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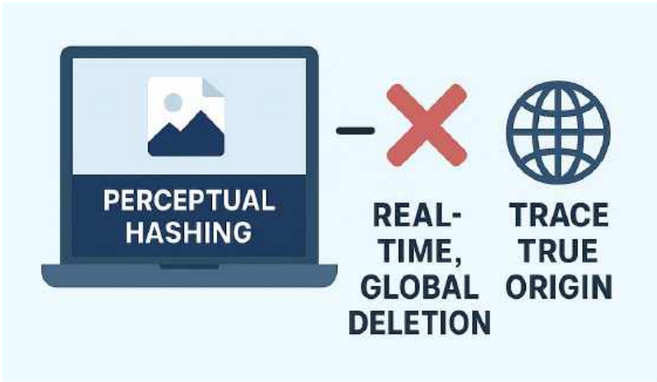
TEAM CODE : ET-056

**TEAM NAME: INSIGHT X**

Shivam, Shivanshu, Pranjal Rai, Pranav Vachespati

**Idea Statement:** In today's world, it is often said that Anything uploaded to the internet can never be truly deleted. Even after removal from one platform, the same image can easily be shared, screenshotted, or re-uploaded elsewhere, making permanent deletion nearly impossible.

***Current technologies**, such as Perceptual hashing, can detect identical or slightly modified images — but they fail to achieve real-time, global deletion or trace the true origin of the content.*



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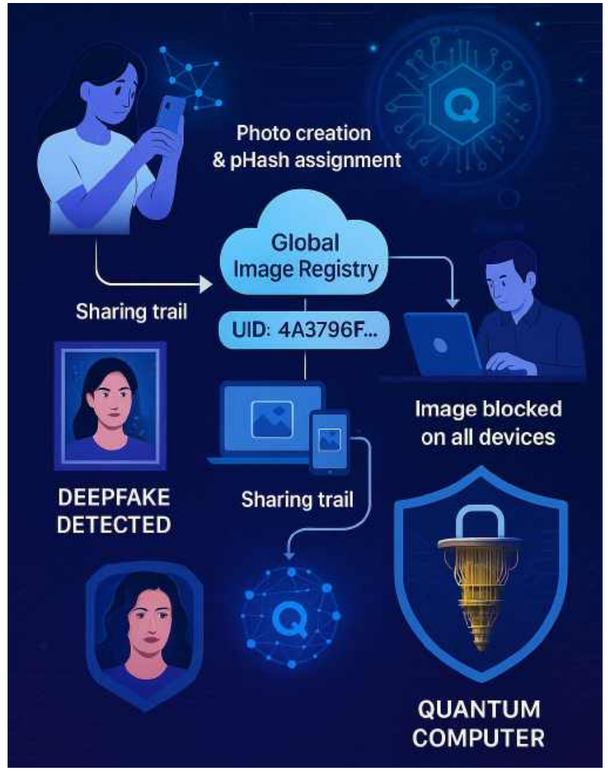
Here comes our invention, which introduces a Quantum-Enhanced Global Image Deletion and Tracking System. This system assigns a unique digital fingerprint (UID) to every image, combining perceptual hashing with device metadata (MAC/IP, timestamp, geolocation).




**Using quantum computing and binary fingerprinting, the system enables:**

- Instant detection and global deletion of any image, even if edited or re-uploaded.
- Accountability and traceability through UID-based tracking.
- AI authenticity verification to detect deepfakes or synthetic media.

***This innovation redefines digital privacy, ownership, and enforcement, ensuring that when an image is deleted, it is truly gone everywhere, forever.***



# *Quantum Based Image Deletion System*

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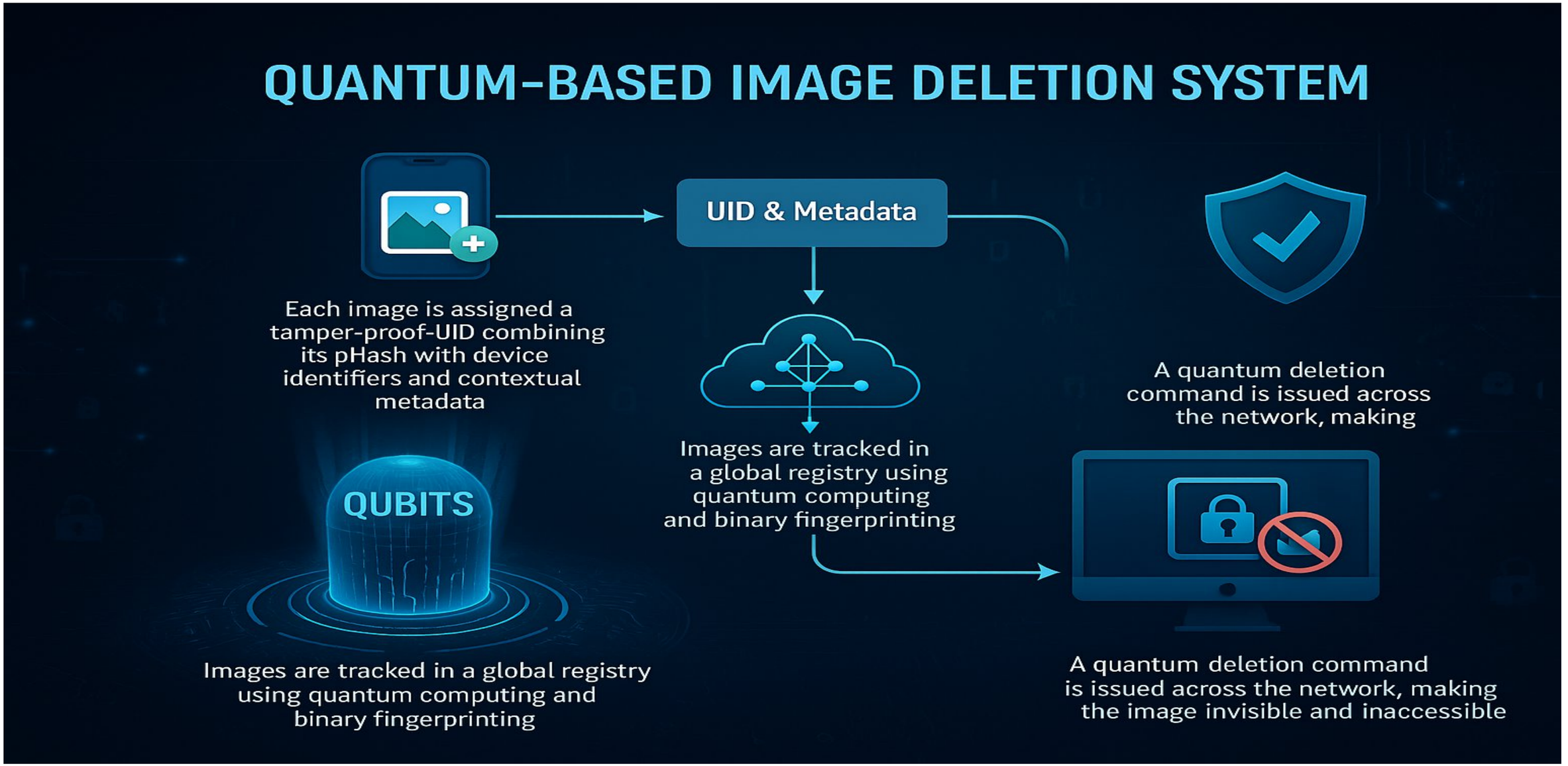


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Quantum computing is a new type of computing that uses qubits (quantum bits) instead of normal bits (0 or 1). Qubits can exist in multiple states at once (0 and simultaneously), allowing them to process enormus data sets much faster.

## Key Concepts

### Qubit
The sinallest unit of quantum data. Unlike bits, qubits can represent both 0 and l san time (called superposition).

### Superposition
Allows quantum computers to try multiple possibilities simultaneously

### Entanglement
Qubits can be linked, so changing one affects't the other instantly


**Classical Bit**
0 or 1

**Quantum Bit (Qubit):**
0 and 1 together

## Why It Matters

- Speeds up data analysis, AI, and encryption
- Enables real-time image tracking and deletion
- Provides unbreakable security using quantum encryption

# pHash

| | | |
|---|---|---|
| 80 | 116 | 113,5 |
| 147 | 115 | 125,5 |
| 125 | 133 | 130 |
| 115 | 120 | 125 |

0 1 0 0 1
0 0 1 0 1
0 1 0 0 0
0 0 1 0 1

**pHash**

pHash is a perceptual hash that generates a simplified, digital fingerprint of the image.

pHash is a percepptual hash that generates a tamper-proof tracking.

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# Quantum-Enhanced GLOBAL IMAGE TRACKING AND DELETION PLATFORM

Each image receives a tamper-proof UID, combining its perceptual hash (pHash) with device identifiers and contextual metadata.

When a deletion is triggered, a Quantum Deletion Protocol powered by Grover's Algorithm transmits parallel UID-blocking signals across the network

Instead of removing files, the system operates at the binary display-rendering layer, making the image invisible and inaccesssible anywhere it exists

## Our invention delivers:

Instant, global, quantum-accelerated deletion across all platforms

UID-based accountability that identifies First uploader and sharing chain

Deepfake and AI-image detection for authenticity assurance

Cross-platform synchronisation through a global quantum registry

Digital Certificate of Deletion as legal proof of Permanent removal

## What's Unique

Quantum-accelerated similarity search for instant detection

Hybrid UID (pHash + device metadata) ensures tamper-proof tracking

Display-level blocking makes files invisible even if stored

Automatic linking of replicas/ screenshots (≥ 70% similarity)

Offline-aware deletion queue + digital certificate guarantees full removal

## Prior Art

Conventional perpetuual hashing tools—such as Google Cloud Vision, TinEye, and pHash—

Detect only identical or near-duplicate images

Worksin isolation within single platforms

Cannot delete content from user devices or trace its full journey

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# TECHNICAL APPROACH

## Step 1: Photo Creation & UID Assignment

- Image captured → system auto-generates **Perceptual Hash (pHash)**
- Adds **MAC/IP + Timestamp + Source Tag (**original, AI-generated, edited, or screenshot**)**
- Forms a **Unique Identifier (UID)** = digital fingerprint
- UID uploaded to **Quantum Registry Server &** Device marked as **Primary Source**


Photo Creation & UID Assignment



## Step 2: Photo Sharing to Other Devices

- When shared (via WhatsApp, Bluetooth, email, etc.), the system logs the **transfer event**.
- The receiving device generates its own **pHash** and sends it to the **Quantum Registry**.
- If similarity ≥70%, it's tagged as a **replica** and linked to the same **UID chain**.
- The system builds a traceable chain:

**Primary → Secondary → Tertiary → …**

- Each transfer stores **Sender ID, Receiver MAC/IP, Time, and Modification Type**.

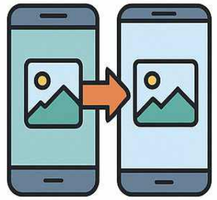


Photo Sharing to Other Devices

# TECHNICAL APPROACH

## Step 3: Detecting Screenshots & Edits

- System continuously monitors for **screenshots or image edits**.
- When detected → new **pHash** is generated and compared with the original.
- If similarity **≥70%** → linked to same **UID chain** as a *Replica*
- If similarity **<70%** → treated as a **New Image** with a new UID.

Detecting Screenshots & Edits



## Step 4: Internet-Wide Monitoring (Quantum Level)

- **Quantum Processing Units (QPUs)** scan images across the internet — social media, cloud servers, and dark web.
- Uses **Grover's Algorithm** for ultra-fast similarity search across massive databases.
- If similarity **≥50%**, the image is logged as an **online replica** and linked to the same **UID chain**
- Detects unauthorized uploads automatically and prepares them for **global quantum deletion**.

Internet-Wide Monitoring (Quantum Level)

# TECHNICAL APPROACH


## Step 5: Giving the Delete Command

- User selects the **UID** of the image to delete via dashboard/interface.
- A **Quantum Deletion Protocol** is triggered through the **QPU**.
- The QPU sends **parallel deletion signals** to all devices, servers, and platforms in the UID chain.
- Within seconds, the image becomes **undisplayable everywhere**, blocking screenshots or re-uploads.
- Ensures **instant, global, and permanent deletion**



## Step 6: Deletion on Devices

- The **Quantum Deletion Protocol** blocks the image at the **display-rendering level**, not file storage.
- The **Display Driver** adds the image's UID & pHash to a **Block List**.
- When opened → the monitor **refuses to render** the image (invisible & unviewable).
- Blocking cascades automatically across all linked devices for **complete visual removal**.
- Offline devices are placed in a **Quantum Deletion Queue (QDQ)**
- Once a device reconnects → deletion activates **automatically**, no user action needed.

## Process Flow Summary

**Photo Creation & Unique ID Assignment**
A photo is taken and assigned a unique identifier

**Transfer Detection**
Sharing the photo adds devices to a chain

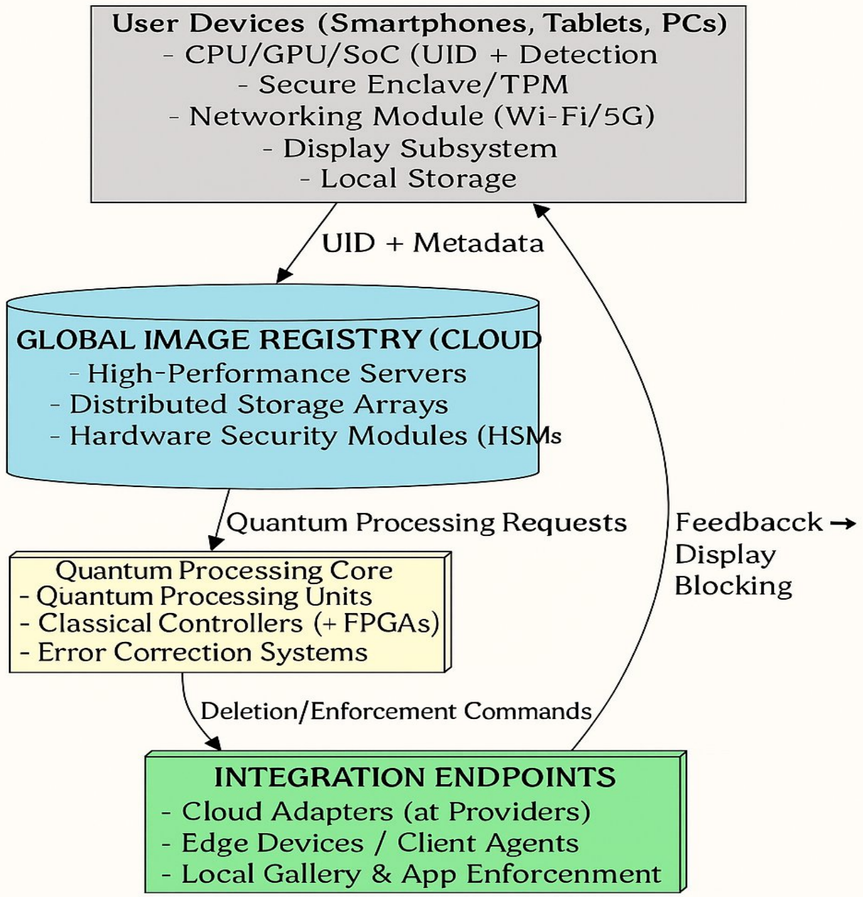
**Screenshot and Editing Monitoring**
Continuous detection of screenshots and edits

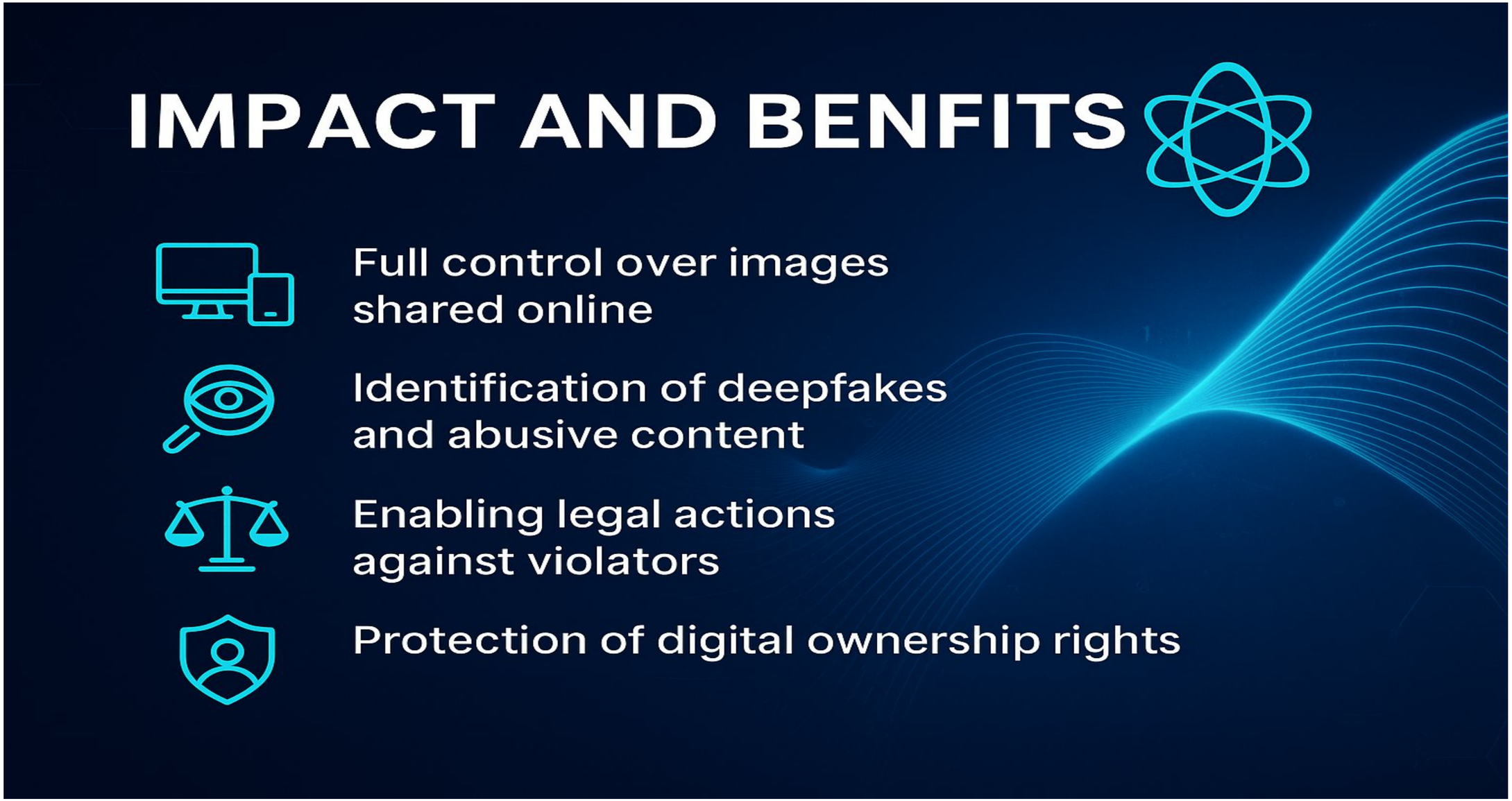
**Internet-Wide Monitoring**
Quantum computers search online for replicas

**Delete Command**
Deletion command removes copies everywhere

**Certificate of Deletion**
Proof of deletion is issued after completion

## PROCESS & ARCHITECTURE




IMPACT AND BENFITS
Full control over images shared online
Identification of deepfakes and abusive content
Enabling legal actions against violators
Protection of digital ownership rights

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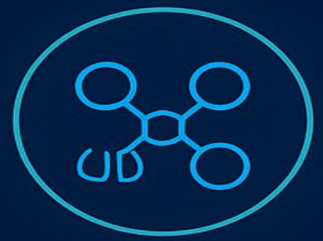
# IMPACT AND BENEFITS

## Our system tracks each photo from the origin

### Origin Trace

If someone shares offensive photos, we can identify that and punish them according to law




### UID Chain

we can identify that and punish them


### Detect Deepfakes

our system identify which photo is deepfake and where It originate

### Punish by Law

so we can punish them according to law

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# QUANTUM IMAGE BLOCKING

## BLOCKING DIGITAL FOOTPRINTS

Rather than deleting, we block the image's digital footprint – rendering it invisible across devices.


Select UID


QPU

Image Blocked

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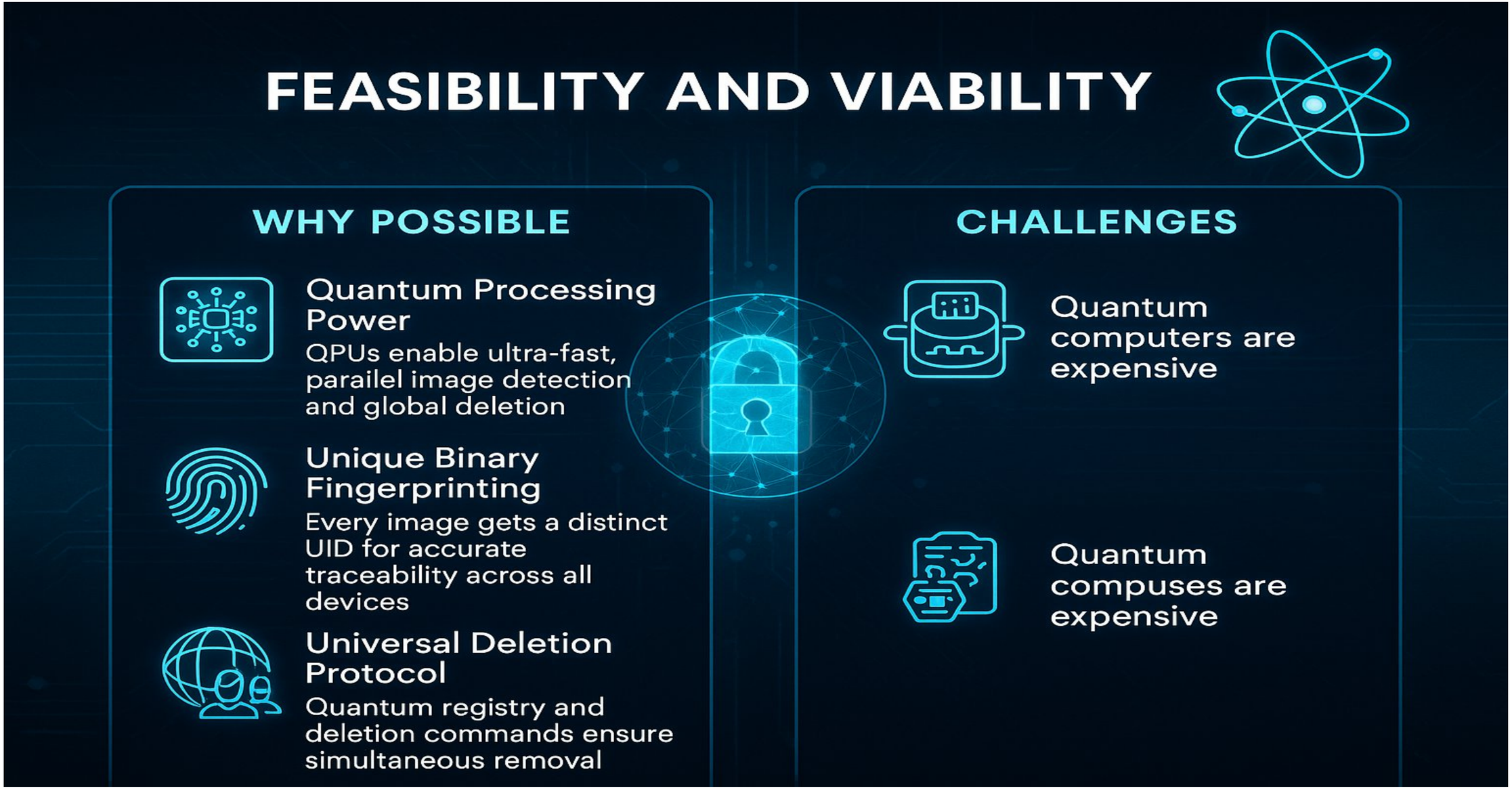
FEASIBILITY AND VIABILITY
WHY POSSIBLE
Quantum Processing Power
QPUs enable ultra-fast, parailel image detection and global deletion
Unique Binary Fingerprinting
Every image gets a distinct UID for accurate traceability across all devices
Universal Deletion Protocol
Quantum registry and deletion commands ensure simultaneous removal
CHALLENGES
Quantum computers are expensive
Quantum compuses are expensive

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# PRIOR SYSTEMS vs OUR SYSTEM

- Detect only identical or near-duplicate images
- Isolated within single platforms
- Cannot delete content from user devices
- Fails to track image's full journey

**PRIOR SYSTEMS**

- Instant similarity search powered by quantum computing
- Global hierarchical tracking chain
- Ouantum-accelerated, UID-based deletion
- Traces origin and all replicas/screenshots

**OUR SYSTEM**

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# CONCLUSION


- Empowers users with control over their images
- Quantum-accelerated UID blocking
- Perceptual hash tracking & display-level deletion

Empowers users with control over their images
Quantum-accerlerated UID blocking

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RESEARCH AND REFERENCES

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