



CVS

Crypto Verification System

White Paper





CVS

I.Introduction

II.Statistics

III.Problems

IV.What is it?

- A. The main advantages of the platform
- B. Electronic Digital Signature

V.How does it work?

- A. Product labeling
- B. Authentication
- C. Technical Features of CVS
- D. Generation of an array of unique codes

VI.Token

- A. Token Distribution

VII.Road map

VIII.Conclusion

IX. Disclaimer

Introduction

Today, 4.5 billion people use the Internet in their daily lives, and each area is gradually expanding in this direction. In particular, e-commerce is taking wide-ranging steps to replace the classical model of monetary relations.

Progress is indeed gaining momentum, but the global problem of digital trade remains the authenticity of the product and the inability to verify it.

Statistics

According to 2019 statistics, imports of counterfeit and pirated goods amount to about half a trillion dollars per year or about 2.5% of world imports.

These figures are rising steadily every year, with the United States and Europe suffering the most, and not only large companies and luxury manufacturers. Criminals enjoyed consumer confidence in trademarks and brand names, which severely undermined the economy and endangered human lives.

Counterfeit goods that have been seized range from luxury goods (such as bags, perfumes and watches) to counterfeit life-threatening products: toys that harm children, pharmaceuticals that do not treat the recipient, a Baby formula containing dangerous ingredients, car parts that fail, and medical instruments that provide inaccurate data.

There are two main reasons for the growth of the counterfeit market:

- It is difficult to track goods that move along complex trade routes where there are free trade areas or little regulation of these processes.
- Counterfeit products are designed to mislead, and as a result, encourage consumers to purchase goods that have a high margin for questionable suppliers.

Problems

Three key players suffer from counterfeit goods:

Seller

The seller, who may be a supplier, retailer or another person, is a profitable entity and relies on the quality of the products sold and the reliability of the developed brand name.

Counterfeiting uses the trademarks and intellectual property of other sellers for their gain, thus damaging the overall reputation and profitability of the business. Also, the trust of any company's potential customer base is affected by counterfeit goods in the same way.

Buyer

The buyer suffers damages by purchasing counterfeit products that do not meet the expected requirements, contain harmful side effects and have other negative consequences.

Consumer confidence in online commerce has been undermined by the inability to test the originality and authenticity of products. The element of trust is a fundamental factor in buying.

Mediator

Intermediaries often try to take on the role of supervisory authorities to seize and prevent counterfeit goods.

Intermediaries face extremely high costs for tracking, purchasing and selling counterfeit goods.



What is it?

The Crypto Verification System (CVS) platform is designed to confirm the authenticity of goods online immediately before purchase. The verification algorithm eliminates the need to question the integrity of suppliers in electronic commerce.

CVS is a decentralized verification platform that allows you to mark and track data on the Blockchain network using unique QR codes. The protocol allows manufacturers, brands, retailers, and any other party to assign unique signatures to any products, services, or digital goods sold, manufactured, and traded online. Unique signatures are stored on the Blockchain network and can be requested to determine contextual data (including location, date, manufacturer/origin, and relying on party identification). Verification is not limited to the sale of physical goods and services. CVS also extends to the authentication and legitimacy of any digital asset, such as certificates and courses.

The CVS platform can be used to create services for checking the level of security of applications and can be integrated with any applications, services or e-commerce stores, thanks to a universal API. The CVS system has modern and flexible means for integrating and exchanging data with systems of various levels: both with the internal systems of manufacturers and distributors of various goods, as well as with industry, regional and state systems of supervisory and controlling bodies. The system also contains components to support industry-specific international standards and rapid integration with foreign systems.

This facilitates the development of a competitive market for third-party inspection services for specialized commercial markets, such as food markets, commodities, education, garments and other digital goods and services.



What is it?

Three key players suffer from counterfeit goods:

Profit preservation.

When selling a counterfeit product under a certain brand, scammers get profit instead of the company.

CVS allows not only to bring genuine products to consumers but also to identify the points where counterfeit infusion occurs.

Preservation of reputation.

The low quality of the forgery can spoil the whole image of the product and the company as a whole.

Increased customer loyalty levels.

The ability to verify the authenticity of products at the place of purchase raises the reputation of the company in the eyes of consumers.

Increase sales.

Eliminates the need for "doubts" in online purchases, thus contributing to increased demand for supply.

The main way of marking product authentication control is a unique QR code. A QR code is a two-dimensional barcode in which information about the product and manufacturer can be presented in an encoded form. QR means «quick response» because the information from it can actually be counted almost instantly. Like the digital code, it is placed directly on the product packaging. If necessary, the QR code can be supplemented by an electronic digital signature (EDS). EDS is a legally significant document, the falsification of which is prosecuted by law.

Modern technologies allow using scanning of QR-code as a convenient and fast way of authentication of goods. All you have to do is put your smartphone camera on the mark. The product authentication results will be available within seconds and will be available in the same application. Here you can review the history of your checks and get all the necessary information on protection against counterfeit.

What is it?

Electronic digital signature

Each QR code contains an electronic digital signature.

Electronic digital signature (EDS) allows you to certify electronic documents of any type. The authorship and reliability of the information presented in such documents are not subject to doubt.

- Special software and a secret (private) key are used to sign a digital signature document.
- The addressee of the document uses the public key to verify the signature.

The provision of electronic digital signature tags makes them legally relevant documents. Special software and a secret (private) key are used to sign the EDS document.

- Working with the EDS is simple.
- EDS - a legally significant document. Electronic counterfeiting is punishable by law.
- It is almost impossible to forge an EDS when a private key is stored carefully. To verify the signature, the addressee of the document uses the public key.

What is it?

Protection of products against counterfeiting using electronic digital signatures

Manufacturer

- Sends a request for the generation of QR codes, the request is signed by digital signature.
- Receives codes, each one of which has product information.
- Marks product codes.

Consumer

- Reads the QR code from the outside of the package and receives the result of authentication.
- Reads the QR code on the inside of the package, thereby confirming the fact of purchase.

Advantages of using QR codes

- Modern and secure identification of goods in trade networks.
- Encryption of information about the origin of the goods, their purpose and the route followed.
- Track the movement of the goods along the supply chain at all stages, receiving reports confirming the arrival of the goods at the control points.



How does it work?

Product labeling

The CVS platform allows retailers of e-commerce to verify the authenticity of any products or services they sell online. Retailers can assign unique identifiers to every product sold online through a third-party verification application built over the platform. Retailers will then be able to display the unique disposable hashes generated from this QR identifier to all potential customers wishing to authenticate the product.

Users then enter the application and scan the code marked on the product to determine its authenticity. Besides, origins and production can be revealed depending on brand preferences.

Digital signature

The CVS platform can be used to verify that digital goods and services are issued by a legitimate and authentic source. An example is digital certificates from online courses, colleges or universities. The certificate can be assigned a unique identification signature, which can be verified by an application built on top of the CVS platform. The recipient of the certificate and any potential employer who wishes to verify its legality can check the certificate with this application. Results, comments and other scientific data can be stored in the Blockchain.

Physical Signature

Unique identifiers generated by the platform can be stored in a physical equivalent and attached to the product. When a product moves along the supply chain, each party that processes a product can check its source with an application on the CVS platform and update details (e.g., location, time and other conditions). The consumer can scan the hardware to check the movement of the product along the supply chain.

Labelling of products:

- An array of unique codes is generated to mark your products:
 - Unique digital codes
 - QR codes
 - QR codes containing EDS
- Codes are integrated into the CVS system. All codes are automatically assigned product information to which they correspond.
- Each unit of your product is marked with a unique code, after which the product goes on sale.

How does it work?

Authentication:

- The buyer sends a request for code verification in any available way:
 - Sends a code in an SMS message to a short number
 - Registers the code on the CVS service website or on your website, where the code verification functionality is integrated
 - Scans code using any QR reader or special mobile application (for QR codes)
 - Gives the code to the helpline operator by calling a toll-free 24-hour hotline
- The service fuses the code with the array, verifies that it has not been previously registered by another buyer, and sends a response message with the result of the check
- Each response message contains a free hotline number in case of counterfeiting.

Technical Features of CVS

- Increase consumer loyalty to the brand by:
 - Easy authentication of purchased products
 - Guarantees of information support in case of purchase of counterfeit
 - No risk of harm to their health and property due to the use of counterfeit goods
- Timely and prompt interdiction of counterfeiting, which will have a positive impact on profits
- You can control the operation of the service by viewing detailed reports in the system's web panel:
 - List of all registered codes
 - Consumer database with targeted data
 - Results of authentication checks
 - Audio recording calls to the hotline

Generation of an array of unique codes

All goods participating in the counterfeiting program must first be equipped with a unique code.

An array of unique codes is created for each manufacturer separately, using a random number generator. After the generation of the next code, the system checks its uniqueness by comparing it with the entire base of previously generated codes, thus eliminating duplication.



Token

CVS is a system that securely protects your products from counterfeiting. It is based on the patented technology of marking each unit of production with unique QR codes. By registering the code found on the package, the buyer can easily verify the authenticity of the goods.

The CVS token is the basis of the verification process. Mark each product with unique QR identifiers and record them in Blockchain, sellers will be able to pay with CVS tokens.

CVS token is used to feed the verification process. Applications will receive a CVS token as payment for hosting verification applications. Users using these applications will use CVS tokens to mark in Blockchain, and the coins are then passed to the host of the application as payment for placing the applications according to the protocol.

The CVS operating token is the mechanism that feeds the verification system. CVS token is required to generate unique signatures and contextual data of the system. Any application built on top of the CVS system requires the user to spend CVS tokens that are received by the owner of the application as a fee for its verification services.





Token Distribution



IEO

300.000.000



Staking Pool

180.000.000



AirDrop

50.000.000



Reserve fund

10.000.000



Team

5.000.000



Marketing

5.000.000

Total capitalization

550,000,000 million

Road map

- 07.03.2020**
Creation and development of project ideas CVS
- 15.03.2020**
Market analysis of manufacturers wishing to protect their brand
- 12.04.2020**
Website Creation
- 14.06.2020**
Website Launch
- 22.06.2020
Preparing to launch IEO
- 26.06.2020
IEO launch
- 17.11.2020
Prototype creation
- 06.12.2020
Adaptation of the product
- 22.12.2020
Product testing
- 08.01.2021
Creating a referral system
- 05.02.2021
Connecting branded manufacturers to the project
- 19.03.2021
Signing of advertising contracts
- 28.06.2021
Entering the advertising market
- 30.09.2021
Project scaling and updating
- 10.10.2021
Platform Token Integration



Conclusion

The Crypto Verification System is designed to ensure transparency and enhance loyalty in the modern electronic commerce market, which significantly simplifies the relationship between seller and buyer in such a chain of connections, where trust is a priority for both sides.

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