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PRESS NOTE

Digital India Ask Our Experts

- **Permissioned Blockchain Can Strengthen Digital Trust and Security in Government Services**
- **Episode 55 explores applications of Blockchain in education, e-governance, mobile security and public services**

New Delhi: The latest episode of Digital India Ask Our Experts explores how permissioned Blockchain technology can support more secure, transparent and efficient delivery of government services by strengthening digital trust, data integrity and verification.

Featuring Dr. P. R. Lakshmi Eswari, Scientist G, C-DAC, the episode explains how permissioned Blockchain differs from public Blockchain networks commonly associated with cryptocurrencies. In a permissioned environment, participation and access are controlled, enabling authorised government entities and institutions to operate within a controlled and governed digital ecosystem.

Watch the episode on https://www.youtube.com/live/bChGQyfsduI?si=TFG1hx6eKnEllBDc



Strengthening digital trust

The episode explains how Blockchain can introduce an additional layer of trust in digital transactions and records. Instead of relying entirely on a single central database, information can be replicated across authorised nodes, creating a distributed record and a tamper-resistant audit trail.

For citizens, the technology can work largely in the background while providing greater assurance that digital identities, credentials and transactions can be verified and that records have not been altered without authorisation.

Enhancing cybersecurity and privacy

Permissioned Blockchain can also complement existing cybersecurity mechanisms, including Public Key Infrastructure (PKI), to strengthen authentication and verification.

The episode highlights how Blockchain-based systems can support the principles of the Digital Personal Data Protection (DPDP) Act through mechanisms such as consent management and cryptographic hash values. Sensitive personal information need not be stored directly on the Blockchain; instead, verification can be performed using cryptographic references while the underlying personal data remains in secure databases.

Applications across government services

The episode showcases several applications where Blockchain can support verification and transparency. In education, Blockchain can be used to issue and verify academic credentials, helping institutions and employers authenticate mark sheets and reduce the risk of fraudulent certificates. The technology is also being explored for maintaining training records for IPS officers through the National Police Academy.

In the area of mobile security, the episode highlights the use of Blockchain in the mKavach application to help verify the integrity of government-released mobile applications and protect citizens from malicious or tampered versions. Other applications discussed include lifecycle management of e-stamps and pilot initiatives exploring smartphone-based voting for specific categories of citizens, including senior citizens and persons with disabilities.

Building sustainable digital infrastructure

The episode also examines the economic and infrastructure aspects of deploying permissioned Blockchain. While such systems may require initial investment in infrastructure, automation and the use of smart contracts have the potential to reduce operational costs over time. Government agencies are also working with organisations such as NIC to develop sustainable, production-grade infrastructure that can support Blockchain applications across different departments.

The episode of Digital India Ask Our Experts demonstrates how emerging technologies can strengthen the foundations of digital governance, not by adding complexity for citizens, but by creating secure, verifiable and trustworthy systems behind the services they use. Digital India Ask Our Experts provides citizens with an opportunity to interact with experts and gain credible, practical information on subjects relevant to their everyday lives. The programme continues to bring experts and citizens together through accessible and interactive conversations. The Digital India Ask Our Experts is a LIVE interactive programme streamed on Digital India's YouTube channel. For more information on upcoming episodes and Digital India initiatives, visit www.digitalindia.gov.inand www.negd.gov.in.