SECURED HEALTH MONITORING SYSTEM USING BIG *DATA ANALYTICS ENHANCED ALGORITHM*

A PROJECT REPORT

Submitted by

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In partial fulfilment for the award of the degree

Of

BACHELOR OF ENGINEERING

In

COMPUTER SCIENCE AND ENGINEERING

T.J.S. ENGINEERING COLLEGE, PERUVOYAL

ANNA UNIVERSITY: CHENNAI 600 025

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BONAFIDE CERTIFICATE

Certificate that this project report **"SECURED HEALTH MONITORING SYSTEM USING BIGDATA ANALYTICS WITH ENHANCED ALGROTHIM"** is the bonafide work of the following students.

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INTERNAL EXAMINER

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ABSTRACT

The strength of Healthcare Network, every day generate huge volume of streaming data (referred by "Big Data"), where insight information has a potential importance if collected and aggregated effectively. Nowadays, there is a great treat added to Healthcare large volume of data than it appears at first, and extracting the useful information in an excellent manner cause a system toward a important computational challenges, such as to examine, aggregate, and accumulate, where data are aggregated and collected. In this paper, we propose streaming Big Data analytical architecture for healthcare sensing data application. The proposed architecture comprises three main units, such as 1) Cloud Data Processing (CDP); 2) Big-data Storage Unit (BSU); and 3) Big-data Retrieval Unit (BRU). First, CDP obtain data from the HDFS sends this data to the data node , where initial processing takes place and initialize the load basic parameters(Virtual machine, cloudlets, MIPS, RAM .,etc) and allocated appropriated Virtual machines. Second, BSU plays a important role in architecture for effective processing of streaming Big Data by providing removing unwanted data (filtering), and balancing, and parallel processing. Third, BRU is the upper layer unit of the architecture, which is responsible for compilation, storage of the results, and generation of decision based on the results(patients location, information and snapshots of objects) received from BSU. The proposed architecture has the capability of separating, load balancing, and paiiirallel processing of only generation of Healthcare's data. Furthermore, the proposed architecture has the capability of storing incoming raw data to perform cloud analysis (Clients and HDFS data) or largely stored dumps, when required. Finally, a detailed analysis of healthcare observatory Big-Data for information using HDFS and MapReduce. Experimental comparison results of the two algorithms (ECDSA, Proposed ECDSA) were presented and analyzed.

The results is show that ECDSA is more suitable to generate the signature.

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CS8791 CLOUD COMPUTING L T P C
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OBJECTIVES:

- To understand the concept of cloud computing.
- To appreciate the evolution of cloud from the existing technologies.
- To have knowledge on the various issues in cloud computing.
- To be familiar with the lead players in cloud.
- To appreciate the emergence of cloud as the next generation computing paradigm.

UNIT I INTRODUCTION 9

Introduction to Cloud Computing - Definition of Cloud - Evolution of Cloud Computing - Underlying Principles of Parallel and Distributed Computing - Cloud Characteristics - Elasticity in Cloud - On-demand Provisioning.

UNIT II CLOUD ENABLING TECHNOLOGIES 10

Service Oriented Architecture - REST and Systems of Systems - Web Services - Publish- Subscribe Model - Basics of Virtualization - Types of Virtualization - Implementation Levels of Virtualization - Virtualization Structures - Tools and Mechanisms - Virtualization of CPU - Memory - I/O Devices - Virtualization Support and Disaster Recovery.

UNIT III CLOUD ARCHITECTURE, SERVICES AND STORAGE 8

Layered Cloud Architecture Design - NIST Cloud Computing Reference Architecture - Public, Private and Hybrid Clouds - IaaS - PaaS - SaaS - Architectural Design Challenges - Cloud Storage - Storage-as-a-Service - Advantages of Cloud Storage - Cloud Storage Providers - S3.

UNIT IV RESOURCE MANAGEMENT AND SECURITY IN CLOUD 10

Inter Cloud Resource Management - Resource Provisioning and Resource Provisioning Methods - Global Exchange of Cloud Resources - Security Overview - Cloud Security Challenges - Software-as-a-Service Security - Security Governance - Virtual Machine Security - IAM - Security Standards.

UNIT V CLOUD TECHNOLOGIES AND ADVANCEMENTS 8

Hadoop - MapReduce - Virtual Box -- Google App Engine - Programming Environment for Google App Engine – Open Stack - Federation in the Cloud - Four Levels of Federation - Federated Services and Applications - Future of Federation.

TOTAL: 45 PERIODS

OUTCOMES:

On Completion of the course, the students should be able to:

- Articulate the main concepts, key technologies, strengths and limitations of cloud computing.
- Learn the key and enabling technologies that help in the development of cloud.
- Develop the ability to understand and use the architecture of compute and storage cloud, service and delivery models.
- Explain the core issues of cloud computing such as resource management and security.
- Be able to install and use current cloud technologies.
- Evaluate and choose the appropriate technologies, algorithms and approaches for implementation and use of cloud.

TEXT BOOKS:

3. Kai Hwang, Geoffrey C. Fox, Jack G. Dongarra, "Distributed and Cloud Computing, From Parallel Processing to the Internet of Things", Morgan Kaufmann Publishers, 2012.
4. Rittinghouse, John W., and James F. Ransome, "Cloud Computing: Implementation, Management and Security", CRC Press, 2017.

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