

PROJECT PHASE I REPORT

**IPFS (INTERPLANETARY FILE SYSTEM): A NEW FRONTIER FOR
NEXT-GEN IOT COMMUNICATION**

*submitted in the partial fulfillment of the requirements
for the award of the degree in*

BACHELOR OF TECHNOLOGY

BY

MANOJ KUMAR.T (211121101603)

DEPARTMENT OF INFORMATION TECHNOLOGY



Dr. M.G.R.
EDUCATIONAL AND RESEARCH INSTITUTE
DEEMED TO BE UNIVERSITY
University with Graded Autonomy Status
(An ISO 21001 : 2018 Certified Institution)

Periyar E.V.R. High Road, Maduravoyal, Chennai-95. Tamilnadu, India.



NOVEMBER

2024



Dr. M.G.R.
EDUCATIONAL AND RESEARCH INSTITUTE
DEEMED TO BE UNIVERSITY
University with Graded Autonomy Status
(An ISO 21001 : 2018 Certified Institution)
Periyar E.V.R. High Road, Maduravoyal, Chennai-95. Tamilnadu, India.



DEPARTMENT OF INFORMATION TECHNOLOGY

BONAFIDE CERTIFICATE

This is to certify that this Project Report is the bonafide work of **Mr. MANOJ KUMAR.T (211121101603)** who carried out the project entitled **“IPFS (INTERPLANETARY FILE SYSTEM) A NEW FRONTIER FOR NEXT-GEN IOT COMMUNICATION”** under our supervision from June 2024 to November 2024.

Internal Guide

Mr. N. Jeysankar, M.C.A, M.E
Assistant Professor
Department of IT
Dr. M.G.R. Educational
and Research Institute

Project Coordinator

Dr. M. Kiruthiga Devi, M.E,Ph.D
Professor
Department of IT
Dr. M.G.R. Educational
and Research Institute

Head of the Department

Dr. N. Kanya, M.Tech,Ph.D.,
Professor & Head
Department of IT
Dr. M.G.R. Educational
and Research Institute

Submitted for Viva Voce Examination held on_____

Internal Examiner

External Examiner

DECLARATION

I **MANOJ KUMAR.T (211121101603)** hereby declare that the Project Report entitled **“IPFS (INTERPLANETARY FILE SYSTEM) A NEW FRONTIER FOR NEXT-GEN IOT COMMUNICATION”** is done by me under the guidance of **MR.N. JEYSANKAR** Assistant Professor is submitted in partial fulfillment of the requirements for the award of the degree in Bachelor of Technology in Information Technology.

DATE:

1.

PLACE:

SIGNATURE OF THE CANDIDATE

ACKNOWLEDGEMENTS

I would first like to thank our beloved Founder Chancellor **Dr. A.C. SHANMUGAM, B.A., B.L.**, and President **Er. A.C.S. Arunkumar, B.Tech., M.B.A.**, and for all the encouragement and support extended to us during the tenure of this project and also our years of studies in this wonderful University.

We express our heartfelt thanks to our Vice Chancellor **Prof. Dr. S. Geethalakshmi** in providing all the support for our Project

I express our heartfelt thanks to our Head of the Department, Prof. **Dr.N.Kanya, M.Tech, Ph.D.**, who has been actively involved and very influential from the start till the completion of our project.

Our sincere thanks to our Project Coordinators **Dr.M.Kiruthiga Devi** Professor and Project guide **Mr.N.Jeysankar** Assistant Professor for their continuous guidance and encouragement throughout this work, which has made the project a success.

We would also like to thank all the teaching and non- teaching staff of Information Technology department, for their constant support and the encouragement given to us while we went about to achieving our project goals.

We would also like to thank our parents and friends for their blessing and support, which motivated us to complete the project successfully.

TABLE OF CONTENTS

CHAPTER	TOPICS	PAGE NO
	LIST OF FIGURES	i
	LIST OF TABLES	ii
	LIST OF ABBREVIATION	iii
	ABSTRACT	iv
1	INTRODUCTION	1
1.1	OBJECTIVES	2
1.2	AIM OF THE PROJECT	2
1.3	SCOPE OF THE PROJECT	3
1.3.1	SDG GOALS	3
1.4	TABLE RELATED TO CORE SUBJECT	5
2	LITERATURE SURVEY	6
3	RESEARCH GAP	9
3.1	EXISTING SYSTEM	9
3.2	PROPOSED SYSTEM	10
3.3	FEASABILITY STUDY	11
4	SYSTEM REQUIREMENTS	12
4.1	HARDWARE REQUIREMENTS	12
4.2	SOFTWARE REQUIREMENTS	13
5	SYSTEM DESIGN	15
5.1	ARCHITUCTURE DIAGRAM	15
5.2	UML DIAGRAMS	16

5.2.1	USE CASE DIAGRAM	16
5.2.2	CLASS DIAGRAM	17
5.2.3	ACTIVITY DIAGRAM	18
5.2.4	SEQUENCE DIAGRAM	19
5.2.5	DEPLOYMENT DIAGRAM	20
5.3	FLOW CHART	21
6	METHODOLOGY	22
6.1	MODULES DESCRIPTION	22
6.1.1	IOT DEVICE MANAGEMENT MODULE	22
6.1.2	BLOCKCHAIN INTEGRATION MODULE	22
6.1.3	IPFS DATA STORAGE MODULE	23
6.1.4	DEVICE AUTHENTICATION AND SECURITY MODULE	23
6.1.5	USER INTERFACE AND DASHBOARD MODULE	24
6.2	ALGORITHM	25
7	CONCLUSION	27
	REFERENCES	28