VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

PROJECT REPORT ON

EFFICIENT MESSAGE TRANSMISSION USING HYBRID CRYPTOGRAPHY

Submitted in partial fulfilment of the award of degree in

BACHELOR OF ENGINEERING

In

INFORMATION SCIENCE & ENGINEERING

By

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ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY
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CERTIFICATE

This is to certify that the Project work entitled **"EFFICIENT MESSAGE TRANSMISSION USING HYBRID CRYPTOGRAPHY"** has been successfully completed by

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the Bonafide students of **Information Science & Engineering Department, Alva's Institute of Engineering and Technology, Moodbidire**, in partial fulfilment of 8th Semester **BACHELOR OF ENGINEERING**, affiliated to **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI,** during the year 2023–2024. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The Project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the Bachelor of Engineering Degree.

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DECLARATION

We,

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hereby declare that the dissertation entitled, **EFFICIENT MESSAGE TRANSMISSION USING HYBRID CRYPTOGRAPHY** is completed and written by us under the supervision of our guide **Prof. Jayantkumar A Rathod, Associate Professor, Department of Information Science and Engineering, Alva's Institute of Engineering and Technology, Moodbidri,** in partial fulfilment of the requirements for the award of the degree **BACHELOR OF ENGINEERING in DEPARTMENT OF INFORMATION SCIENCE & ENGINEERING** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI** during the academic year 2023-2024. The project report is original and it has not been submitted for any other degree in any university.

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ABSTRACT

Our system introduces a novel approach to secure data transmission, harnessing the combined strengths of RSA and Blowfish encryption algorithms. By employing RSA for secure key exchange and Blowfish for efficient data packet encryption, we aim to enhance data transmission security while minimizing the risk of unauthorized access on wireless networks. Our approach offers reduced data exposure and potentially lower network overhead compared to conventional methods like selective or full encryption. Furthermore, we consider various performance parameters such as delay, energy efficiency, consumption, and packet delivery ratio to comprehensively assess the effectiveness of our security measures.

We also consider factors like delay, energy use, and packet delivery rate to gauge how well our security measures work. We emphasize that only the intended recipient can decode the encrypted data, keeping it confidential. We use algorithms that add uncertainty to the encryption process, so unauthorized users can't understand the communication. We emphasize the importance of confidentiality, ensuring that only the intended recipient can decipher the ciphertext. To enhance security, we utilize probabilistic algorithms to introduce uncertainty into the encryption process, thwarting unauthorized access. Additionally, our system incorporates authentication, access control, and integrity checks to further fortify its security.

The effectiveness of our selected algorithms and security mechanisms is validated through extensive simulation studies using the NS2 simulator. These simulations provide valuable insights into the real-world applicability and robustness of our proposed secure data transmission solution, offering a comprehensive understanding of its performance under diverse scenarios and conditions.

ACKNOWLEDGMENT

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