CHAPTER - VII

RESEARCH FINDINGS AND ITS APPLICATIONS

7.1 RESEARCH FINDINGS

The research focuses work on secure data forwarding in cloud environment. As hosting the sensitive and confidential data under the control of third party causes serious concern over security and privacy issues, such as Confidentiality and the dishonest service providers may also delete the sensitive data without the concern of the owner. Hence there arises a data integrity problem too. Henceforth inorder to overcome the various issues prevailing in the cloud environment, constructing a Secure Cloud Storage System is crucial.

The work focus on constructing a Secure Cloud Storage System by means of encrypting the data using Homomorphic Encryption and Elliptic Curve Cryptography and also strengthen the security of the storage system with Fragmentation-Replication Strategy and conducted various experiments in analyzing the performance of the proposed frameworks of Cloud Data Storage Framework, SCDS model and SCDF model and find out that:

i. Unauthorized access to the data in the storage server is identified by the owners and is dynamically notified to the owner by Mobile.

ii. In SCDS model, the Data Confidentiality and Data Integrity are achieved by means of ECC algorithm and MHT construction respectively. The ECC algorithm offers high data security with small key size.

iii. In SCDS-TM model, only the interested data requested by the user is retrieved to him and the other confidential data is hidden due to keyword and coordinate matching technique with index and signature construction and hence an accurate search precision is obtained.

iv. The communication complexities of the owner are highly reduced by introducing the Trust Manager.

v. The SCDF Cloud Storage System is strengthened by using fragmentation-replication strategy, set formation and T-coloring methodology and therefore the probability of finding the locations of the nodes by the attacker is highly reduced.
vi. With DADR protocol, the fragments are rerouted to an alternate path if any failure happens.

7.2 APPLICATIONS OF PROPOSED FRAMEWORKS IN CLOUD ENVIRONMENT

The important aspect of the cloud computing is the cloud services which are provided by numerous CSPs. Among the various cloud services offered, the imperative cloud service is the cloud storage. The cloud services are accessed by the clients and the consumers at any time and at anywhere.

This novel cloud storage mechanism offers greater security and protection to the data owners file and enables a secure forwarding between the cloud server and the consumers. The proposed cloud storage framework also able to spot unauthorized access and can be highly utilized in education, IT enterprises and government applications. Moreover, the framework also supports all the Android applications.