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VIETNAM NATIONAL UNIVERSITY – HO CHI MINH CITY

THE INTERNATIONAL UNIVERSITY

SCHOOL OF COMPUTER SCIENCE AND ENGINEERING



**CHARITY FUNDRAISING APPLICATION BUILT**

**ON ETHEREUM BLOCKCHAIN**

By

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A thesis submitted to the School of Computer Science and Engineering

in partial fulfillment of the requirements for the degree of

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**CHARITY FUNDRAISING APPLICATION BUILT**

**ON ETHEREUM BLOCKCHAIN**

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THESIS COMMITTEE

**ACKNOWLEDGMENTS**

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# **LIST OF FIGURES**

# ABSTRACT

3 Paragraphs:

1. Summary of Blockchain technology in one paragraph ( What is blockchain, why it was born, why it is interesting to so many developers,…)

2. Current application software models compare to Dapp (application using blockchain technology )

3. A small paragraph about this research : Ethereum and its role in building Dapp ( Charity funding ).

# CHAPTER I

## INTRODUCTION

Describe in details:

**Blockchain:**

\_History

\_Base techniques description

\_characteristic

\_Benefits

\_Applications and some recently built blockchain (Bitcoin, Ethereum,..)

**Cyptocurency:**

\_Definition

\_Benefits

**Dapp**

\_What is Dapp

\_Definition and workflows

\_Compare to existent software (application) model

\_Benefit

**Charity System:**

\_Reasons why choosing blockchain technology for this build.instead of another.

\_Some following must-known technologies.

# CHAPTER II

## LITERATURE REVIEW

**Ethereum:**

\_What is ethereum ?

\_what are its characteristics ?

\_What are in the ethereum Block ?

\_What does a transaction contain ?

\_The workflows of pushing a transaction to a block and valid that block.

\_What make it more powerful than Bitcoin

\_ SmartContract and ERC20 token

**Geth:**

\_What is geth

\_How it works, how it connects ( communicate ) to the ethereum blockchain

**Metamask:**

\_What is metamask ?

\_What is the different between metamask and geth ?

Solidity and Remix IDE:

\_Ethereum Virtual Machine

\_Remix IDE with representative features. and some Solidity basic syntax.

**HTML:**

\_basic knowledge of HTML

**Javascript and Web3js:**

\_Introduce Javascript

\_describe in details Web3js : Functions and their return results.

**Summary**

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# CHAPTER III

## METHODOLOGY

**Overview Of Methodology :**

Describe the workflows along with the reality

**Detail Of Methodology:**

A private blockchain

Solidity code compile

SmartContract Deployment

ERC223 token and ERC223 SmartContrarct

Dapp front-end

# CHAPTER IV

## IMPLEMENTATION

**Input/Output data:**

**Implementation settings:**

\_Install Programming environment( Ethereum, Geth, required module,…)

**Implementation steps:**

\_Running a private node

\_Mining some ether

\_Deploy SmartContract ( Customized Token, Charity SmartContract, )

\_Running Dapp from its front-end and using metamask to interact with it.

# CHAPTER V

## RESULT / DISCUSSION

Showing result

# CHAPTER VI

## CONCLUSION

**1. Summary**

Advantages and disadvantages of using blockchain technology .

**2.Future work:**

Some promising improvements.

# LIST OF REFERENCES

# APPENDICES