INVISICODE

UNMASKING FRAUDSTERS, PROTECTING YOUR BUSINESS

Innovation in retail

ANTS

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PROBLEM STATEMENT

In the world of retail, fraud can be a serious problem. Customers may attempt to deceive suppliers . To prevent this, we have adopted a solution that involves using special QR codes made with invisible ink.

These unique QR codes can only be seen when exposed to UV light, which makes them virtually impossible to replicate without the necessary equipment. However, these codes cannot be scanned by regular scanners as the pixels are not clear and well-defined.

To make these codes scannable, we must convert them into a more standard QR code format with clear and demarcated pixels. This process ensures that the QR code can be scanned by regular scanners, while still retaining its information.

SOLUTION

Return requests can be filed with either a genuine or malicious intent. For non electronic items, there currently is no way to confirm if the product is the same as the one delivered. Our solution is to (imprint) each product with a unique, invisible QR code that can only be seen under a UV light.

For clothes with prints on them, the QR code overlaps with the design, rendering ordinary scanners useless.
The invisible QR code (InvisiCode) can be used to confirm the validity of the product, catching customers with malicious intent red handed.
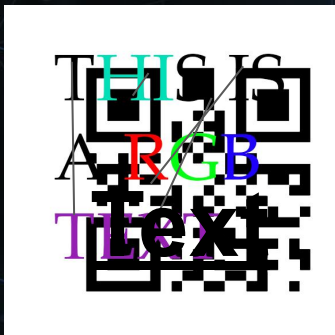
We intend to extract the overlapped QR code from the fabric and convert it into a more readable form,
Upon scanning we see the details of the concerned product. InvisiCode can also be considered as a Digital signature.
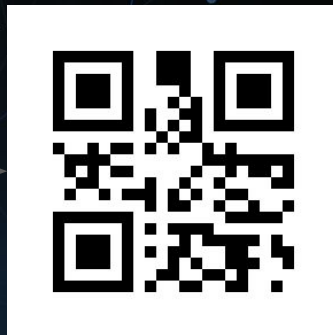
This is how it will be under the UV light

Extracting the Q R Code

WHAT

HOW

WHY

We are trying to reduce the rate of fraudulent consumers and the losses caused by their acts

People have been using various techniques to reduce them and most of them involve studying the return and order patterns of the products but none of them involve integrity of the product and privacy of the consumer at the same time.

Some leading e-commerce companies like Amazon, Meshoo, Flipkart are facing this issue even though they have their own ways to protect their sellers, they are not that efficient and we are trying to put an end to this by combining cutting-edge technology with unspotted perspectives.

TECH STACK

- Python for programming
- Modules like OpenCV, matplot, pandas, numpy, scikit
- The domains covered are :
    - Image extraction
    - Image processing
    - Layouting Technology

The images (QR CODE) data available is overlapped with other pattern present on the article and reading it wouldn't be possible. In order to extract the qr code we process the image using openCV, once the image is obtained we'll have to refine the pixels associated with the data via contouring to get the final readable image. This image can be scanned using any ordinary QR code scanner . All This can be done only by positioning the code properly on the article.

BUSINESS PROSPECTIVE

- Retail merchandise return due to fraudulent activities are estimated to cost around 8% of annual revenue of the company and this is not a small amount for companies worth billions of dollars.

- Even in many ecommerce sites though there are many Seller Protection policy but finally end up in refunding money to their seller or fail in detecting fraud customers.

- No doubt in that because people have known both the technologies but have never put them together