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(54) Title of the invention : DECENTRALIZED MANAGEMENT OF DATA FOR MHEALTH USING CONSORTIUM BLOCKCHAIN

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(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.

No. of Pages : 9 No. of Claims : 6



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 Government of India

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DATE OF FILING	02/12/2019
APPLICANT NAME	1 . Dr. A. John Rajan 2 . Dr. Sudhanshu Maurya 3 . Dr. T.Veeramakali 4 . Dr . Shaifali Garg 5 . Vigneshwar Manoharan 6 . Mr.R.Balaji 7 . Dr. Vincent Herald Wilson
TITLE OF INVENTION	DECENTRALIZED MANAGEMENT OF DATA FOR MHEALTH USING CONSORTIUM BLOCKCHAIN
FIELD OF INVENTION	COMMUNICATION
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Application Status



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201941049381-REQUEST FOR EXAMINATION (FORM-18) [02-12-2019(online)].pdf	02/12/2019

FORM I THE PATENTS ACT 1970 (39 of 1970) and THE PATENTS RULES, 2003 APPLICATION FOR GRANT OF PATENT (See section 7, 54 and 135 and sub-rule (1) of rule 20)				(FOR OFFICE USE ONLY)			
				Application No.			
				Filing date:			
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				Signature:			
1. APPLICANTS REFERENCE/ IDENTIFICATION NO. (AS ALLOTTED BY OFFICE)							
2. TYPE OF APPLICATION [Please tick () at the appropriate category]							
Ordinary (✓)		Convention ()		PCT-NP ()			
Divisional ()	Patent of Addition ()	Divisional ()	Patent of Addition ()	Divisional ()	Patent of Addition ()		
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	Small Entity ()	Startup ()	Others ()	
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5.TITLE OF THE INVENTION:**Decentralized Management of Data for MHealth Using Consortium Blockchain**

6. AUTHORISED REGISTERED PATENT AGENT(S)		IN/PANo.			
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		Mobile No.			
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8. IN CASE OF APPLICATION CLAIMING PRIORITY OF APPLICATION FILED IN CONVENTION COUNTRY, PARTICULARS OF CONVENTION					
Country	Application Number	Filing date	Name of the applicant	Title of the invention	IPC (as classified in the Convention country)
9. IN CASE OF PCT NATIONAL PHASE APPLICATION, PARTICULARS OF INTERNATIONAL APPLICATION FILED UNDER PATENT CO-OPERATION TREATY (PCT)					
International application number			International filing date		

10. IN CASE OF DIVISIONAL APPLICATION FILED UNDER SECTION 16, PARTICULARS OF ORIGINAL(FIRST) APPLICATION	
Original (first) application No.	Date of filing of original (first) application
11. IN CASE OF PATENT OF ADDITION FILED UNDER SECTION 54, PARTICULARS OF MAIN APPLICATION OR PATENT	
Main application/patent No.	Date of filing of main application
12.DECLARATIONS	

(i) Declaration by the inventor(s)

(In case the applicant is an assignee: the inventor(s) may sign here in below or the applicant may upload the assignment or enclose the assignment with this application for patent or send the assignment by post/electronic transmission duly authenticated within the prescribed period).

I/We, the above named inventor(s) is/are the true & first inventor(s) for this Invention and declare that the applicant(s) herein is/are my/ our assignee or legal representative.

(a) Date

(b) Signature(s)

(c) Name(s)

(ii) Declaration by the applicant(s) in the convention country

(In case the applicant in India is different than the applicant in the convention country: the applicant in the convention country may sign herein be low or applicant in India may upload the assignment from the applicant in the convention country or enclose the said assignment with this application for patent or send the assignment by post/electronic transmission duly authenticated within the prescribed period)

I/We, the applicant(s) in the convention country declare that the applicant(s) herein is/are my/our assignee or legal representative.

(a) Date

(b) Signature(s)

(c) Name(s) of the signatory

(iii) Declaration by the applicant(s)

I/We the applicant(s) hereby declare(s) that:-

I am/We are in possession of the above-mentioned invention.

The provisional/complete specification relating to the invention is filed with this application.

There is no lawful ground of objection(s) to the grant of the Patent to me/us.

I am/we are the true & first inventor(s).

I am/we are the assignee or legal representative of true & first inventor(s).

The application or each of the applications, particulars of which are given in Paragraph-8, was the first application in convention country/countries in respect of my/our invention(s).

I/We claim the priority from the above mentioned application(s) filed in convention country/countries and state that no application for protection in respect of the invention had been made in a convention country before that date by me/us or by any person from which I/We derive the title.

My/our application in India is based on international application under Patent Cooperation Treaty (PCT) as mentioned in Paragraph-9.

The application is divided out of my/our application particulars of which is given in Paragraph-10 and prays that this application may be treated as deemed to have been filed on DD/MM/YYYY under section 16 of the Act.

The said invention is an improvement in or modification of the invention particulars of which are given in Paragraph-11.

13.FOLLOWING ARE THE ATTACHMENTS WITH THE APPLICATION

(a) Form2

Item	Details	Fee	Remarks
Complete specification	No. of pages – 7 pages		-
No .of Claim(s)	No. of claims and No. of Pages – 4&1	-	-
Abstract	No. of pages – 1	-	-
No. of Drawing(s)	No. of drawings and No. of pages – 2& 2	-	-

#In case of a complete specification, if the applicant desires to adopt the drawings filed with his provisional specification as the drawings or part of the drawings for the complete specification under rule 13 (4), the number of such pages filed with the provisional specification are required to be mentioned here.

- b) Complete specification (in conformation with the international application) / as amended before the International Preliminary Examination Authority (IPEA), as applicable (2copies).
- (c) Sequence listing in electronic form
- (d) Drawings (in conformation with the international application)/ as amended before the International Preliminary Examination Authority (IPEA), as applicable (2copies).
- (e) Priority document(s) or is quest to retrieve the priority document(s) from DAS (Digital Access Service) if the applicant had already requested the office of first filing to make the priority document(s) available to DAS.
- (f) Translation of priority document/Specification/International Search Report/ International Preliminary Report on Patent ability.

(g) Statement and Undertaking on Form 3 (h) Declaration of Inventor ship on Form 5 (i) Power of Authority

(j).....

Total feeRs. in Cash Date

I/We hereby declare that to the best of my/our knowledge, information and belief the fact and matters stated herein are correct and I/We request that a patent may be granted to me/us for the said invention.

Dated this

John Rajan

Dr. A. John Rajan

Sudhanshu Maurya

Dr. Sudhanshu Maurya

T. Veeramakali

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The Controller of Patents
The Patent Office, at Chennai.