



Generating high impact and Deriving more value by leveraging AI in the DNS Ecosystem

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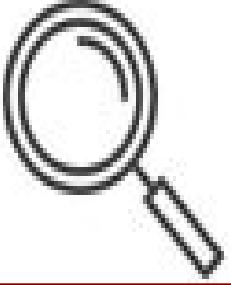
APTLD85, Goa

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Contents in Brief

- Leveraging
 - AI & Gen AI
 - Blockchain & NFTs
- For Improving
 - Creativity
 - Searchability
 - Accessibility
 - Security
 - Trust & Reputation
- Of Domain Names

Gen AI for improving access to IDNs



Search and Discovery

- Challenges in discovering Non-Latin Characters
- AI-powered optimized, and effective retrieval search engines

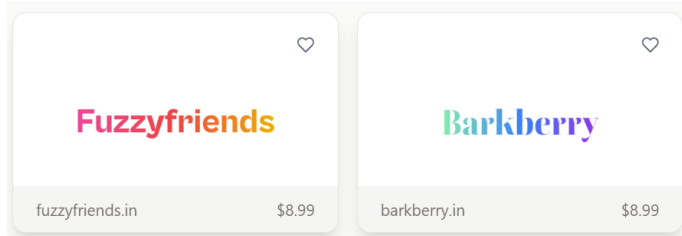


Gen AI for IDNs – Current Scenario

Encourage usage of IDNs



- Provide IDN Internet resources based on user behavior and preferences
- Provide NLP based support to generate localized content
- Examples - <https://oneword.domains/domains-gpt>, <https://deepgram.com/ai-apps/ai-domain-genius>



	DOMAIN	BUY NOW
1	CrazyCrittersTN.com	\$11.99
2	CuddleMuttsTN.com	\$11.99
3	FeatheredFriendsTN.com	\$11.99
4	FurFamilyTN.com	\$11.99
5	HappyPawsTN.com	\$11.99
6	MeowPalaceTN.com	\$11.99
7	PawJoyTN.com	\$11.99



Sure, here are some domain name ideas in Tamil for your pet shop:

1. நாய் கடைகள்.com (nāy kaṭaikaḷ.com) - "Dog Shops"
2. செல்வம்.com (cēlvam.com) - "Pet Wealth"
3. பூனை கடை.இன் (pūnai kaṭai.in) - "Cat Shop"
4. பழைய சகோதரர்கள்.நெட் (paḷaiya cakōtararkaḷ.ned) - "Old Siblings"
5. பூச்சி மண்டபம்.காம் (pūcci maṇṭapam.kām) - "Pet Pavilion"
6. குரங்கு குடை.நெட் (kuraṅku kuṭai.ned) - "Monkey Hut"
7. காடு சாலைகள்.இன் (kāṭu cālaikaḷ.in) - "Wild Paths"
8. விலங்கு வாசல்.நெட் (vilangu vācal.ned) - "Animal Doorway"

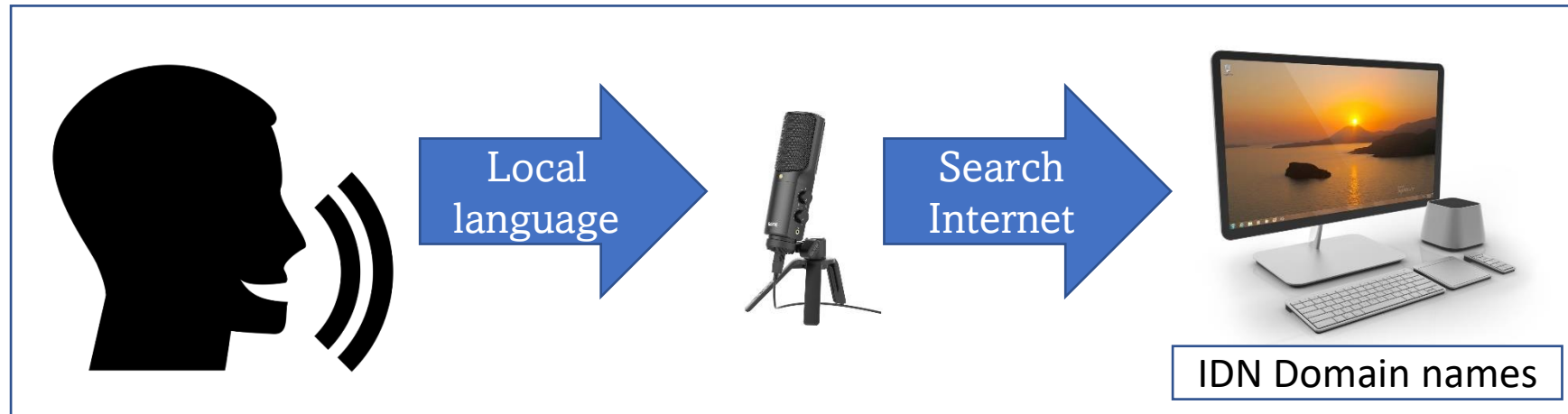
Remember to check the availability of these domain names before finalizing your choice!

Gen AI for improving Accessibility of IDNs



Accessibility

- AI-based voice recognition and assistance
- NLP based screen-reading



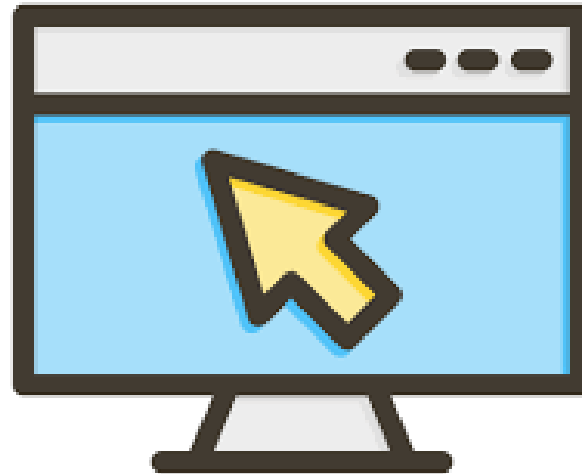
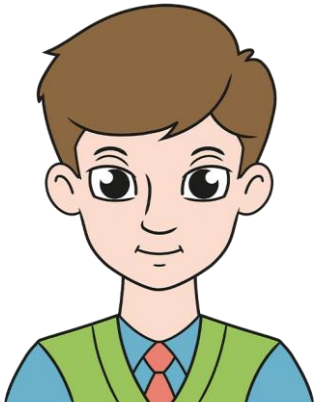
Integration of AI & Voice Assistant in Domain Search

- Use of Voice Assistants like Alexa, Siri, and Google Assistant has increased profusely
 - Ability to search domains using these and place orders will add value
 - Challenges
 - Detection of Homophones and intended domain name
 - Fancy spellings in a domain name: beforeyou.com vs b4u.com
- AI integration for TLD generations and trend analysis will help both sellers and buyers can take informed decisions.
 - Integration with AR & VR can provide:
 - Immersive showcase of domain buying options
 - Engaging buying & selling experience

Integration of AI & Voice Assistant in Domain Search



Alexa, can you suggest and search for a domain name for CDAC?



cdac.in ₹199/yr

cdac.gov.in
₹699/yr

cdac.net ₹499/yr

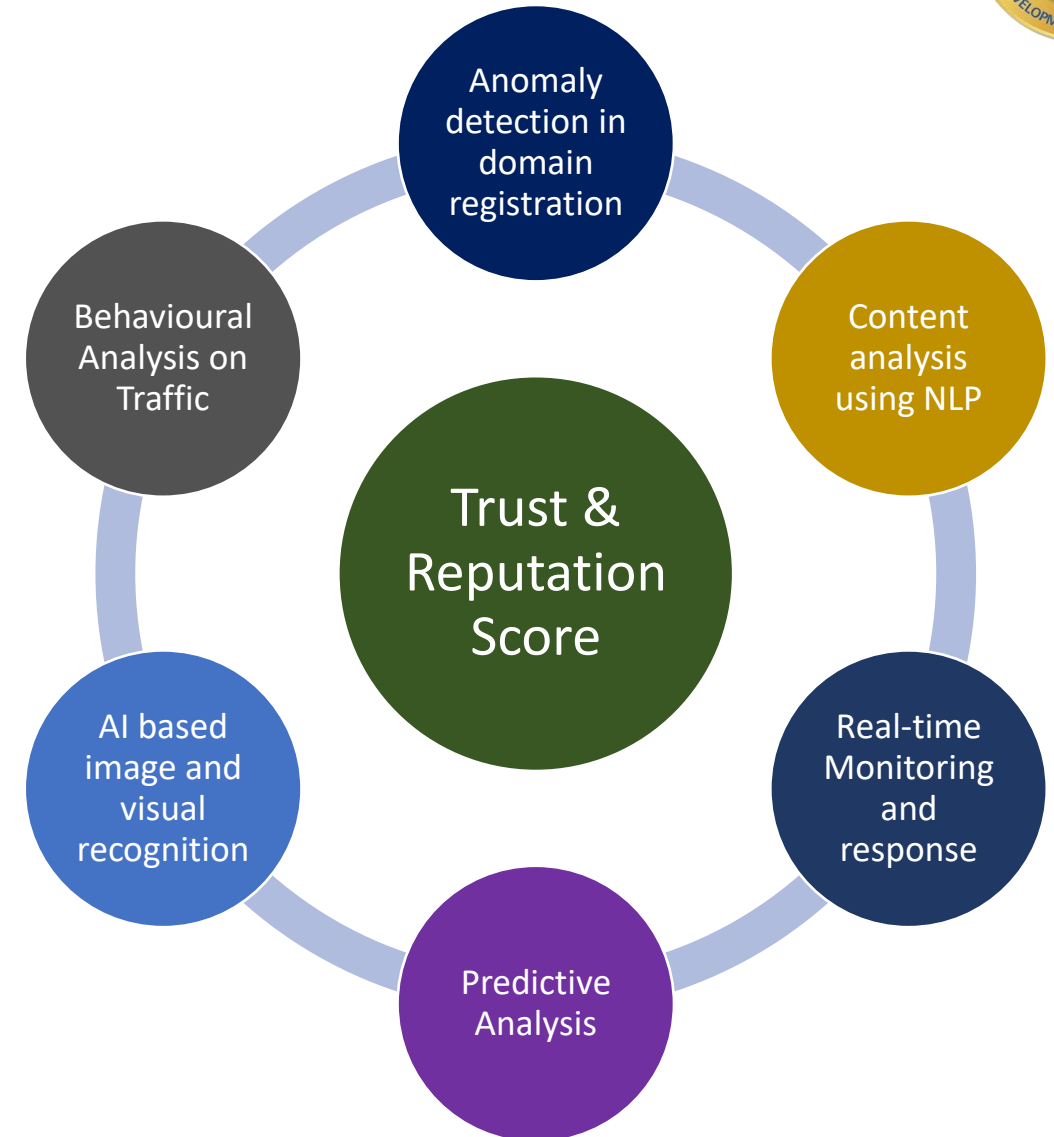


Gen AI for Malicious Domain Detection

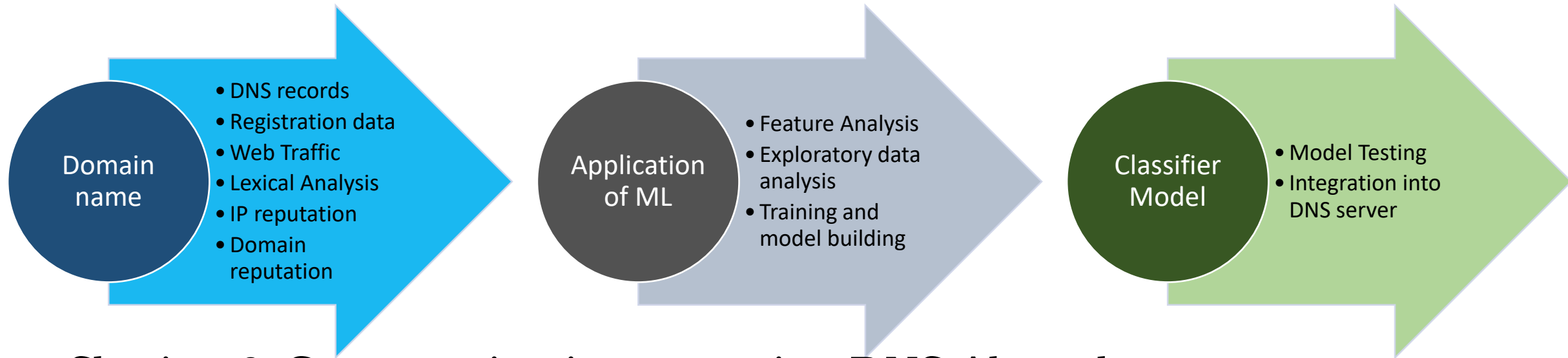
- Malicious Domain Detection is a research challenge
- Quality Datasets are critical for evolving effective AI models
- Malicious Domain Detection in IDNs are even more challenging
- Gen AI can generate synthetic datasets for IDNs

Trust and Reputation

- VKYC (Video-based Know Your Customer) can improve trustworthiness of registered domain
- Deployment of Domain Anchors at Internet Exchange Points to monitor and measure traffic can help in:
 - Developing reliable trust scores
 - Detecting malicious domains



AI/ML based Malicious Domain Detection

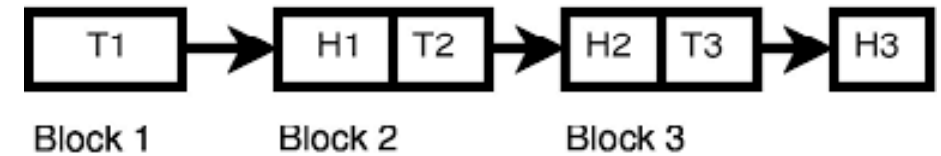


- Sharing & Co-operation in preventing DNS Abuse by
 - Sharing & Exchange of data related to:
 - Domain registrations, 'active' ness of domains, recently flagged/discovered 'malicious' domains
 - **Interested members can email us to receive list of malicious domains detected by our Engine**

Blockchain & NFT

- Blockchain

- Block – Logical Container of Information
- Chain – Cryptographically linked Blocks
- Immutable - Information cannot be modified



- Non-Fungible Tokens

- Token – Digital representation of assets (Physical or Virtual) stored in a Blockchain
- Non-Fungible – Unique and therefore cannot be swapped with another
- NFTs are governed by Smart Contracts
 - Digital Signatures assure uniqueness

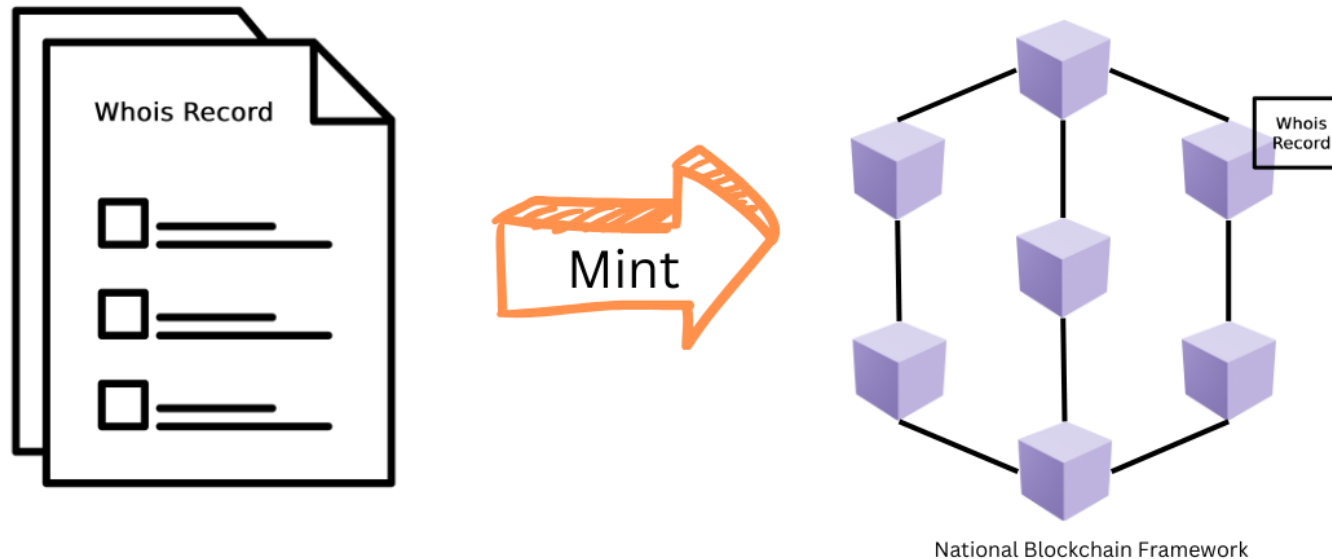


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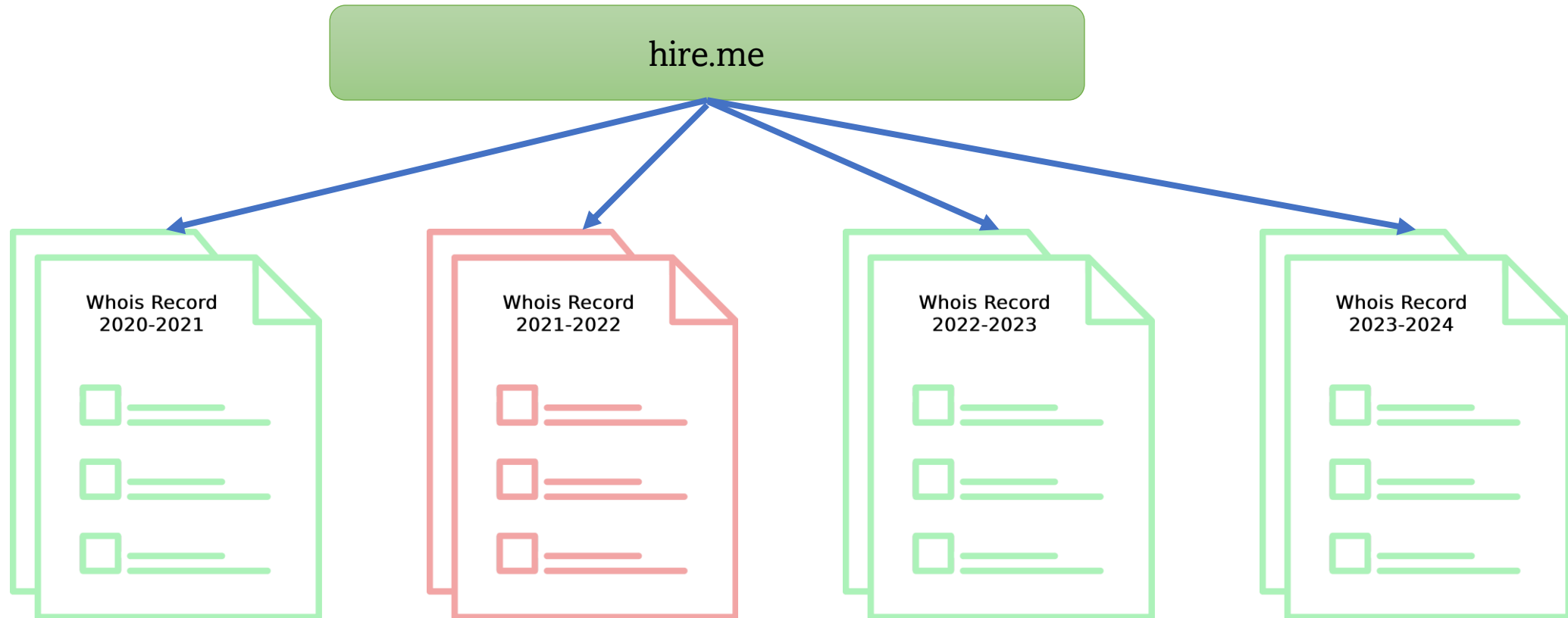


Classical Domains on Blockchain

- Whois record can be put on the Blockchain
 - Immutable
 - Changes in Whois data can be recorded
 - Linked to the same domain name



Classical Domains on Blockchain



Can Indicate fall in the reputation score below a threshold value

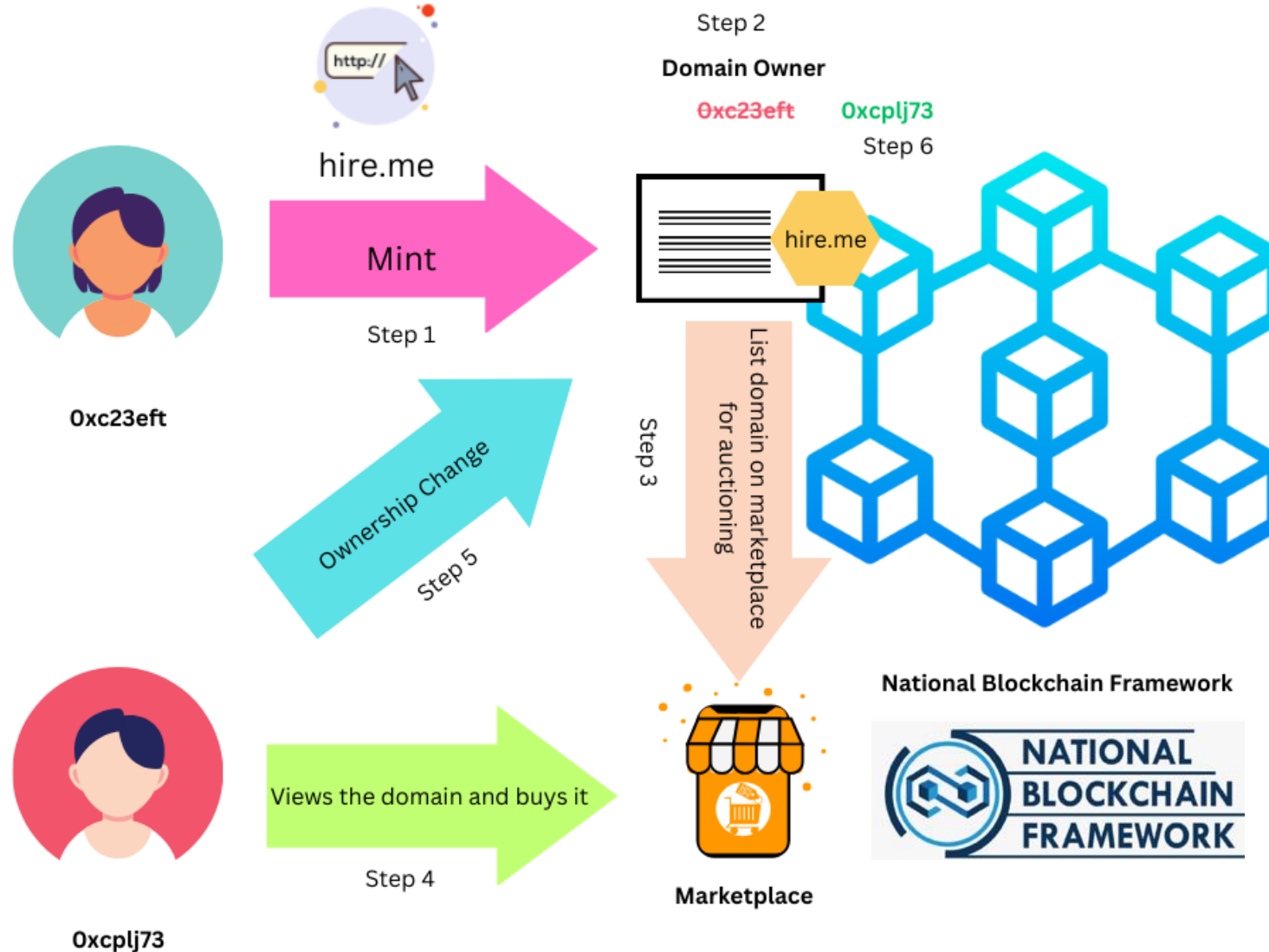
Classical Domains on Blockchain

- History of ownership and usage can be traced back to day zero.
- History gives reputation.
 - A good reputation will increase the re-registration probabilities.
- Can be used to track scam websites like panupload.co.in
 - The domain was registered for scam and was removed as soon as reported
 - No Whois record available currently

Classical Domains as NFT

- The domain ownership can be converted to an NFT using a smart contract
 - Can be resold for a certain period
 - In conjunction with the Whois record on Blockchain
 - Useful for reputation-based domain leasing for a short period
 - Depending on business requirements, can be used as **DaaS (Domain as a Service)**
- No changes in the domain resolution process

Classical Domains as NFT



Value additions from Blockchain & NFTs

- Blockchain & NFTs for classical domains
 - Can enhance the brand value of the registered domains
 - Can enhance the trust and reputation
 - Legally valid 'Digital Signatures' in NFTs can make them stronger
 - Publishing of NFTs in trust-worthy Blockchain Framework can significantly enhance credibility

Summary

- Gen AI can support in the growth and discovery of IDNs
- Blockchain & NFTs can enhance value
- AI/ML can play a big role in detecting malicious use of domains
- Data Sharing & Co-operation in preventing DNS abuse would help in maintaining a clean DNS ecosystem

Thank You

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