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Method for object recognition and verification on portable devices

PROBLEM TO SOLVE

This technology is situated in the context of physical object security, which is an important issue in the following non-exhaustive list of fields: packaging, electronics, luxury products, ID documents, certificates. It solves the problem of non-invasive objects registration with the possibility of backward compatibility enrollment. Despite strong efforts by brand owners and manufacturers, end-customers struggle and lack the convenient means to distinguish the original products from their counterfeited copies.

SOLUTION

Existing anti-counterfeiting mechanisms require costly and often inefficient modifications of the appearance of products and packages (QR codes, barcodes, watermarking, holograms, etc). The proposed technology is based on the usage of unique object features that neither introduces any object modifications, adding of any materials, codes or electronic chips, nor modifies already existing manufacturing processes. Utilization of this property creates automatic, fast, robust and secure recognition and/or verification of authenticity of digital and/or physical objects with backward compatibility of enrollment of the original products. Object recognition and verification of their authenticity can be performed using stand-alone portable devices or it can be used in combination with server based or cloud based based processing.

TECHNICAL FEATURES

This technology distinguishes from the prior art by the usage of non-invasive physical and digital objects protection based on high accuracy comparison of acquired image features with the reference ones. The technology comprises a granted US patent, an EP patent application and corresponding software. All elements of the featured technology are available for licensing or for further development through R&D collaborations.

REFERENCES

Ref. invention: 836-A744 (S. Voloshynovskiy, M. Diephuis)

Ref. patent application: EP141 603 85 (filed on 17/3/2015), PCT/EP2015/025 011, US 10,019,646 (granted)

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Key words: product security, brand protection, counterfeiting, product identification, authentication.

Ref. publications: M. Diephuis, S. Voloshynovskiy, and T. Holotyak, "Fine-grained recognition of physical objects on mobile phones: from categorization to identification," in Proc. The Third Workshop on Fine-Grained Visual Categorization (FGVC^3) in conjunction with the CVPR2015 conference, Boston, United-States, 2015.