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PERICOLLEGEOFARTSANDSCIENCE:MANNIVAKKAM.



Coin Track is an innovative real-time crypto-currency tracking application developed using React.js, Redux, and the Coin Gecko API. This app providesuserswithup-to-dateinformationabout variouscrypto-currencies,allowingthemtomonitor prices,trackportfolios,andmakeinformed investmentdecisions.ByleveragingthepowerofReact.jsandRedux,CoinTrackoffersaseamlessuserexperience,efficientdatamanagement, and dynamic updates. Additionally, the integration ofthe Coin Gecko API ensures accurate and reliable crypto-currency data, making Coin Track a valuable tool for crypto-currency enthusiasts and investors.





Acrypto-currencyappis asoftware applicationdesignedtoprovide users with aplatform tomanage theirdigitalassets, primarilycrypto- currencies.These apps offer various features and functionalities to help users track crypto-currency prices, manage portfolios, execute trades,andstayinformedaboutmarkettrendsandnews.Thecrypto-currencymarkethaswitnessedexponentialgrowthandhas become a prominent asset class for investorsworldwide. To cater to the increasing demand for efficient crypto-currency management tools,thisprojectintroducesacutting-edgecrypto-currencyapplicationdevelopedusingReact.js,Redux,andtheCoinGeckoAPI.

Thegoalofthisapplicationistoprovideuserswithauser-friendlyandfeature-richplatformtotrack,manage,andanalyzecrypto- currencies in real-time. By leveraging the power of React.js, Redux, and the Coin Gecko API, this application offers an intuitive user interface,seamlessdatamanagement,and access to accurate and up-to-date crypto-currency information.

React.js, a popular JavaScript library for building user interfaces, provides the foundation for the application's front-end development. React.js iscomponent-based architecture enables the creation of reusable UI elements, resulting in a modular and scalable application structure.React.jsalsoensuresaresponsiveandinteractiveuserexperience,allowinguserstonavigatethroughtheappseamlessly.

To efficiently manage the application state and ensure smooth data flow, Redux, a predictable state container, is integrated into the application.Reduxcentralizesthestatemanagement,makingiteasiertotrackchangesandupdatecomponentsaccordingly.This simplifies data synchronization andenhances the overall performance of the application.

The Coin-Gecko API serves as the primary data source for the application, providing real-time and comprehensive crypto-currency data. By integratingtheCoinGeckoAPI,usersgainaccesstoawiderangeofinformation,includingcrypto-currencyprices,markettrends,trading volumes, historical data,and more. This integration ensures the accuracy and reliability of the data, enabling users to make informed decisionsregardingtheirinvestments.





A crypto-currency can be defined as “cash for the internet.”It is a piece of digital information that one can hold onto, and it has value as long as no oneelse has access to the information and keys that provide the value. The entitywho holds the information at that point of timeisalsotheholderofthevalueofthatcrypto-currency.

The creation of crypto-currencies is based on the need for internet cash combined with the desire for anonymity in internet transactions. As explained in(2018), scientists and activists concernedwith privacy andpersonal liberty started the experimentation and

Crypto-currencieshavebeenamongthelargestunregulatedmarketsintheworld.Foleyetal.(2019)documentthatroughlyonefourthof Bitcoin usersmay have been involved in illegal activity. Their study estimates that about $76bn of illegal activity each year may involve Bitcoin.Theyalsodocumentthat the illegal share of Bitcoin activity has declinedwith mainstream interest in Bitcoin and with the emergence of more opaque crypto-currencies.Practicalproblems relatedtoinvestingincrypto-currencies includeilliquidity, theft, fraud, ransomattacks/hackingandpotentialconstrictivegovernmentregulation.Sincecrypto-currenciesareunregulated,decentralized, untraceable and anonymous, there are no protections, liability clauses or insurers.

Althoughthelackofregulationisanimportantproblemforthelackofprotectionfromtheftandransomattacks,increasedlevelsof regulationcouldposean even bigger problem for these digital coins. Government regulation could disrupt the true nature of crypto- currencies that makes them attractive tousers,couldleadtodrasticdeclinesintheirvalue,andcouldcausesignificantilliquidity,making themunattractivetoinvestors.Overall,thepotentialforregulation is a major threat to crypto-currencies for the near future.



The top four crypto-currencies in terms of market capitalization are Bitcoin, Ethereum, Rippleand Litecoin. Bitcoin holds the largestmarket capitalizationallocating half of the crypto-currency market. Ethereum and Ripple also hold significant spots covering 10 percent of the market capitalization each.Litecoin is on the rise with a smaller holding of the market capitalization of roughly 3 percent.These four crypto-currenciesconstitutethreefourthsoftheentiremarket.AsreportedinRadovanoetal.(2018),althoughcorrelationsvarybetween these crypto-currencies, they are fundamentally differentfrom each other because of their unit values, market capitalizations and user applications.

Bitcoinhasbeenthemosttalkedabout,popularandsophisticatedcryptocurrency(Velde,2013).Launchedin2009,thevaluehasgrown tenfold from2013 to2018. Figure1 depicts theBitcoinpricevs theDowJones Industrial Averagein2010s. Wecanseetheexponential increaseintheBitcoinvalueandthedramaticdeclineduringthe crypto-currencycrash ofJanuary2018. IntheNakamoto(2008)manifesto outliningtheideaofBitcoinandblockchain,a low-cost secure payment system has been proposed that does not involve a central authority ortrustedthirdparty.AsexplainedfurtherinVelde(2013),Bitcoinisnotaclaimtoaphysicalobjectortoacurrency;rather,itaimstobea currency itself to replace the usual physical object of a currency with acomputerfile.Bitcoinandothercrypto-currenciesusethe blockchainnetwork but theydifferinfrom eachothertermsintermsofthedifficultyinminingthespecificcurrency.Bitcoinhas a specific hashrateofverifyingtransactions,acertainnumberofminersandagoalofsixblockstobecreatedperhour(foranaveragetransaction speedoftenminutes),makingitorganicallyfittheblockchainnetwork. Overall,Bitcoinhasbeenprimarilyutilizedasameansto transfer fundswithintheblockchainenvironment,butalsoasaspeculativeinvestmentopportunitygiventhatthecrypto-currencyderivesitsvalue fromexchange.

Secondinthemarketcapitalizationinthecrypto-currencymarketisEthereum,createdin2014.Ether,thedigitalcoinofEthereum,isrival to Bitcoindue to the promise of the technology it is built in. Instead of being used as a digital currency, or an alternative to fiat money, Ethereumhasbeenbuiltforsmartcontractsandfordecentralizedapplications.Smartcontractsareagreementsintheblockchain network that function like software programs thatcan bind obligations based on predetermined conditions. Ethereum’s built-in programminglanguageallowsanyonetobuildaugmentedapplications.TheEthereumnetworkhasthepotentialtohostnumerous functions such as social networks, public utility applications, crowd-sourced prediction marketsand investment companies. Ethereum’s ability to create new social structures within a completely virtual network sets it apart from Bitcoin and othercrypto-currencies.



Thereare studies thatlook intotheeffects ofusingBitcointodiversifyaninvestment portfolio,suchas WuandPandey(2014),Klabbers (2017) andAndrianto and Diputra (2017). These studies primarily focus only on Bitcoin. Using dated and limited sample periods from 2010to2013inWuandPandey(2014),from2013to2016inAndriantoandDiputra(2017)andfrom2010to2016inKlabbers(2017),the usefulness ofBitcoinasaninvestmentasset in enhancing the efficiency of an investment portfolio were documented.

Lack of sufficient information and the novelty of crypto-currencies lead to discomfort in the opinions of different investors and financial experts in usingBitcoin and other crypto-currencies in an investment portfolio (Burgess, 2018). Burgess (2018) documents one expert recommending allocations of nomore than 2 percent of a portfolio to Bitcoin due to high-volatility, and not recommending for anyone nearingretirement.Investorsgenerallyconsidercrypto-currenciesashighriskinvestmentsandtendtokeepsomeintheportfolioonlyas an insurance policy: in order to settle ransomware attacks withthese crypto-currencies.



Designing a crypto-currency app requires careful consideration of the needs of your users, as well as the requirements for security and functionalityofacrypto-currencyexchange.

1. Theappshouldprovideuserswithreal-timemarketdataforallsupportedcrypto-currencies.Thisshould include charts,price alerts, and other useful information that will help users make informed trading decisions.
2. Provideuserswithreal-timemarketdata,pricecharts,andanalysistoolstohelpthemmakeinformed investmentdecisions. Users can set price alerts for their preferred crypto-currencies to receive notifications when specific price thresholds are reached.
3. Crypto-currenciesareborderless,andcrypto-currencyappsenableuserstoparticipateintheglobalcrypto- currencymarketirrespectiveoftheirlocation.Thisopensupinvestmentopportunitiesandfinancialinclusionforindividualswhomaynot haveaccesstotraditionalbankingsystems.



1. AccuratePricing,
2. FasterTrading,
3. IncreasedTransparency,
4. BetterInvestmentDecisions,
5. ImprovedUserExperience.

Acrypto-currencyappisamobileapplicationorsoftwareplatformthatallowsuserstomanage,trade,andinteractwithcrypto-currencies.

Userscan create and manage their crypto-currency wallets to securely store their digital assets. The app may generate unique addresses forreceivingfundsandenableuserstoinitiatetransactions.

Crypto-currency apps provide access to real-time market data, including prices, trading volumes, market capitalization, and other relevant metrics. Userscan view charts and analyze trends to make informed investment decisions.





The "Home page" refers to the main or default page of a website that serves as the starting point for visitors. It is typically the firstpageusersencounterwhentheyaccessawebsite'sdomainorrootURL.Theprimarypurposeofahomepageistowelcomevisitors, introducethewebsite'spurposeormission,andprovideanoverviewofitscontentorservices.Homepageservesasagatewaytotherest of the website, offering navigationoptions orlinkstodifferentsectionsorpages.Thehomepagecanalsoshowcaseimportantor featuredcontent,suchasnewsupdates,promotions,orrecentarticles,toengageusersandencouragefurtherexploration.Homepages oftenfeatureavisuallyappealingdesignthatreflectsthewebsite'sbrandingandstyle.Thelayouttypicallyincludesacombinationoftext, images,graphics,andinteractiveelements.Thedesignshouldbeuser-friendly,with clearnavigationmenus or buttons that help visitors easily find the information they are looking for. The layout should also be responsive, adapting to different screensizes and devices to ensure a consistent user experience. In this app the user can view the home page. The home page will display features of the crypto- currencyapp.

Thefeaturesare,

1. Statistics,
2. Community,
3. ExchangeRates,
4. MobileFriendly,
5. Updates,
6. Global.



"Dashboard" refers to a visual representation or interface that provides a consolidated view of important information, metrics, and data relatedtoaproject.Dashboard serves as a central hub for monitoring and managing project progress, performance, and key indicators. Dashboarddesignfocusesonpresentinginformationinavisuallyappealingandeasilyunderstandablemanner.Thelayoutoften consists ofmultiple widgets ormodules thatdisplaydifferent aspectsof the project's data.Widgetscaninclude charts,graphs, progress bars, tables, lists, and other visual elements that convey informationeffectively.

The design should be intuitive,with clear navigation and visual cues to guideusers throughthe dashboard's varioussections. Dashboards integrate withvarious data sources and systems to gather the necessary information for display. This may include project management tools, time tracking systems,issue tracking systems, financial systems, or customer relationship management (CRM) platforms. By pullingdatafromthesesources,thedashboardensuresthatthepresentedinformationisaccurate,up-to-date,andrelevant.Dashboards areoftendesignedtoprovidereal-timeornear-real-timeupdates,allowing stakeholders to have an accurate and current view of the project's status. This can be achieved through automatic data synchronization or byperiodically refreshing the data displayed on the dashboard. In this module will display information of the crypto-currencies. This module has Five subModule such as,

* 1. General b)Coin c)Exchanges d)Exchange Ratese)Global.

InthissubModuledisplaytwosections,

* + 1. CoinListing

InthissectioncontainsthecoinavailablelistingandhasViewbutton,theuserclickthebuttongoestoanothersection.

* + 1. CoinsDetails

Coindetailsdisplaysaninformationaboutthecoinandprovidesrealtimetrackingvalue.



The coin sub module is responsible for retrieving real-time data about various crypto-currencies from external APIs or data sources. It fetchesinformationsuchascurrentprices,marketcapitalization,tradingvolume,pricecharts,andhistoricaldata.Themodulemay implement mechanisms for periodic dataupdates to ensure users have the latest information. The coin sub module is responsible for retrievingreal-timedataaboutvariouscrypto-currenciesfromexternalAPIsordatasources.Itfetchesinformationsuchascurrentprices, marketcapitalization,tradingvolume,pricecharts,andhistoricaldata.Themodulemayimplementmechanismsforperiodicdata updates to ensure users have the latest information. When a user selects a specific coin, the coinmodule provides detailed information about that coin, including its historical price charts, trading pairs, market data, and additional details like projectdescriptions and social medialinks.Thesedetailshelpusersmakeinformeddecisionsabouttheirinvestmentsandstayup-to-datewiththelatestdevelopments inthe crypto-currencymarket.



The"Exchanges"referstoaspecificmodulethathandlesthefunctionalityrelatedtocrypto-currencyexchanges.TheExchangesfacilitates the integrationand interaction with various crypto-currency exchange platforms to provide users with access to trading, market data, order management, and otherexchange-related features. The exchanges module integrates with different crypto-currency exchange platforms, connecting the app to their APIs ortrading interfaces.It establishes secure and authenticated connections with exchanges to access market data, account information, and execute tradingorders. The exchanges module retrieves real-time market data, including currentprices,orderbookdepth,tradingvolumes,andpricecharts.Itpresentsthisinformationtousers,allowingthemtoanalyzemarket trends,makeinformedtradingdecisions,andviewhistoricalpricemovements.Themodulemayalsoprovideindicators,technical analysis tools, and customizable charting options to enhance the trading experience. The exchanges module enablesusers to manage their exchange accounts within the app. Users can view their account balances, transaction history, open orders, and other account-related details. The module allows users to initiate deposits or withdrawals, update account settings, and perform other account-related operationsspecifictoeachsupportedexchange.



The "Exchange rates" functionality refers to the feature that provides real-time or historical exchange rates for crypto-currencies and traditional fiatcurrencies. Exchange Rates module enables users to convert between different currencies, calculate the value of their holdings,andstayinformedaboutthecurrentmarketrates.TheExchangeratesfeatureretrievesanddisplaysthecurrentexchangerates for crypto-currencies against various fiat currencies,such as the US dollar, Euro, or other commonly used currencies. These rates are sourcedfromreputablecrypto-currencydataprovidersorexchangesandareupdatedinreal-timeorwithaslightdelay.Userscanaccess thelatestratestounderstandthevalueoftheirholdingsandmakeinformedtradingorconversiondecisions.Theexchangeratesfeature mayalso provideaccess tohistorical exchange rate data.Users canviewhistoricalrates for specifictime periods, such as hourly, daily, weekly, or custom date ranges. This historical data helps users analyze past market trends, perform back-testing, ortrack the performanceof theirinvestmentsovertime.Theexchangeratesfunctionalityallowsusers toconvertbetweendifferentcrypto-currencies orbetween crypto-currencies and fiat currencies. Users can enter the desired amount and select the source and target currencies to perform the conversion.The module retrieves the current exchange rate and calculates the converted value, providing users with an accurate and up-to-date conversion result.



The "Global" refers to a module that provides global market data, statistics, and insights related to the overall crypto-currency market. Global offers usersa comprehensive view of the crypto-currency ecosystem, including market capitalization, trading volume, market trends,andotherrelevantdata.

The global module provides a high-level overview of the crypto-currency market, displaying key metrics such as the total market capitalization, tradingvolume, and dominant crypto-currencies. Users can quickly assess the overall market health and track its performanceover time. This informationhelpsusers understand the size and significance of the crypto-currency market. The global module may offer in-depth market research and reports, includinghistoricaldata analysis, market predictions, and forecasts. These resourcescanhelpusersgainadeeperunderstandingofthecrypto-currencymarketandassistinformulatinginvestmentstrategies.The modulemaycollaboratewithindustryresearchfirmsorprovideproprietaryresearchfromitsownanalysts.



The "About" refers to a module that provides information and resources about the app itself, its development team, and other relevant details. AboutModule serves as a section where users can learn more about the app, its purpose, features, and the people behind its creation.TheAboutmoduleprovidesageneraloverviewofthecrypto-currencyapp,describingitspurpose,keyfeatures,andbenefitsto users.Ithighlightstheapp'svaluepropositionandexplainshowitcanassistusersinmanagingtheircrypto-currencyinvestments, tracking market data, orengaging intradingactivities.



Coin Trackis a powerful crypto-currency tracking app that utilizesReact.js, Redux, and the Coin Gecko API to provide userswithreal-time andaccuratecrypto-currencydata.

By leveraging these technologies, Coin Track offers a seamless user experience, efficient data management, and access to reliable information. Whetherusers are tracking prices, managing portfolios, or making investment decisions, Coin-Track equips them with the necessary tools to navigate the dynamicworld of crypto-currencies effectively.



Ascrypto-currenciesgainwideradoption,securitybecomesincreasinglyimportant.Futurecrypto-currency apps couldincorporate advanced security measures such as multi-factor authentication, biometric authentication (fingerprint or facial recognition), and hardwarewallet integration to ensure the safety of users' funds.

User-friendly interfaces are crucial for wider adoption of crypto-currency apps. Future enhancements might focusonstreamliningtheuserexperience,simplifyingtheonboardingprocessfornewusers,andprovidingintuitiveinterfacesfor managingwallets,conductingtransactions,andmonitoringmarketdata.





