

The background features a dark blue world map with a network of glowing blue lines and nodes connecting various points across the globe, symbolizing a decentralized network.

# BLOCKCHAIN

T E C H N O L O G Y

# Features:

Why Blockchain?

Better Security  
Immutability  
Faster Settlement

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# Contents

- Digital Identity
- Digital Voting

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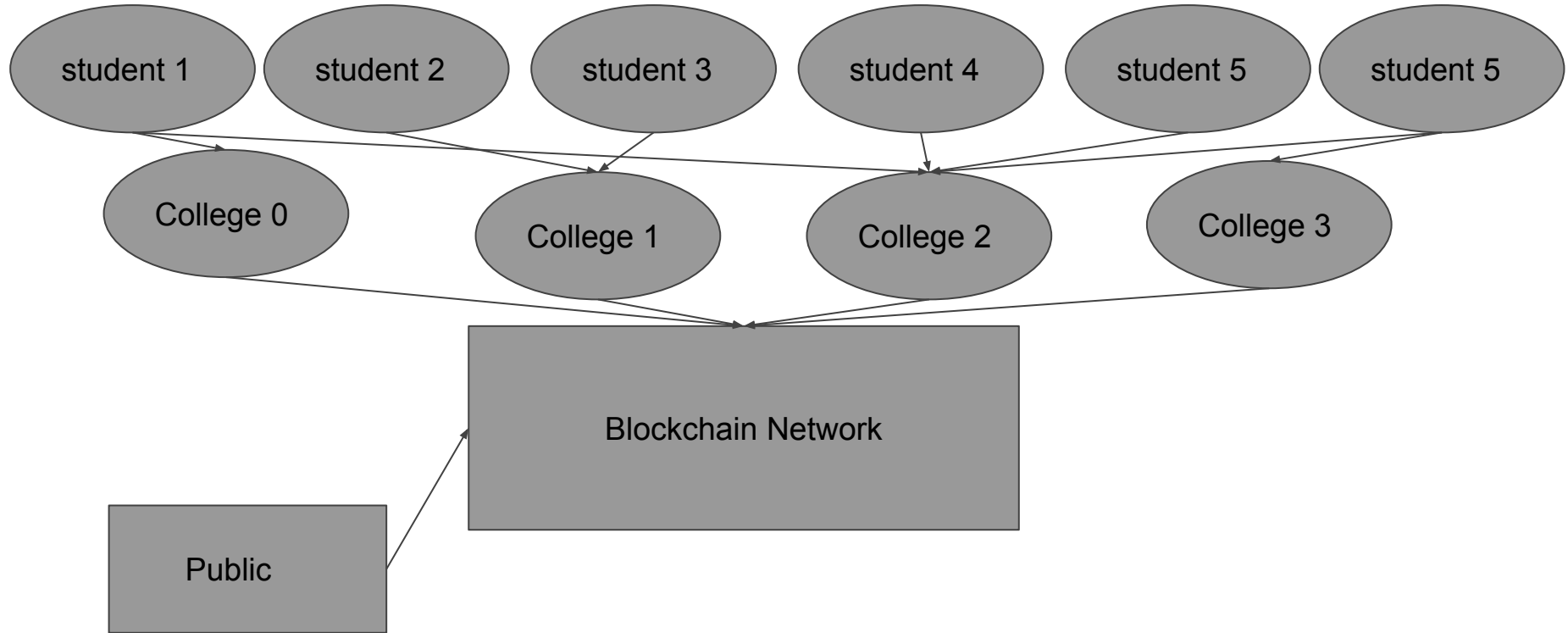
# Digital Identity

This DApp allows an institution to issue digital certificates.

# Blockchain Certificates

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# Architecture



# Code Architecture

```
working_directory
|---
certificate_template.pdf
|--- graduates.csv
|--- config.ini
```

We recommend to create a new folder (working directory) where everything will take place. Thus, all files used and all files created are organized properly in one place.

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# Creating Certificates

- A pdf template file.
- Performance record.
- Local Bitcoin node.

The method allows an institution to issue digital certificates. It creates PDF certificate files and issues a hash representing those files into the Bitcoin network's blockchain.

```
$ create-certificates-with-index -c path  
/to/working_directory/config.ini
```

— — —

# Issuing Certificates

## Requirements:

- a local Bitcoin node running
- python 3
- A Linux node

Issues the certificates in the `certificates_directory` after adding the appropriate metadata. The PDF metadata `metadata_object` is added to the PDF. It is a JSON object that always contains `issuer` and `issuer_address` as well as all the fields specified in `cert_metadata_columns`.

```
$ issue-certificates -c  
path/to/working_directory/config.ini
```

— — —



# Validating certificates

## Requirements:

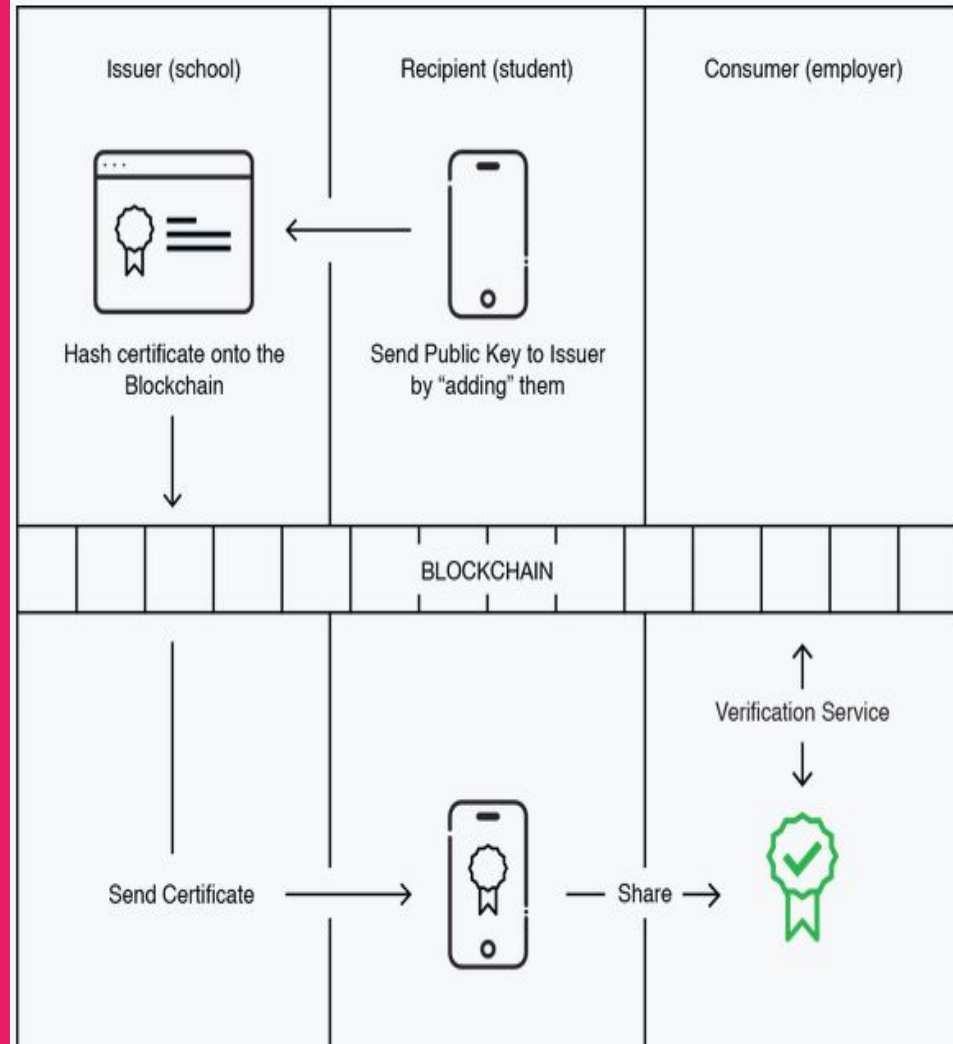
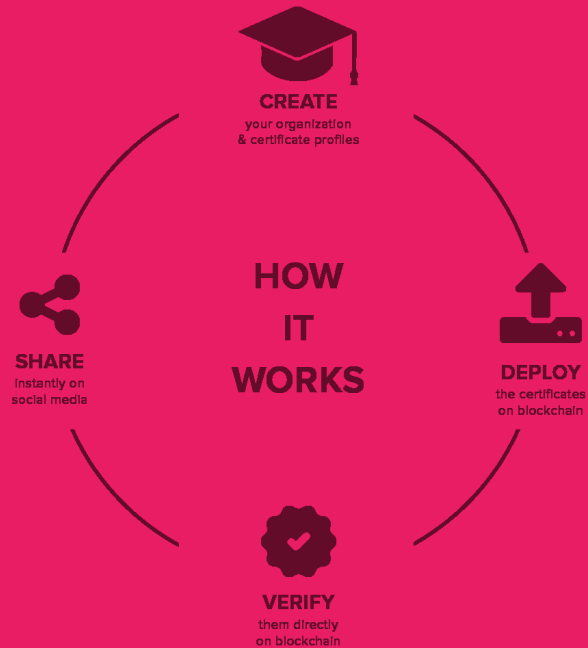
- Certificate to be validated.
- Hash Prefix.

The script can be used to validate certificates issued in the past or issued by others. You pass the certificates that you want to validate as arguments as well as the hash\_prefix (if added when issuing) .

```
$ validate-certificates -c  
path/to/working_directory/config.ini -f  
cert1.pdf cert2.pdf cert3.pdf
```

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# How it works !!



# Private Info needed

Data from various  
stakeholders

- Student Id
- Student Name
- Grade
- E-mail
- Degree

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# Assumptions

The assumptions pertains to the user knowledge

- The node running the network has linux installed
- User has basic knowledge of python
- Has a Java Runtime Environment available
- Has a local Bitcoin node running
- Has Basic knowledge of the operating system

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# Digital Identity

For Creating a  
De-centralised voting App

Voting DApp

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# Using DApp

Type The Name in the Input  
Bar to Vote

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# Demo

## Voting DApplication

Candidate	Votes
Mehul	2
Sayan	1
Vernwal	1

Mehul

Tap Me to Vote

# App Link

[https://github.com/MuLx10/  
Blockchain-Dapps](https://github.com/MuLx10/Blockchain-Dapps)

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# Team Member

**Mehul Kumar Nirala**

**Github** : @ MuLx10

**LinkedIn** : @ in/mulx10

**Mail** :  
compcode18@gmail.com

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# Thank You

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