OMANUT
Biometric Authentication
for the Art Industry
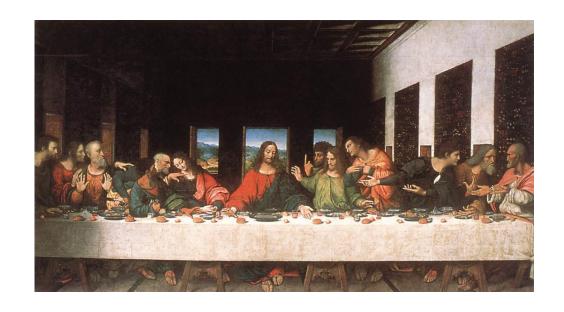
www.6DCP.com

ABOUT US

Six Degrees Counterfeit Prevention, LLC (6DCP) is a globally recognized anti-counterfeit and document security consultancy firm offering best-in- class solutions for 21st Century problems.

6DCP is an Authorized Distributor for CryptoCodex Ltd., providers of the most secure technology (US Patent No. 8914369) for detecting superfluous, falsified, or adulterated products, for detecting lost/stolen/diverted goods, and is track & trace ready to meet worldwide regulation.

JOINT OWNERSHIP: SELLING SHARES IN A PIECE OF ART

EXAMPLE: OWNER WANTS TO SELL 49% INTEREST IN THEIR ORIGINAL WORK OF ART VALUED AT USD $1 MILLION

OMANUT WILL ISSUE 4,900 SHARES VALUED AT USD $10 EACH

THE BUYER WILL RECEIVE AN ENCRYPTED OMANUT CERTIFICATE CONTAINING THE PHYSICAL PROPERTIES OF THE ART PIECE, 51% OWNER'S INFORMATION, THEIR INFO, AND VALUE OF THEIR OWNERSHIP IN THE ART PIECE.

DATABASE LESS CERTIFICATE OF AUTHENTICITY

Certificate of Authenticity

This Certificate hereby certifies that this painting is an original work of art.

Painting: The Last Supper
Artist: Leonardo Da Vinci
Owner: John Smith
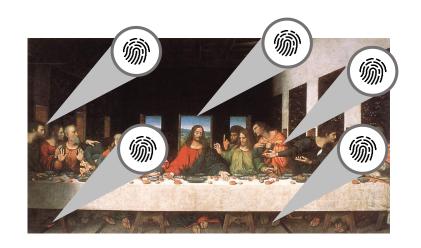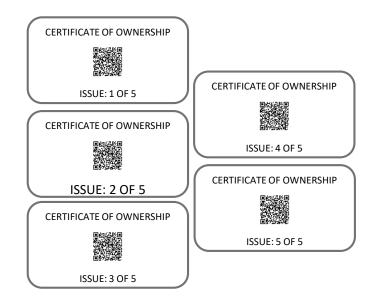
Certified by: Mary Vontramp
Date: December 12, 2016

The "biometric markers" of the work of art, and the entire certificate data is encrypted, compressed, and encapsulated within the 2D barcode or NFC chip.
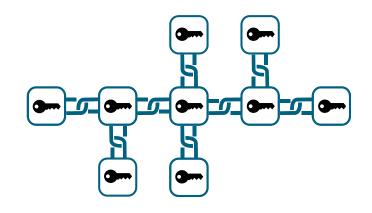
DISCLAIMER: OMANUT does not certify the authenticity of the work of art. It's primary objective is to protect the certificate data once the work of art has been confirmed to be genuine by a legitimate source.

THE IRON CHAIN BLOCKCHAIN ENVIRONMENT

CERTIFICATE OF OWNERSHIP

ISSUE: 1 OF 5

CERTIFICATE OF OWNERSHIP

ISSUE: 2 OF 5

CERTIFICATE OF OWNERSHIP

ISSUE: 3 OF 5

CERTIFICATE OF OWNERSHIP

ISSUE: 4 OF 5
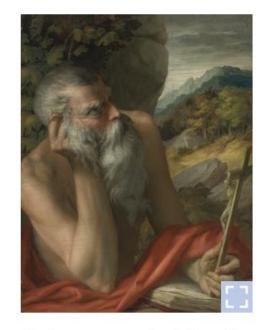
CERTIFICATE OF OWNERSHIP

ISSUE: 5 OF 5

THE IRON CHAIN DOES NOT CONTAIN ANY PERSONAL DATA. ONLY
THE DECRYPTION KEYS TO AUTHENTICATE THE CERTIFICATE OF
OWNERSHIP OR SHARE IN THE PIECE OF ART

COUNTERFEIT ART

Sotheby's says a 16th century Italian painting sold by the auction house for $842,500 in 2012 is actually a modern fake, <u>according to a complaint</u> filed in U.S. District Court in New York on Tuesday.

The auction house is suing the collector who consigned the painting, arguing that he must pay back at least the $672,000 he personally made on the sale. Sotheby's says its contract with the man, Lionel de Saint Donat-Pourrieres, allows the company to rescind the sale if a painting turns out to be a counterfeit.

St. Jerome was previously thought to have been painted by a 16th century Italian artist. According to a complaint filed by Sotheby's auction house, it is actually a modern fake, painted in the 20th century.

Sotheby's

http://www.npr.org/sections/thetwo-way/2017/01/18/510414194/sothebys-contends-painting-that-sold-for-842-500-is-a-fake
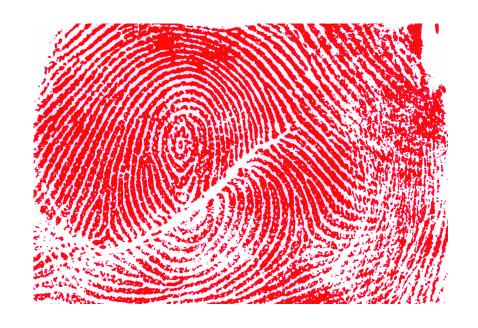
STRATEGY

To Develop and Provide Mobile Identification, Authentication, and Registry Solution and Service for Art and Antiques Worldwide.

Business Model:
- Registration Services
- Authentication Services

Identification and Authentication:
4 Key Components
- CryptoCodex's Database Less Authentication Technology
- 3D Surface Scanning
- 3D Imaging and Spectroscopy
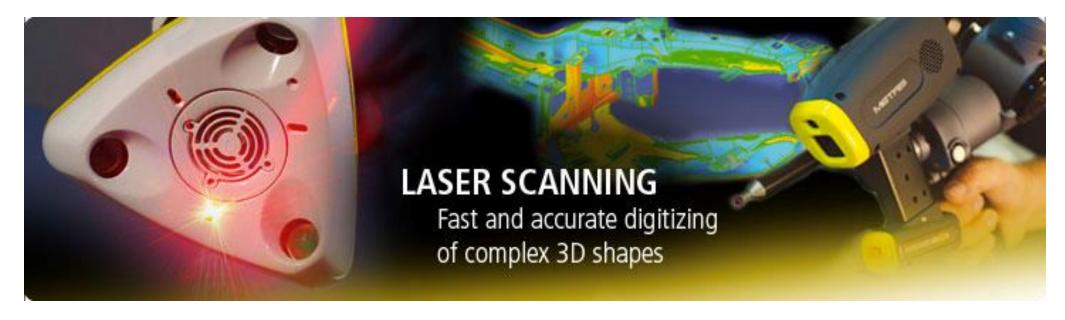- Laser Surface Authentication

BENEFITS

- Non-destructive
- Creates a unique identifier for paintings, sculptures, manuscripts, and more
- Enables registration and transfer of ownership
- Stronger than military grade encryption technology
- Eliminates the need for a centralized database system
- Accurate and secure certification process
- Simplifies the identification and authentication process
- Optional: Insurance and Track & Trace functionality

3D SURFACE SCANNING

LASER SCANNING
Fast and accurate digitizing
of complex 3D shapes

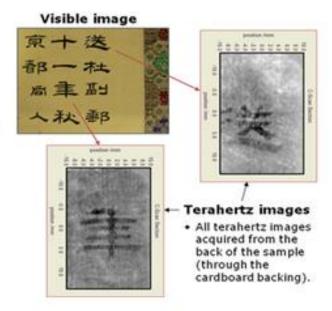## 3D scanning on CMM - a powerful combination delivering high inspection accuracy and throughput

A CMM equipped with a laser scanner boosts 3D inspection processes. CMM laser scanners simplify preparation of inspection jobs, excel in measuring speed and capture the entire geometry of part surfaces and features with metrology accuracy. Different scanner types are available, providing choice options related to accuracy, laser stripe, standoff distance and field of view.

http://www.nikonmetrology.com/Products/Laser-Scanning/CMM-scanning

3D IMAGING AND SPECTROSCOPY

Visible image

Terahertz images
• All terahertz images acquired from the back of the sample (through the cardboard backing).

Example of Chinese text imaged through a cardboard cover using a TPS Spectra 3000 fitted with a Reflectance Imaging Module

Terahertz Technology: 3D Imaging and Spectroscopy

TeraView Limited is at the forefront of global developments in terahertz light, creating terahertz instruments which can generate, detect and manipulate radiation to characterise a wide range of materials.

http://www.teraview.com/

LASER SURFACE AUTHENTICATION

To overcome this issue, LSA® works by shining a laser onto the surface of a product and measuring the naturally-occurring microscopic imperfections inherent in any surface to generate a unique digital serial code for each separate item scanned. This code, which can be compared to a fingerprint or DNA sequence for the item, is unique for every product scanned and can be used to unambiguously identify each item individually.
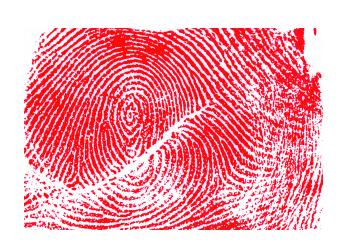
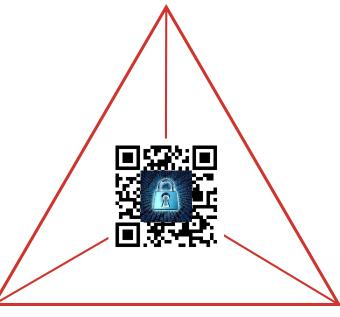http://www.ingeniatechnology.com/lsa#company

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IRON CLAD SECURITY

Laser Surface Authentication

3D Surface Scanning

3D Imaging and Spectroscopy

The authentication mechanism in Cryptocodex's technology defines random points for the LSA, 3DSS, and/or 3DIS devices to scan and gather the unique macro, micro, and chemical signatures of an item. These unique signatures are then digitized, compressed, and secured within a QR code.
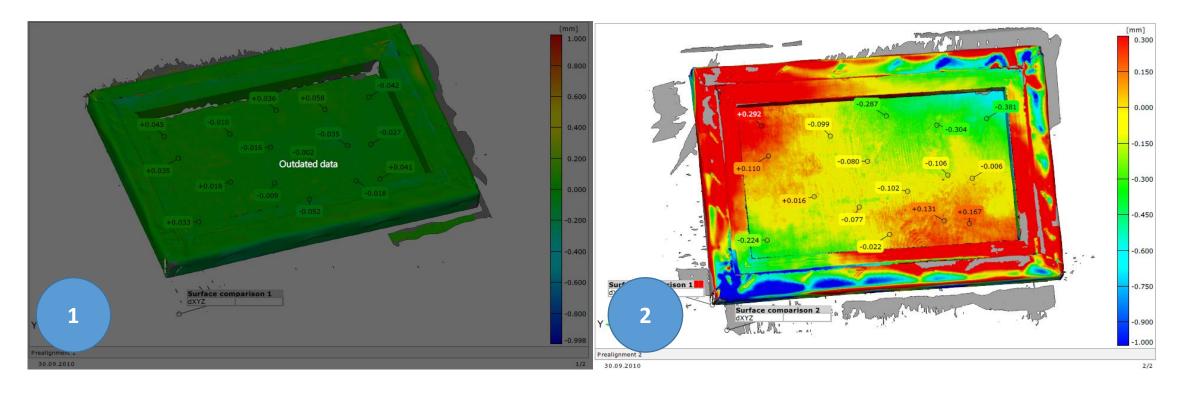
Six Degrees Counterfeit Prevention, LLC | 6DCP.com   CryptoCodex

1. **Original work of art.**

2. **Counterfeited work of art.**

3. **Portable surface authentication device.**

1. **Result from the genuine work of art. The all green result is proof that the OMANUT certified painting is the original.**
2. **Result from the counterfeited work of art. The red, orange, yellow, and blue results is proof that the work of art is not genuinely certified by OMANUT.**

VIDEO COLLECTION OF THE PROCESS

https://www.youtube.com/watch?v=E_qv2gWLmg4
https://www.youtube.com/watch?v=CFPfZNE0lRk
https://www.youtube.com/watch?v=ndbrclVBhLc
https://www.youtube.com/watch?v=jc0OfWxm1d0
https://www.youtube.com/watch?v=h-Kqkwqqwzk
https://www.youtube.com/watch?v=CNMtbRb-Ov8&t=123s
https://www.youtube.com/watch?v=sSzX6eCTdS8
https://www.youtube.com/watch?v=62lPF_jjG8Q&t=4s
https://www.youtube.com/watch?v=IMgCzpeF_5Y
https://www.youtube.com/watch?v=pBOJIwmURiI

THE SOLUTION: MDLE
PROTECTING THE MOST IMPORTANT INFORMATION ASSETS

WHAT IS MDLE?

MDLE is an evolutionary, fully customizable unique identification technology that empowers Government Officials, Corporate Inspectors, and Consumers with a simple and precise tool to verify the authenticity of their products.

MDLE is powered by a military grade and patented (US Patent No. 8914369) Encryption technology that is immune to mathematical attack and cryptanalysis.

CRYPTOCODEX
Technology

MDLE INSURANCE BENEFITS

Increase:

Security

Detection Capability

Response Time

Compliance

Consumer Confidence

Decrease:

Liability in a Breach

Breach Related Cost

Liability from Counterfeiting

Liability from Diversion

Liability from Product Recalls

TECHNICAL SPECIFICATIONS

MILITARY GRADE ENCRYPTION

Patented encryption **(US Patent No. 8914369)** method that eliminates need to store sensitive information in an online database.

Encryption Key is truly chaotic.

Randomization, or PHR.

PHR is protected against Rainbow Crack, Dictionary Attack, Cryptanalysis and Brute Force.

ENCRYPTION – PERFORMANCE FEATURES

Key Strength - 1 million bit or more

400% faster when compared to AES.

MPU use - Mathematical Process Unit in CPU use 3% - 7%.

+/- 5% overhead of the file from original data set.

Capable of encrypting entire columns of a database (up to 300 characters) into one 2D barcode.

US Patent No. 8914369
www.6DCP.com/WhitePaper.pdf

Six Degrees Counterfeit Prevention, LLC | 6DCP.com CRYPTOCODEX

THE IRON RING
DATABASE LESS
AUTHENTICATION

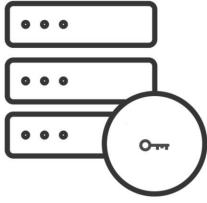Six Degrees Counterfeit Prevention, LLC | 6DCP.com

SECURE ONLINE ENVIRONMENT

MEANINGLESS DATA STORED ONLINE

Incoming Web Server

MDLE Decryption
(Key) Server

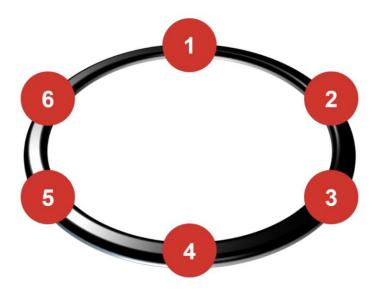The Decryption Server stores ONLY the keys to authenticate the MDLE label

The Decryption Server is protected by The Iron Ring, a revolutionary database less authentication method

Even if the Decryption Server is hacked, no sensitive information will be exposed

THE IRON RING ⚿

1. User scans the encrypted MDLE security label with their smartphone, tablet, laptop, or desktop equipped with a camera or webcam. The payload is extracted and sent for authentication.

2. The incoming web server receives the incoming encrypted payload and the user's return IP address and transfers it through a unidirectional data flow membrane.

3. The first unidirectional data flow membrane* acts as a gatekeeper, and passes only payloads encrypted by the MDLE encryption server to the decryption key server.

4. The decryption key server, authenticates the encrypted payload, and logs the date, time, location, and IP address of every scanning event.

5. The authentication response is sent through an outgoing web server through a second unidirectional data flow membrane.

6. The second unidirectional data flow membrane* transfers the authentication response to the return address of the user which scanned the MDLE security label, and protects against malicious incoming attacks.
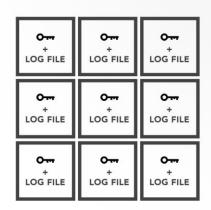
1. User receives authentication response.

* Hardware has been approved for use by the US Government to protect nuclear facilities and other ultra sensitive networks.

Six Degrees Counterfeit Prevention, LLC | 6DCP.com   CryptoCodex

MDLE + BLOCKCHAIN

MDLE is compatible in a Blockchain environment.

Sensitive information is **NEVER** stored on any of the nodes.

Each node contains only the decryption key (to authenticate a request) and a log file (to log every scanning event: date, time, location, device ID).

WHAT THE EXPERTS SAY ABOUT US

"Defining drop shipments is an important issue. **There are novel low cost methods that guarantee product authentication as pennies per unit that cannot be reverse engineered.** Check out www.6dcp.com/track-and-trace"......"**While I did not work with Privacy Inside (now Cryptocodex) on this application, I did a preliminary analysis of their merging barcodes with PHR and found this approach a strong audit tool for counterfeit commercial goods**" – **Andre Szykier, Chief Scientist at Aegis Health Security**

"**Simple is always better** ... **by elimination of the perceived complexity in the authentication** world 6DCP products could be a pivot point that will help achieve a more reasonable following." **– Michael Agee (RIP), Brand Protection Specialist**

"Having come from a solution provider that used encryption based technologies for serialization, I was well aware of your company and knew the respect you have garnered for your technology. However, as I have come to know more about it through our discussions and demonstrations, **I am simply overwhelmed by the strength of your product. You are able to cover the three central tenets of brand protection in the most forceful way possible – security, scalability, and performance.** – Dr. Avi Chaudhuri

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CONTACT