Using Security Graphic Design Features for Commercial Prints

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Introduction

The security graphic design is a new form of graphic design for commercial prints that combines aesthetic and functional aspects with the addition of security features to anti-counterfeiting of prints, which lead to changes the contents that recognized and replaces it with any other identical in format and content but is illegal.

The International Anti-Counterfeiting Coalition (IACC) estimates that worldwide counterfeiting has grown to a $600 billion per year industry, and that it costs U.S. businesses between $200 billion and $250 billion annually. Counterfeiting becomes unelectable issue rose in business operation.

In anti-counterfeiting solutions, graphic design with innovative security features provide another layer for brand protection.

Graphic design represents brand recognition, professionalism, communication, company unity in customer perception. Unpleasant design causes serious problems, instead of weakening brand protection, brand reputation can also be damaged and misled the customer towards brand image because of inconsistent or disgraceful designs. Our designers develop a set of security graphic feature designed by special software, create a non-duplicable image through mathematical algorithms, for example, guilloche, relief, latent etc. Our in-house designer offers technology consulting in area of anti-fraud and document design services.

Security features of prints are determined according to several variables, including the type of the printed and the material, in addition to overt and covert security features.

- **Overt feature** (Security features recognizable with human senses, no tools required:

    Custom-designed holograms, thermochromics ink, color change ink, watermarking, security graphic design such as Guilloche and relief, engraved.

- **Covert feature** (require tools to be detected such as UV lights, detectors, microscope, etc.):

In this regard, this study is based on an overview of importance of security design which meets artistic beauty, security and productivity.

Some of most popular security printing techniques, including:
- **Numbering & MICR Encoding**

Numbering is a security printing technique that produces a red halo around the serial numbers of a document for simple verification. The serial numbers appear reversed on the backside of the document.

MICR Encoding is one of our more advanced security printing features, commonly used in check printing. The special magnetic ink and unique font allows for checks to be processed and scanned quickly.
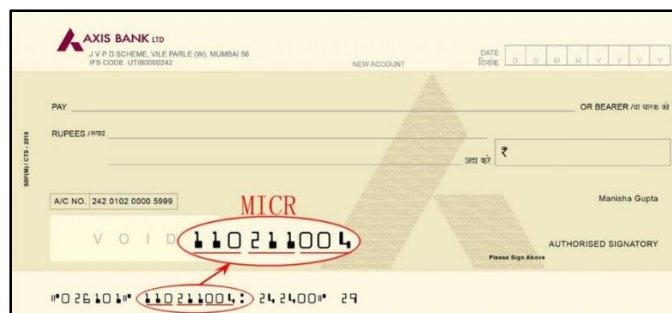
- **Fluorescent Fibers & Inks**

Undetectable to the naked eye, hopefully you'll never have a situation where you need to identify the inks & fibers visible only under ultraviolet light.

This security printing feature safeguards a document from photocopying, scanning, computer manipulation, or whatever other tricks a counterfeiter may possess. Simply, no computer or photocopier can replicate these ingrained fibers & inks, for another level of print security.

- **Chemically Reactive Paper**

Many of security printing products are printed on chemically reactive paper with high-polarity chemical solvents. Any forgery attempts on the document will leave a chemical trail, a stain indicating it's been tampered with.
We can have this paper react to oxidants, polar solvents, bases, reducers, and more.

Research problem
Shortage of commercial prints to security features that enhance the identity of prints.

Research aim
Protection of commercial prints against any kind of reproduction, tampering, counterfeiting.

Research Methodology
Descriptive analytical methodology in addition of the experimental methodology.

Research experiment
Trying to use Security features in the design of certificates such as micro Text, UV Fluorescent ink, Hologram image, Security Thread, Security substrate, QR Code, Guilloche, Security taggants inside the paper, Latent image, watermark, Engraved image, Depending on the type of certificate.
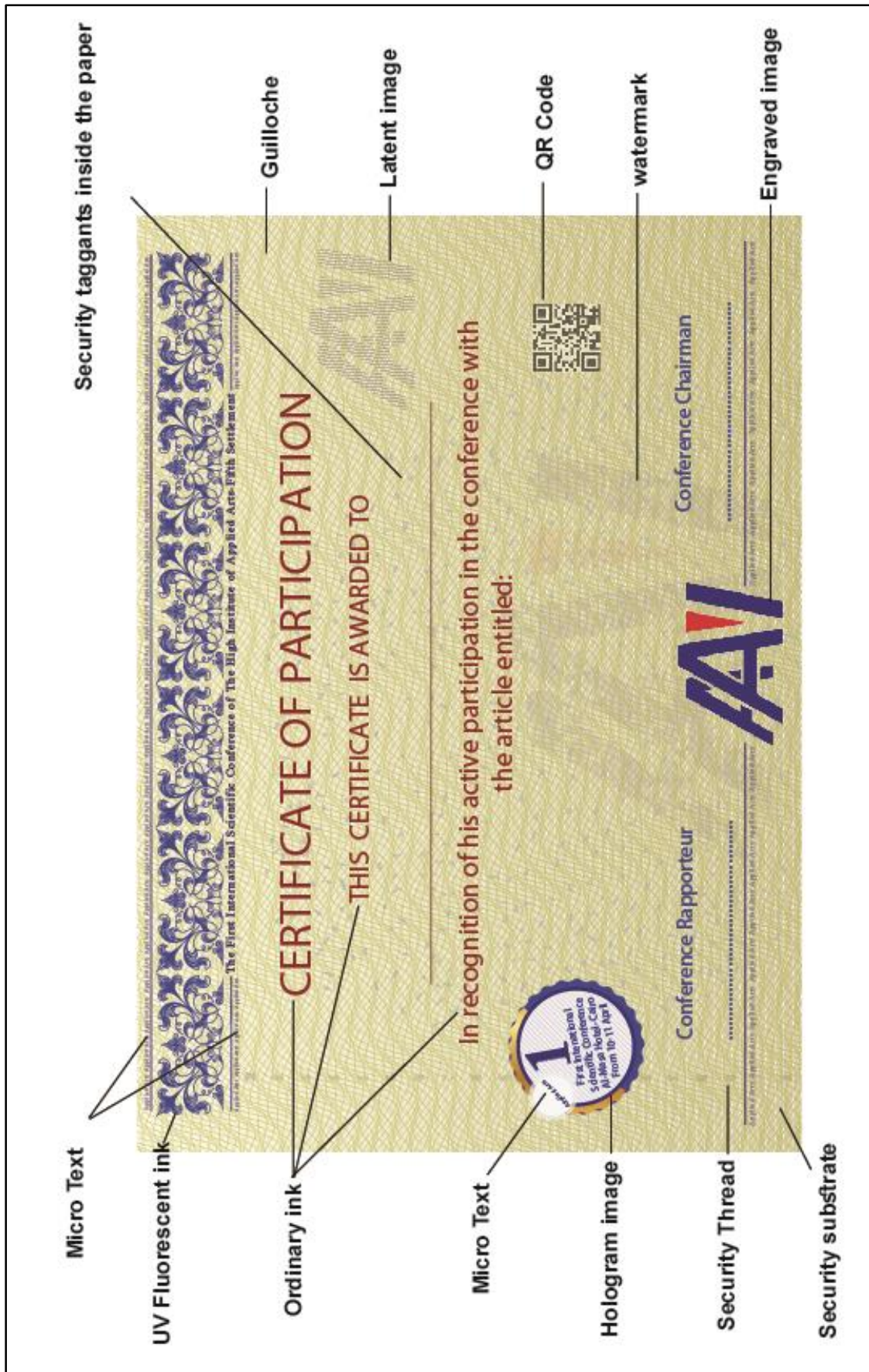
Results:

1. The Future of Global Security Printing to 2022 forecasts strong growth at 4.8% per annum to generate a total value of $34.3 billion in 2022

2. Consumers' participation in reducing product counterfeiting.

3. The more important the publication, the more effective insurance marks will be in preserving the publication.

4. As the market develops across the next five years there will be discernible shift both in end-user demands and commercial technology that result in different prognoses for different end-use applications, like banknotes, stamps, personal ID, and brand protection packaging

5. The value added of the publications when using Security features and maintaining the reputation of the brand.

Recommendations:

1. Raise awareness of the importance of graphic design.

2. Training retailers to combat counterfeit products through awareness of insurance features.

3. Need to protect commercial publications with Security features against counterfeit.

4. design a security model suitable for commercial publications to verify their reliability

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