

UNIVERSITY E-DEGREE ISSUANCE REVIEWS

Dhanashri Wankhade¹, Shivani Gohatre², Vinay Mahore³, Prof. Jagruti S. Wankhade⁴

¹Student, Department. Of Computer Science & Engineering, P.R. Pote (Patil) College Of Engineering and Management, Amravati, Maharashtra, India

²Student, Department. Of Computer Science & Engineering, P.R. Pote (Patil) College Of Engineering and Management, Amravati, Maharashtra, India,

³Student, Department. Of Computer Science & Engineering, P.R. Pote(Patil) College Of Engineering and Management, Amravati, Maharashtra, India,

⁴ Professor, Department. Of Computer Science & Engineering, P.R. Pote(Patil) College Of Engineering and Management, Amravati, Maharashtra, India,

Abstract - Every year, thousands of students get to graduate from their specific courses. But receive their original degree after a long time from the universities. Also, they are scams and fraud where people generate fake degrees and miss them. So avoid these scams and fraud and to a reasonable show completion degree to students we have worked on this project. This is a website where the university acts as an Admin and signs up itself on the portal. In the next step, the Colleges under a specific University register themselves and the courses they offer. Students from colleges write themselves on the site with their valid information (Name, Enrollment number, Course, Contact, Email, Photo, etc.). Once the student completes the course, they will receive their course completion degree digitally on their cont. Students can download it, and it will act as valid proof of course completion, which will be acceptable to the higher authorities. Since we are using Blockchain technology here, there are no possible chances of duplication of certificates and security.

Key Words: University E-Degree Issuance, Valid Certificates, Blockchain technology, Grant Certificates.

1.INTRODUCTION

The proposed system can exploit the advantages of the blockchain as a decentralized design, giving security, anonymity, longevity, integrity, transparency, immutableness, and system simplification to create a trusted proof of credit and grading system. As a proof of concept, this dissertation will present a prototype implementation of the platform.

The scientific contribution is to provide a distributed and interoperable architecture model for the higher education credit system, which addresses a viewpoint for students, institutions, universities, and companies. Potential employers can benefit from the proposed approach.

Students can take advantage of having their completed course history in a single and transparent view, as well as universities that have this data accessible and up to date, regardless of a student's educational origins. On the other hand, different organizations (such as employers, universities, etc.), as potential system users, can validate the provided information after a student's permission is obtained.

2. LITERATURE REVIEW

A Blockchain Technology can be referred to as a distributed database that chronologically stores a chain of data packed into sealed blocks in a secure and immutable manner. The chain of blocks also called a ledger, is constantly growing. Thus, new partnerships are being appended to the end of the catalog, whereby each new block holds a reference (more precisely, a hash value) to the content of the previous block. The range of the blocks can be predefined or randomly generated by blockchain users. Nevertheless, the data is structured into so-called transactions according to the predefined blockchain structure and is cryptographically sealed. The public key encryption mechanism ensures the security and, thus, consistency, irreversibility, and non-reliability of the distributed ledger content. Before closing a data block, a cryptographic one-way hash function is applied (e.g., SHA256), ensuring the block's anonymity, immutability, and compactness. The ledger and its contents are replicated and synchronized across multiple peers in a P2P network, becoming distributed. Although the blockchain is a part of distributed ledger technologies (DLT), not all DLTs employ a chain of blocks. We will henceforth refer to the description of the technology as the blockchain.

3. PROPOSED SYSTEM

University: Once the authentication of the university is done, they are allowed to view the students as well as institutes. Universities are permitted to view and issue blockchain-powered certificates. University can verify the students who completed their courses.

Institute: Institutes are allowed to do the registration and then authentication. Once the authentication is done, the institutes can create a course category and then upload a course. Institutes are allowed to view the students who completed the course. Institutes can mark students' completed courses. Institute can verify the students who are perusing their systems.

Student: Students are allowed to register their self, and then they can authenticate themselves. Once authentication is done, students can search for the institutes and apply for the courses. Once a student completes their study, the institute will mark it as

completed. The university will be generated a blockchain-powered certificate. Then it comes under the certificate.

4. SYSTEM ARCHITECTURE

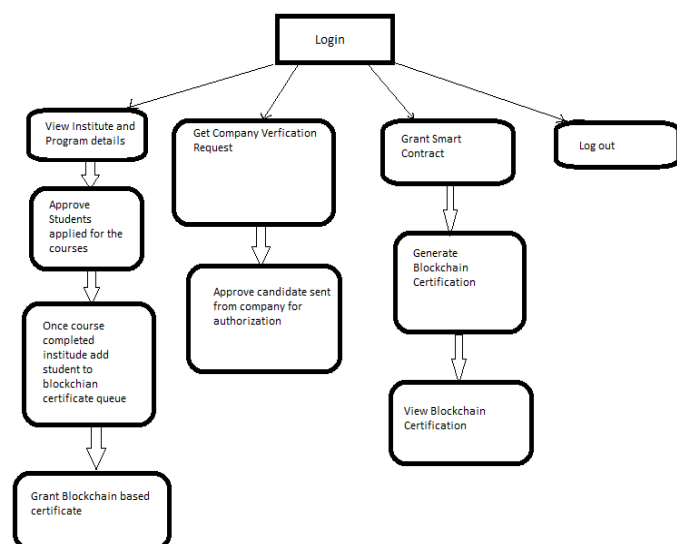


Fig 1.1: Flowchart of University Module

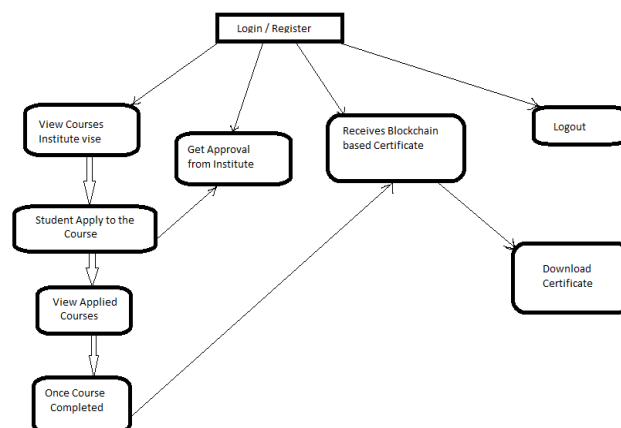


Fig 1.3: Flowchart of Student Module

5. OBJECTIVES

1. To make a single and transparent view to students and universities.
2. To prevent fraud regarding Degree Issuance and fake Degrees.
3. To develop a web base solution for a blockchain-based higher education credit platform.
4. Create modules such as Students, Institutes, universities, companies, and minors.

6. ADVANTAGES AND DISADVANTAGES

ADVANTAGES

1. Students will be able to curate multiple degree certificates from different institutes digitally and maintain a verifiable record of all their achievements for their prospective employers.
2. The days of physically laminating, filing, and storing copies of certificates and official transcripts are over.
3. The System makes the Verification process easy, which is also time-saving.
4. This helps to make it easily accessible for students and for authorized teams or people as well.
5. This will give a simple and transparent view to students and universities
6. All systems help to prevent fraud regarding Degree Issuance and fake degree.
7. The universities will have access to up-to-date regardless of students' educational degrees

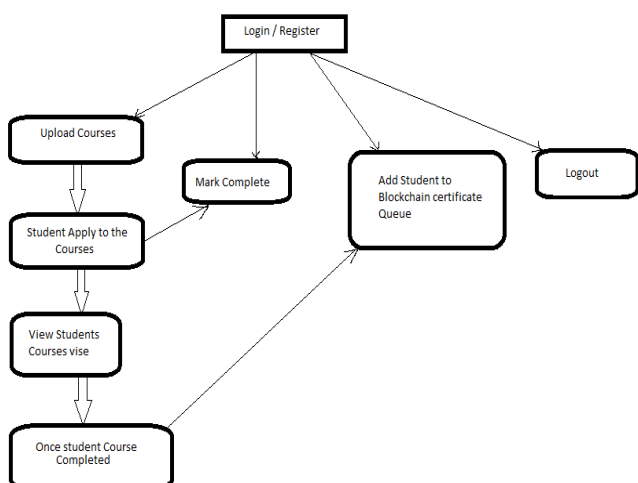


Fig 1.2: Flowchart of Institute Module

DISADVANTAGES

1. Process is time-consuming.
2. Unavailability of hardware even though the use of QR code to a degree possesses the ability to scan QR code. Also, one must have hardware that adds a cost to a system for scanning purposes.

7. CONCLUSION AND FUTURE WORK

CONCLUSION

This is a website where the university acts as an Admin and signs up on the portal. In the next step, all the Colleges under a specific University register themselves and the courses they offer. College students register themselves on the site by putting in their valid information. Hence a secured blockchain-based certificate is generated and granted to the respective student.

Students benefit from the single and transparent view of their completed courses while institutes have access to up-to-date regardless of students' educational origin.

FUTURE SCOPE

Once Company enters this platform, first they have to authenticate their self. If there is a new Company in the system, they must first register themselves and then show themselves. Once the authentication is done, companies can view the student who applied for the courses. To enquire about student companies can apply for student verification. If a student is course perusing, the request goes to the institute. And If a student completes their course, the request goes to the university. Then the student will be approved if the details are correct. In , we plan to add support for other universities. Initially, this was only for Amravati University.

REFERENCES

1. Eyal, A. E. Gencer, E. G. Sirer, and R. V. Renesse, "Bitcoin-NG: a scalable blockchain protocol," in 13th Usenix Conference on Networked Systems Design and Implementation (NSDI'16), Berkeley, CA, USA, 2016, pp. 45-59
2. CoinMarketCap.Com, "Crypto Currency Market Capitalization," [online] Available: <https://coinmarketcap.com/currencies/>, (accessed August 15, 2018) S. Nakamoto, "Bitcoin: a peer-to-peer electronic cash system," 2009.[Online] Available: <http://www.bitcoin.org/bitcoin.pdf>, (accessed February 13, 2019)
3. J. Guo, C. Li, G. Zhang, Y. Sun, and R. Bie, "Blockchain-enabled digital rights management for

multimedia resources of online education" Multimedia Tools and Applications, pp. 1–21, 2019.

4. P. Ocheja, B. Flanagan, H. Ueda, and H. Ogata, "Managing lifelong learning records through blockchain," Research and Practice in Technology Enhanced Learning, vol. 14, no. 1, p. 4, 2019.
5. A. Castor, "Cardano blockchain's first use case: Proof of university diplomas in Greece," Bitcoin Magazine, 2018.
6. A. Grech and A. F. Camilleri, "Blockchain in education," 2017.
7. H. M. Gazali, R. Hassan, R. M. Nor, and H. M. Rahman, "Re-inventing ptptn study loan with blockchain and smart contracts," in 2017 8th International Conference on Information Technology (ICIT). IEEE, 2017, pp. 751–754.