HASHING CONTRIVANCE WITH UNDISCLOSED TWO-WAY OPTIMIZATIONUSING BLOCKCHAIN ARCHITECTURE

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Abstract — The enhanced agile software development paradigm described in the study includes the block chain. Block chain technology has several applications in agile software development. The preliminary use of the block chain technology was once the improvement of digital currencies. The system makes use of the concept of a distributed, decentralised ledger. Agile technology, critical factor of the software program improvement process, has been utilized to the advent of software program in settings the place necessities are poorly understood and alternate frequently. Because the agile team doesn't take ownership of proposals, tracking changes in the industry is getting harder and harder. In light of the quantity of stakeholders and the rate at which changes happen during the development process, block chain is examined as a method of tracking and following the responsibility necessary in development. In this study, we presented a block chain technology that enhances the connectedness and integration of each block's data within the block chain network by utilizing an effective hashing algorithm. The agile development process is effective in enhancing project quality and security for the activities involved in project development under this methodology. It entails the execution of clever contracts for resolving problems with mission distribution between improvement teams, ticket trouble tracking, Giving customers the alternative to furnish scores and opinions at the quit of the project.

Keywords --- Agile model, Peer-to-Peer(P2P), SHA-256 Algorithm, Blockchain.

I. INTRODUCTION

A distributed, decentralised, and openly available digital ledger is known as a block chain. In order to avoid retroactive changes without network consensus and the modification of following blocks, it is used to record transactions across several computers. Each block in the chain consists of transaction information, a timestamp, and the cryptographic hash of the previous block. While cryptocurrency transactions are the most common application of block chain technology, it is also being tested for other purposes, including payment processing, supply chain monitoring, digital IDs, data sharing, copyright protection, royalties protection, management of the

Internet of Things network, and healthcare.Block chains are managed with the aid of a peer-to-peer pc community as a public allotted ledger, with nodes cooperating to confirm and add clean transaction blocks with the aid of a consensus algorithm protocol. Although they are not unbreakable, block chains are created as distributed computing systems that are secure and have high Byzantine fault tolerance.

In the agile software development process, block chain technology can be used to track and follow the responsibility needed in development given the number of stakeholders and the rate at which changes happen. By introducing 2 block chain into the modified agile software development framework, the development team can increase accountability, ownership, and transparency in the development process.

Agile methodology is a software development approach that focuses on rapidly delivering small increments of functional software, continuously improving the development process, and involving stakeholders in the development process. The methodology encourages collaboration and adaptive planning, allowing teams to respond to changing requirements and user feedback.
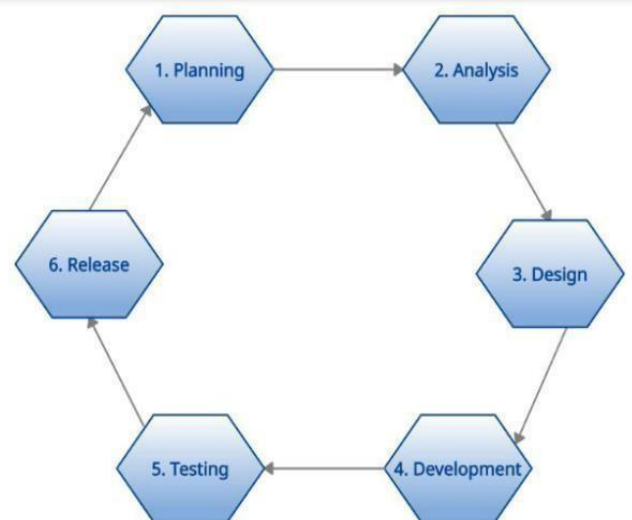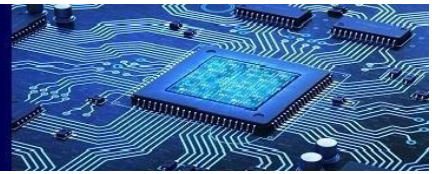

Fig 1: AGILE MODEL

II. RELATED WORKS

To solve the issues faced by customers and development teams, many academics have suggested various tools and frameworks for DASD. Nevertheless, not much has been done to use blockchain technology to address difficulties with security, traceability, and trust. The bulk of them addressed problems with coordination, cooperation, and communication.

Lampropoulos and Siakas looked into DASD communication difficulties as well as social media as a tool for collaboration and communication.

Also, they looked into the main difficulties associated with DASD, such as trust, coordination, and efficient communication as well as cultural and time zone disparities. Social media use, however, merely addresses coordination and communication problems. Many studies have addressed the application of blockchain technology to assure security, transparency, traceability, and user confidence despite the fact that there have

been many of them.

III. PROPOSED SYSTEM

Block chain technology advancement has the potential to have a significant impact on software development. One of the most important aspects of block chain technology is its decentralised nature, which means there is no need for a central authority to validate transactions or manage the system. Peer-to-peer network nodes, on the other hand, validate and verify transactions. Furthermore, because the data set is dispersed across the network, any single entity has a difficult time manipulating or altering the data.

The "block chain" refers to the method by which the block chain stores a complete transaction record. Once added to the chain, these blocks are connected chronologically and cannot be altered or withdrawn. This results in the creation of an unalterable, permanent record of all network transactions.

Smart contracts, which are self-executable contracts with the phrases of the settlement put without delay into code, had been made feasible by using developments in block chain technology. The automatic storage and execution of smart contracts on the block chain eliminates the need for middlemen and reduces the possibility of mistakes or fraud.

A product improvement cycle can be proposed to develop block chain applications, which includes the stages of gathering the necessary requirements, investigating the technology, planning the development process, creating the application, thoroughly testing it, and finally delivering it to users. Agile practises such as client stories and iterative and gradual development can be used to implement this cycle.
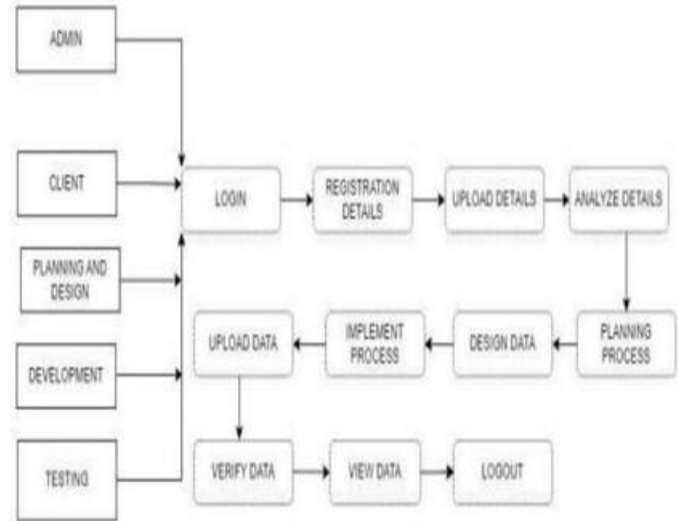

FIG 2: FLOW DIAGRAM

The use of block chain technology in software development is consistent with agile development principles, which emphasise flexibility and responsiveness to changing requirements.

A. BLOCKCHAIN

Block chain technology can be used in the agile software development process to track and follow the responsibility required in development in light of the number of stakeholders and the speed with which changes occur during the development process. The development team can improve accountability, ownership, and transparency in development process by incorporating 2 block chain into the modified agile software development framework.

Each node can see the data stored on the public blockchain. Transparency, however, comes at the expense of privacy. One could argue that the availability of transaction data implies identifiability. Users are linked to public addresses to maintain anonymity.

B. AGILE METHODOLOGY

Agile methodology is a software development approach that focuses on rapidly delivering small increments of working software, continuously improving the development process, and involving stakeholders in the development process. The methodology encourages collaboration and adaptive planning, allowing teams to respond to changing requirements and user feedback.

Overall, incorporating blockchain technology into agile

methodologies provides several advantages that can improve the software development process. It improves transparency, accountability, and security while encouraging collaboration and continuous improvement, allowing teams to respond to changing requirements and user feedback.

C. HASHING ALGORITHM

Digital signatures, message authentication codes (MACs), and other types of authentication all make use of the SHA-256 (Secure Hash Algorithm 256) cryptographic hash function.

Blockchain technology frequently employs SHA-256 to guarantee the accuracy of data stored there. In other security applications like password hashing and digital signature verification, it is also utilised.

Overall, the combination of hashing and blockchain architecture provides a strong solution for data security in an organisation, as well as a transparent and trustworthy record of transactions.

MODULE DESCRIPTION

[1] CLIENT

Clients have a safe and effective platform in this module for signing up and subsequently logging into the application. Clients can track their submission status and automate processing with this module. Client data is securely uploaded and maintained as part of a single process, ensuring all project members are up to date on the status of their submission. The payment processing system is reliable and simple to use, enabling customers to finish their purchases before logging out.

[2] ADMIN

In this module admin will login and checks the details of the developers, testers and 15 designers of the company and verifies the details and gives a password for them to login their respective modules. The admin will only allow verified employees inside the modules. This way we can secure the data that is being processed inside the web application and finalize the final product that is coming from the testing team and updates the payment for the final product and upload the data. The data is uploaded using hashing algorithm. So the data is stored securely in the block. Admin can send access key for accessing critical data.
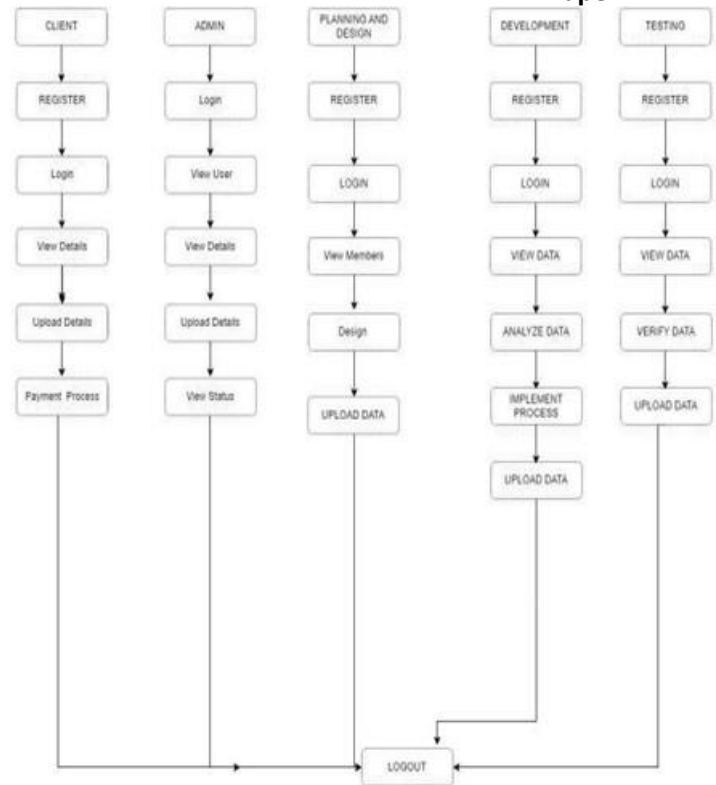
Fig 3: MODULE FLOW DIAGRAM

C. PLANNING AND DESIGN

In this module the Planning and design team members will register their details. After admin sends a password to login. Employees will login and plans the process for designing the data and uploads the plan data into the application as tasks. Each task is assigned to the members of planning and designing team. The design data from the team members is uploaded as they are assigned each task to them. The data is then stored inside the block chain by using the hashing algorithm. The data can be only accessed if the assigned team member wants to share data or data as whole to another team member or forwarding to the development team. The data is securely sent using hashing algorithm which will convert data into cryptic format and sent to development team.

D. DEVELOPMENT

The development team members will register their details for login. After admin accepts them, the development team members view the data from the planning and designing team. The planning and designing team will analyze the data and starts to assign tasks to the team members. The team members will upload the progress of the task that are completed and which are not completed. The data from all tasks of the given project is uploaded. The data is stored securely in the block using hashing

algorithm. If any team member wants to view data or want to send data to a team member, the data can be accessed securely by sending the appropriate key to the team member. After finishing all tasks, the progress test build data is sent to the testing team. The data can be only accessed if the sender from the team shares a key to the testing team.

E. TESTING

In this module, the testing team members will register their details. The details after verified by admin, the admin will share password for login to testing team members. The team members login and views the test build from the development team. The testing team analyzes the test build and uploads data that is analyzed for error in the test build. Then the test data is securely stored in the block chain. The data is then sent to the development team. The development team again sends the refinished test build and again the testing process is done by team members. The data is sent for processing all data will be stored in the block chain. If any team member wants to access the data they need key for accessing for security.

Fig 4: SYSTEM ARCHITECTURE

V. RESULT AND DISCUSSION

The advancement of block chain technology has the potential to have a significant impact on software development. One of the most important characteristics of block chain technology is its decentralised nature, which means that no central authority is required to validate transactions or manage the system. Instead, peer-to-peer network nodes validate and verify transactions. Furthermore, because the data set is dispersed across the network, it is difficult for any single entity to manipulate or alter the data. The use of block chain technology in software development is consistent with agile development principles, which prioritize flexibility and responsiveness to changing requirements.

Fig 5: FEATURE SELECTION

Fig 6: ENCRYPTED DATA

VI. CONCLUSION

For a long time, agile integration or transition has been reliant on a variety of issues. Integration and transition are significant issues. The recent announcement of significant agile transitions has been very interesting not only for their "Digital" or software development teams, but also for other large banking organisations. Team cohesion and communication are two potential roadblocks during these transitions. These can coexist with a misunderstanding of agile methodologies. As a result, some areas have adopted their own interpretation of "Agile," resulting in more silos and fractures. To ensure a successful rollout, the company may need to perform costly retroactive maintenance, such as reorganisation or a complete restart of the transition process. To monitor the development of remote agile teamwork, the application offers its users a user-friendly interface

and keeps transaction records in a block chain..

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