



KRITI '24

THE COMPLETE SOLUTION TO
**DIGITAL
IDENTITY**

BLOCKCHAIN SOLUTIONS FOR ENHANCED SECURITY AND PRIVACY

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- 02** DOCKER
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CLAIMS CONTRACT

In today's time, we all face some common issues.

- Document Forgery
- Tedious Document Verification Process
- Revealing more information than required.
- Centralized Storage prone to cyber attack





To verify my age I have to show some document like my Aadhar Card, but it contains my other personal info. Why should I let him see my personal info??



Show me proof that you are above 18 to enter...



OUR SOLUTION...

- Create, share and verify documents

Send And Recieve Claims

User can request for claims from other users (called issuer or verifier)

Users can issue claims to other users

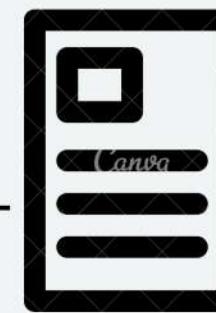
Send and Recieve Information

User can use their claims to verify their information/identity

Users can trust a user if they trust the issuer/verifier of the claim.



Claim:
Age is 18+



**Issuer / Verifier
(Government Official)**



Claim:
Age is 18+
Issued By:
Government Official

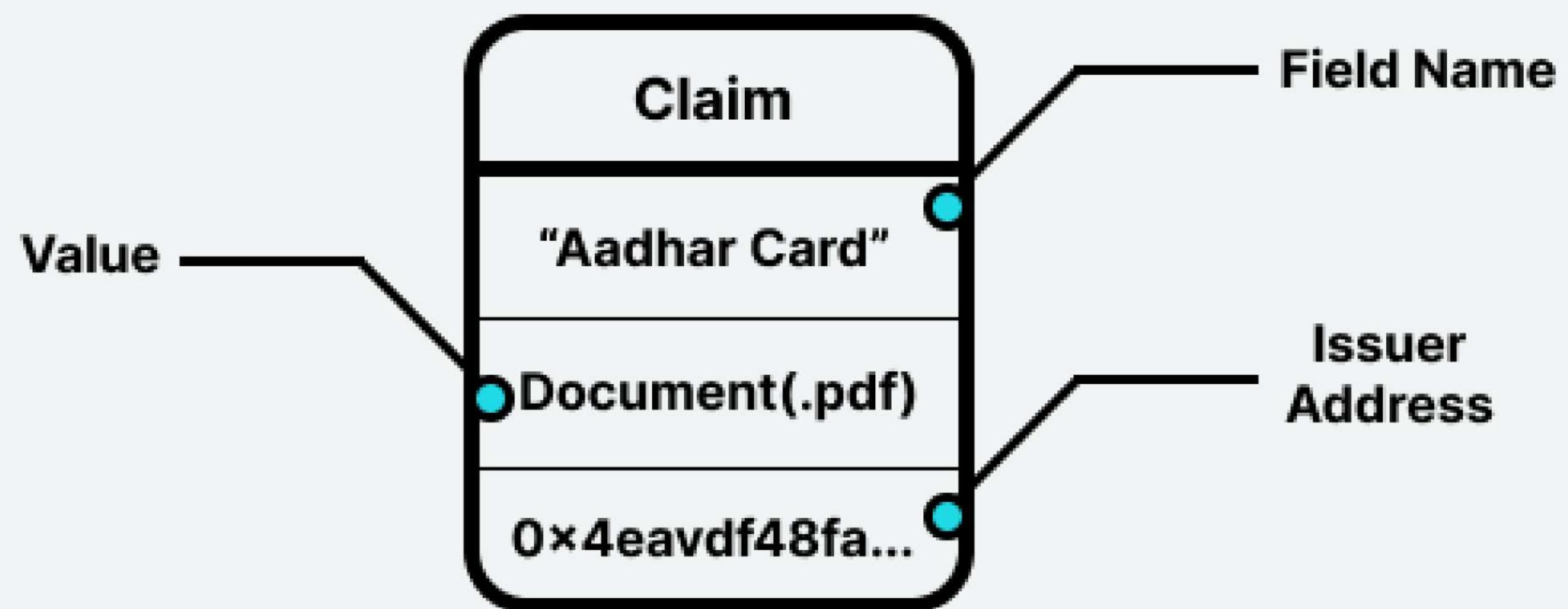


(Bank Manager)

I trust the Government official , So I can trust this person's age, too.

But what is a claim?

A claim is a proof that an issuer issued a document to a user



“DOCKER”....

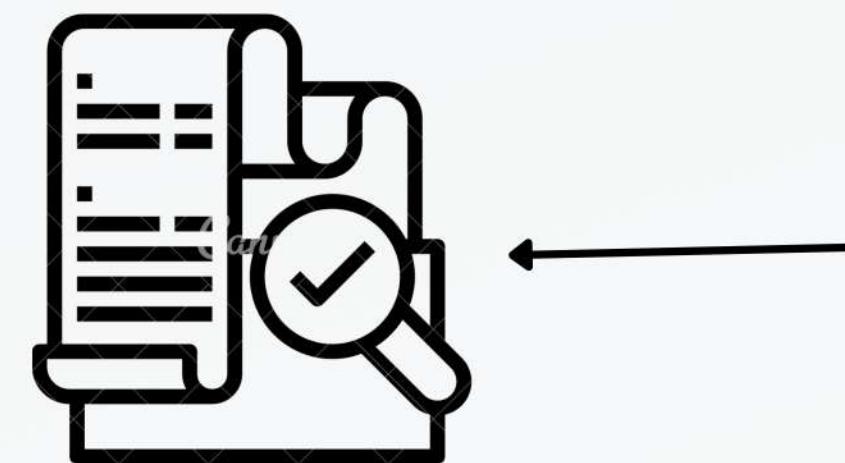
- Efficient way to manage documents on Blockchain.

- DIGI-LOCKER ISSUES:**
- Single Point of Failure
 - Insider Attack?
 - If a hacker hacks their database?



Upload Document on IPFS, and get a Hash of the Document.

Request Claim from verifier to verify this hash



The claim containing the IPFS hash can be used as proof to show the validity of the document.



BENEFITS

of using “DocChain”

Decentralized Storage

Keeping your identities safe without third party

Easy Verification Process

Users can get their documents verified with a single click of button

More User Control

User can limit the amount of information he wants to share

Prevents Forgery

You need to get your data verified by trusted issuers, with the immutability of Blockchain

WHY IPFS?

complementary file system

Provides secure
and cost-effective
storage

Enhances Scalability
of DApps due to
efficient bandwidth
usage

Decentralized and
distributed
storage, with no
single point of
failure

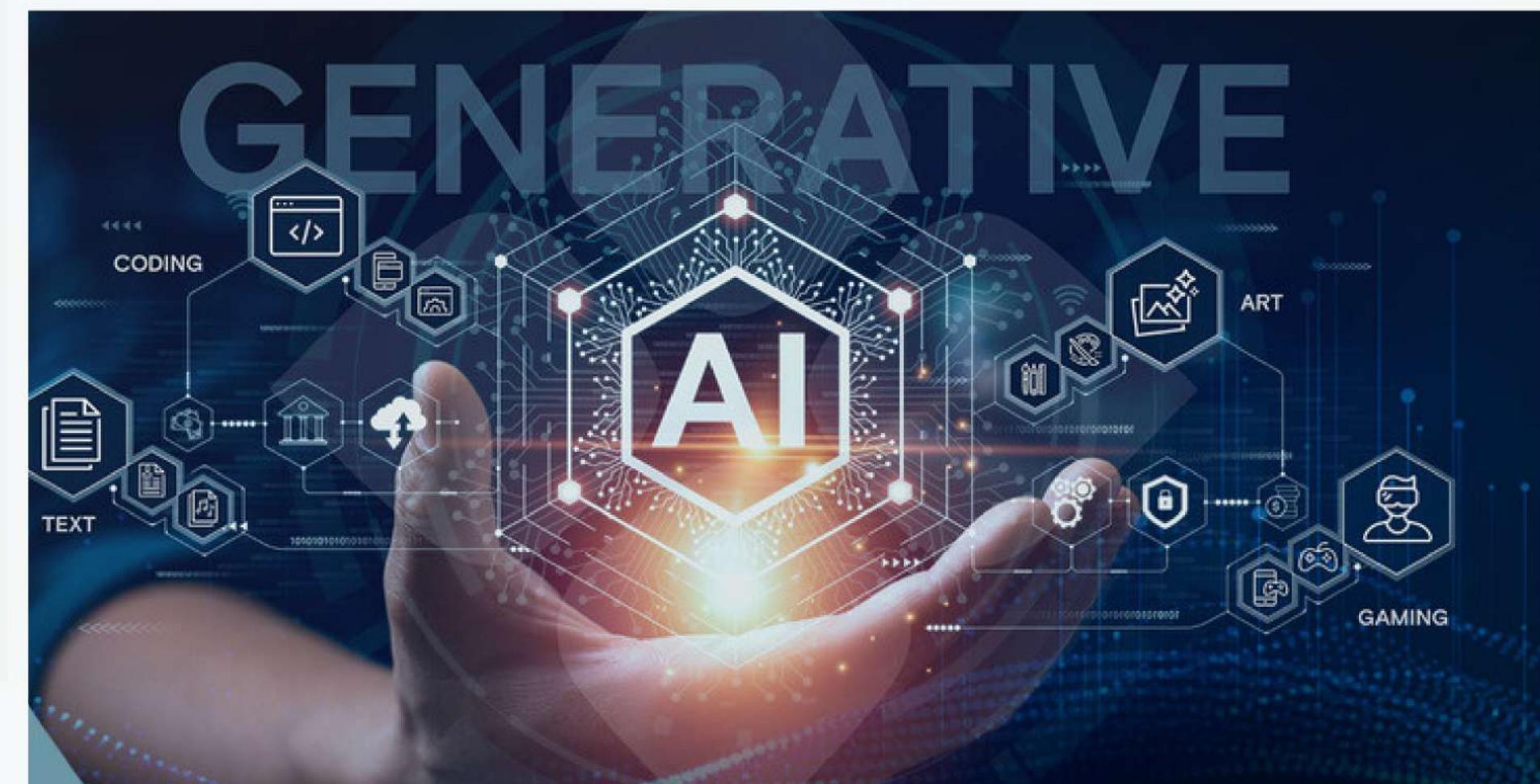


PERSONALIZED AVATAR...

- Using Generative AI

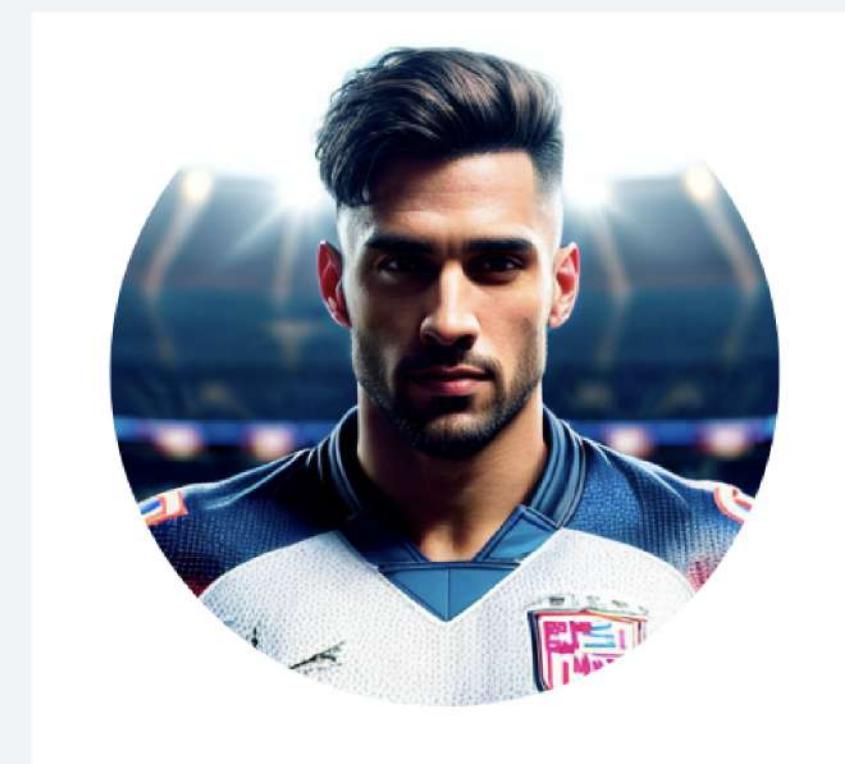
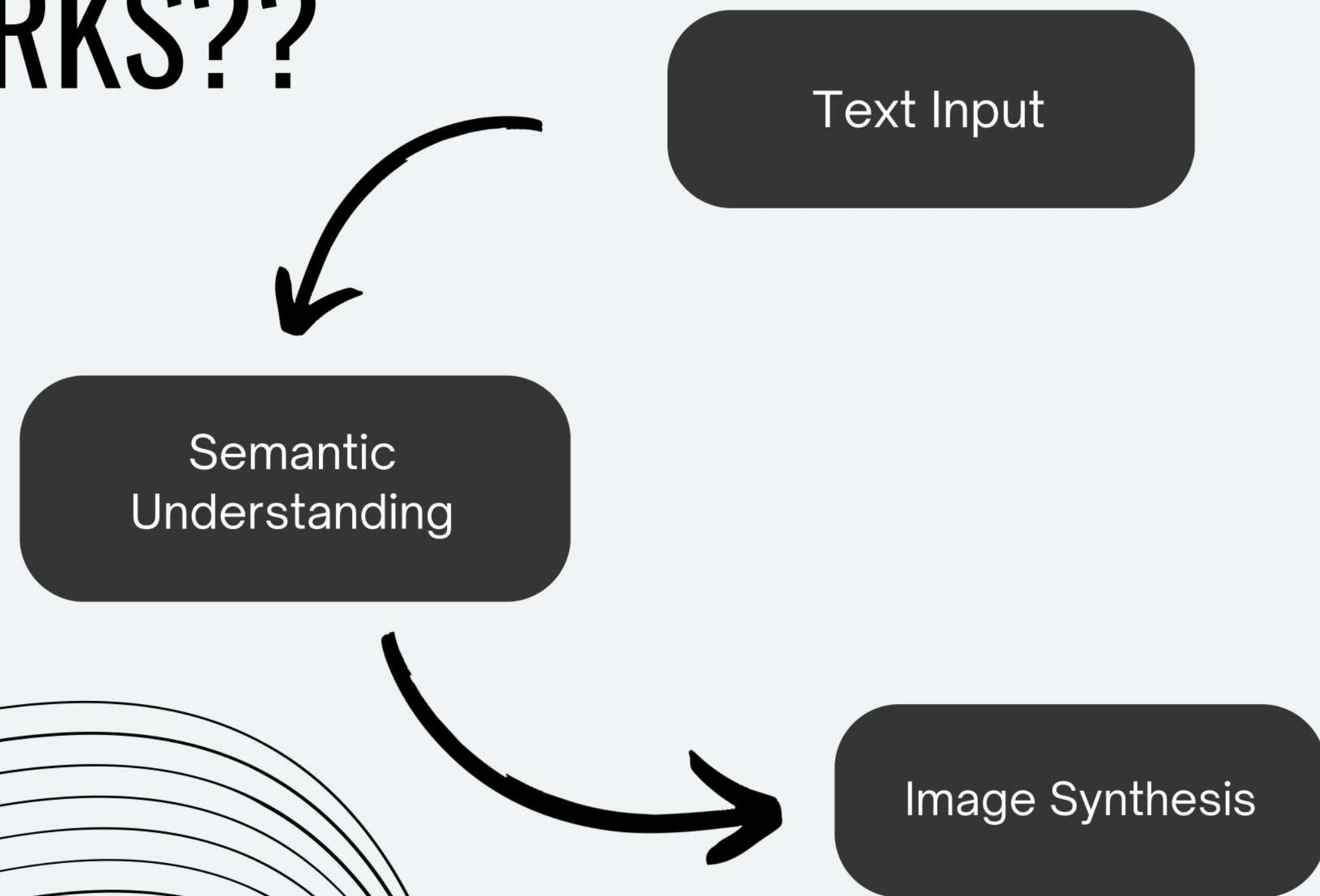
Using the power of stable diffusion models, our **Avatar Generator** integrates seamlessly with the Stablediffusionapi Text2Img API. This API ensures the creation of safe and high-quality images by implementing robust safety checks and automatic negative prompting. Users have the flexibility to provide multiple prompts until they achieve their desired result.

This feature provides you with a personalised avatar tailored to your interests and preferences based on the prompts you provide.



API used :- <https://stablediffusionapi.com/>

HOW AVATAR GENERATION WORKS??



OUR AVATAR

PROPERTY ACCESS

Transforming property access management through the integration of blockchain technology.

Utilizing smart contracts on blockchain to automate key management procedures, enabling secure sharing of keys and ensuring transparency in tracking key usage and access history.





Want to give limited access to your house to your friends and family?

Want to give access to the housekeeper when you are physically away?

Worried about losing your keys?

Want to keep tamper free log of who entered your property and at what time?



I ran out of salt

Those keys were only for emergencies



PROPERTY ACCESS MADE EASY...

GRANT ACCESS
TO YOUR
PROPERTY FOR
LIMITED PERIOD

KEEP LOG OF
WHO ACCESSED
YOUR
PROPERTY

NO NEED FOR
PHYSICAL KEYS

VOTING..



Modi Ji, you have tampered the votes.



I hope no one finds out, whom I voted



BLOCKCHAIN IN VOTING

Using blockchain in voting systems allows :-

1. **Transparency:** The voting process and results are transparent.
2. **Security And Fraud Prevention:** The immutability feature of BlockChain prevents tampering of votes.
3. **Anonymity:** The identity of your vote remains confidential, ensuring the safety and security of voter information.

This is just a glimpse that how voting system can be made better using blockchain technology.

APIS USED

- 1. Third-Web SDK:** We used third-web's SDK for authorization, function testing, deploying, using IPFS for Docker and sending the information to the backend. For the frontend, we used the React SDK library of third-web for fetching the data and connecting the frontend and backend.
- 2. Stable Diffusion API:** We used the Stable Diffusion API for the image generation for the avatar of the user which was our GenAI integration.
- 3. API.QRServer.com :** For the QR Code generation functionality for the profile.
<https://api.qrserver.com/v1/create-qr-code/>
- 4. MetaMask Wallet API:** For the Authorization and fetching the information of the claims, we used MetaMask API through third-web's SDK.

IMPLEMENTATIONS

of Blockchain

Using blockchain, we implemented

- 1. Claims Contract:** It allows user to issue/receive claims and send/receive information.
(Contract Address: 0x7588A087D0DEF406ec309807AC8014896a1AF387)
- 2. Voting System:** It allows creation of new polls, counting and showing results.
(Contract Address: 0x4E7BAaAaaE42E00e721EEc18076Da285853B0519)
- 3. Property Access:** It allows user to grant access to their properties and keep a logs.
(Contract Address: 0x545a2DCf2e313CD2993e1be42B6DF30e23687e1a)

Used Sepolia
Blockchain to
deploy our Smart
Contracts

Used Third-Web
for frontend
integration with
Blockchain

**THANK
YOU!!**