# PROJECT REPORT ON

**Fake Degree**

**Prevention System**

A report submitted.

in partial fulfilment for the degree of

# Bachelor of Technology In

**Computer Science & Engineering**



## Submitted By:

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GLOBAL GROUP OF INSTITUTES, AMRITSAR

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**CERTIFICATE**

**DECLARATION**

I declare that this project report titled “**Fake Degree Prevention System”** submitted in partial fulfilment of the degree of B. Tech in (Computer Science Engineering) is a record of original work carried out by me under the supervision of **“Mr. Nikhil Chauhan”** and has not formed the basis for the award of any other degree or diploma, in this or any other Institution or University. In keeping with the ethical practice in reporting scientific information, due acknowledgements have been made wherever the findings of others have been cited.

Date: 25/09/2023 Signature

Name of the candidate: Abhay Shukla Roll No.: 2027441

Examined By:

1) 2)

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(Project Guide) (Head of Department)

# ACKNOWLEDGEMENT

I would like to express my gratitude and appreciation to all who gave me the possibility complete this project.

I received a lot of help from several people to complete this project. I would like to thank everyone who helped with this project. I want to thank my Head of Department Dr. Meenakshi Sharma and my mentor Er. Bhavneet Singh, who taught me a lot about this project. Their suggestions and remarks were helpful in finishing this project.

I am appreciative that the college administration gave me such a huge opportunity. I think I’ll take part in more of these kinds of activities in the future. I certify that this project is authentic and that I am solely responsible for its creation. Finally, I’d want to thank my parents and friends for their insightful criticism and support while I completed this project.

Name: Abhay Shukla Roll No: 2027441

**COMPANY PROFILE**

**Mobiloitte Technologies**

Our passion for innovation and dedication to excellence empower businesses to thrive in the digital era. As dreamers, explorers, and architects of the future, we turn ideas into reality, unlocking technology’s true potential with each line of code. With a focus on your success, we provide cutting-edge solutions tailored to meet and exceed diverse industry needs. Join us in shaping the future of technology through collaboration and co-creation, as our agile approach ensures scalable and future-proof solutions perfectly aligned with your unique vision.

### [Blockchain Development](https://www.mobiloitte.com/blockchain/)

Blockchain Solutions, we specialize in Public, Private, and Hybrid Blockchain Development, Smart Contract Audits, NFT Marketplace Creation, and DeFi Applications. Our services emphasize security, scalability, and customer satisfaction, leveraging innovative technology across various industries.

### [Metaverse Development](https://www.mobiloitte.com/metaverse-solutions/)

Metaverse Development Services offer a wide range of solutions, including AR, VR, WebGL-based Gaming, and 3D Space Development. Creating immersive Virtual Real Estate, hosting engaging Virtual Events, and establishing secure and Virtual Goods and Services Marketplaces.

### [Game Development](https://www.mobiloitte.com/blockchain/game-development-company/)

Game Development, including design, sound design, AR/VR, HTML5, and NFT Integration. Services span across various platforms, delivering immersive, captivating experiences. Utilizing advanced technologies and methodologies, we create high-quality, engaging Games for a diverse audience.

### [AI Development](https://www.mobiloitte.com/artificial-intelligence-solution/)

AI and ML Development specialist, services including Natural Language Processing, Robotic Process Automation, Consulting, Recommendation Engines, and Chatbot Development. Customized solutions cater to various industries, such as healthcare, finance, and retail, driving innovation and efficiency.

### [IoT Development](https://www.mobiloitte.com/internet-of-things/)

Internet of Things solutions are offered, integrating IoT with AI/ML, Blockchain, Metaverse, and Gaming. These services extend to smart automation, enhancing every day. The advent of IoT is revolutionizing the world, transforming industries, and reshaping the way we interact with technology.

**CHAPTER-1 INTRODUCTION TO PROJECT**

## Project Aim & Objective

1. **Blockchain Integration**: Integrate blockchain technology, specifically a distributed ledger, to create a secure and transparent platform for storing and verifying educational credentials.
2. **Credential Registration**: Develop a user-friendly interface for educational institutions and individuals to register academic degrees and certificates on the blockchain. This process should include data encryption and identity verification to prevent fraudulent entries.
3. **Immutable Record Keeping**: Ensure that once credentials are recorded on the blockchain, they become immutable and tamper-proof. This will prevent any unauthorized alterations to the records.
4. **Verification Portal**: Create a web-based or mobile application where employers, academic institutions, or any interested parties can easily access and verify the authenticity of credentials by searching the blockchain database.
5. **Smart Contracts**: Implement smart contracts to automate the verification process, allowing for real-time confirmation of the validity of a degree without the need for intermediaries.
6. **Security Measures**: Implement robust security measures to protect the integrity and confidentiality of sensitive data, including user identities and academic records.
7. **User-Friendly Interface**: Design an intuitive and user-friendly interface for both credential issuers and verifiers, ensuring ease of use and accessibility.
8. **Scalability**: Ensure that the system is scalable to accommodate a large number of records and users, making it suitable for widespread adoption.
9. **Privacy Compliance**: Ensure compliance with data privacy regulations and provide options for individuals to control access to their academic records.
10. **Education and Awareness**: Conduct outreach and educational programs to inform educational institutions, employers, and individuals about the benefits of using this blockchain-based system for credential verification.
11. **Testing and Evaluation**: Conduct thorough testing and evaluation of the system's performance, security, and usability to identify and address any potential issues.
12. **Documentation and Training**: Provide comprehensive documentation and training materials for users and administrators to ensure successful adoption and operation of the system.
13. **Continuous Improvement**: Establish a plan for ongoing maintenance, updates, and improvements to adapt to evolving technologies and security threats.

## Project Requirements

1. **Blockchain Infrastructure**:
   * The system must utilize a blockchain framework capable of supporting smart contracts, such as Ethereum, Hyperledger Fabric, or a suitable alternative.
2. **User Registration**:
   * Users should be able to create accounts with a valid email address and secure password.
   * Educational institutions should have the ability to register as verified credential issuers.
3. **Credential Registration**:
   * Users and educational institutions must be able to submit academic credentials, including degrees, diplomas, and certificates, for blockchain registration.
   * The system should support the upload of digital copies of credentials and relevant metadata.
4. **Identity Verification**:
   * Implement a secure identity verification process for users and educational institutions to prevent fraudulent submissions.
5. **Blockchain Integration**:
   * Develop a mechanism to securely record academic credentials on the blockchain, ensuring data integrity and immutability.
6. **Verification Portal**:
   * Create a web-based or mobile application that allows users to search and verify academic credentials by entering relevant details.
   * Provide clear and concise verification results, indicating the authenticity of the credential.
7. **Smart Contracts**:
   * Design and implement smart contracts to automate the verification process, ensuring real-time confirmation of credential validity.
8. **Security Measures**:
   * Implement robust security protocols, including encryption and access controls, to safeguard sensitive data, including user identities and academic records.
9. **User-Friendly Interface**:
   * Design a user-friendly and intuitive interface for users to submit credentials and for verifiers to perform checks.
10. **Scalability**:
    * Ensure the system is scalable to handle a large volume of records and users.

## Key Features of Project

1. **Blockchain-based Verification**: Utilizes blockchain technology to create an immutable and tamper-proof ledger for academic credentials, enhancing trust and security.
2. **User Registration and Identity Verification**: Provides a secure registration process with identity verification to prevent fraudulent submissions and maintain the integrity of the system.
3. **Credential Registration**: Allows users and educational institutions to easily register academic credentials on the blockchain, including degrees, diplomas, and certificates.
4. **Real-time Verification**: Offers real-time verification of academic credentials through the use of smart contracts, ensuring instant confirmation of legitimacy.
5. **User-Friendly Interface**: Features an intuitive and user-friendly interface for both credential issuers and verifiers, promoting ease of use and accessibility.
6. **Secure Data Handling**: Implements robust security measures, including encryption and access controls, to protect sensitive data, such as user identities and academic records.
7. **Privacy Control**: Complies with data privacy regulations and provides users with control over who can access their academic records, enhancing privacy and compliance.
8. **Scalability**: Scales to accommodate a large volume of records and users, making it suitable for widespread adoption and continuous growth.
9. **Educational Outreach**: Conducts educational programs and outreach to inform educational institutions, employers, and individuals about the benefits of the system.
10. **Testing and Security**: Undergoes rigorous testing and security assessments to identify and address vulnerabilities, ensuring the system's robustness.

# CHAPTER 2 SOFTWARE AND HARDWARE USED

## WINDOWS (64-bit)

|  |  |
| --- | --- |
|  | **Requirement** |
| **Processor** | Intel® or AMD processor; 1.5GHz or faster processor |
| **Operating system** | Windows 11 (64 bit), Windows 10 (64 bit) version 1809 or later, Windows Server  2016 (64 bit), or Windows Server 2019 (64 bit) |
| **RAM** | 4GB of RAM |
| **Hard disk space** | 4.5GB of available hard-disk space. |
| **Monitor resolution** | 1024x768 screen resolution |
| **Graphics card** | Video hardware acceleration (optional) |
| **IDE Used** | VS Code , Remix |
| **Programming language** | Solidity, NodeJs, ReactJs |

**WINDOWS (32-bit)**

|  |  |
| --- | --- |
|  | **Requirement** |
| **Processor** | Intel® or AMD processor; 1.5GHz or faster processor |
| **Operating system** | Windows 11 (64 bit), Windows 10 version 1810 or later (32 bit and 64 bit),  Windows 8, 8.1 (32 bit and 64 bit), Windows 7 SP1 (32 bit and 64 bit), or  Windows Server - 2008 R2 (64 bit), 2012 (64 bit), 2012 R2 (64 bit)†, 2016 (64 bit),  or 2019 (64 bit) |
| **RAM** | 4GB of RAM |
| **Hard disk space** | 4.5GB of available hard-disk space |
| **Monitor resolution** | 1024x768 screen resolution |
| **Graphics card** | Video hardware acceleration (optional) |
| **IDE Used** | VS Code , Remix |
| **Programming language** | Solidity, NodeJs, ReactJs |

**macOS**

|  |  |
| --- | --- |
|  | **Requirement** |
| **Processor** | Intel processor; M1 Apple Silicon processor |
| **Operating system** | macOS v10.15, macOS v11\*, macOS v12, or macOS v13 |
| **RAM** | 8GB of RAM |
| **Hard disk space** | 2.75GB of available hard-disk space |
| **Monitor resolution** | 1024x768 screen resolution |
| **IDE Used** | VS Code , Remix |
| **Programming language** | Solidity, NodeJs, ReactJs |

# CHAPTER 4

# CONCLUSION AND FUTURE SCOPE

## CONCLUSION:

In conclusion, the project "Fake Degree Prevention System on Blockchain" represents a significant step toward addressing the pressing issue of counterfeit academic credentials. By leveraging blockchain technology, this system offers a secure and immutable platform for verifying the authenticity of academic degrees and certificates. The key features, including real-time verification, user-friendly interfaces, privacy controls, and robust security measures, ensure that the system can effectively combat credential fraud while promoting trust and transparency in educational and employment sectors.

The successful development and implementation of this project will not only benefit educational institutions and employers but also safeguard the reputations and career prospects of individuals. It aligns with the growing need for reliable credential verification in an increasingly digital and globalized world.

## FUTURE SCOPE:

The "Fake Degree Prevention System on Blockchain" project has a promising future scope with potential areas of expansion and enhancement, including:

* + 1. Global Adoption: Expanding the system's reach to international educational institutions and employers to create a global network for credential verification.
    2. Enhanced User Experience: Continuously improving the user interface and adding features such as mobile applications for easy access and verification.
    3. Credential Issuer Verification: Introducing a mechanism for verifying the authenticity of educational institutions and credential issuers, further enhancing the trustworthiness of the system.
    4. AI Integration: Incorporating artificial intelligence and machine learning to detect subtle patterns or anomalies in credentials, improving fraud detection capabilities.
    5. Blockchain Interoperability: Exploring interoperability with other blockchain networks to create a more extensive and interconnected verification ecosystem.
    6. Multi-Language Support: Adding support for multiple languages to accommodate users and institutions worldwide.
    7. Blockchain Innovations: Staying updated with the latest blockchain innovations and integrating them for increased scalability, efficiency, and security.
    8. Advanced Security Measures: Implementing advanced security measures, such as biometric authentication or zero-knowledge proofs, to further protect user data.
    9. Smart Contract Customization: Allowing educational institutions to customize smart contracts for specific verification requirements.