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THE NATIONAL COLLEGE
Autonomous
Jayanagar, Bangalore-560070

PROJECT REPORT
ON
ETHEREUM BLOCKCHAIN BASED PET'S ADOPTION
APPLICATION

BY

VASANTH KUMAR S

20NCJB432

Under the guidance of

Prof. VARADARAJ R

**Pet's Adoption Project report submitted in partial fulfilment of the
requirements of**

VI Semester BCA, National College, Jayanagar, Bangalore



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CERTIFICATE

This is to certify the project report titled "Pet's' Adoption Application" is a work done by **Vasanth Kumar S** of THE NATIONAL COLLEGE, Jayanagar, Bengaluru, in partial fulfilment of the requirements of VI Semester BCA during the year 2022-2023.

ASMS

HEAD OF THE DEPARTMENT

Head. Dept. of Comp. Science
The National Degree College
(Autonomous)

Jayanagar, Bangalore - 560 070

Examiners:

1. *Waledaf*
2. *Jayal*

Waledaf 19/8/23

PROJECT GUIDE

Examination Centre

The National College, Jayanagar

Date of Examination:

ACKNOWLEDGEMENT

Pet's' Adoption Application 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 the person who made it.

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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.

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Table of Contents

I	Project Goal (Problem Statement)	6
II	Solution Proposed	6
III	Input Data and Images	6
IV	Project Team Members	7
V	Referenced Documents	7
VI	Project Solution (Pet's' Adoption) Design	7
VII	Tools/ Technologies Used	9
VIII	Project Team Members	Error! Bookmark not defined.
IX	Referenced Documents	Error! Bookmark not defined.
X	Set-up, Compile and deployment of the Project "Pet's' Adoption " on to Test Ethereum Blockchain "Ganache" using Metamask	9
	1) Setup the Project Folder	9
	a) Copy the given Project folder under "c:\user\username" directory and confirm	9
	b) Open the Windows Terminal and change over to the Project Folder, list the directory and confirm the availability of Project Files	10
	c) Execute the command "npm Install" and verify the availability of "node_modules" directory	11
	2) Compile and deploy the "Pet's' Adoption " Project	11
	a) Compile the contract files and verify the creation of "build" directory	11
	b) Start the Ganache Test Blockchain	12
	c) Start and unlock the Metamask Wallet. Select "Ganache Network". Import the first account of Ganache Test Blockchain and confirm	13
	d) Deploy the contracts on to Ganache Test Blockchain and verify	19
XI	Start the Dev Server and verify the deployment of the project's frontend on to the default browser of the Windows System	23
	1) Start the Dev Server (lite-server)	23
	2) Verify the display of the Project's frontend in the Chrome Browser	24
XII	Interactions with the "Pet's' Adoption " application using the frontend	25
	1) Adoption a "Pet" using the currently connected Ethereum Account	25
	a) Click on "Adoption" button given under any one of the Pet pictures	25
	b) Check on the Metamask account displayed and make sure that your recently imported account is displayed and it is loaded with 100 Ethers	26
	c) Now, click on "Adoption" button given under any one of the Pet pictures	31
	d) Verify the Metamask Wallet display (like Account Info, Estimated Gas Fee, Total Fees) and then click on "Confirm" button	31
	e) Verify that the clicked "Adoption" button is changed to "Success". The Ethereum Account info is displayed under Adoptionr	32

f) Verify that the Adoptionr's Ethereum account info is captured in the "List of Adoptionrs"	33
g) Verify the Ganache TX COUNT, Transaction and New Block Creation....	33
2) Adoption a second "Pet" with the same Ethereum Account.....	35
a) Click on "Adoption" button below any of the Pet pictures which has not been Adoptiond so far.....	35
b) Verify the Metamask Wallet display (like Account Info, Estimated Gas Fee, Total Fees) and then click on "Confirm" button	36
c) Verify that the "Adoption" button has changed into "Success" and the "Adoptionr" Account address is getting displayed below the picture of Adoptiond Pet. Also, verify that the Adoptionr's Ethereum account info is captured in the "List of Adoptionrs".....	37
d) Verify the Ganache TX COUNT, Transaction and New Block Creation....	38
3) Adoption a "Pet" with the another Ethereum Account	39
a) Copy the Private key of the Second Ethereum account in Ganache	39
b) Select the "Ganache Network" in the Metamask, import an account, paste the just copied Private Key and click on "Confirm" button.....	40
c) Connect the imported account to the "Ganache Test Blockchain and verify.....	43
d) Click on "Adoption" button given under any one of the Pet pictures which has not been Adoptiond so far.....	47
e) Click on "Confirm" button in the Metamask	48
f) Verify that the "Adoption" button has changed into "Success" and the current "Adoptionr" Account address is getting displayed below the picture of Adoptiond Pet. Also, verify that the Adoptionr's Ethereum account info is captured in the "List of Adoptionrs".....	49
g) Verify the Ganache TX COUNT, Transaction and New Block Creation....	49
XIII) Project Summary	51

I) Project Goal (Problem Statement)

To design, develop and verify the "Pet's Adoption Application" having the following features:

- Display the front-end on the default Browser with available Pet's for Adoption in the
- Adoption a Pet by clicking on the "Adoption" button
- Metamask should be able to calculate the transaction fees for storing the Adoption transaction in the Ganache Blockchain
- Ganache should record the Adoption transaction and it should be verifiable
- Pet once Adopted should not have the option of purchasing again
- Using one Ganache Ethereum Account the Account holder should be able to Adoption more than one Pet
- Using different Ganache Ethereum accounts, the account holder should be able to Adoption Pet's and verify the related transactions in Ganache

II) Solution Proposed

- We will design, develop, implement and verify the Ethereum Blockchain based solution namely "Pet's Adoption 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 and Images

Pet's' Input Data:

id	name	picture	age	price	location	purchaser
0	Scottish Terrier	images/scottish-terrier.jpeg	3	30,000	Koramangala, Bangalore	Not purchased
1	Golden-retriever	images/golden-retriever.jpeg	3	10,000	Vijayanagar, Bangalore	Not purchased
2	French Bulldog	images/french-bulldog.jpeg	2	80,000	Banshankari, Bangalore	Not purchased
3	Boxer	images/boxer.jpeg	2	15,000	Marathahalli, Bangalore	Not purchased
4	French Bulldog	images/french-bulldog.jpeg	2	80,000	Gandhi Nagar, Bangalore	Not purchased
5	Scottish Terrier	images/scottish-terrier.jpeg	3	30,000	Whitefield, Bangalore	Not purchased
6	Golden-retriever	images/golden-retriever.jpeg	3	10,000	Yelahanka, Bangalore	Not purchased
7	Boxer	images/boxer.jpeg	3	15,000	Jakkur, Bangalore	Not purchased
8	Scottish Terrier	images/scottish-terrier.jpeg	2	30,000	Indira Nagar, Bangalore	Not purchased
9	Boxer	images/boxer.jpeg	3	15,000	KR Puram, Bangalore	Not purchased
10	French Bulldog	images/french-bulldog.jpeg	2	80,000	Kasturi Nagar, Bangalore	Not purchased
11	Golden-retriever	images/golden-retriever.jpeg	3	10,000	RT Nagar, Bangalore	Not purchased
12	Scottish Terrier	images/scottish-terrier.jpeg	3	30,000	Vijayanagar, Bangalore	Not purchased
13	Golden-retriever	images/golden-retriever.jpeg	4	10,000	Hebbal, Bangalore	Not purchased
14	Boxer	images/boxer.jpeg	2	15,000	Vidyaranipura, Bangalore	Not purchased
15	French Bulldog	images/french-bulldog.jpeg	2	80,000	Rajajinagar, Bangalore	Not purchased

Pet's Images:



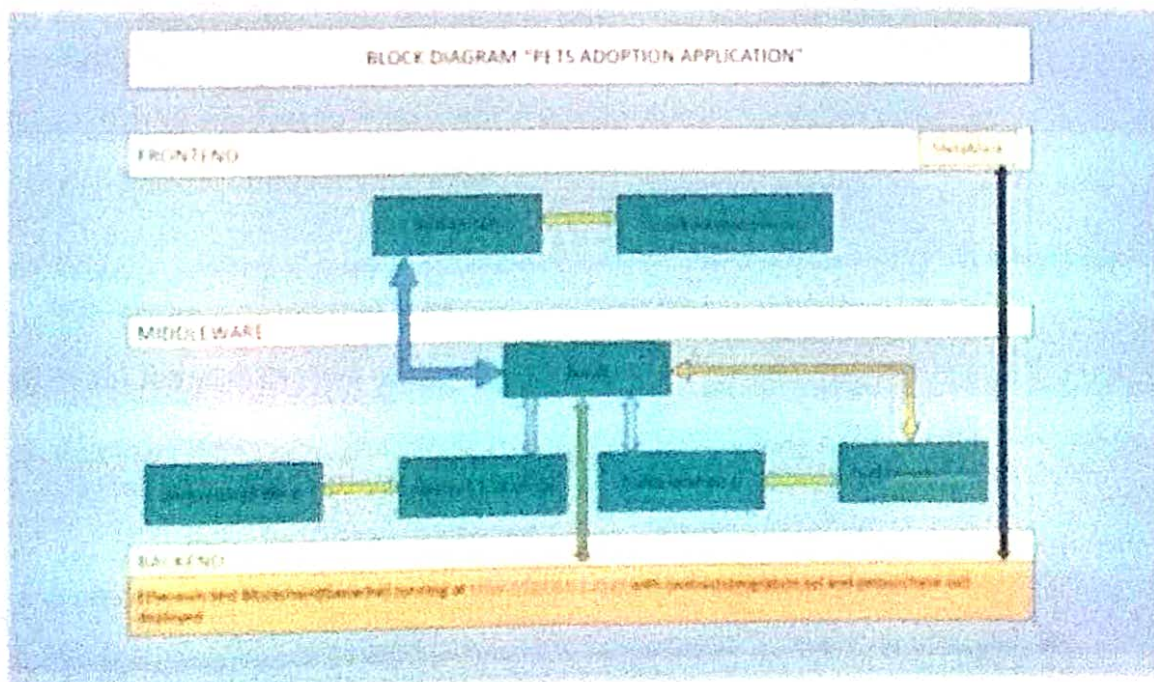
IV)Project Team Members

- 1) Vasanth Kumar s
- 2) NM Shashank
- 3) NNSRS Abhiram

V) Referenced Documents:

- 1) **Appendix-A:** 02-Install-and-Setup-Metmask-Ganache-Nodejs-Truffle-VisualStudioCode-in-Windows-Platform-03-Sep-2022.docx
- 2) **Appendix-B:** 03-Ethereum-Blockchain-Project-Setup-from-Scratch-03-Sep-2022.docx
- 3) **Appendix-C:** 04-Programs-and-Files-Used-in-Pet's-Adoption-Application-03-Sep-2022.docx

VI)Project/ Solution (Pet's Adoption) 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 "Pet'sAdoption.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
 - f) Place the required Pet's' image files in the appropriate Folder

Details:

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

(For the above given Step (a), please refer the Document at "Appendix-A" to this report)

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

(For the above given Step (b), please refer the Document at "Appendix-B" to this report)

- c) Write a Solidity language program namely "Pet'sAdoption.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 Blockcahin "Ganache" and sign-in to the Metamask. Connect the metmask with two accounts of the Ganache Test Blockchain
- f) We will also create a frontend (HTML and CSS based) for the solution so that you can interact with the Blockchain application through your browser.

(For the list along with content of programs used in the project , please refer the Document at "Appendix-C" to this report)

VII) Tools/ Technologies Used

List of Tools and Technologies

- a) O/S: Windows 10
- b) Browser: Chrome Browser
- c) Nodejs and NPM
- d) Truffle

Front-end Tools:

- a) HTML, CSS
- b) Development Server (lite-server)

Backend:

- a) Ethereum based Test Blockchain linked with Metamask

Middleware:

- a) JavaScript with Web3.js

VIII) Set-up, Compile and deployment of the Project "Pet's Adoption" on to Test Ethereum Blockchain "Ganache" using Metamask

1) Setup the Project Folder

- a) Copy the given Project folder under "c:\user\username\" directory and confirm

