

**AN EFFICIENT AND PRIVACY-
PRESERVING BIOMETRIC
IDENTIFICATION SCHEME IN
CLOUD COMPUTING**

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ABSTRACT

- BIOMETRIC identification has raised increasingly attention since it provides a promising way to identify users.
- Compared with traditional authentication methods based on passwords and identification cards, biometric identification is considered to be more reliable and convenient.
- In this paper, we propose an efficient and privacy-preserving biometric identification outsourcing scheme. Specifically, the biometric data is encrypted and outsourced to the cloud server.



CONTINUE

- To execute a biometric identification, the database owner encrypts the query data and submits it to the cloud.
- The cloud performs identification operations over the encrypted database and returns the result to the database owner.
- A thorough security analysis indicates the proposed scheme is secure even if attackers can forge identification requests and collude with the cloud.

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EXISTING SYSTEM

- Biometric identification has become increasingly popular in recent years.
- With the development of cloud computing, database owners are motivated to outsource the large size of biometric data and identification tasks to the cloud to get rid of the expensive storage and computation costs, which however brings potential threats to users' privacy.



PROPOSED SYSTEM

- We examine the biometric identification scheme and show its insufficiencies and security weakness under the proposed level-3 attack.
- We present a novel efficient and privacy-preserving biometric identification scheme. The detailed security analysis shows that the proposed scheme can achieve a required level of privacy protection.
- The proposed scheme is secure even if attackers can forge identification requests and collude with the cloud.



CONTINUE

- Compared with the existing biometric identification schemes, the performance analysis shows that the proposed scheme provides a lower computational cost in both preparation and identification procedures.

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HARDWARE REQUIREMENTS

- Processor - Pentium –III
- Speed - 1.1 Ghz
- RAM - 256 MB(min)
- Hard Disk - 20 GB
- Floppy Drive - 1.44 MB
- Key Board - Standard Windows Keyboard
- Mouse - Two or Three Button Mouse
- Monitor - SVGA

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SOFTWARE REQUIREMENTS

- Operating System : Windows 8
- Front End : Java /DOTNET
- Database : Mysql/HEIDISQL

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CONCLUSION

- In this paper, we proposed a novel privacy-preserving biometric identification scheme in the cloud computing.
- To realize the efficiency and secure requirements, we have designed a new encryption algorithm and cloud authentication certification.



REFERENCE

- [1] Y. Zhu, Z. Wang and J. Wang, “Collusion-resisting secure nearest neighbor query over encrypted data in cloud,” In Quality of Service (IWQoS), 2016 IEEE/ACM 24th International Symposium on, pp. 1-6, 2016.
- [2] A. Jain, L. Hong and S. Pankanti, “Biometric identification,” Communications of the ACM, vol. 43, no. 2, pp. 90-98, 2000.
- [3] R. Allen, P. Sankar and S. Prabhakar, “Fingerprint identification technology,” Biometric Systems, pp. 22-61, 2005.



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- [5] X. Du and H. H. Chen, "Security in wireless sensor networks," IEEE Wireless Communications Magazine, vol. 15, no. 4, pp. 60-66, 2008.
- [6] X. Hei, and X. Du, "Biometric-based two-level secure access control for implantable medical devices during emergency," in Proc. of IEEE INFOCOM 2011, pp. 346-350, 2011.
- [7] M. Barni, T. Bianchi, D. Catalano, et al., "Privacy-preserving fingerprint authentication," in Proceedings of the 12th ACM workshop on Multimedia and security, pp. 231-240, 2010.

