HOW BLOCK- CHAIN-ENABLED MACHINERY HELPS IN E-EDUCATION SYSTEM

Abstract

Basically operating system is known as distributed ledger technology operating system maintains various records like stamp time record, 51% attack, distributed technology.

With the fundamental details this paper suggests formal learning and informal learning with its benefits and limitations which make operating system as innovative technology. From Industrial Era innovation of electric the telegraph and the telephone, the internal combustion engine and the automobile informatics, data science. Operating system used in different sectors like real estate, schools modules information technology. This paper focuses on e-learning appliance and tried to express operating system can be useful to in education system. Article initially focused with benefits of operating system how it overcomes problems associated with students and teachers in Education system related to analysis of students and teacher both parties. Some suggestions on future directions and practical appliance are also included in this paper.

Keywords: immutable; trust; Formal learning; Informal Learning; earn while you learn

Authors

Ammbika Vamanrao MIttapally
Research Scholar
Department of CSE
Koneru Lakshmaiah
Education Foundation University
Guntur, Andra Pradesh, India.

Shrinivasa D Rao
Associate Professor
Department of CSE
Koneru Lakshmaiah
Education Foundation
Hyderabad, Andra Pradesh, India

I. INTRODUCTION

Block -chain operating system technique is proposed by person named Santoshi Nakamoto in 2008. Operating system is rich with features like -decentralization, . Operating system has become boom for growing technology countries, education system and innovative analyst tester, scientist. operating system is networking circuit consisting of both hardware and software. is mostly used to construct info . system can be immutable change in small bit of information will lead to collapse of information(Chung and Kim 2016;Schwab-2017 . operating system is managed by and used by maximum users. operating system type of model depended upon administer as framework of distribution line ,digi -open data. Each and every nodule in Block chain-

Blockchain- operating system updates complete set of Blockchain LAN with its record information everyone regarding new nodule like name,properites,date of creation,date of entry,purpose .Blockchain operating system is also used by small scale industry ,medium scale industry and large scale industry(Collins-2016). In day to day life .Diff erent appliance like e-parking- fast tag Service at toll naka,Digital Grid, Digital Transportation systems, video calling ,digital water supply at farms, digital window safety at home and office door lock security at home and office ,e-health. Depending upon appliance of Blockchain operating system ,the blockchain operating system can be categorized into Blockchain operating system two- point -zero, Blockchain operating system- three- point- zero(Swan -2015).

The further part of this article discusses on features of Blockchain Operating System like “ledger-distributed “and”evaluation technique” along with its benefits. In last section, the appliance and importance of Blockchain Operating System in education sector is reviewed (Devine 2015; Sharples and Domingue-2016).Followed by few innovations related to blockchain operating system in education, future research and scope is highlighted.

This, detail Review of Block-chain Based Analysis discussed. Open Discussions along with Future scope is presented. Finally, the paper is summarized with conclusions and some useful remarks in section.

II. CHARACTERISTICS OF BLOCKCHAIN TECHNOLOGY IN EDUCATION

Blockchain operating system technology works in LAN network with four technical features like “Blockchain –operating system decentralization”, ”Blockchain-operating system traceable ,”Blockchain operating system immutable”.

Blockchain operating system decentralization feature refers to the diff erent framework modules of information analysis, information-storage, information-maintenance, along with communication on LAN blockchain operating system basically depended upon scatter module.inthis process framework Blockchain operating system trust is built using diff erent integrated tools instead of central tool (Tschorsch and Scheuremann 2016).

Blok- chain operating system traceable feature refers to each detail of e-transactions sequentially, crypto-graphic hash function attaches two blocks adjacently. Since every bock is connected with crypto-graphic hash function each transaction traced by checking the nodule info connected with hash-tools(Underwood 2016).

Blockchain operating system has immutable feature because of mainly two reasons. First-all e-transactions recorded in nodule along with encryption- key linked by the earlier nodule while the other encryption- key referring further nodule. Blockchain operating system works with distributed ledger technology which can share ledger with all nodules in blockchain operating system LAN.

III. BENEFITS OF BLOCK-CHAIN OPERATING SYSTEM

Blockchain operating system is enriched with benefits like Blockchain- operating-system-reliable, Blockchain Operating –System- Trust, Blockchain –operating-system security, Blockchain-operating-system-efficiency.

1. **Blockchain Operating System-Reliable:** Blockchain operating system nodule record is maintained by each and every participant on the blockchain operating system network which is referred by thousands of participants on LAN. In distributed Blockchain operating system even if one nodule fails all other nodules execute successfully. Each and every participant in blockchain operating system acts as admin .Even a small bit of change in nodule leads to view everyone in Blockchain operating system LAN. While in case of Centralized Blockchain operating system, administer handles all details related to security. In centralized blockchain operating system record can be updated, deleted, modified centrally. All monitoring charge of operating system is handled by single admin.In central blockchain operating system if the central nodule fails entire blockchain operating system fails (underwood 2016).

2. **Blockchain-operating System-trust:** Blockchain operating system trust is decentralized along with decentralized information. Likewise centralized admin, all information is handled any central nodule so trust oninformation is big issue. Exactly opposite of central system in distributed blockchain operating system every nodule in network acts as admin (Yi-Huumo et al.2016).

3. **Blockchain Operating System Security:** Since Blockchain operating system can be worked with special property called distributed ledger. Due its distributed ledger feature Blockchain operating system is more secure. All the thousand participants in network receive message of transactions, updation, addition of new nodule in network (Yli-Huumo et.al 2016)

4. **Blockchain Operating System Efficiency:** Due to its secure nature and distributed ledger technology blockchain operating system is working efficiently. Addition of new nodule in blockchain operating system updates complete blockchain architecture or blockchain module at same instant of time. So it can be said that Blockchain operating system works efficiently (Wang et al.2016).

IV. BLOCK-CHAIN OPERATING SYSTEM : EDUCATION SYSTEM

Massive Open Online Course, Swayam-Study Webs of Active Learning for Young Aspiring Minds ,face to face e learning, module consist of online study material like videos, notes, information, output of performance, candidate progress, candidate assessment sheet, online grading system, Online test like-mcq, video recording along with e partcipation,

e-certification upon completion of course or related programs. Basically Informal learning module consist of informatics related to analysis, scientific technology, innovation knowledge, e-skills, digital teaching and literacy practice along with personal keen knowledge and self interest are boosted .The e-learning student grades will be recorded ,as well graded assingments, practicals, tests can be viewed when demanded(Sharples and Domingue 2016;Skiba 2017).

Firstly-The University of Nicosia works with Blockchain Machinery –informal learning atmosphere which can be used to solve candidates e-certificates distributed by MOOC (Massive Open Online Course) systems(Sharples and Domingue 2016;Skiba 2017).

Secondly, University named Sony Global Education working with Blockchain Technology for generation of uniform student rating graph and percentile secured to record all details of graduation (Hoy 2017).

Thirdly-Massachusetts Institute of Technology (MIT) along with Natural Language Processing Institude have common interface algorithm graphically depended upon e learning, digital learning Blockchain Machinery. Attedance record of the candidates admitted for degree with completion of e-project, online trainings, e-workshops,e-conferences, e webniars, e-seminars, e-discussions, e-practicals, MCQ, QUIZ, e short answers, e-paragraph, e-tutorials, e-thoery, works with operating system based upon Blockchain Operating System which offers e-services record, analysis graduate record. Candidates those who have completed e-task assignment, submitted e-task assignment are eligible for e-certification, which ultimately recorded on Blockchain Operating System. Topmost Holberton e-school applies for Blockchain Machinery for storage of graduation certificates mentioning that working with Blockchain Operating System since 2016-2017-2018(Skiba 2017).

Blockchain Operating System Corelates all evaluation e degree informatics along with unique enrollement number.The Blockchain e-ledger consists of details of information in e class,e-micro semester wise Software Engineering experience.

Presently ,few academics started working with blockchain Blockchain operating system can be used to reduce ,nullify or machinery in e-learning ,basic aim behind e-learning with minimize fake graduation e-certification.Before invention of blockchain technology is qualification, maintenance Blockchain Operating System candidates have submitted fake, assessment, analysis related to e-cetificates since no verification module existed for validation learning outputs. Blockchain operating system works with of certication.Fake graduation completed certificate and both Formal learning and Informal learning techniques candidate can be identified.In other words it can also be said (Sharples and Dominguez 2016;Skiba 2017). Few examples of that with innovation of Blockchain Operating System students formal learning can consist of classroom learning with awarded, managed fraud degree can be completely stopped and blackboard and chalk. Few examples of informal learning can banned(Sharples and Domingue 2016;Skiba 2017). be Google class, MS-Learning Management System, MOOCS.

The e-ledger present on the Blockchain Operating system can be validated with unique enrollement no with records on Blockchain Operating System. The records on Blockchain Operating system can be matched with unique enrollement no to assess, analyze, grade, e-securinity by allotted coordinators worldwide.

Blockchain Operating System e-ledger is enriched with feature called no change in record, full trust, tile limitedness, ease of use, easily available. Reliable nature of Blockchain Operating system along with authorization leads to identify and zero-per cent fake graduation certification.

Blockchain Operating system can also be called as "Storage –digi currency transaction storage" specialization with Blockchain e-learning bits of information along with experience and e-skills. Every record can be placed on e currency with blockchain LAN in sequence of measurements. Candidates gain digital earning using e learning also called as "**earn while you learn"** (Sharples and Domingue 2016;Skiba 2017). .For example kudos can be used for evaluation of e-learning outputs to store in digital bank(Sharples and Domingue 2016;Skiba 2017).

V. BLOCK-CHAIN OPERATING SYSTEM FOR RESEARCH IN EDUCATION SYSTEM

1. Blockchain Operating System module can be interfaced with academics with variety techniques not just undergraduate management ,evaluation, analysis ,grading. Keeping in view front end of Blockchain users called students and back end users of Block-chain machinery for study task graph,evaluation,to trace complete teaching learning system(Kosba et al 2017).Few cutting edge appliance working with Blockchain Operating System in academics can be suggested and followed. The digital bond can be signed by both learners and educators to interface in academic sector. Educators may acquire few countable digi transactions as per digital bond in regards to income .Both the parties learners and educators are modular even today few incorrect subjective or MCQ points focus on low knowledge e-learning output due to laciness of positive atmosphere ,concentration, network issue and economic cause. Blockchain Operating System works with positive atmosphere due to interface but between learners and educators which basically focus on "earn while you learn" (Sharples and Domingue 2016;Skiba 2017).

2. Few examples like In-class discussion, clicker questions,weekely quizzes, home-work assingmenst, survey, 1-minute reflection writing assingments-related to student development evaluation. Development evaluation of every student record keeping changeling. Development evaluation from student side and teacher side record keeping record of task assigned or tracking the completion and submission of assignment is changeling. Assessment of students in e-learning or grading of students in e-learning is biggest query in present academic sector. This problem can be overcome with technique called as Blockchain Operating System With rich objectives of Blockchain Operating System like immutable, trace, reliable, timeliness-these factors indicate that the information stored in database are more accurate ,secure, no-correct- management ,protected .Few Examples of "Collaborative Learning" are pair or group discussions, matching, sortinh, ranking. Activities or games with a competitive element Drama or role play. Information Exchange activities, including barrier games and jigsaw activities, Think pair share, Daily Discussion Questions, Break out Group Discussions, peer Review which is suggest as excellent constructivism instruction along with learners capability to cope with it(Sharples and Domingue 2016;Skiba 2017).

3. Blockchain Operating System works with objective of free-rider problem which solves both teachers and student problem during e-learning every candidate admitted in e class he/she task on the e-learning dice by using he. She specific mail id, the digital bond will evaluate candidate presentation, along with e-certification, grades stored in cubes. Each and every sheet, document stored in cubes soas to have proof while analysis .All student record is mostly stored on distributed database to gain fairness with each nodule. Keeping in view of candidate nodules are available on Blockchain Operating System which helps during student assessment record .This leads to student fair progress(Sharples and Domingue 2016;Skiba 2017).

4. Blockchain Operating System module focuses on instructors step wise. Instructors can basically submit data like video lectures, PowerPoint presentation, MCQ, quiz, posters, images and many more. Instructors data uploaded on Blockchain module helps to evaluate quality classes. Previously based upon student feedback instructors assessment graded. In e-learning instructors submission of replanned modules leads to verification. The digital graph analysis the positive and negative percentile instructor theory, tutorial and practical –basically helps in analysis indication. This leads to digital bond between instructor-school building repo with instructor candidate. Instructor rubrics are analysed by standard set rubrics to offer e-certificate as awarded certification boosts the Instructor for instructors instructor skills(Sharples and Domingue 2016;Skiba 2017).

5. In the development of skill, mentor, academic monitoring Blockchain Operating System plays an important role. Mentors added in Blockchain Operating System plays an important role to do mentoring of student. Student performance and Teacher performance can be directly visible using Blockchain Operating System. Academic Co ordinators have the responsibility of assessing the student in planning study events and informing student to stay active in research related activities and grade.Recently,this all students activities are not assessed and supervised so it is difficult to say that if something happens in future it cannot be analysed .So such situation can be overcome by Blcock-chain Operating System. So every bit of information can be monitored by digital bond platform and stored into the Blockchain Database .Mentors assessment and feedback record can be recorded as well. Blockchain Operating System helps in how many times has mentor guided student and feedback is provided. Whether they provide correct guidance to the students in course selection and research design? Blockchain Operating System is boosted with rich features like traceability and immutability which helps both students and supervisors behaviours to be recorded in the Blockchain database. This digi appliance can protect the interests of both parties (Sharples and Domingue 2016; Skiba 2017).

6. It can be stated that with the help of Blockchain Operating System analysis and evaluation can be measured. Blockchain Operating System is boosted with reliable, grade value for all students. Basically, Blockchain Operating System will be able to solve the student's query, mutual trust with everyone involved in e-learning. The users who involved with more details of e-learning on digi bits have great oppounity to achieve the excellent appraisal and investment. The biggest benefit with Blockchain Operating System is student record can be traced what he learned .Industry managers will be benefited with this information. This details record helps you to offer job that pairs your acquired skills. On the Other side, companies in search of best employee can also refer blockchain distributed ledger to offer job and can apply different formatting techniques

like sort to find the excellent graded student, in database. In other words defaulter student can be identified (Sharples and Domingue 2016;Skiba 2017).

VI. CONCLUSIONS

Block chain Operating System is mostly distributed ledger technique which has boost features like immutable, traceable, decentralization, and digi services. The slogan "Earn while you learn", Block chain Operating System will be able to motivate students e-learning. Block chain Operating System will be able to record all the e-learning set of activities both in formal learning class and informal learning class. Blockchain Operating System also records instructors various activities ,behaviors, assessment, analysis which can be used during instructor evaluation .It can be also said that students, instructors, Blockchain Operating System can be used in Instructional activities graph, charts, along with assessment. On the other side, it can give opportunity to researchers, developers, students. From trust point of view, Blockchain Operating System will be able to transform students trust to employee trust. Instructors and learners approach can be stored and monitored with digital bond along with block-chain appliance. Blockchain Operating Systems helps to find students activities in detail, subject taught and learned by students along with obtained grades, Blockhain Operating System can be said as trusty worthy technology which is not based on zero third module.

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