INTEROPERABLE DISTRIBUTED AUTOMATED FINGERPRINT IDENTIFICATION SYSTEM – COODINATOR SERVER

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ABSTRACT

Automated Fingerprint Identification System (AFIS) is now widely used in everyday life. Although small scale AFISs have found commercial success, there is still a problem with the lack of interoperability in the current systems. To tackle this problem is the purpose of this paper.

This paper, throughout the whole chapters, will introduce a new architecture called Interoperable Distributed Automated Fingerprint Identification System (IDAFIS). This architecture provides a solution for the lack of interoperability exploited in most of current AFISs by implementing Web Service technology. Besides, it also leverage the concept of distributed system to further enhance the performance and reduce bottleneck, providing load balancing at the same time. This paper, particularly, focuses on the implementation of the front-end of IDAFIS architecture, named after the Coordinator Server. As the name implies, its main purpose is to act as a coordinator and control the whole system. Aside from the theoretical analysis, this paper also shows the implementation of the real system.

Through the result of the experiments, it is proved that IDAFIS tackles the lack of interoperability, provides better performance or large-scale databases, and is more efficient compared to some of current AFISs.

Keywords: IDAFIS, AFIS, Web Service, Distributed System, fingerprint, load balancing, multithreading, system architecture.
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