

# Blockchain based Aadhar System

**hash it out**

Shubham Kumar Goyal  
Ravi Dutt Yadav  
Shubham Gupta  
Ravi Singh

March 20, 2018

# Outline

Blockchain  
based Aadhar  
System

hash it out

Shubham  
Kumar Goyal  
Ravi Dutt  
Yadav  
Shubham  
Gupta  
Ravi Singh

Aadhar  
System

Issues in  
Current  
Aadhar  
System

How  
Blockchain is  
helping

Our Propsed  
Solution

1 Aadhar System

2 Issues in Current Aadhar System

3 How Blockchain is helping

4 Our Propsed Solution

# Aadhar System

Blockchain  
based Aadhar  
System

hash it out

Shubham  
Kumar Goyal  
Ravi Dutt  
Yadav  
Shubham  
Gupta  
Ravi Singh

Aadhar  
System

Issues in  
Current  
Aadhar  
System

How  
Blockchain is  
helping

Our Proposed  
Solution

- Aadhaar collects name, date of birth, gender, address, mobile/email of every resident, and stores those against the corresponding fingerprints and iris patterns.
- 12-digit unique identity number issued to all Indian residents based on their biometric and demographic data.
- Maintained by The Unique Identification Authority of India (UIDAI)

# Issues in Current Aadhar System

Blockchain  
based Aadhar  
System

hash it out

Shubham  
Kumar Goyal  
Ravi Dutt  
Yadav  
Shubham  
Gupta  
Ravi Singh

Aadhar  
System

Issues in  
Current  
Aadhar  
System

How  
Blockchain is  
helping

Our Proposed  
Solution

- Centralized System :All the centralized systems are honeypots.Whoever hacked into the Central Identities Data Repository (CIDR) can reveal the personally identifiable information of more than 1 billion users.
- Multiple authentications without consent
- Unnecessary access to data

# How Blockchain is helping

Blockchain  
based Aadhar  
System

hash it out

Shubham  
Kumar Goyal  
Ravi Dutt  
Yadav  
Shubham  
Gupta  
Ravi Singh

Aadhar  
System

Issues in  
Current  
Aadhar  
System

How  
Blockchain is  
helping

Our Proposed  
Solution

- Multiple UIDAI trusted nodes exist to validate a transaction and append blocks in the blockchain. Only these trusted nodes will be able to decrypt the data stored in the blocks.
- To be able to validate a malicious transaction (i.e. add a new block, or decrypt a data) a hacker must take control of at least 51% of the nodes.

# How Blockchain is helping

Blockchain  
based Aadhar  
System

hash it out

Shubham  
Kumar Goyal  
Ravi Dutt  
Yadav  
Shubham  
Gupta  
Ravi Singh

Aadhar  
System

Issues in  
Current  
Aadhar  
System

How  
Blockchain is  
helping

Our Proposed  
Solution

- Nodes other than the UIDAI trusted nodes will be able to download the entire blockchain and verify the hashes. This way, anyone will be able to check the integrity of the blockchain without actually looking into the data.

# Our proposed Solution

Blockchain  
based Aadhar  
System

hash it out

Shubham  
Kumar Goyal  
Ravi Dutt  
Yadav  
Shubham  
Gupta  
Ravi Singh

Aadhar  
System

Issues in  
Current  
Aadhar  
System

How  
Blockchain is  
helping

Our Proposed  
Solution

- The AUA adds an authentication request to the blockchain. It specifies the user it wants to authenticate, and the purpose for which authentication is required.
- The user approves the request, then adds his personal data to the blockchain, encrypted such that only the government can decrypt it.
- The government then looks at the request from the AUA, and the data provided by the user, and calls its internal services to verify if the data provided by the user indeed corresponds to him/her. t.

# Our proposed Solution

Blockchain  
based Aadhar  
System

hash it out

Shubham  
Kumar Goyal  
Ravi Dutt  
Yadav  
Shubham  
Gupta  
Ravi Singh

Aadhar  
System

Issues in  
Current  
Aadhar  
System

How  
Blockchain is  
helping

Our Proposed  
Solution

- The government appropriately marks the request as rejected/approved.
- The AUA then queries the blockchain to see if its request has been approved by the government.