New digital identity authentication platform through encrypted two-dimensional codes using mobile devices

Summary

A Spanish startup has developed and patented a secure system and method for personal authentication using mobile devices provided with cameras, through the treatment of pictogram frames or two-dimensional codes. The company is looking for partners for license agreement, commercial agreements with technical assistance, technological cooperation agreements and joint venture contracts.

Creation Date 11 November 2013
Last Update 19 May 2014
Expiration Date 19 May 2015
Reference 12 ES 28G3 3RHJ

Details

Description

An SME based in Madrid Region has developed a new secure, easy to use, and adaptable personal authentication system that uses cryptographic two-dimensional codes. These codes are captured and deciphered by user's smartphones, after running a specific application. The platform is based on the use of modern cryptography, generating two-dimensional codes with OTP (One Time Password / One Time PIN) and another specific built in data, protected by the use of Public Key Infrastructure. These codes can only be decrypted in a unique way that is through the application, installed on the user's smartphone. The system is fully adaptable and can provide a huge amount of services that require persons or objects identification, in a secure way. Their intrinsic characteristics allows to use a lot of services with absolute security, both within online or onsite environments. Different applications of the certification system can be: Secure access to online services, physical payment services, billing, physical access control, performing ATM (Asynchronous Transfer Mode) operations, payment of services, show tickets, fines, fees, taxes, etc. Current and Potential Domain of Application: cryptography, security, mobile communications and digital identification The Company is looking for end customers and companies of ICT sector to introduce the different applications of the technology on the international market thought license agreement, commercial agreements with technical assistance, technological cooperation for testing or joint venture agreements.

Advantages and Innovations

The main advantages of the system are: •It is a secure digital authentication platform •The user's smartphone is used as an activator of the service •It is immune to the "malware“ located in the computer •It is based on modern public key cryptography •It prevents the possibility of repudiation of transactions •It reduces the cost of issuing cards and communications •The implementation is easy,
fast and affordable for the service provider • It is manageable for the client • The mobile device can operate in stand-alone (no wireless coverage) • The system is compatible / complementary with other technologies (NFC) • It is alternative / complementary to the use of plastic cards • Minimum time to market • It does not require any devices upgrade.

Technical Specification or Expertise Sought

The solution is based on the participation of several elements: - A modern Public Key Cryptography, using double cryptography, related to the issuer and to the recipient. - A dynamically generated OTP, that is used once and with limited time validity (from few seconds to minutes, depending of the type of service). The smartphone is used as a "security token". The intrinsic concept of the system that allows to use compromised devices without compromising the user's security, because the system achieves "a separate articulation" of two different communication channels, the service provider device and the user's smartphone. Both channels will communicate by means of the phone camera in a short distance, creating "an optical firewall" between the supplier device and the user's smartphone, causing that this firewall, in practice, is impossible to break.

Stage of Development

Field tested/evaluated

IPR Status

Patents granted

Comment Regarding IPR status

Patent Code: US20120096277

Profile Origin

Private (in-house) research

Keywords

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Client

Type and Size of Organisation Behind the Profile
Industry SME <= 10

Year Established
0

Already Engaged in Trans-National Cooperation
No.

Languages Spoken
English
Spanish

Client Country
Spain

Partner Sought

Type and Role of Partner Sought
- Type of partner sought: Companies, SMEs - Specific area of activity of the partner: Banking, Security Services, Data Management, Developers of ICT solutions for Military. - Task to be performed by the partner sought: Distribution and commercialization, integration with systems and terminals, new projects development and/or technical support.

Type of Partnership Considered
License agreement
Commercial agreement with technical assistance
Technical cooperation agreement
Joint venture agreement
Technology Offer

Scalable coding of time-varying 3D mesh sequences

Summary

A German university has developed a technology which allows compression of three-dimensional (3D) content due to scalable coding of time-consistent 3D mesh sequences. The potential applications are streaming of 3D animation as well as new applications such as 3D television, 3D teleconferencing or medical applications including telesurgery and training. The institute is looking for industrial partners interested in a license for commercial use and joint further development.

Details

Description

As a part of the convergence from fixed and mobile, the multimedia hardware become more efficient and affordable. The circle of users of devices which are capable of displaying three-dimensional content is getting larger. The potential applications are streaming of 3D animation as well as new applications such as 3D television, 3D teleconferencing. It can also be expended to applications in medicine, including telesurgery and training. As same as in case of two-dimensional videos, received over a network or the Internet, providers are faced with the problem of archiving 3-dimensional video contents efficiently. The technology developed by a German university allows efficient scalable coding of three-dimensional video contents. The innovative approach works with different geometry levels which permit simple scaling of the quality of time-varying three-dimensional geometries and simultaneously improves the compression efficiency. The algorithm allows adjusting the data rate or the quality to the dimensional geometry of the changing network capacity or to the end-user devices through the reduction of the total amount of data transferred. Due to the small demand for computing performance it is also suitable for real-time encoding and decoding. Current and Potential Domain of Application: 3D television, immersive telesurgery, immersive computer games

Advantages and Innovations

- Scalable coding of time-varying three-dimensional geometries;
- Reducing of the data rate through efficient compression;
- Suitable for real-time encoding and decoding;
- Part of ISO/IEC 14496-16 Amd.2 Frame Based Animated Mesh Compression.

Stage of Development

Available for demonstration

IPR Status

Patents granted
Comment Regarding IPR status
Patents granted in Germany, France, Great Britain

Profile Origin
Other

Keywords

Technology

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Dissemination

Send to Sector Group
ICT Industry and Services

Client

Type and Size of Organisation Behind the Profile
University

Year Established
0

Already Engaged in Trans-National Cooperation
No.

Langages Spoken
Partner Sought

**Type and Role of Partner Sought**
- Type of partner sought: industrial
- Specific area of activity of the partner: manufacturers of multimedia hardware or applications; manufacturers of medical equipment using 3D content.
- Task to be performed by the partner sought: Improve the data transfer, compression and archiving of 3-dimensional video contents using the developed technology under license agreement and if necessary joint further development.

**Type of Partnership Considered**
- License agreement
- Technical cooperation agreement