TWO-FACTOR DATA SECURITY MECHANISM FOR CLOUD STORAGE SYSTEM

A Mini Project Report Submitted to

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD

In Partial Fulfillment of the requirement For the Award of the Degree of

BACHELOR OF TECHNOLOGY

in

COMPUTER SCIENCE AND ENGINEERING

Submitted by

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CERTIFICATE

This is to certify that the mini project report entitled **"TWO-FACTOR DATA SECURITY MECHANISM FOR CLOUD STORAGE SYSTEM"** is being submitted by Mr./Ms. **EEDA RAMANISH REDDY, BINGI VINAY KUMAR, KANTHALA SHRAVYA, ISHRATH FATHIMA, BHUKYA RAGHUPATHI NAIK** bearing hall ticket numbers: **17N01A0536, 18N05A0503, 17N01A0557, 17N01A0550, 18N05A0502** for partial fulfillment of the requirement for the award of the degree of **Bachelor of Technology** in **Computer Science and Engineering** discipline to the **Jawaharlal Nehru Technological University, Hyderabad** during the academic year 2020 - 2021 is a bona fide work carried out by them under my guidance and supervision.

The result embodied in this report has not been submitted to any other University or institution for the award of any degree of diploma.

Project Guide

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MINI PROJECT / INTERNSHIP COMPLETION CERTIFICATE

This is to certify that Mr./Ms. **EEDA RAMANISH REDDY**, **BINGI VINAY KUMAR, KANTHALA SHRAVYA, ISHRATH FATHIMA, BHUKYA RAGHUPATHI NAIK** bearing hall ticket numbers: **17N01A0536, 18N05A0503, 17N01A0557, 17N01A0550, 18N05A0502** are the students of **SREE CHAITANYA COLLEGE OF ENGINEERING, KARIMNAGAR** pursuing the Degree of B.Tech., in **COMPUTER SCIENCE AND ENGINEERING**, has carried out Mini Project work/ Internship titled **"TWO-FACTOR DATA SECURITY MECHANISM FOR CLOUD STORAGE SYSTEM"** under our guidance during the period from **04/01/2021** to **16/02/2021** in partial fulfillment of the requirements for the award of the above-mentioned Degree. The students are punctual, hardworking and shown keen interest to produce the project output and results.

Regards,

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DECLARATION

We**, EEDA RAMANISH REDDY**, **BINGI VINAY KUMAR, KANTHALA SHRAVYA, ISHRATH FATHIMA, BHUKYA RAGHUPATHI NAIK** are students of **Bachelor of Technology in Computer Science and Engineering,** during the academic year:2020-2021**,** hereby declare that the work presented in this Project work entitled **TWO-FACTOR DATA SECURITY MECHANISM FOR CLOUD STORAGE SYSTEM** is the outcome of our own bona fide work and is correct to the best of our knowledge and this work has been undertaken taking care of Engineering Ethics and carried out under the supervision of **Dr. MANISH TIWARI, Associate Professor**.

It contains no material previously published or written by another person nor material which has been accepted for the award of any other degree or diploma of the university or other institute of higher learning, except where due acknowledgment has been made in the text.

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ABSTRACT

In this paper, we propose a two-factor data security protection mechanism with factor revocability for cloud storage system. Our system allows a sender to send an encrypted message to a receiver through a cloud storage server. The sender only needs to know the identity of the receiver but no other information (such as its public key or its certificate). The receiver needs to possess two things in order to decrypt the ciphertext. The first thing is his/her secret key stored in the computer. The second thing is a unique personal security device which connects to the computer. It is impossible to decrypt the ciphertext without either piece. More importantly, once the security device is stolen or lost, this device is revoked. It cannot be used to decrypt any ciphertext. This can be done by the cloud server which will immediately execute some algorithms to change the existing ciphertext to be un-decryptable by this device. This process is completely transparent to the sender. Furthermore, the cloud server cannot decrypt any ciphertext at any time. The security and efficiency analysis show that our system is not only secure but also practical.

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