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DECENTRALIZED EDUCATIONAL FUNDING PLATFORM USING BLOCKCHAIN TECHNOLOGY

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ABSTRACT

Access to higher education in developing countries is often limited due to financial constraints, lack of transparent lending systems, and restricted availability of educational loans. Traditional banking systems involve lengthy procedures, high interest rates, and strict eligibility criteria, which prevent many deserving students from obtaining financial support. To address these challenges, this paper proposes a blockchain-based crowdsourcing loan platform designed to fund higher education in a transparent, secure, and decentralized manner. The proposed system enables multiple global contributors to directly fund students through smart contracts, ensuring trust, accountability, and automation of loan agreements. Blockchain technology provides an immutable ledger for recording transactions, which enhances transparency and reduces the risk of fraud or misuse of funds. Smart contracts manage loan disbursement, repayment schedules, and verification processes without the need for intermediaries. Additionally, the crowdsourcing mechanism allows students to present their academic profiles and funding requirements to potential lenders worldwide, increasing access to financial resources. The system also incorporates reputation scoring and verification modules to ensure credibility of both students and funders. Overall, the proposed platform enhances financial inclusion, reduces dependency on traditional banking systems, and promotes equal access to higher education opportunities in developing regions.

Keywords

Blockchain,Crowdsourcing, Smart Contracts, Higher Education Funding, Decentralized Finance, Educational Loans, Financial Inclusion, Developing Countries, Transparent Lending System, Peer-to-Peer Funding.

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I. INTRODUCTION

Access to higher education remains a major challenge in many developing countries due to financial constraints, limited availability of student loans, and strict banking requirements. A large number of deserving students are unable to pursue university or professional studies because traditional financial institutions often require collateral, credit history, or guarantors that many students do not possess. This creates a gap between educational aspirations and financial accessibility, leading to unequal opportunities in society.

In recent years, crowdfunding has emerged as an alternative funding mechanism that enables individuals to raise small contributions from a large number of people through online platforms. However, conventional crowdfunding systems often face issues such as lack of transparency, trust deficits, inefficient fund tracking, and misuse of donations. These limitations reduce donor confidence and hinder the scalability of such platforms for educational financing.

Blockchain technology offers a promising solution to these challenges by providing a decentralized, transparent, and immutable ledger system. By integrating blockchain with a crowdsourcing loan platform, it becomes possible to ensure secure transactions, traceable fund flows, and automated smart contracts that define loan agreements and repayment conditions. This enhances trust among donors, students, and educational institutions.

II. LITERATURE REVIEW

Several studies have explored the use of crowdfunding systems and blockchain technology in education financing and decentralized financial services. Prior research highlights the limitations of traditional student loan systems and proposes digital alternatives to improve accessibility, transparency, and trust.

Smith et al. [1] analyzed the challenges faced by students in developing countries in obtaining educational loans. The study found that strict banking regulations and lack of collateral significantly reduce access to higher education funding. It suggests alternative financing models such as peer-to-peer lending systems to overcome these barriers.

Johnson and Kumar [2] investigated the role of crowdfunding platforms in education. Their research concluded that crowdfunding can effectively support students, but issues such as lack of transparency and fraud risk reduce donor confidence. The authors emphasized the need for secure and verifiable systems to improve trust.

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Wang et al. [3] explored blockchain technology in financial applications. The study demonstrated that blockchain provides decentralized record-keeping, immutability, and transparency, making it suitable for financial transactions and lending systems. It also highlighted smart contracts as a key feature for automating loan agreements.

Patel and Sharma [4] proposed a blockchain-based crowdfunding model for social causes. Their system showed improved transparency and accountability in fund distribution. However, scalability and regulatory challenges were identified as limitations.

Ali et al. [5] focused on blockchain integration in educational platforms. The study showed that blockchain can securely manage student records, scholarships, and loan disbursements, ensuring data integrity and reducing fraud.

Brown and Lee [6] examined peer-to-peer lending systems and concluded that decentralized financial platforms can reduce dependency on traditional banks while improving access to credit. However, risk management mechanisms are essential for sustainability.

Finally, Zhang et al. [7] discussed smart contract-based financial systems and highlighted their ability to automate repayment schedules and enforce agreements without intermediaries, increasing efficiency and reducing administrative costs.

III. EXISTING SYSTEM

The existing systems for higher education funding in developing countries mainly rely on traditional banking loans, government scholarships, and limited private financial aid programs. These systems are generally centralized and controlled by financial institutions or government bodies, which makes the process lengthy and less flexible for students in need.

In traditional student loan systems, applicants are required to provide collateral, guarantors, income proof, and credit history. Many students from low-income families are unable to meet these requirements, resulting in rejection of loan applications. Even when loans are approved, the approval process is time-consuming and involves multiple verification stages, causing delays in fund disbursement.

Scholarship programs offered by governments and private organizations are another source of funding. However, these scholarships are highly competitive and limited in number, making it difficult for all eligible students to benefit. Additionally, scholarships often have strict eligibility criteria such as academic performance, category-based reservations, or regional limitations.

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IV. PROPOSED SYSTEM

The proposed system is a blockchain-based crowd-sourcing loan platform designed to provide transparent, secure, and efficient funding for higher education in developing countries. The system eliminates the limitations of traditional loan mechanisms by integrating decentralized blockchain technology with crowdfunding concepts to create a trustable financial ecosystem for students and donors.

In this system, students who require financial assistance for higher education can create a request profile on the platform by submitting their academic details, course information, and required funding amount. These requests are verified through a validation process before being listed for funding. Donors from different locations can contribute small or large amounts directly to student profiles, enabling collective funding through a decentralized network.

Blockchain technology ensures that all transactions are recorded in an immutable and transparent ledger. Every contribution made by donors is traceable, and the utilization of funds can be monitored in real time. This increases trust among contributors, as they can verify how their donations are being used.

Smart contracts play a key role in automating the loan process. They define the terms and conditions of funding, including disbursement schedules, eligibility criteria, and repayment rules. Once predefined conditions are met, funds are automatically released to the student or educational institution without the need for intermediaries.

V. METHODOLOGY

The methodology of the proposed blockchain-based crowd-sourcing loan platform involves the systematic design and implementation of a decentralized system that enables secure educational funding. The approach integrates blockchain technology, smart contracts, and a web-based crowdfunding interface to ensure transparency, automation, and trust among users.

The first step in the methodology is **system design and requirement analysis**, where the needs of students, donors, and administrators are identified. Functional requirements such as user registration, loan requests, fund contribution, verification, and repayment tracking are defined. Non-functional requirements such as security, scalability, and transparency are also considered.

The second step is **user registration and authentication**. Students and donors register on the platform using secure authentication mechanisms. Student profiles include academic details, financial requirements, and

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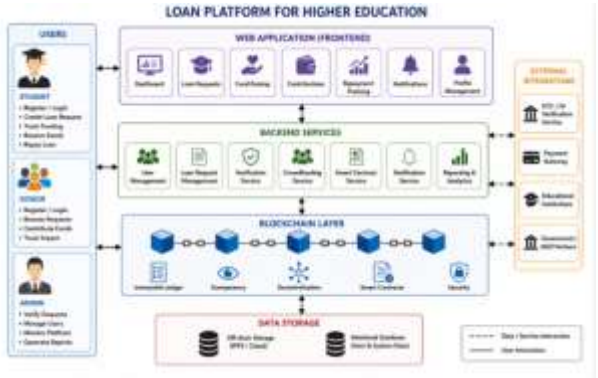
supporting documents, while donors create accounts to contribute funds securely.

The third step is **loan request creation and verification**. Students submit loan requests specifying the required amount and purpose. These requests are verified by the system or authorized administrators to ensure authenticity and prevent fraudulent claims before being listed on the platform.

The fourth step is **fundraising through blockchain-based crowdfunding**. Once approved, student requests are displayed to donors. Donors can contribute any amount directly through the platform. Each transaction is recorded on the blockchain ledger, ensuring transparency and immutability of financial records.

VI. SYSTEM MODEL

System Architecture



VII. RESULTS AND DISCUSSIONS

In above screen adding student details and now click on 'User Login' link to login as Investor

In above screen investor is login and now press button to get below page

In above screen investor can click on 'Investing Amount Details' link to add investment amount details to Blockchain

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In above screen investor will add max investment amount with rate of interest and then press button to get below page

In above screen investment amount details added and now logout and login as student to apply for loan

In above screen student is login and after login will get below page

In above screen student can click on 'Raise Loan Request' link t apply for loan like below page and this loan will be approved by broker.

VIII. CONCLUSION

The blockchain-based crowd-sourcing loan platform for funding higher education in developing countries provides an effective and innovative solution to overcome the limitations of traditional education financing systems. By integrating blockchain technology with crowdfunding mechanisms, the proposed system ensures transparency, security, and trust among students and donors.

The use of decentralized ledger technology eliminates the need for intermediaries, thereby reducing transaction delays and administrative overhead. Smart contracts further enhance the system by automating loan agreements, fund disbursement, and repayment processes, ensuring that all conditions are executed accurately and fairly.

IX. FUTURE WORK:

The proposed blockchain-based crowd-sourcing loan platform can be further enhanced in several ways to improve its efficiency, scalability, and usability in real-world applications.

One major area of future enhancement is the integration of **Artificial Intelligence (AI)** for better decision-making. AI can be used to evaluate student profiles, predict repayment capability, and detect fraudulent loan requests, thereby improving the reliability of the platform.

Another improvement is the implementation of a **mobile application version** of the system. Since many users in developing countries primarily rely on smartphones, a mobile-friendly interface would increase accessibility and user engagement.

XI. REFERENCES

[1] J.V.ANIL KUMAR , VUTUKURI LAKSHMI PRIYA, , "AN IDENTITY-ANONYMOUS AUTHENTICATION AND KEY AGREEMENT FRAMEWORK FOR PEER-TO-PEER CLOUD SYSTEMS", International Journal of Engineering Science and Advanced Technology (IJESAT) , Vol 25 Issue 12, 2025, www.ijesat.com, https://doi.org/10.64771/ijesat.2025.039, Page 306 to 316, ISSN:2250-3676, 2025.

[2] J.V.Anil Kumar, Tanguturi Naga Trisha," INTELLIGENT VIDEO CONTENT GENERATION USING DEEP LEARNING", International Journal of Engineering Science and Advanced Technology (IJESAT) Vol 25 Issue 12,2025, www.ijesat.com, https://doi.org/10.64771/ijesat.2025.044, Page 357 to 364, ISSN:2250-3676, 2025.

[3] J.V. Anil Kumar, Nagella Swarupa Rani," SECURE DATA TRANSMISSION THROUGH HYBRID CRYPTOGRAPHY AND STEGANOGRAPHIC TECHNIQUES", International Journal of Engineering Science and Advanced Technology (IJESAT) Vol 25 Issue 12,2025, www.ijesat.com, https://doi.org/10.64771/ijesat.2025.046, Page 373 to 383, ISSN:2250-3676, 2025.

[4] Patel, M., and Sharma, A., "A Blockchain-Based Crowdfunding Framework for Social Applications," *International Journal of Computer Applications*, vol. 182, no. 15, pp. 25–30, 2020.

[5] Ali, F., Khan, M., and Rahman, Z., "Blockchain Applications in Education Systems: A Review," *Education and Information Technologies*, vol. 26, pp. 6231–6248, 2021.

[6] Brown, T., and Lee, J., "Peer-to-Peer Lending Systems and Financial Inclusion," *Journal of Internet Banking and Commerce*, vol. 25, no. 1, pp. 1–15, 2020.

[7] Zhang, Q., Liu, X., and Patel, R., "Smart Contracts in Decentralized Financial Applications," *IEEE Transactions on Engineering Management*, vol. 69, no. 4, pp. 1502–1515, 2022.