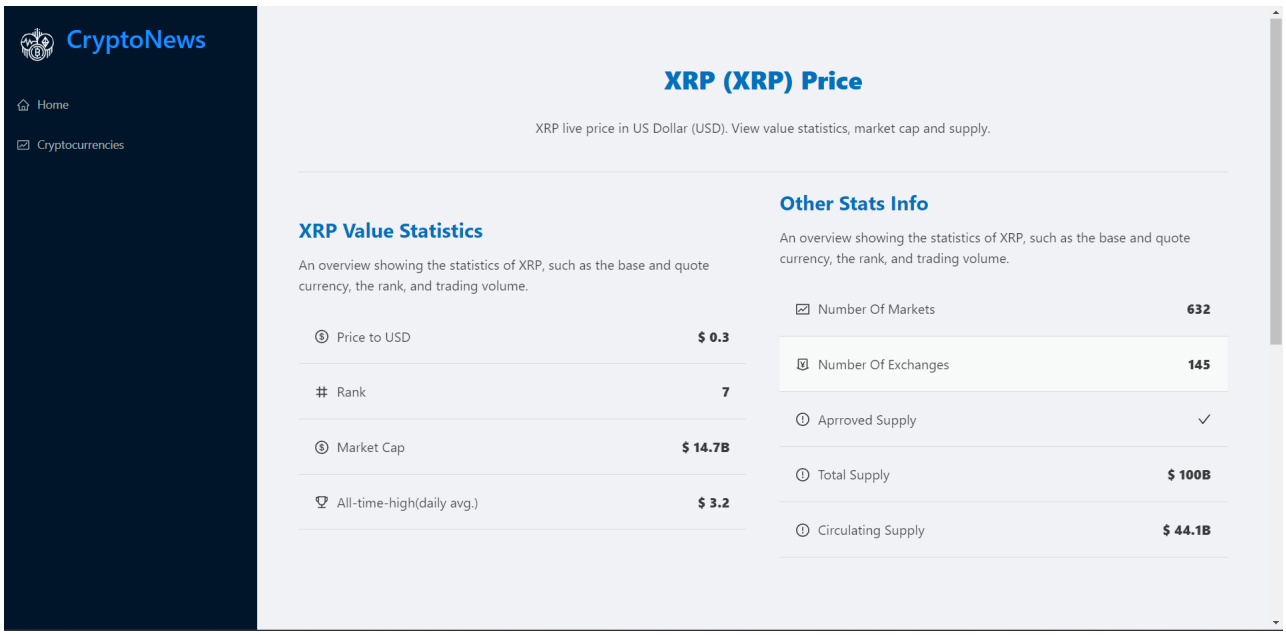


Fig. It displays the basic **Statistics of the coin** and other primary stats of the coin.

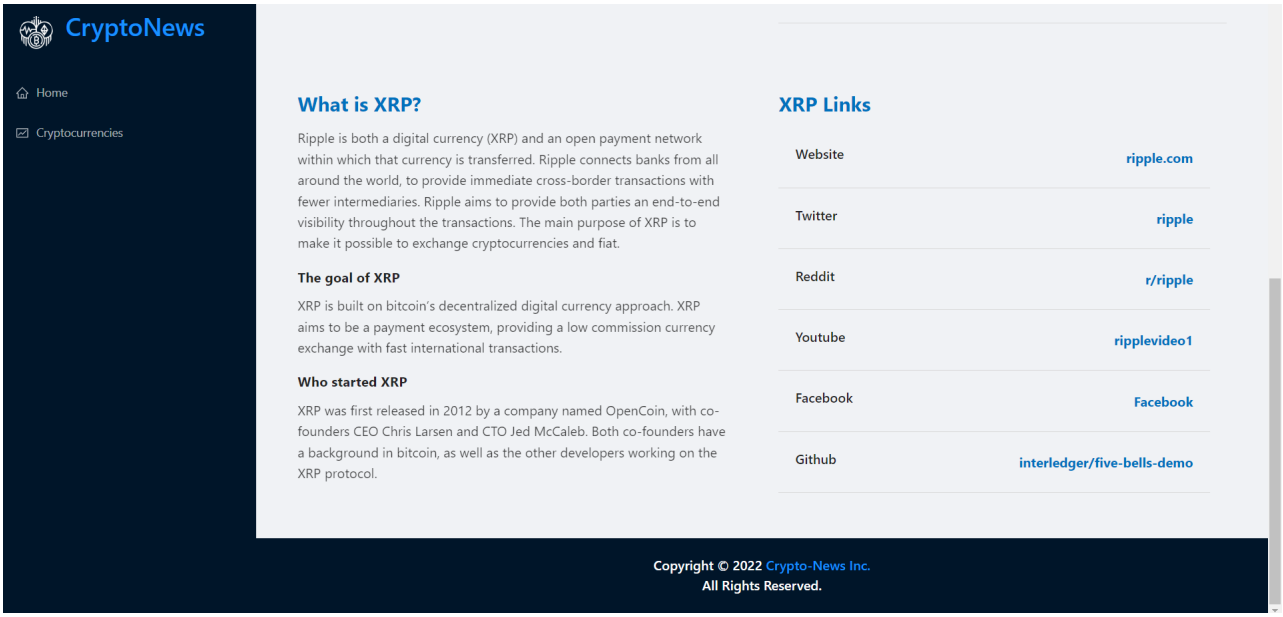
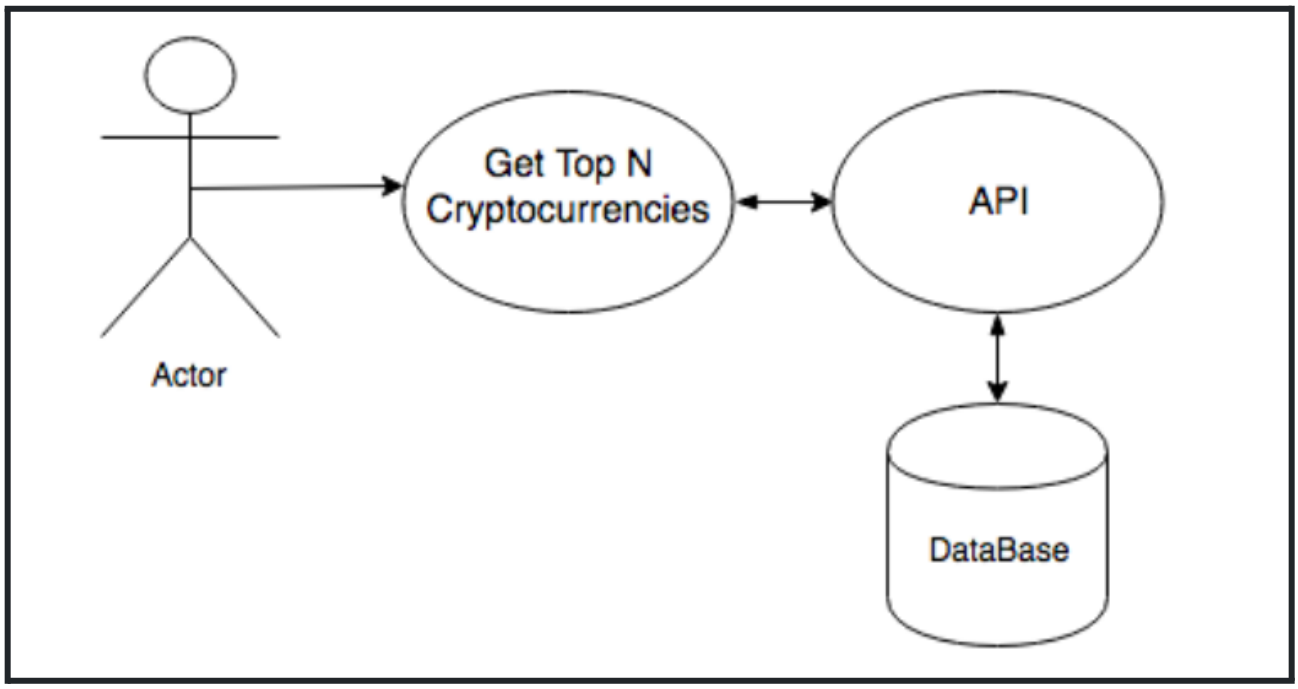


Fig. It displays the **important links** related to that coin like their social media accounts and their important websites.They also give a **brief summary of the coin**.

5.4 UML Diagrams



Activation
This use case begins when an Actor goes to the homepage

Main flow
1. The Actor loads the homepage.
2. The system requests the data.

CHAPTER – 6

CONCLUSION

6.Conclusion

Overall, crypto currencies can have a considerable impact on developing countries, by increasing financial inclusion of individuals and companies. Our project helps to understand what Cryptocurrency means and how it is performing over market with latest market news. In our day to day life we are surrounded by digital currency and we don't know about it all. With the help of this project we are trying to list out digital currency with their performances in market, and latest trending news to help out better understanding of cryptocurrency.

The main objectives of this project were to develop a web application providing an insight about how cryptocurrencies are perceived and how much they were talked about on social media, as well as creating models using the gathered data for the web application. . The customer testing results from the web application were quite positive. Most of the respondents felt that this application is beneficial for evaluation of cryptocurrency. The cryptocurrency market is young, volatile and based on pure speculation. I still believe this type of site is not only interesting, but extremely beneficial to traders. In the future, or given more time, I would have liked to incorporate some sort of AI, or predictive models into the analysis system and web application.