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(71)Name of Applicant :

1)Dr. A. John Rajan

Address of Applicant :Department of Manufacturing Engineering, School of Mechanical Engineering (SMEC), Vellore Institute of Technology, Vellore Vellore Tamil Nadu-632 014
Tamil Nadu India Tamil Nadu India

2)Dr. Sudhanshu Maurya

3)Dr. T.Veeramakali

4)Dr . Shaifali Garg

5)Vigneshwar Manoharan

6)Mr.R.Balaji

7)Dr. Vincent Herald Wilson

(72)Name of Inventor :

1)Dr. D. Sugumar

2)Dr. Sudhanshu Maurya

3)Dr. Sanjeevi Pandiyan

4)Dr. B. Santhosh Kumar

5)Mr. M.Sundarrajan

6)Dr. Jagadeesh Gopal

7)Dr. J. Vellingiri

8)Dr. K. Sakthisudhan

(57) Abstract :

In the current era, a large volume of data is collected in the field of healthcare in order to analyze and diagnose from various devices and applications in mobile healthcare. The management of this huge data by the existing methods is centralized which results in security threats such as DDoS attacks and conditions where failure of single point occurs it affects the total system. The proposed invention leverages the technology of blockchain called as HealChain which is a decentralized system for data management based on the consortium blockchain. The consortium block-chain nodes (CBN) processes the healthcare data obtained from the network wide where it performs collection of the data, verification followed by recording of the data in a strict manner. HealChain is realized by designing the hierarchical architecture elaborately with three layers for facilitating the functions of the network. Operational procedure ensures the proper interaction between the CBN and the user. Formulation of optimized problem maximizes the benefits economically in mining by optimization of power of computation. The problem is solved by utilizing the genetic algorithm. The proposed HealChain method is efficient in achieving security for mobile healthcare data management system demonstrated by the security analysis.

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