

Secure FIR System using Blockchain

Suraj Awari¹, Abhishek Gawade², Ganesh Gawade³, Shubham Chandghode⁴, Prof. P.V Raut⁵

Students, Department of Computer Engineering^{1,2,3,4}

Professor, Department of Computer Engineering⁵

Sinhgad Institute of Technology, Lonavala, Maharashtra, India⁵

Abstract: *Whether directly or indirectly, technology has been used for every imaginable endeavour. Technology is used in many different industries, including business, agriculture, law enforcement, governmental workstations, and more. Given the rise in crime rates, it is more important than ever to hold the culprit accountable and ensure that the victim receives justice. Sadly, things don't always turn out this way. The e-FIR data is initially stored locally in the central database of a police station, which is later shared with the head office (HQ) of police stations. However, because the police station has local control over the e-FIR database, it is easy to modify the e-FIR data; It is possible to create a mechanism to prevent this. The integrity of the e-FIR data, phone registration, and non-registration are the key issues with the conventional approach. A system like this would provide the population with access to one that is free of corruption because inefficiency, corruption, and a lack of transparency are the sources of these problems. By employing blockchain, an effort has been made to safeguard the integrity of e-FIR data and prevent fraudulent registration*

Keywords: Blockchain Technology, Encryption, SHA 256, Message Digest

REFERENCES

- [1]. Irie K, Scott A, Hasegawa N. Investigation of the detection ability of an intrinsic fluorescence-based bioaerosol detection system for heat-stressed bacteria.[J]. Ecological Economics, 2017, 131(2):499-509.
- [2]. J. Flatley, C. Kershaw, K. Smith, R. Chaplin, and D. Moon, "Crime in England and Wales 2009/10, London: Home Office, 2010.
- [3]. Kadhe, S., Garcia, B., Heidarzadeh, A., El Rouayheb, S. and Sprintson, A., 2019. Private information retrieval with side information. IEEE Transactions on Information Theory, 66(4), pp.2032-2043.
- [4]. Guo, J., Fan, Y., Pang, L., Yang, L., Ai, Q., Zamani, H., Wu, C., Croft, W.B. and Cheng, X., 2019. A deep look into neural ranking models for information retrieval. Information Processing & Management, p.102067.
- [5]. Hsinchun Chen, Wingyan Chung, Yi Qin, Michael Chau, Jennifer Jie Xu, Gang Wang, Rong Zheng, HomaAtabakhsh, "Crime Data Mining: An Overview and Case Studies", AI Lab, University of Arizona, proceedings National Conference on Digital Government Research, 2003. available at: <http://ai.bpa.arizona.edu/>
- [6]. Hsinchun Chen, Wingyan Chung, Yi Qin, Michael Chau, Jennifer Jie Xu, Gang Wang, Rong Zheng, HomaAtabakhsh, "Crime Data Mining: A General Framework and Some Examples", IEEE Computer Society April 2004.
- [7]. Y. Lin, T. Chen and L. Yu, "Using Machine Learning to Assist Crime Prevention", 2017 6th IIAI International Congress on Advanced Applied Informatics (IIAI-AAI), pp. 1029-1030, 2018.
- [8]. C. Chauhan and S. Sehgal, "A review: crime analysis using data mining techniques and algorithms", 2017 International Conference on Computing Communication and Automation (ICCCA), pp. 21-25, 2017.
- [9]. S. Kadhe, B. Garcia, A. Heidarzadeh, S. El Rouayheb and A. Sprintson, "Private information retrieval with side information", IEEE Transactions on Information Theory, vol. 66, no. 4, pp. 2032-2043, 2019.
- [10]. Jin, G., & Zhang, H. (2009). A FIR Filter-Based Online Secondary Path Identification Algorithm for Active Noise Control. 2009 International Conference on Digital Image Processing.

- [11]. Ranjithkumar S, &Thilagam S. (2016). Optimization design approach for multiplierless FIR filter. 2016 Online International Conference on Green Engineering and Technologies (IC-GET).
- [12]. Xia, G., Xia, X., Zhao, B., Sun, C., Wang, P., & yang, Y. (2019). A Method of Online Trajectory Generation Based on FIR Filter. 2019 Chinese Automation Congress (CAC). doi:10.1109/cac48633.2019.8996311
- [13]. Thumwarin, P., Khem, S., Janchitraponvej, K., & Matsuura, T. (2008). On-line writer dependent character recognition for Khmer based on FIR system characterizing handwriting motion. 2008 SICE Annual Conference.
- [14]. Besset, P., Bearee, R., &Gibaru, O. (2016). FIR filter-based online jerk-controlled trajectory generation. 2016 IEEE International Conference on Industrial Technology (ICIT).
- [15]. Khan, N. D., Chrysostomou, C., & Nazir, B. (2020). Smart FIR: Securing e-FIR Data through Blockchain within Smart Cities. 2020 IEEE 91st Vehicular Technology Conference (VTC2020-Spring).
- [16]. Sanjukta Banerjee, Rohini Bale, DikshaVazirani, TanushreeShrivas and Saloni Fating, "The Virtual Police Station 24*7 with Aadhar card Authentication" in , Nagpur, India:Department of Information Technology, S.B. Jain Institute of Technology, Management and Research, pp. 1-5.
- [17]. Hingorani, I., Khara, R., Pomendkar, D., & Raul, N. (2020). Police Complaint Management System using Blockchain Technology. 2020 3rd International Conference on Intelligent Sustainable Systems (ICISS).
- [18]. Patel, J., Wala, H., Shahu, D., & Lopes, H. (2018). Intellectual and Enhance Digital Solution For Police Station. 2018 International Conference on Smart City and Emerging Technology (ICSCET).