Karnataka State Council for Science and Technology

(An autonomous organisation under the Dept. of Science & Technology, Govt. of Karnataka)
Indian Institute of Science Campus, Bengaluru – 560 012
Telephone: 080-23341652, 23348848, 23348849, 23348840
Email: office.kscst@iisc.ac.in, office@kscst.org.in • **Website:** www.kscst.iisc.ernet.in, www.kscst.org.in

KSCST

Dr. U T Vijay
Executive Secretary

19th April, 2024

Ref: 7.1.01/SPP/37

To,
The Principal
Alva's Institute of Engineering and Technology.
Shobavana Campus Mijar
Moodbidri - 574 225

Dear Sir/Madam,

Sub : Sanction of Student Project - 47th Series: Year 2023-2024

Project Proposal Reference No. : **47S_BE_1194**
Ref : Project Proposal entitled **EFFICIENT MESSAGE TRANSMISSION USING HYBRID CRYPTOGRAPHY**

We are pleased to inform that your student project proposal referred above, has been approved by the Council under "Student Project Programme - 47th Series". The project details are as below:

Student(s)	Ms. SHWETHA R. SHARMA	**Department**	INFORMATION SCIENCE AND ENGINEERING
	Ms. CHANDANA P. T.		
	Ms. KEERTHANA G.		
	Ms. SWETHA S.	**Sanctioned Amount (in Rs.)**	4,500.00
Guide(s)	Prof. JAYANTKUMAR A. RATHOD		

Instructions:

a) The project should be performed based on the objectives of the proposal submitted.
b) Any changes in the project title,objectives or students team is liable for rejection of the project and your institution shall return the sanctioned funds to KSCST.
c) Please quote your project reference number printed above in all your future correspondences.
d) After completing the project, 2 to 3 page write-up (synopsis) needs to be uploaded on to the following Google Forms link https://forms.gle/6s8hq5XbScsBMv3G9. The synopsis should include following:
   1) Project Reference Number
   2) Title of the project
   3) Name of the College & Department
   4) Name of the students & Guide(s)
   5) Keywords
   6) Introduction / background (with specific reference to the project, work done earlier, etc) - about 20 lines
   7) Objectives (about 10 lines)

47S_BE_1194

8) Methodology (about 20 lines on materials, methods, details of work carried out, including drawings, diagrams etc)

9) Results and Conclusions (about 20 lines with specific reference to work carried out)

10) Scope for future work (about 20 lines).

e) In case of incompeted projects, the sanctioned amount shall be returned to KSCST.

f) The sanctioned amount will be transferred by NEFT to the bank account provided by the College/Institute.

g) The sponsored projects evaluation will be held **third week of May 2024** onwards through Online Mode and the details of the same will be intimated shortly by email / Website

h) After completion of the project, soft copy of the project report duly signed by the Principal, the HoD, Guide(s) and studetn(s) shall be uploaded in the following Google Forms Link https://forms.gle/Mi446v1U5fdFcMD99. The report should be prepared in the format prescribed by the university.

i) The **Utilization Certificate and Statement of Expenditure duly signed by competent authority** of consolidated sanctioned projects from your institution need to be submitted **20 August 2024** without fail.

Please visit our website for further announcements / information and for any clarifications please email to spp@kscst.org.in

Thanking you and with best regards,

Yours sincerely,

(U T Vijay)

Copy to:

1) The HoD
INFORMATION SCIENCE AND ENGINEERING
ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY, MOODBIDRI

2) Prof. JAYANTKUMAR A. RATHOD
INFORMATION SCIENCE AND ENGINEERING
ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY, MOODBIDRI

3) THE ACCOUNTS OFFICER
KSCST, BENGALURU

PRINCIPAL
Alva's Institute of Engg. & Technology
Mijar, MOODBIDRI - 574 225, D.K

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

CHANDANA P T	4AL20IS011
KEERTHANA G	4AL20IS020
SHWETHA R SHARMA	4AL20IS047
SWETHA S	4AL20IS054

Under the Guidance of

Prof. Jayantkumar A Rathod

Associate Professor

ALVA'S
Education Foundation

DEPARTMENT OF INFORMATION SCIENCE & ENGINEERING

ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY
MOODBIDRI-574225, KARNATAKA 2023 – 2024

ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY
MIJAR, MOODBIDRI-574225

ALVA'S
Education Foundation®

DEPARTMENT OF INFORMATION SCIENCE & ENGINEERING

CERTIFICATE

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

CHANDANA P T	**4AL20IS011**
KEERTHANA G	**4AL20IS020**
SHWETHA R SHARMA	**4AL20IS047**
SWETHA S	**4AL20IS054**

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.

Prof. Jayantkumar A Rathod	**H. O. D.**	**Dr. Peter Fernandes**
Associate Professor	**Dr. Sudheer Shetty**	**Principal**
Guide	**Professor**	**PRINCIPAL**
	HOD ISE	

Dept. Of Information Science & Engineering
Alva's Institute of Engg. & Technology
Mijar, MOODBIDRI - 574 225

Alva's Institute of Engg. & Technology,
Mijar, MOODBIDRI - 574 225, D.K

EXTERNAL VIVA

	Name of the Examiners	**Signature with Date**
1.	Dr. Sudheer Shetty	29/5/24
2.	Dr. Ritesh Pawade	29/05/24

ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY
MIJAR, MOODBIDRI-574225

ALVA'S
Education Foundation

DEPARTMENT OF INFORMATION SCIENCE & ENGINEERING

DECLARATION

We,

CHANDANA P T

KEERTHANA G

SHWETHA R SHARMA

SWETHA S

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.

CHANDANA P T	**4AL20IS011**
KEERTHANA G	**4AL20IS020**
SHWETHA R SHARMA	**4AL20IS047**
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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

The satisfaction and euphoria that accompany a successful completion of any task would be incomplete without the mention of people who made it possible, success is the epitome of hard work and perseverance, but steadfast of all is encouraging guidance.

So, with gratitude we acknowledge all those whose guidance and encouragement served as beacon of light and crowned the effort with success.

The selection of this Synopsis as well as the timely completion is mainly due to the interest and persuasion of our Project guide **Prof. JAYANTKUMAR A RATHOD,** Associate Professor, Department of Information Science & Engineering. We will remember his contribution forever.

We thank our beloved Project coordinator **Prof. JAYANTKUMAR A RATHOD,** for his constant help and support throughout.

We sincerely thank **Dr. SUDHEER SHETTY,** Professor and Head, Department of Information Science & Engineering who has been the constant driving force behind the completion of the project.

We thank our beloved Principal **Dr. PETER FERNANDES**, for his constant help and support throughout.

We are indebted to **Management of Alva's Institute of Engineering and Technology, Mijar, Moodbidire** for providing an environment which helped us in completing our Synopsis.

Also, we thank all the teaching and non-teaching staff of the Department of Information Science & Engineering for the help rendered.

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