

## **MICROSERVICE BASED SYSTEM FOR PAPER DOCUMENTS COUNTERFEIT DETECTION**

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The anti-counterfeiting is widely in demand and significant financial resources are constantly allocated for anti-counterfeiting. Eventually these additional expenses are reflected in the final price of a product, that means the customers pay for anti-counterfeiting. It is required to design and develop a cheap and simple from user perspective method for document validation, which should bring the confidence in product quality, reducing the product price.

The article represents a new method of paper document validation using modern smartphones. The proposed paper document validation method is based on paper surface structure comparison between the registered reference document and the candidate document under validation. The method allows for a regular owner of a smartphone to quickly validate the paper document without having any knowledge about the validation process itself.

The important requirements for the system, which is based on proposed method of paper document counterfeit detection, are high availability and scalability, which are dictated by a great need for quick document authentication from clients and manufacturers side, wide popularity of smartphones and high counterfeiting level of different kind of goods (ex.: clothes, appliances or medicines). To achieve stable and effective work of such system the special technical design approach is required. The usage of modern microservice approach for the counterfeit detection system design allows to solve mentioned problem and to effectively allocate the hardware resources to serve the system users and to make the system work under high load stable.

**Keywords:** *anti-counterfeiting, document protection, microservices architecture, paper surface structure, system design.*

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