॥ ಶ್ರದ್ಧಾಹಿ ಪರಮಾ ಗತಿಃ ॥

THE NATIONAL COLLEGE

Autonomous

Jayanagar, Bangalore-560070

# Project Report on

# Ethereum Blockchain based

# eVoting for Bike Application

BY

Prasanna Kumar B 20NCJB450

Under the guidance of

Prof Varadaraj R

eVoting for Bike project report submitted in partial fulfilment of the requirements of

VI Semester BCA, THE NATIONAL COLLEGE JAYANAGAR

॥ ಶ್ರೀಗುರು ಪರಮಕಾಶ ನಮಃ ॥

# THE NATIONAL COLLEGE

Autonomous

Jayanagar, Bangalore-560070

## CERTIFICATE

This is to certify the project report titled **"eVoting for Bike"** is a work done by **Prasanna Kumar B** of **THE NATIONAL COLLEGE** Jayanagar Bengaluru in partial fulfilment of the requirements of **VI Semester BCA** during the year **2022-2023.**

**HEAD OF THE DEPARTMENT**

Head, Dept. of Comp. Science
The National Degree College
(Autonomous)
Jayanagar, Bangalore - 560 070

**PROJECT GUIDE**

Examiners:

1.

2.

Examination Centre

National College, Jayanagar

Date of Examination:

## ACKNOWLEDGEMENT

**eVoting for Bikes** is the project of many hands from the team. Our tribute for the successful completion of the project goes to all those who helped through their constant guidance and encouragement. The satisfaction that accompanies the success would be incomplete without thanking person who made it.

We are thankful to our beloved Principal **Dr. B SURESHA**, who encourages us to come with new and innovative ideas and for providing the environment with all facilities for completing the project.

We are also grateful to our Head of the Department **Prof. ASHA TS** Department of computer science for her valuable guidance and constant support during our project development.

We are also grateful to our project guide **Prof. VARADARAJ R**, lecturer Department of computer science for his valuable guidance and constant support during our project development.

We are also grateful to **MUTHURAM GOVINDARASU** CEO and Founder of Indigeneous Tech Private Limited, Bangalore-32 with vast years of experience in Blockchain for his valuable guidance and technical support for our project.

We extend our thanks to all our teaching staffs of department of computer science. Finally, we thank one and all who helped us directly and indirectly for the completion of our project.

# Table of Contents

## I) Project Goal (Problem Statement)

To design, develop and verify the "eVoting for Bike Application" having the following features:

a) Display the front-end of the Application on the default Browser
b) Setup the "Admin" related info and start the eVoting process
c) Add 3 bikes for eVoting
d) Register 4 Voters
e) As an "Admin" approve all the 4 Voters
f) Perform eVoting for Bikes using 4 Voters account
g) As an "Admin" close the eVoting Process
h) Verify the result of eVoting

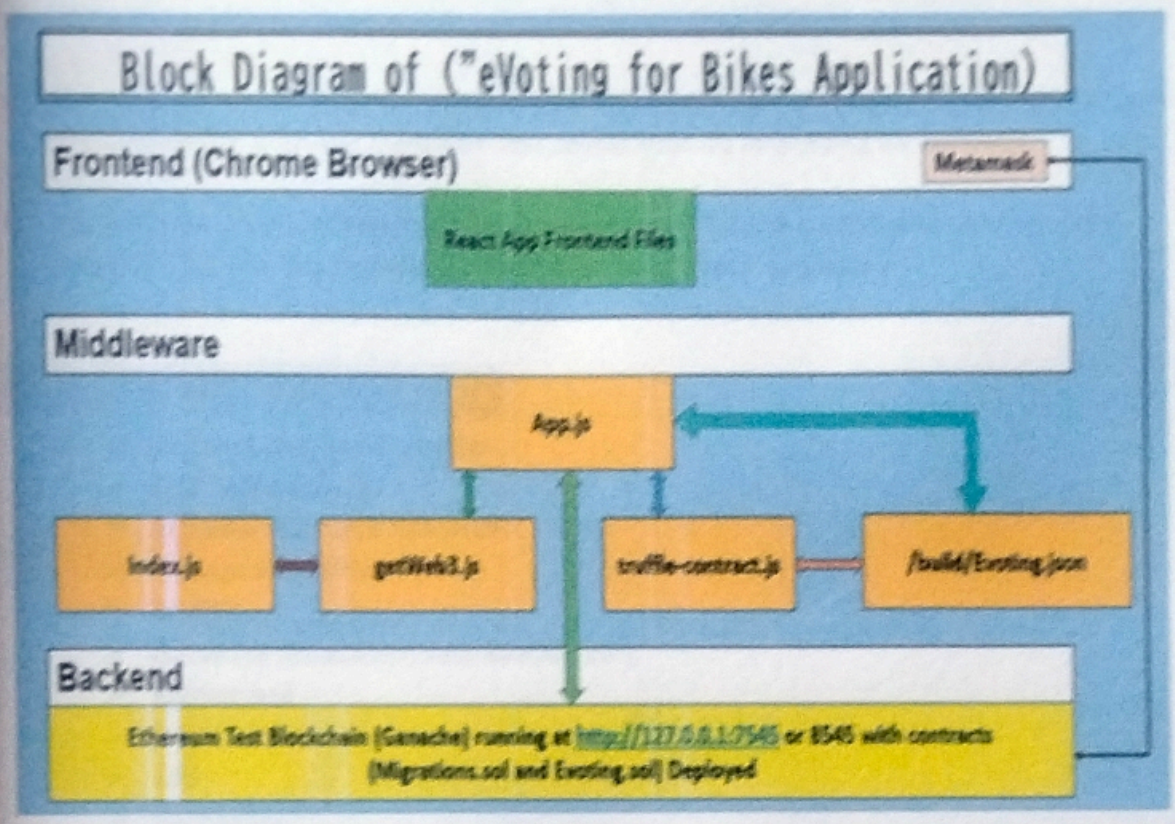
## II) Solution Proposed

We will design, develop, implement and verify the Ethereum Blockchain based solution namely "eVoting for Bikes Application" which will be executed in a Windows System. The proposed Solution will meet all the features specified in the Problem statement

## III) Input Data

| SL.NO | BIKE MODEL | MODEL YEAR |
|---|---|---|
| 1 | RI5 V4 | 2023 |
| 2 | MT 15 | 2020 |
| 3 | ZAY ZR | 2019 |

## IV) Project/ Solution (eVoting for Bikes Application) Design




## High Level:

1) Create / provide the following in the Windows System:
   a) Create and set the Ethereum Blockchain environment in the Widows system
   b) Create the Project folders and files using "Truffle" in the Windows System
   c) Write the Solidity program "Evoting.sol" capturing the main logic of the solution
   d) Write the required frontend, middleware and other required files for the solution
   e) Provide the Solution data using .JSON file

## Details:

a) Set-up the Ethereum Blockchain environment in the Windows System by installing NodeJS, NPM, Truffle, Ganache and Metamask

b) By using Truffle, setup the project folder and required files in the Windows System.

c) Write a Solidity language program namely "Evoting.sol" in which we will implement the main logic of the Solution.

d) Write the middleware program using JavaScript and Web3.js

e) Start the Ethereum Test Blockchain "Ganache" and sign-in to the Metamask. Connect the Metamask with the Ganache Test Blockchain by importing an account

f) We will also create a frontend (React App based) for the solution so that you can interact with the Blockchain application through your browser.

## V) Tools/ Technologies Used

a) List of Tools and Technologies
- O/S: Windows 10
- Browser: Chrome Browser
- Nodejs and NPM
- Truffle
- Ganache (Ethereum Test Blockchain)
- Metamask
- HTML
- CSS
- JavaScript
- Web3.js
- Front-end Tools:
- HTML, CSS
- Development Server (lite-server)

b) Backend:
- Ethereum based Test Blockchain linked with Metamask

c) Middleware:
- JavaScript with Web3.js

## VI) Install the Tools required for the Ethereum Based Blockchain Project in Windows System

**(For the detailed instructions, please refer "Appendix-A" document of this Project Report)**

## VII) Setup the Ethereum Blockchain based Project "eVoting for Books Application" in the Windows System

**(For the detailed instructions, please refer "Appendix-B" document of this Project Report)**