Chapter 1
Improved Security Using Traceable Ciphertext Policy Attribute-Based Encryption in Mobile Cloud Computing

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ABSTRACT

Mobile cloud computing, also known as MCC, has become increasingly popular among users of high-speed mobile devices. Users face dangers to their privacy and security due to several factors, including the growing number of subscribers to MCC and the possibility of unauthorized access to user data. Within the realm of conventional research, efforts are made to construct a safe model to maintain the data in MCC. There are a number of difficulties and gaps in MCC that represent severe dangers to security policy despite the fact that it provides modeling for a variety of architectures. The purpose of this research article is to offer an attribute-based encryption (ABE) system as a means of mitigating the effects of such problems. By facilitating data separation and storage in cloud servers, the ABE solution contributes to the facilitation of white-box traceability and facilitates direct refurbishment.

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INTRODUCTION

Since cloud computing and mobile technology are rapidly expanding, mobile cloud computing, or MCC, has gained substantial attention from industry and academia. Users now expect seamless access to information and services regardless of location or device capabilities as mobile devices become more potent and commonplace. By incorporating cloud computing services into the mobile ecosystem, MCC satisfies these needs by enabling mobile devices to take advantage of strong, scalable cloud resources to get around their intrinsic restrictions, which include those related to processor speed, storage capacity, and battery life (Saxena et al., 2023). A model known as cloud computing makes it possible for anybody, anywhere, at any time, to use a shared pool of reconfigurable computer resources (such as servers, networks, storage, apps, and services). These resources require little administrative work or communication from the service provider to be quickly provisioned and released. Cloud computing uses distributed computing, virtualization, and scalability approaches to deliver services over the Internet. There are three primary service models for the cloud:

Infrastructure as a Service (IaaS): Virtualized computing resources are available online. Renting virtual machines, storage, and networks allows users complete control over the infrastructure without worrying about maintaining the hardware.

Platform as a Service (PaaS): In this model, users can rent a platform that includes not just infrastructure but also the development tools needed to create, run, and manage applications. PaaS providers offer operating systems, middleware, and development environments.

Software as a Service (SaaS): Software as a Service (SaaS) is the cloud-based delivery of fully working programs. Users do not need to worry about maintaining the underlying platforms or infrastructure to access these applications through a web browser.

Cloud computing's appeal lies in its scalability, efficiency, cost-effectiveness, and the ability to access resources from anywhere. However, as mobile devices continue to evolve and expand their market share, the need for cloud computing to adapt to mobile requirements has emerged—leading to the development of MCC.

Comparative Analysis of Electroencephalogram Signals using Ensemble methods for Epilepsy Detection

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