**Survey Paper: Cryptocurrency using python and Binance API**

 Sakshi Santosh Khomane , Payal Balaji Satpute , Sakshi Santosh Walunjkar , Shravani Suhas Raut,

 Shraddha Sanjay Gaikwad. Student of Zeal Polytechnic, Computer Engineering, under the guidance

 Prof. Bhargavi Gorde department of Computer Engineering, zeal polytechnic,

 Pune, Maharashtra, India

1. **Abstract**:

Cryptocurrency trading can be automated using Python and the Binance API. Binance, one of the cryptocurrency exchanges, provides a RESTful API that allows users to interact with its platform programmatically. By using Python, a versatile and powerful programming language, traders can

tasks such as retrieving real-time price data, executing trades, and managing their portfolios.

1. **Literature Survey:**
* **Cryptocurrency Trading**: A comprehensive survey by Fan Fang et al. (2022) covers 146 research papers on various aspects of cryptocurrency trading, including trading systems, strategies, and risk management. The study highlights the rapid development and market acceptance of cryptocurrencies
* **Bitcoin in Economics and Finance:** Parthajit Kayal and Purnima Rohilla (2021) provide a review of the literature on Bitcoin, focusing on its price dynamics, volatility, and regulatory aspects. The paper argues that Bitcoin is still in an embryonic phase and needs to evolve with technological advancement AI in Storytelling.

**Storytelling and Education:** Storytelling is a powerful tool in education. It can make learning more engaging and memorable by connecting information to emotions and experiences. Here are a few ways storytelling can enhance education

**Digital Preservation :** Digital preservation is the process of maintaining and ensuring the accessibility of digital information over time. This is crucial because digital files can become unreadable or lost as technology evolves. Here are some key points about digital preservation.

**Challenges in Digitizing:**

**Technological Obsolescence**: Rapid advancements in technology can render hardware and software obsolete, making it difficult to access older digital files.

**Media Degradation:** Digital storage media, such as hard drives and CDs, can degrade over time, leading to data loss.

**Metadata Management:** Properly documenting and managing metadata is crucial for ensuring the authenticity and accessibility of digital content.

**Metadata Management:** Using structured metadata to describe and document digital objects, ensuring their authenticity and integrity.

 **Storage Solutions:** Employing reliable storage solutions, such as RAID arrays or archival discs, to protect against data loss

**Migration**: Periodically migrating data to newer formats and storage media to prevent obsolescence

**Access Control:** Ensuring that digital materials remain accessible by maintaining the necessary software and hardware tools**.**

**Conclusion:**

Digital preservation is an ongoing process that requires careful planning and resource allocation to address the challenges of media failure and technological change

**3. Problem Statement**

The rapid advancement of technology and the increasing volume of digital data pose significant challenges for long-term digital preservation. Traditional storage media are prone to degradation, and the obsolescence of hardware and software can render digital files inaccessible. Additionally, the lack of standardized metadata management and the high costs associated with digital preservation efforts further complicate the process. There is a need for effective strategies and solutions to ensure the longevity, accessibility, and authenticity of digital information for future generations.

* **Crypto Wallets**: Use secure wallets to store your cryptocurrency. There are two main types: Engages users:

 **Hot Wallets**: These are connected to the internet and include mobile, desktop, and web wallets. They are convenient for frequent transactions but are more vulnerable to hacking.

**Intellectual Property Rights (IPR):** Digital preservation often involves copying and migrating digital content, which can infringe on copyright laws. The rights to reproduce, distribute, and create derivative works are typically held by the copyright own.

**4. Possible Solution**

**Creating a cryptocurrency trading bot using Python and the Binance API can be a powerful solution for automating your trading strategies. Here's a high-level overview of how you can approach this:**

1. **Set Up Your Environment:**
* Install Python and necessary libraries such as python-binance, pandas, and numpy.
* Obtain your Binance API keys from the Binance website**.**
1. **Connect to Binance API Educational and Cultural Resources:**

Use the python-binance library to connect to the Binance API. This library simplifies the process of interacting with the Binance exchange.

**Retrieve Market Data**:

Fetch real-time market data such as current prices, historical prices, and order book data.

**6**. **Integration with Educational Institutions:**

**Interdisciplinary Approach:** Incorporate cryptocurrency education into various disciplines such as economics, law, and engineering to provide a holistic understanding of its impact.

 **7. Monetization Strategies:**

**Advertising**: Display ads on your platform, such as banner ads, video ads, or sponsored content. This is common for websites, apps, and social media platforms.

 **Subscription Models**: Offer premium content or services for a recurring fee. This is popular with streaming services, news websites, and software as a service (SaaS) platforms .

**Freemium Models**: Provide basic services for free while charging for advanced features or additional content. This model is widely used in mobile apps and online games.

**Affiliate Marketing**: Promote products or services from other companies and earn a commission for each sale made through your referral. This works well for blogs, review sites, and influencers.

**5. Project and Scope**

The primary goal of this project is to develop an automated trading bot that can execute cryptocurrency trades on the Binance exchange based on predefined strategies. The bot will be capable of fetching real-time market data, analyzing it, and placing buy or sell orders accordingly.

**Key Features:**

**API Integration:** Connect to the Binance API to access market data and execute trades.

 **Real-Time Data**: Fetch and process real-time market data for analysis**.**

 **Trading Strategies:** Implement multiple trading strategies, such as moving average crossover, RSI, and MACD.

**Logging and Reporting**: Maintain logs of all trades and generate performance reports.

**Backt esting:** Test the trading strategies on historical data to evaluate their performance

**Subscription Models**: Offer premium content or services for a recurring fee. This is popular with streaming services, news websites, and software as a service (SaaS) platforms**.**

**Freemium Models**: Provide basic services for free while charging for advanced features or additional content. This model is widely used in mobile apps and online games **.**

**In-App Purchases:** Allow users to buy virtual goods, upgrades, or additional content within an app. This is a common strategy for mobile games and apps Offer features such as storytelling, character creation, plot generation, and customization options. Incorporate multimedia elements, including audio and video, to enhance the storytelling experience.

**Pay-Per-Use:** Charge users based on their usage of a service or product. This model is often used for cloud computing services, utilities, and some software applications.

**E-commerce**: Sell physical or digital products directly to consumers through an online store. This can be integrated into websites, social media platforms, or standalone e-commerce sites.

**Licensing and Royalties:** License your content, software, or intellectual property to other companies for a fee. This is common in the entertainment, software, and publishing industries.

**Crowdfunding:** Raise funds from a large number of people, typically through platforms like Kickstarter or Patreon. This is often used for creative projects, startups, and independent creator Promote the app's features and benefits through various channels.

**Data Monetization:** Collect and analyze user data to provide insights or targeted advertising. This strategy must be **implemented with** careful consideration of privacy laws and ethical guidelines**.**

**6. Critical Evaluation:**

**Relevance and Timeliness**:

* **Pros**: Cryptocurrency education is highly relevant in today's digital economy. As blockchain technology and digital currencies become more integrated into financial systems, understanding these concepts is crucial for future professionals.
* **Cons**: The rapid pace of technological change can make educational content quickly outdated. Continuous updates and revisions are necessary to keep the curriculum current.

**Accessibility and Inclusivity:**

* **Pros: Online courses and resources make cryptocurrency education accessible to a global audience. Platforms like Coursera and edX offer courses that can be taken from anywhere, often at a low cost.**
* **Cons: There can be a digital divide, where individuals without reliable internet access or technological resources are left behind. Additionally, the technical complexity of the subject matter can be a barrier for beginners**

**Depth and Breadth of Content:**

* **Pros: Comprehensive courses cover a wide range of topics, from the basics of blockchain technology to advanced trading strategies. This breadth ensures that students gain a well-rounded understanding.**
* **Cons: Some courses may lack depth in certain areas, particularly if they try to cover too much ground. Specialized courses may be needed to delve deeper into specific aspects of cryptocurrency.**

 **Practical Application:**

* **Pros: Hands-on projects, such as developing trading bots or blockchain applications, provide practical experience and enhance learning. Internships and collaborations with industry partners can further bridge the gap between theory and practice.**
* **Cons: Practical application requires access to resources and tools, which may not be available to all students. Additionally, the volatile nature of cryptocurrency markets can make practical exercises risky.**

**7. Significance:**

The significance of cryptocurrency education lies in its potential to transform the financial landscape and empower individuals with the knowledge and skills needed to navigate this evolving field. Here are some key points highlighting its importance:

**Financial Literacy:** Cryptocurrency education enhances financial literacy by teaching individuals about digital currencies, blockchain technology, and decentralized finance. This knowledge is crucial for making informed financial decisions in the digital age**.**

**Innovation and Skills Development: Learning about cryptocurrencies and blockchain fosters innovation and equips individuals with valuable skills in programming, data analysis, and cybersecurity. These skills are highly sought after in the job market. Education and Learning:** The app provides educational resources and opportunities for learning about folklore, promoting cultural awareness and literacy. It can be used as a tool for teaching history, literature, and cultural studies.

**Career Opportunities:** The growing cryptocurrency industry offers numerous career opportunities in areas such as blockchain development, cryptocurrency trading, and regulatory compliance. Education in this field can open doors to these emerging roles.

**Economic Inclusion:** Cryptocurrencies have the potential to provide financial services to unbanked and underbanked populations, promoting economic inclusion. Education can help individuals understand and leverage these opportunities**.**

**Understanding Regulatory and Ethical Implications:** Cryptocurrency education helps individuals understand the legal and ethical bimplications of using digital currencies. This knowledge is essential for navigating the complex regulatory environment and making responsible decisions.

**Empowerment and Independence**: By understanding how cryptocurrencies work, individuals can take control of their financial future, reducing reliance on traditional financial institutions and intermedia.

 Overall, cryptocurrency education is significant because it prepares individuals for the future of finance, promotes innovation, and empowers people with the knowledge and skills needed to thrive in a digital economy. ries.

 

**Plotting bitcoin price in python**

****

 **Every candlestick uses two physical features to display the four main components.**

**Reference:**

[1]. Dr. Anil Kumar V.V1 & Swathy. P2, “A Study On Opportunities And Challenges Of Cryptocurrency In India With Special Reference To Bitcoin'', Ijrar- International Journal Of Research And Analytical Reviews, [ Volume 6 I Issue 1 IN Jan.– March 2019] [2].

[2].Raymaekers, Wim. "Cryptocurrency Bitcoin: Disruption, Challenges And Opportunities." Journal Of Payments Strategy & Systems 9, No. 1 (2015): 30-46.

 [3]. Sahoo, Kabita, Et Al. "Exploratory Data Analysis Using Python." International Journal Of Innovative Technology And Exploring Engineering (Ijitee) 8.12 (2019): 2019. https://doi.org/10.1177/2050157916639348 Ainsworth, M. D. S., Blehar, M. C., Everett, W., & Wall, S. N. (2015). The pattern of attachment is a psychological study of the strange situation. In Psychology Press. Taylor & Francis.

Ainsworth, M. D. S., Blehar, M. C., Everett, W., & Wall, S. N. (2015). The pattern of attachment is a psychological study of the strange situation. In Psychology Press. Taylor & Francis.

[6][https://www.researchgate.net/publication/35436](https://www.researchgate.net/publication/354364930_The_Effectiveness_of_E-Book_App_Story_Telling_of_Traditional_Game_Story_Series_to_Increase_the_Attachment_between_Parents_and_Children)

[4930\_The\_Effectiveness\_of\_E- Book\_App\_Story\_Telling\_of\_Traditional\_Game\_ Story\_Series\_to\_Increase\_the\_Attachment\_betwee n\_Parents\_and\_Children](https://www.researchgate.net/publication/354364930_The_Effectiveness_of_E-Book_App_Story_Telling_of_Traditional_Game_Story_Series_to_Increase_the_Attachment_between_Parents_and_Children)

[7] Alborzi, H., Druin, A., Montemayor, J., Platner, M., Porteous, J., Sherman, L., Boltman, A.,

Taxén, G., Best, J., Hammer, J., Kruskal, A., Lal, A., Schwenn, T.P., Sumida, L., Wagner, R., and Hendler, J. (2000) ‘Designing story rooms: interactive storytelling spaces for children’, in

Boyarski, D. and Kellogg, W.A.

(Eds.): *Proceedings of the 3rd Conference on*

*Designing interactive Systems: Processes, Practices, Methods, and Techniques*, pp.95–104, (New York City, New York, USA, 17–19 August 2000), DIS '00, ACM Press, New York, NY.

 [8] Davenport, G. (1994) ‘Seeking dynamic, adaptive story environments’, *IEEE MultiMedia*,

Vol. 1,

No. 3, pp.9–13.

1. Davidson & Associates (1995) KidWorksDeLuxe, CD-ROM, Davidson &

Associates Inc.,

Tor Ranca, CA, USA.

[10]. [Best Cryptocurrency Courses Online with Certificates [2024] | Coursera](https://www.coursera.org/courses?query=cryptocurrency) Offers a variety of courses on cryptocurrency and blockchain technology.

[11]. [Learn Crypto | Crypto Made Easy | Learn Cryptocurrency](https://learncrypto.com/) A free education platform designed to help users easily learn about cryptocurrency.

[12]. [Cryptocurrency Education: Where to Start and Resources | Altcoin Alchemy](https://www.altcoinalchemy.com/blog/getting-started/Cryptocurrency-Education-Where-to-Start-and-Resources) Lists several online platforms offering comprehensive cryptocurrency courses.