Brand Protection with BlockChain Technology

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President, Asia Pacific, DSS Inc.
Who We Are

• Over 30 years in product protection and document security space
  • Initial technology invented by Ralph Wicker in 1987

• Develop technologies, software and products that deter counterfeiting, product diversion, and warranty fraud

• We secure the world’s most important brands
  • Including projects with:
    • US Government Agencies
    • Foreign Governments
    • Fortune 500 Companies
    • Small and Medium Businesses
Corporate Mission

To help companies, financial institutions, & governments eliminate fraud

- **Document Fraud**
  - Anti-copying/scanning technology
  - Hidden image
  - Authentication technology

- **Product Fraud**
  - Digital authentication
  - Data analysis
  - Hidden image technology

- **Credential Fraud**
  - Secure identification
  - RFID credentials
  - Advanced access control
DSS Digital’s Solutions

1. **Product Fraud Technology**
   - Two factor solution to guarantee authenticity of products to fight counterfeiting, product diversion, & warranty fraud

2. **Document Fraud Technology**
   - Prevent & detect copying of documents, packaging & other printed media to fight fraud and counterfeiting
AUTHENTIGUARD

SMARTPHONE AUTHENTICATION

- Embedded code is protected with DSS Prism technology; a technology that resists counterfeiting on copiers, scanners, & photography
  - AuthentiGuard mark is applied to surface during the printing process
    - Can be produced using a variety of printing processes including: Offset, Flexo, Gravure and Digital
    - The mark is embedded into the artwork during the pre-press printing stage

- Once the AuthentiGuard mark is scanned, encrypted information becomes available to the user through smartphone application.
  - Each mark can be associated with various amount of information i.e.: origin, destination, expiration and serial number etc.

- Customizable in shape, size and location
A Data-Centric Approach
- Mobile App Authentication
- Backend Dashboard

Aggregated Data
Data record can help identify problem actors, regions at risk, retailers who are targeted, & other important “markers” which can be found through analysis

Data Capture
Archiving of data from authentication activities is saved which strengthens the overall analysis so accuracy improves over time
DSS BlockChain Solution – Joint Research Project with LSCM
A Global Challenge

- Supply chains have gone global over the last 30 years
- China now makes 80% of the world’s air conditioners, 70% of its mobile phones, and 60% of its shoes
- 50% of world’s manufactured goods are made in Asia
- Outsourced manufacturing is a major driver of economic growth for the AP region
- The dark side of the outsourcing is the loss of control & the exposure of intellectual property
- Counterfeiting has grown at a tremendous pace
  - Counterfeit market is now estimated at $1.7 trillion per year up from $200 billion in 2005
The Cause

• A major cause of counterfeiting is the lack of control over the new supply chain

• Systems integration can help solve the problem but it is difficult to achieve across a large group of partner companies
  • Example: One client of DSS has approximately 20,000 companies in its supply chain
  • Integrating systems also significantly increases security vulnerability

• When do the problems of outsourcing outweigh the benefits?

• A new approach suited for interoperation of a decentralized supply chain is an imperative
Using Blockchain in Supply Chain

• A decentralised and transparent system that doesn’t need trusted third parties
• Establishes trust via secure and traceable transactions with an immutable IT infrastructure
• Everyone (brands, production, logistics, distribution and consumers) can participate in a peer-to-peer network ecosystem allowing for more efficient, less expensive & highly secure interoperability
• A non-disruptive and integrative approach to remedy the existing fragmented supply chain infrastructure
Value to Brands

• Anti-counterfeiting – unique identification to verify the authenticity of goods

• Visibility and Traceability – Track movement of goods in supply chain giving brands much greater visibility into their network, markets, and customers

• Efficiency – Massive improvements in transactions and interactions which will benefit all participants, not just the brands
LSCM – DSS Joint Research Project

• Joint research for Blockchain deployment within supply chain
• Using Blockchain for secure data transaction across multiple channels, including manufacturing, logistics, retail and online distribution
• DSS to license LSCM RFID Product Authentication Technology as an integral party of DSS AuthentiGuard Product
• To develop API for supply chain partners to participate in the Blockchain as a Service ecosystem
The Architectural Considerations

• Performance – supply chains are generating a massive amount of data with high volume products and interaction from far flung stakeholders

• Interoperability – APIs are critical to connect disparate systems which also means easy integration with core DSS authentication technology and extension to different “touch points” such as RFID, barcode, data matrix code, etc.

• Scalability – Effective execution of smart contracts allows us to incorporate dynamic user engagement programs
AuthentiChain – Blockchain as a Service
Workflow - Product Authentication

1. App reads auth code from Tag
2. App verifies auth code with Server
3. Server returns new auth code
4. App writes new auth code to Tag
5. AG-RFID Server writes auth record to Blockchain through API Gateway

RFID Tag
- TID
- Password protected
- Auth Code

AuthentiGuard Code

Mobile App

AuthentiGuard

AuthentiChain Administration Server

AWS Cognito

AuthentiChain API Gateway

Horizon (Stellar API Server)

Stellar Network

AuthentiChain RFID

AuthentiGuard RFID
Dashboard
Statistic and Report

Search by product sku and product serial

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Export Report
Thank you

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