**Provably Secure Fine-Grained Data Access Control over Multiple Cloud Servers in Mobile Cloud Computing Based Healthcare Applications**

**Abstract:**

Mobile Cloud Computing (MCC) allows mobile users to have on-demand access to cloud services. A mobile cloud model helps in analyzing the information regarding the patients’ records and also in extracting recommendations in healthcare applications. In mobile cloud computing, a fine-grained level access control of multi-server cloud data is a pre-requisite for successful execution of end users applications. In this paper, we propose a new scheme that provides a combined approach of finegrained access control over cloud-based multi-server data along with a provably secure mobile user authentication mechanism for the Healthcare Industry 4.0. To the best of our knowledge, the proposed scheme is the first to pursue fine-grained data access control over multiple cloud servers in a mobile cloud computing environment. The proposed scheme has been validated extensively in different heterogeneous environment where its performance was found good in comparison to other existing schemes.

**SYSTEM REQUIREMENTS:**

**HARDWARE REQUIREMENTS:**

* System : Pentium Dual Core.
* Hard Disk : 120 GB.
* Monitor : 15’’ LED
* Input Devices : Keyboard, Mouse
* Ram : 1 GB

**SOFTWARE REQUIREMENTS:**

* Operating system : Windows XP/UBUNTU.
* Implementation : NS2
* NS2 Version : 2.28
* Front End : OTCL (Object Oriented Tool Command  Language)
* Tool : Cygwin (To simulate in Windows OS)