

A
Project Report
On
***“Blockchain Based MediChain system connecting
Pharma, medicals and patients together”***

PROJECT GROUP NUMBER – G04
SUBMITTED BY-

Sr. No.	Name of Student	Roll No.
1.	Sneha Ganpati Patil	13
2.	Sakshi Sanjay Patil	14
3.	Sakshi Rajendra Patil	15
4.	Rhushabh Manish Pethkar	16

Under the guidance of
Prof. P.R. Patil



DEPARTMENT OF INFORMATION TECHNOLOGY
Dr. J. J. Magdum College of Engineering, Jaysingpur.

Academic Year
2023-2024

Dr. J. J. Magdum Trust's
Dr. J. J. Magdum college of Engineering, Jaysingpur.



CERTIFICATE

This is to certify that,

Miss. Sneha Ganpati Patil

Miss. Sakshi Sanjay Patil

Miss. Sakshi Rajendra Patil

Mr. Rhushabh Manish Pethkar

Entitled ***"Blockchain Based MediChain system connecting Pharma, medicals and patients together"***

Report completed in partial fulfillment for award of Bachelor of Engineering degree in Information Technology by Shivaji University, Kolhapur in Academic Year: 2023-24.

Project Guide
Prof. Mrs. P. R. PATIL

Head of IT Department
Prof. Mr. R. A. Bharatiya

Principal
Dr. Mrs. S. B. Patil

External Examine

Dr. J. J. Magdum College of Engineering, Jaysingpur.

Information Technology Department



CERTIFICATE

This is to certify that, Report of the project entitled,

***Blockchain Based MediChain system connecting
Pharma, medicals and patients together”***

Is presented before Department Research Committee (DRC)

by.

Sr. No.	Name of Student	Roll No.
1.	Sneha Ganpati Patil	13
2.	Sakshi Sanjay Patil	14
3.	Sakshi Rajendra Patil	15
4.	Rhushabh Manish Pethkar	16

Under the guidance of Prof. Mrs. P. R. Patil for the academic year 2023-24.

The DRC has consented to give the approval for the said project.

Head,

Department Research Committee (DRC)

Information Technology Department.

ACKNOWLEDGEMENT

First of all, we would like to thank Prof. Mrs. P.R. Patil who is presently working as an Assistant Professor of Information Technology Department for guiding us through this project work. We are extremely grateful to her for all her invaluable guidance and kind suggestions during the our project work. Her ever-encouraging attitude, guidance and whole hearted help were biggest motivation for us in completing this project work.

We are thankful to the founder Chairman Late Dr. J. J. Magdum and the Chairman Mr. Vijayraj J. Magdum of Dr. J. J. Magdum Trust, Jaysingpur, for their encouragement. We are very grateful to Dr. S. S. Admuthe, Campus Director, Dr. Mrs. S. B. Patil, Principal of Dr. J. J. Magdum College of Engineering, Jaysingpur for motivating us for this project work. Also we are thankful to Prof.R.A.Bharatiya, Head of Department, Information Technology Engineering, for providing necessary facilities for completion of this project work.

Lastly we thank all the people who have guided and helped us directly or indirectly.

Signature

Sneha Ganpati Patil

Sakshi Sanjay Patil

Sakshi Rajendra Patil

Rhushabh Manish Pethkar

INDEX

Ch. No.	Contents	Page No
Chapter 1	Introduction 1.1 Motivation& Problem Statement	1
Chapter 2	Literature Review	4
Chapter 3	Software Requirements Specification Proposed Work 3.1 Assumptions and Dependencies Objectives 3.2 Functional Requirements Requirement Analysis 3.3 External Interface Requirements (If Any) 3.4 Nonfunctional Requirements 3.5 System Requirements 3.6 Analysis Models: SDLC Model to be applied	8
Chapter 4	Design 4.1 System Architecture 4.2 Mathematical Model 4.3 Data Flow Diagrams 4.4 UML Diagrams	14
Chapter 5	Project Plan 5.1 Project Estimate 5.2 Risk Management 5.3 Project Schedule 5.4 Team Organization	23
Chapter 6	Project Implementation 6.1 Overview of Project Modules 6.2 Tools and Technologies Used 6.3 Algorithm Details	29
Chapter 7	Software Testing 7.1 Type of Testing 7.2 Test cases & Test Results	32
Chapter 8	Results	37

	8.1 Outcomes 8.2 Screen Shots	
Chapter 9	<p>Conclusions</p> <p>9.1 Conclusions</p> <p>9.2 Future Work</p> <p>9.3 Applications</p> <p>Appendix A: Problem statement feasibility assessment using, satisfiability analysis and NP Hard, NP-Complete or P type using modern algebra and relevant mathematical models.</p> <p>Appendix B: Details of paper publication: name of the conference/journal, comments of reviewers, certificate, paper. (Atleast . 2 papers)</p> <p>Appendix C: Plagiarism Report of project report.</p>	39
Chapter 10	References	42

LIST OF TABLES

TABLE	ILLUSTRATION	PAGE NO.
5.1.1	Cost Estimates	23
5.2.3	Timeline Chart	26

LIST OF FIGURES

FIGURE	ILLUSTRATION	PAGE NO.
3.6	Incremental model	13
4.1	System diagram	14
4.2	Meckle Tree	15-17
4.3	DFD diagram	18-19
4.4	UML diagram	20

LIST OF ABBREVIATIONS

ABBREVIATION	ILLUSTRATION
DAPP	Decentralized Application
DAO	Decentralized Autonomous Organization

ABSTRACT

In today's world almost all hospital uses hardcopy for patient data store and for booking appointment. All patient data is available on paper and user need to manage that all over he goes. Consider 'A' patient got admitted in City Pune, all his data is stored on paper and what medicines he took. All the info about his health is stored there. After someday 'A' patient gone to another city far away without carrying any documents and there he got and health emergency and is not in condition of speaking and need urgently help. But due to lack of info available about patient doctor could not urgently take decisions. So, to reduce this risk our system is developed. The distribution of Health records becomes a time consuming and expensive process when we use the traditional client-server healthcare data management system where each hospital/clinic maintains its own database of patients' medical records. A patient's treatment is further delayed if the patient moves from one hospital to another hospital across different regions or countries. Moreover, most of the time a patient must repeat several laboratory and radiology tests. So, to address this the patient's medical data from different hospitals are stored in a Blockchain based storage making it easily accessible by patients and the hospitals. And the pharma company will be able to store the information of medicines and medicals will be available to verify the medicines if they are from trustworthy companies.

Keyword - - Dapp, Web3.Js, CSS.