

Counter-Fight Encryption Beyond Imagination



Anti-Counterfeit Protection
(and more)
Using a unique, patented,
Encryption system



CRYPTOCODEX LTD.



Cigarettes smuggling in logs

The Counterfeit Problem

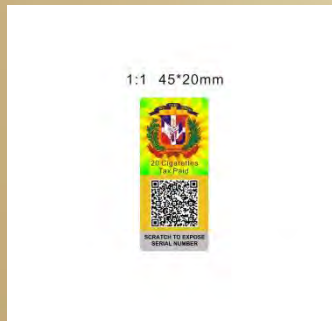
- Every country faces severe counterfeit of products and documents
- The citizens and the governments are subject to financial and health damages, which must be solved
- Counterfeit reaches every aspect of our life:
 - Consumer Products
Medicines, Food (also baby food), Cosmetics, Tobacco, Alcohols
 - Documents without a picture
Vehicle license, Insurance documents, Tax Invoices, Property Registration
 - Documents with a picture
ID, Driving License, Work Permits, Membership cards, Voting Cards

***COUNTER-FIGHT is the best solution for fraud detection
Counter-fight provides fast and secure Internet service
Service is available anytime, anywhere - 24/7 availability
Every item is marked by an encrypted, unique, 2D-Barcode***



What is Counter-Fight ?

- Counter-Fight is a technology to encrypt data which can be embedded in a 2D-Barcode, see below
- Encrypted data may also co-exist in an NFC device
- The encryption contains secure product data
- The label can be prepared in advance, or printed in the packing line
- Counter-Fight is a 'Product PROOF-of-DNA'
- Counter-Fight enables fast and reliable product authentication using the Internet and a Smart-Phone (also other devices – see next)



QR-Code



Datamatrix



Counter-Fight : Features & benefits

- an immunity level of military systems – implemented for the industrial and consumers' environment.
- Counter-Fight technology enables adding a 'DNA' marking to each product (Each product gets a unique ID)
- The encryption is non-mathematical, chaotic, having no algorithm – therefore, **UNBREAKABLE**
- The same data, being encrypted several times, will result in different codes (*Hackers hell – a demo is available*)
- Counter-Fight is a '**DataBase-Less**' system

No product data resides on the WEB

(other systems are subject to slow operation and hacking)

- The **ONLY** encryption to fit in a 2D-Barcode

Counter-Fight is the first and only system to include private digital data in an analog, inexpensive device.



Counter-Fight Protection Categories

• Consumer Products

- Foods & Beverages (Incl. Babies food)
- Medicines
- Cosmetics
- Cigarettes
- Alcoholic Drinks
- Electronic Parts
- Fashion Products
- Children's Toys



Encryption in a nut shell



• Documents (no picture)

- Vehicle License
- Birth Certificate
- Legal documents
- Diamonds

Tourist Card



Birth Certificate
Protecting Barcode



• Identification

- Tourist Card
- Identification Cards
- EMC – Emergency Medical Cards
- Working Permits
- Driving Licenses
- Credit Cards
- Voting Card



U.S & Israeli Patents



US008914369B2

(12) United States Patent Cohen

(10) Patent No.: US 8,914,369 B2
(45) Date of Patent: Dec. 16, 2014

(54) METHOD AND A SYSTEM FOR DATA VERIFICATION AND/OR AUTHENTICATION

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(73) Assignee: Privacy Inside Ltd., Tel-Aviv (IL)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 119 days.

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(51) Int. Cl.

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G06F 17/30 (2006.01)
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G06F 7/76 (2006.01)
G06F 7/22 (2006.01)
G06F 21/60 (2013.01)
G06F 9/46 (2006.01)

(52) U.S. Cl.

CPC G06F 21/6209 (2013.01); G06F 9/46
(2013.01); G06F 7/76 (2013.01); G06F 7/22
(2013.01); G06F 21/606 (2013.01); G06F
2221/2107 (2013.01)
USPC 707/737; 707/756; 707/757; 380/268

(58) Field of Classification Search

None
See application file for complete search history.

(56) References Cited

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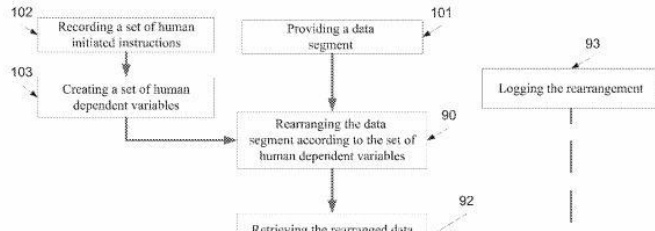
(Continued)

Primary Examiner — Dung K Chao

(57) ABSTRACT

A method for rearranging a data segment. The method comprises providing a data segment containing digital content, generating a set of human dependent variables according to a plurality of human related activities, rearranging the data segment according to the set of human dependent variables, and updating a log according to the rearranging. The digital content may be retrieved from the rearranged data segment according to the log.

38 Claims, 9 Drawing Sheets



State of Israel
Patent Office



מדינת ישראל
רשות הפטנטים

1967 חוק הפטנטים, התשכ"ז-1967
Patents Law, 5727 - 1967

תעודת פטנט

CERTIFICATE OF PATENT

This is to certify that the following particulars have been recorded in the Register of Patents:

זאת לתעודה כי הפרטים דלהלן
נרשמו בפנקס הפטנטים

Patent No: 191169
Date of Application: 30/04/2008

מס' הפטנט:
תאריך הבקשה:

Title of Invention:

שם האמצאה:

METHOD AND SYSTEM FOR DATA
VERIFICATION AND/OR
AUTHENTICATION

שיטה ומערכת לאימות ו/או אישור נתונים

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Date of Publication: 31/12/2015
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תאריך פרסום קיבול הבקשה:
תאריך מתן פטנט:

Asa Kling
רשם הפטנטים



תעודה זו הינה אישור כי דבר מתן
הפטנט נרשם בפנקס הפטנטים

This Certificate certifies that





Consumer Products

As all products are identical,
Product common data example:

- Product ID, Usually the 1-D barcode:
GTIN - Global Trade Identification Number
- Production date
- Batch
- Expiration



Fake



A serial number is associated with each package,

providing a unique product ID

(The common data + Serial number create a package DNA)



Cigarettes example



8090000411 – Valid



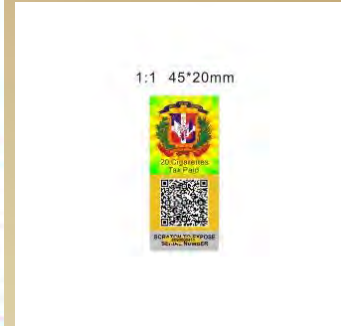
8090000420 – Fake



8090000481 – Stolen



8090000435 – Recall



After Before

Scratch to read
Unreadable
Unless exposed



- A hologram makes a pretty label
- does not prevent counterfeit
- Barcodes may be partially covered



Counter-Fight

Reaches out for the Caribbeans

1:1 45*20mm



1:1 45*20mm



SERIAL NUMBER

COVERED

EXPOSED

Other examples

Chinese Blueberry Products



Fake



Valid



AMLOW-5 Medicine – Track&Trace



Stolen



Fake



PROTECTED ?



China Chicken



Protection Systems Comparison

- Serialization

Marking each package with a unique random set of characters

For example: WARH23TZ6B, H3GTB15UBQ, 36POFT15RZ

As a result, a huge database is being created and should be maintained

Offline: Clumsy, slow-response, Frequent Collapses

Online: All above + Subject to hacking (data manipulation)

- Encryption

All product data is encrypted, Serial Number included – **UNIQUE PACKAGE ID**

The result is embedded in a 2D-Barcode, and printed on the package

- Chaotic, randomized, process – immune to hacking
- No database resides on the WEB (Online service)
- Ultra fast authentication service
- Hackers-protected (no data to manipulate)

Counter-Fight,

the ONLY encryption to fit into a 2D-Barcode

**Traditional encryption systems inflate the data,
making it impossible to embed in a 2-D Barcode**



Documents Protection

- Important document data is encrypted and embedded in a 2D-Barcode
- Any change in document content will be immediately detected

Commercial Vehicle Certificate



**Vehicle License
Credit Card Size**



Also available
with NFC



**Voter's ID
General Elections
(Paper or Card)**



Protecting IDs

- Identical to documents, with an additional picture inclusion and protection.
- Any change in text, or picture replacement, will be immediately detected



Also available
with NFC



Authentic



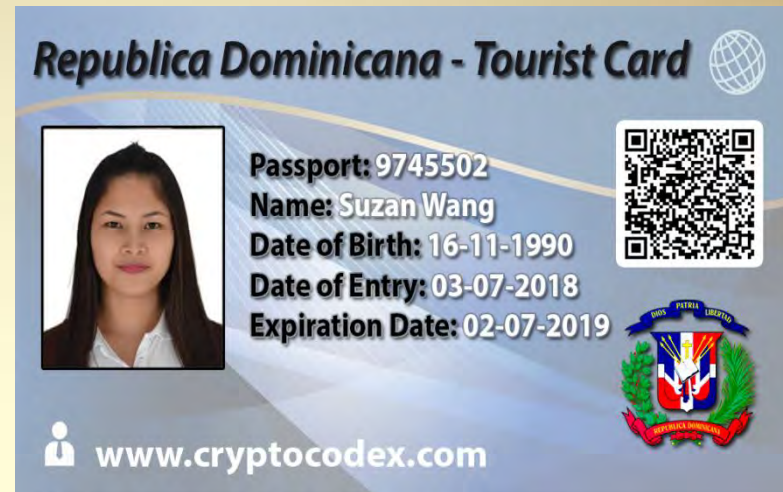
HOLD !!!– Picture replaced



Tourist Card



EXPIRED



GRANTED ONE YEAR STAY

**Also available
with NFC**

- Credit card material and size (Durable, fits pocket, or any wallet)
- Certificate to be issued at point of entry (Airport, Seaport, Land Checkpoint)
- More details on card's back side
- Terms of use and Instructions – on card's back side
- Easy to inspect by an authority official, or for tourist discounts
- No need to carry a passport (sensitive document)



Emergency Medical Card

- Contains the essential medical data needed for emergency treatment
- Suitable for civil use (medical insurance) and military (soldiers tag)

Emergency Medical Card

Name: John Smith
ID: 348739641
Blood Type: A+
Birth: 16.11.1977



Also available
with NFC



Emergency Medical Card



WWW.CRYPTOCODEX.COM
Counterfeit Detection Systems

Emergency Medical Card Provided by Cryptocodex Ltd		
Patient's Name: John Smith	Emergency Contact: Pierre Curie Relations: spouse Phone: 713-393-1820	Patients Address: 1600 Lamar, Houston, Texas, 77010
Insurance Information: Kaiser Permanente	Blood Type: A+	Allergies: No
Birth Date: 16/11/1977 ID: 348739641	Doctors' names: Dr. David Chen Phone: 713-393-5531	Pharmacy: Roberts Phone: 713-393-983
<p>Medical Conditions: S/P Chemotherapy Trt. 2002-2003</p> 		
<p>Medicines taken: Oxygen supplementation: 8h daily Theophylline 100mg s.i.d ASA 81mg s.i.d Pamidronate 100mg s.i.d Ambien 10 mg s.i.d</p>		
Other Comments: Baseline rest oxygen saturation ~92%		Date updated: Feb 27 th , 2011



AUTHENTICATE



Authentication means

- Flat-bed scanners
- WEB cameras
- **Smart-phones**
- 2D-Barcode Readers
- Hand-held terminals



Recommended authentication software:



I-NIGMA

Free download from Apple's 'AppStore' and Google 'PLAY'



What else?

- Fighting Tax evasion - Protecting Tax Invoices
- 'TAX STAMPS' – to detect smuggling and fraud
- Protecting expensive art-works (precious pictures)
- Credit cards using holder's picture, for face-to-face transactions
- Protecting WEB transactions (QREDIT)
- Diamonds trade (including WEB transactions)
- Sophisticated Track&Trace systems with extremely reduced database size

Please refer to a detailed presentation on

Track&Trace



Tax Invoice – Tax Stamp



International Trading Co. Ltd.

International Trading Company Ltd.
51, Main Street
Vienna.
Austria.

UID : **ATU21254456**

Date: **15-02-2012**

Charged to:
Diamonds Ltd.
13, Wolfgang Street
Salzburg.
Austria.
UID: **ATU87645222**

Tax Invoice No. : 255650

Qty	Description	Unit Price	Total Price
1	Polished Diamond #1
1	Polished Diamond #2
1	Polished Diamond #3
1	Polished Diamond #4

Total, NET, Before V.A.T 150,000.00

V.A.T Amount (20%) 30,000.00

Grand Total, Including V.A.T 180,000.00

* 255650.JPG *

Prices are in EUR.

Signed:

Printed on: 02-02-2012 17:41:42



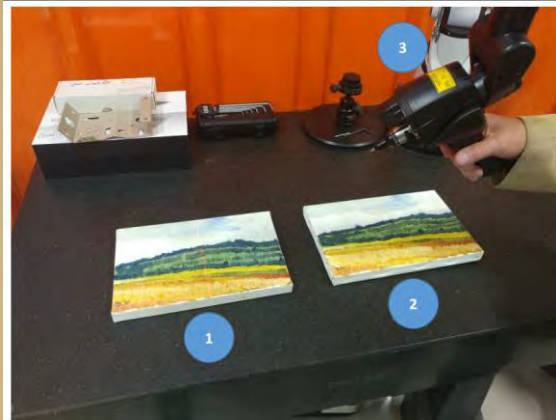
Protecting Public Health



Medicines Factory...

ART-SAFE

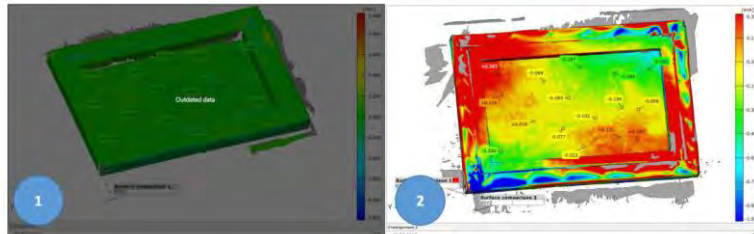
Protecting expensive art (pictures, sculptures)



1. Original work of art.
2. Counterfeited work of art.
3. Portable surface authentication device.



Also available
with NFC



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.

Once an ARTWORK was verified as genuine (an expensive process, by experts)
A surface scanning technology and Counter-Fight enable detection of any attempt to substitute it by a fake one



Credit Cards with Photo

Adding holder's picture to a credit card, adds safety in a face-to-face transaction



Risky



With Photo

QREDIT – WEB TRANSACTIONS

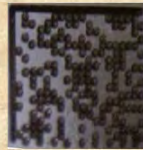
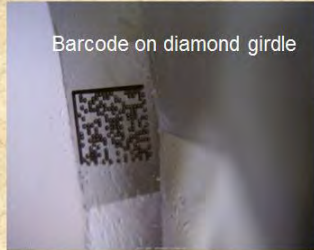


Safe Transaction

DIAMONDS TRADE

The Diamond 2D-Barcode

Barcode on diamond girdle



Diamond's 2D-Barcode in a micron scale
System software processes and decodes the content

*The 2D-Barcode is inscribed
on the diamond*

Reading Diamond Barcode

- Reading the 2D-Barcode from diamond's girdle is enabled using a portable microscope



- The microscope image can be displayed on a stationary computer screen, a laptop screen, or on a stand alone video screen

**Smartphone
add-on lens**





Pan Pacific Diamonds Co. Ltd.

Identification Data	The 4Cs Grading	Light Performance
Site: <input type="text" value="SITE 03"/>	Carat: <input type="text" value="3.1233"/>	Polish: <input type="text" value="Very Good"/>
Certificate Number: <input type="text" value="14462620"/>	Color: <input type="text" value="N - VERY LIGHT"/>	Symmetry: <input type="text" value="Good"/>
Shape: <input type="text" value="Princess"/>	Clarity: <input type="text" value="FL"/>	Fluorescence: <input type="text" value="Strong"/>
	Cut: <input type="text" value="Excellent"/>	
Dimensions: (X,Y,Z) X: <input type="text" value="9"/> . <input type="text" value="23"/> mm Y: <input type="text" value="8"/> . <input type="text" value="24"/> mm Z: <input type="text" value="7"/> . <input type="text" value="25"/> mm	 	
Value: <input type="text" value="32,000"/>		
Range: <input type="text" value="\$ 30,000 to 40,000"/>		

Encrypted Barcode


Status: BARCODE ENGINE IS READY.

 (C) 2011 Cryptocodex Ltd. - Counterfeit Detection Systems.

ALPIUM Project



**Counter-Fight barcode
inscribed
on diamond's girdle**



Track&Trace



Production line

- Individual packages encrypted 2D-Barcode
- Carton Track&Trace 2D-Barcode

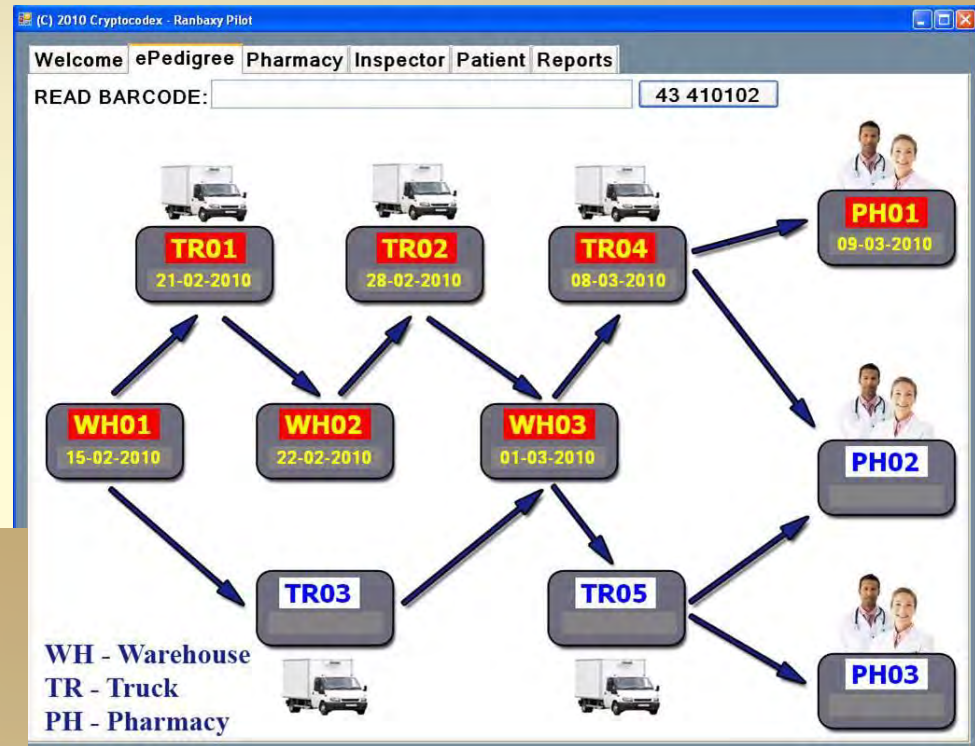


Each package must be individually registered !!!



ON-Carton Marking

Counter-Fight	Random marking
One Record	36 Records
853001-853036	Each and Every Package



Please refer
to a detailed presentation
on **Track&Trace**



Added Value

- Anti-Counterfeit protection
- Brand protection
- Expiration date verification
- Stolen goods are easily detected and traced
- Grey market detection
- Product recall – Easy identification by the public
- Enhanced sales - Lottery to increase sales volumes
- COUNTER-FIGHT is Track&Trace and WMS READY
(WMS = Warehouse Management Systems)

**All features are included
at no extra cost**

