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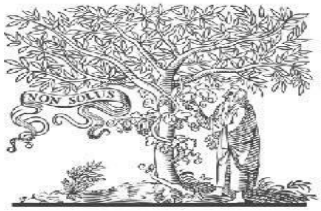

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Paper Authors

Mrs. Sk. Mulla Almas , K. Mani Kanta Vamsi , G. Venkatasai , G. Vaibhav , A. Mourya Vardhan

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IN-KRYPT

Mrs. Sk. Mulla Almas [1], M.Tech, Department of IT,
Vasireddy Venkatadri Institute of Technology, Nambur, Guntur Dt., Andhra Pradesh.

K. Mani Kanta Vamsi [2], **G. Venkatasai** [3], **G. Vaibhav** [4], **A. Mourya Vardhan** [5]
[2,3,4,5] UG Students, Department of IT,
Vasireddy Venkatadri Institute of Technology, Nambur, Guntur Dt., Andhra Pradesh.
[1] mullaalmas27@gmail.com, vamsikadaru01@gmail.com,
venkatsaigurram15@gmail.com, vaibhavgudali@gmail.com, anandasu.mv@gmail.com

Abstract

Blockchain is a decentralized and distributed digital ledger that records transactions in a secure and transparent manner. It makes it possible to create a tamper-proof, unchangeable record of transactions that is checked by a network of computers as opposed to a single central authority. Blockchain technology can be applied to lending platforms to create a transparent and secure environment for peer-to-peer lending. Borrowers can access loans from a network of lenders without the use of middlemen like banks or financial institutions by using the blockchain technology. The P2P moneylending using blockchain in In-Krypt is a decentralised platform that enables peer-to-peer lending transactions. Without the use of middlemen like banks or other financial institutions, it offers a safe and transparent environment for borrowers and lenders to engage in loan activities. For the purpose of automating the loan amount, payback schedules, and dispute settlement, the platform also uses smart contract technology. Ethereum is a blockchain platform that enables the creation of decentralised applications (dApps) using smart contract technology. Ethereum can be a key component of a P2P moneylending web service in facilitating safe and transparent lending transactions between lenders and borrowers. Metamask is a popular wallet extension for web3-enabled browsers that allows users to interact with Ethereum networks and decentralized applications (dApps). When developing smart contracts with Solidity, Metamask can be used to connect to the Ethereum network and sign transactions. With its user-friendly interface and innovative features, the P2P moneylending using blockchain has the potential to revolutionize the lending industry by democratizing access to credit and enabling financial inclusion for all.

Keywords: Blockchain, Decentralized, Peer-to-Peer(P2P), Smart Contract, Etherum, dApps, Metamask, web3

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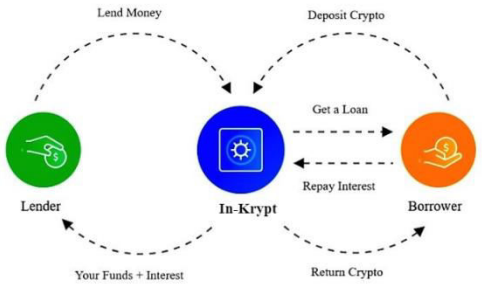
Introduction

Banks and other financial organisations that function as middlemen between borrowers and lenders have long dominated the traditional lending market. But because of the development of blockchain technology, it is now possible to build a decentralised peer-to-peer (P2P) lending network that will let lenders and borrowers conduct business directly with one another without the need for middlemen.

The planned blockchain-based peer-to-peer lending infrastructure intends to democratize lending by giving people more control over their finances. In comparison to typical bank savings accounts, the platform will allow lenders to get larger returns on their investments while also enabling borrowers to obtain loans at reduced interest rates.



All transactions will be transparent, safe, and immutable thanks to the use of blockchain technology. The technology will minimize transaction costs by doing away with middlemen and recording all transactions on the blockchain. The lending and borrowing process will be automated with the use of smart contracts, ensuring that transactions between lenders and borrowers go as smoothly as possible.

The platform would also give lenders and borrowers access to credit ratings and other pertinent data, allowing them to make educated judgements. The loan and borrowing procedure will not be under the control of a central organization or middleman thanks to the decentralized nature of the platform.

A loan payback payment gateway is a crucial part of a blockchain-based P2P lending infrastructure that enables both borrowers and lenders to receive payments safely and openly. In order to execute loan repayments automatically in accordance with the loan agreement, the payment gateway communicates with the smart contracts on the blockchain. Depending on the preferences of the lenders and borrowers, the payment gateway can be integrated with a variety of payment methods, including credit cards, bank transfers, and cryptocurrencies. The payment gateway's usage of blockchain technology assures that the transaction is visible and immutable, lowering the possibility of fraud or mistakes.

Ultimately, the proposed blockchain-based P2P money lending platform has the potential to upend the conventional lending market by giving people more control over their finances and making it

possible for them to deal with one another in a faster and more secure way.

Literature Survey

Peer-to-peer (P2P) lending is a popular substitute for conventional lending approaches where borrowers can establish direct contact with individual lenders or investors. Blockchain technology has been suggested as a potential solution to improve the transparency and security of P2P lending platforms. Below are some important studies and articles on blockchain-based peer-to-peer lending.

1. "Blockchain-Based Peer-to-Peer Lending: A Systematic Review" (2021) by M. A. Zaman et al. This paper provides a comprehensive survey of blockchain-based P2P lending platforms and their features. It highlights the benefits and limitations of blockchain technology for P2P lending and provides insights into the current state of research in this area.
2. "Blockchain technology for P2P lending: A review" (2020) by N. Ullah et al. This paper provides an overview of the role of blockchain in P2P lending, including the potential benefits and challenges. The authors also discuss various blockchain-based P2P lending platforms and their features.
3. "A blockchain-based P2P lending model for inclusive finance" (2018) by J. Wang et al. This paper proposes a blockchain-based P2P lending model that aims to address the challenges of inclusive finance. The authors provide a detailed description of the proposed model and discuss its advantages over traditional lending methods.

System Implementation

There are several steps involved in implementing a peer-to-peer (P2P) money lending web app using blockchain. Firstly, a blockchain platform must be selected that offers the functionality the application needs, such as Ethereum. Secondly, smart contracts that regulate the lending process, including the loan terms, interest rate, and payback schedule, must be created. Thirdly, a web application is created that communicates with the blockchain's smart contracts, enabling lenders to establish loan offers and borrowers to submit loan requests. Furthermore, the network configuration, deployment of smart contracts are used to implement the blockchain network. Finally, the web application is connected to the blockchain through APIs, integrating it with the blockchain network. The application is deployed to a production environment after being tested to make sure it performs as expected. Last but not least, the software is checked for seamless operation.

Prerequisites

There are a few requirements to take into account before creating a P2P money

lending network using blockchain technology:

Blockchain technology: The platform will rely on blockchain technology to securely, openly, and permanently record all transactions. A thorough understanding of blockchain technology, including its underlying architecture, consensus mechanisms, and smart contract development, is therefore a requirement for the development team.

Decentralized infrastructure: The platform should be created with a decentralised architecture, which means that no intermediary or central authority should be in charge of the borrowing and lending process. As peer-to-peer networks and distributed ledger systems are examples of decentralised infrastructure, the development team should be skilled in creating them.

Security should be given high consideration since the platform facilitates the transfer of money between users. The software development team should be experienced in creating safe software, including methods for encryption, authentication, and other security measures.

Compliance with regulations: Depending on the jurisdiction, the platform might have to adhere to rules like Know Your Customer (KYC), Anti-Money Laundering (AML), and other financial regulations. The development staff should be knowledgeable about these rules and adept at following them.

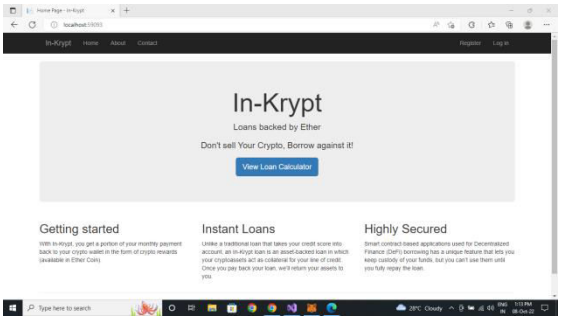
User experience: The platform's capacity to draw in and keep users will be key to its success. In order to ensure that the platform is accessible to everyone, the development team should have experience creating user-friendly interfaces and offering smooth user experiences.

Scalability: The platform needs to be scalable in order to handle an expanding user base and rising transaction volumes. The infrastructure-building skills of the development team should include distributed systems, load balancers, and other technologies.

By taking into account these requirements, the development team can create a strong and scalable blockchain-based P2P money lending platform that satisfies user needs while upholding security and legal compliance.

Results

1. HOME PAGE



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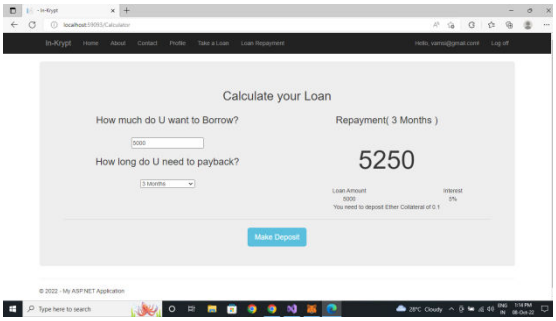
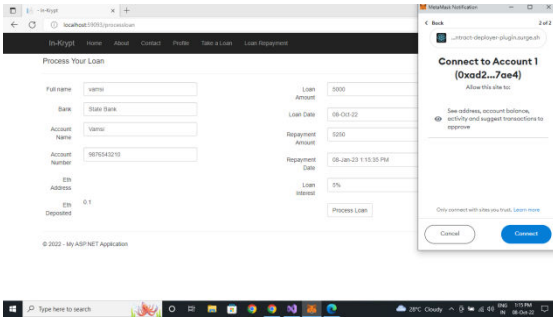
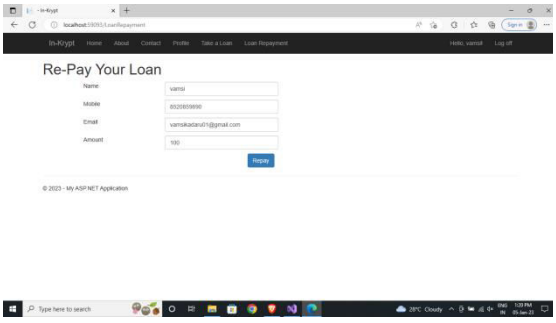
2. LOAN CALCULATOR



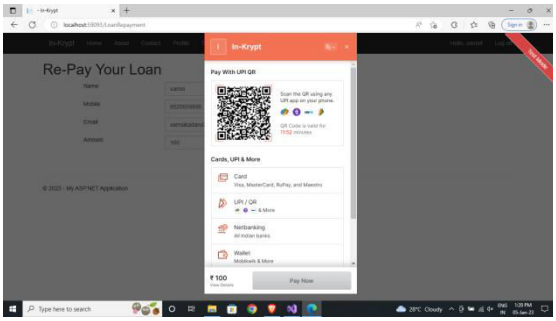
3. PROCESS LOAN



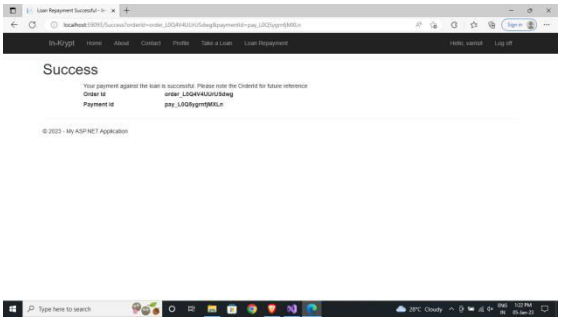
4. LOAN REPAYMENT



5. RAZORPAY PAYMENT GATEWAY



6. LOAN REPAYMENT SUCCESS



Conclusion

By enabling borrowers and lenders to trade directly with one another, without middlemen, the development of a P2P money lending platform based on blockchain technology has the potential to disrupt the conventional lending business. The platform will provide users more control over their money, allowing them to borrow money at reduced interest rates and profit from their investments more.

A number of conditions must be taken into account in order to create a successful P2P lending platform, including blockchain technology, decentralised infrastructure, security, legal compliance, user experience, and scalability. The development team can create a platform that is secure, scalable, and user-friendly by taking care of these requirements, while also giving lenders and borrowers access to credit scores and other crucial data so they can make educated decisions.

In general, a P2P lending network powered by blockchain technology has the potential to democratise lending,

provide people more financial independence, and do so while fostering transparency and lowering transaction costs. It is expected that more cutting-edge financial solutions will develop as blockchain technology advances and uses its potential to revolutionise established financial systems.

Limitations

Low adoption: One of the biggest issues is that blockchain technology has only received a limited amount of adoption, which means that not all potential lenders and borrowers may be able or ready to use such platforms. As a result, there may be fewer participants and fewer cash available for lending.

High transaction costs: When using public blockchains, P2P lending networks based on blockchain may incur high transaction costs. Small loans may become less cost-effective as a result, and the volume of transactions that can be performed may be constrained.

Regulatory issues: It may be difficult to verify compliance with legal and regulatory standards because blockchain-based P2P lending systems are not subject to any governmental control. This can raise the possibility of fraud and damage investor faith.

Technological complexity: Building and sustaining blockchain-based platforms for peer-to-peer lending can be challenging technically and need for specific knowledge and resources. Smaller businesses may find it difficult to compete with established industry leaders as a result.

Security hazards: Hacking and theft have occurred on platforms based on blockchain technology, proving that this technology is not immune to security issues. This poses a serious risk to the financial system and can erode investor trust.

Future Scope

Increased adoption: P2P lending services may be able to draw in more lenders and borrowers when blockchain technology is implemented more broadly. As a result, there may be more money available for lending and people and small enterprises may have easier access to credit.

Improved efficiency: Blockchain technology has the ability to speed up the loan application process and lower transaction costs. As a result, P2P lending may become more appealing to investors and borrowers while also improving the efficiency of the financial system as a whole.

Increased security: Better security measures, such multi-signature wallets, smart contract audits, and decentralised identification systems, may become available as blockchain technology develops. By doing so, you

may lessen the chance of fraud and hacking and boost your confidence in the security of blockchain-based P2P lending services.

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