

**Discovering Knowledge**

**FYP Proposal Defense Proforma**

**2022**

**Degree Verification System Using Blockchain**

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# Introduction:

# Traditional Educational degree verification is very time consuming process, chances of certificates alteration/fraud.

# We choose Blockchain technology because it is traceable, tamper-proof, and encrypted.

# Dynamic QR-code and unique certificate generate for each students in proposed system.

# Data of educational degree stored into the blockchain in secure manner which enhance the security.

# It works on the idea that: “Only the issuer can upload the certificate and the rest people can only view it.”

# Background:

# This idea has been proposed in many Research papers and also has been implemented in institutes such as the University of Birmingham.

# Their project consist of verification of certificates .

# We are planning to implement with the feature of verification of transcripts and degrees. So, if any student request for transcript while their schooling period due to any particular reason they can get a verified E-transcript through email.

# References:

<https://intranet.birmingham.ac.uk/it/innovation/documents/public/Experiments/Blockchain-based-Academic-Certificate-Authentication-System-Overview.pdf>

# Problem Statement:

* In the current scenario, the Degree/Transcript is stored in a centralized manner, so it takes too much time to verify them.
* Degree/Transcript can be easily hacked and duplicates of that certificates can be made.
* Students also facing the problem of losing the certificate.
* When students bring their certificate to the interview, there is no security for degree/transcript and the certificates or mark sheets might be modified.

# Proposed Solution

* **Features of the project:**

1. Privacy: The marks of the student will not be disclosed.
2. Accuracy: The marks/Grade will be stored accurately within the system
3. Robustness: Nobody will be able to modify the transcript detail but only be able to verify it

* **Methodology/Algorithm:**

1. The student’s degree/transcript and details will be uploaded by the Institute.
2. Using these details a pdf of the degree/transcript is Generated
3. The pdf is hashed
4. The hash value generated in the above step is stored on the blockchain after hashing it with the private key
5. The degree/transcript is mailed to the student.

* **Technologies to be used:**

EVM, Solidity, React.Js, Node.Js, Ganache CLI

* **Sustainable Development Goals Mappings:**

1. Quality Education
2. Create Decent Work and Economic Growth
3. Guarantee Peace, Justice, and Strong Institutions.

* **Reference:** <https://sdgs.un.org/goals>

# Project Scope:

* **Main Areas:**
  + Login for Institute
  + Generate E- degree/transcript with a QR code.
  + Degree mailed to students
  + Public Verification
  + Maintenance of Academic Records on blockchain.
* **Goal:**
  + Our System automates the process of generating degree/transcript and reduces the manual work needed for the verification of the same.
  + Students are also at comparatively low risk of losing the degree/transcript .
  + By using an additional hashing algorithm we are decreasing the percentage of data being tampered with.

# Gantt Chart:

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Graphical user interface

Description automatically generated

# References:

[1] -Department of Computer Science and Engineering, Thiruvallur,TamilNadu Online Certificate Validation Using Blockchain,<https://www.ijana.in/papers/37.pdf> .

[2] - Rohan Hargude, Ghule Ashutosh , Computer Department, Pune, India

<https://ijcrt.org/papers/IJCRT2107013.pdf>,7 July 2021.

[3]- International Journal of Engineering Research & Technology (IJERT) , Ravi Singh Lamkoti Dept. of Information Technology Vidyavardhini's College of Engineering and Technology Vasai, Palgha , <https://www.ijert.org/research/certificate-verification-using-blockchain-and-generation-of-transcript-IJERTV10IS030260.pdf> ,3 March 2021.

[4]- Jayesh G. Dongre Smt. Indira Gandhi College of Engineering Navi Mumbai, India, Education Degree Fraud Detection and Student Certificate Verification using Blockchain,<https://pdfs.semanticscholar.org/e086/5f8e32239882ace2123ae39706cd39b2f2aa.pdf> ,7 July 2020.

**FYP Supervisor: FYP Coordinator:**

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(Note: Supervisor! please write your email address against signatures if emailed)