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THE NATIONAL COLLEGE
Autonomous
Jayanagar, Bangalore-560070

PROJECT REPORT
ON
ETHEREUM BLOCKCHAIN BASED PET'S ADOPTION
APPLICATION

BY

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20NCJB449

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 **NNSRS Abhiram** of THE NATIONAL COLLEGE, Jayanagar, Bengaluru, in partial fulfilment of the requirements of VI Semester BCA during the year 2022-2023.

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- 1.
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PROJECT GUIDE

Examination Centre

The National College, Jayanagar

Date of Examination:

ACKNOWLEDGEMENT

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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 Sytem. 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:



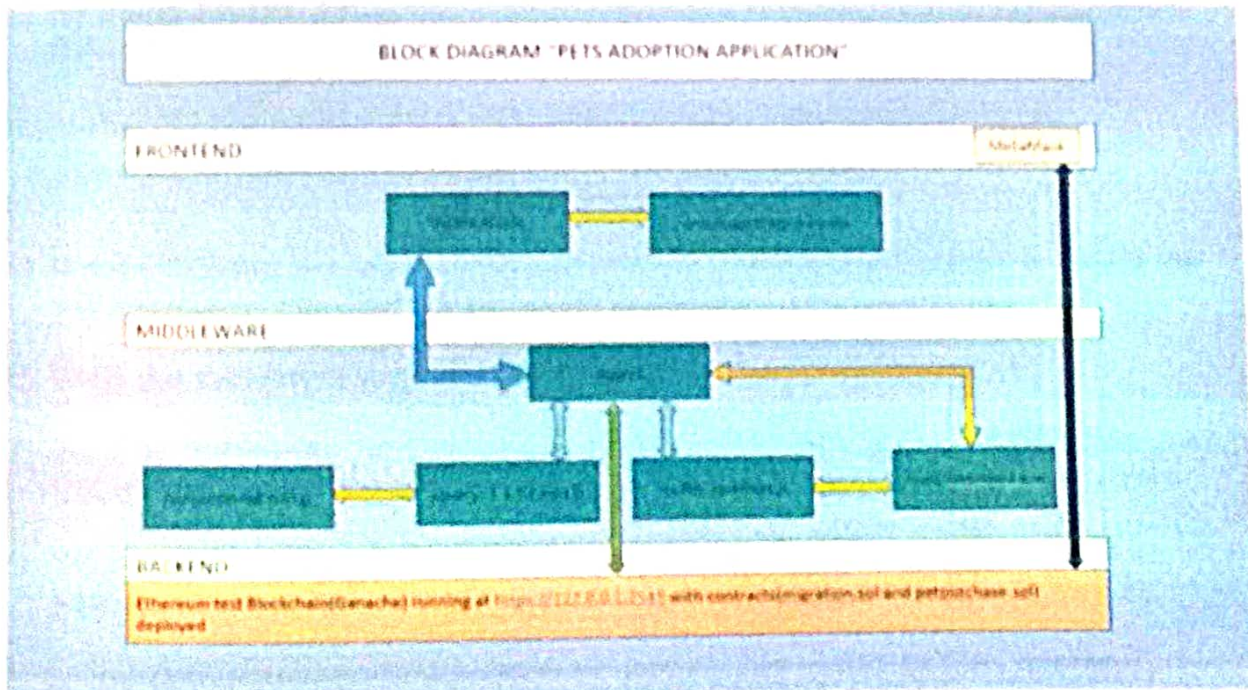
IV) Project Team Members

- 1) Vasanth Kumar s
- 2) 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



Pet's Images:



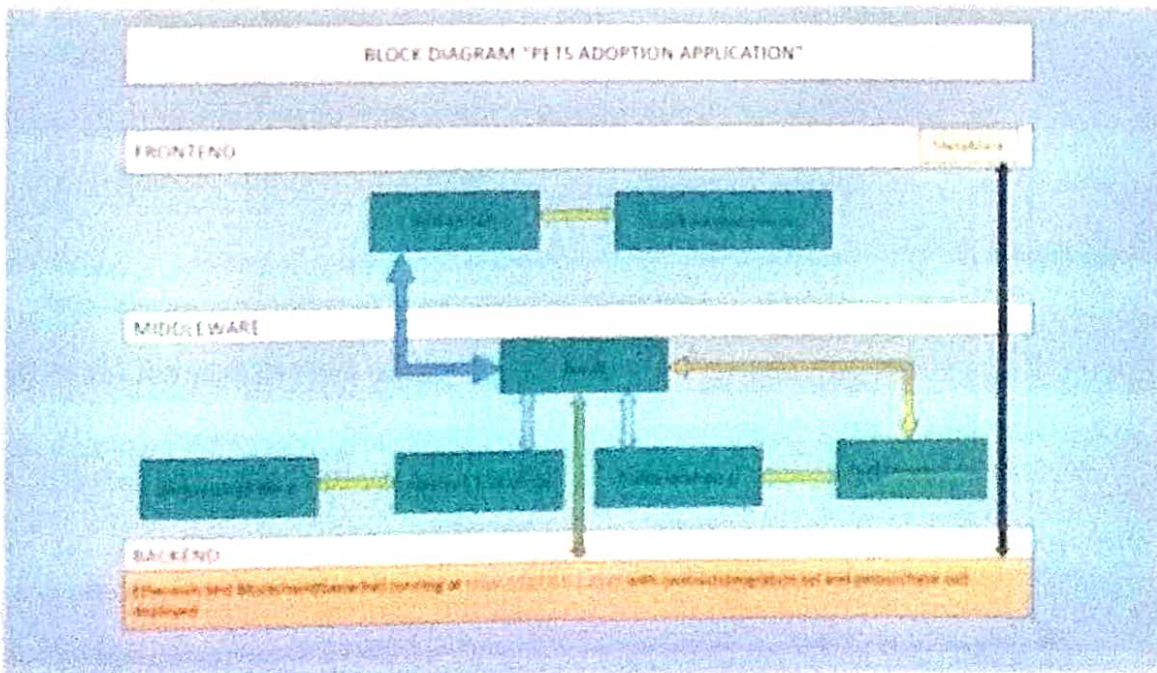
IV)Project Team Members

- 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 Windows 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 Blockchain "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)