AL-AZHAR UNIVERSITY
FACULTY OF ENGINEERING
COMPUTERS & SYSTEMS ENGINEERING
DEPARTMENT

Devault:

A Blockchain-based, self-hosted, and end-to-end encrypted cloud storage.

A PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN
SYSTEMS AND COMPUTERS ENGINEERING

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July 24, 2022

Letter of Approval

The undersigned certify that they have read, and recommended to the Faculty of Engineering for acceptance, a project entitled "Decentralized Vault: A Blockchain-based decentralized encrypted cloud storage" submitted by **Abd El-Twab M. Fakhry** and **Hossam A. Eissa** in partial fulfillment of the requirements for the degree of Bachelor of Science in Systems and Computers Engineering.

<div style="display: flex; justify-content: space-between;">

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Statement of Originality

This statement is to certify that to the best of our knowledge, the content of this thesis is our work. This thesis has not been submitted for any degree or other purposes.

We certify that the intellectual content of this thesis is the product of our work and that all the assistance received in preparing this thesis and sources has been acknowledged.

Abd El-Twab M. Fakhry

Hossam A. Eissa

July 17, 2022

Acknowledgements

Abstract

The abstract should identify clearly and succinctly the purpose of the project, the methods used, the results obtained and the significance of the results or findings. The abstract must not exceed 300 words. Abstract section gives readers a brief idea about your project, which briefly presents your problem statement and how you can solve it. paragraph. Leave tab with 4 spaces when you start.

KEYWORDS: *Blockchain; Cryptography; Cloud Computing; P2P; Decentralized Applications.*

Contents

Chapter 1

Introduction

1.1 Background and Motivation

In this section, you should describe the problem that you set out to solve with the project. An introduction might, for example, begin by stating, "The aim of the work described in the Report was to provide a software tool with which peoplecan arrange meetings." Avoid starting a Report with an irrelevant history ofinformation technology.

Explain whatever background the reader will need in order to understand the problem. The background might refer to previous work in the academic literature that provides evidence that the problem is a real and significant problem worth solving. Include a clear and detailed statement of the project aims and provide an overview of thestructure of the solution. Please note that the GP2 report (492) should have more literature material than the GP1 (491).

Conventionally, the last part of the introduction outlines the remainder of the Report,explaining what comes in each section. Your report should be organized as follow:

1.2 My Dream

I once had a dream, I was doing big brain stuff in that dream [1].

Chapter 2

Solving $P = NP$

2.1 Proof

See below for irrefutable proof, extreme care and rigour has been shown in this proof by Ethereum Virtual Machine (EVM).
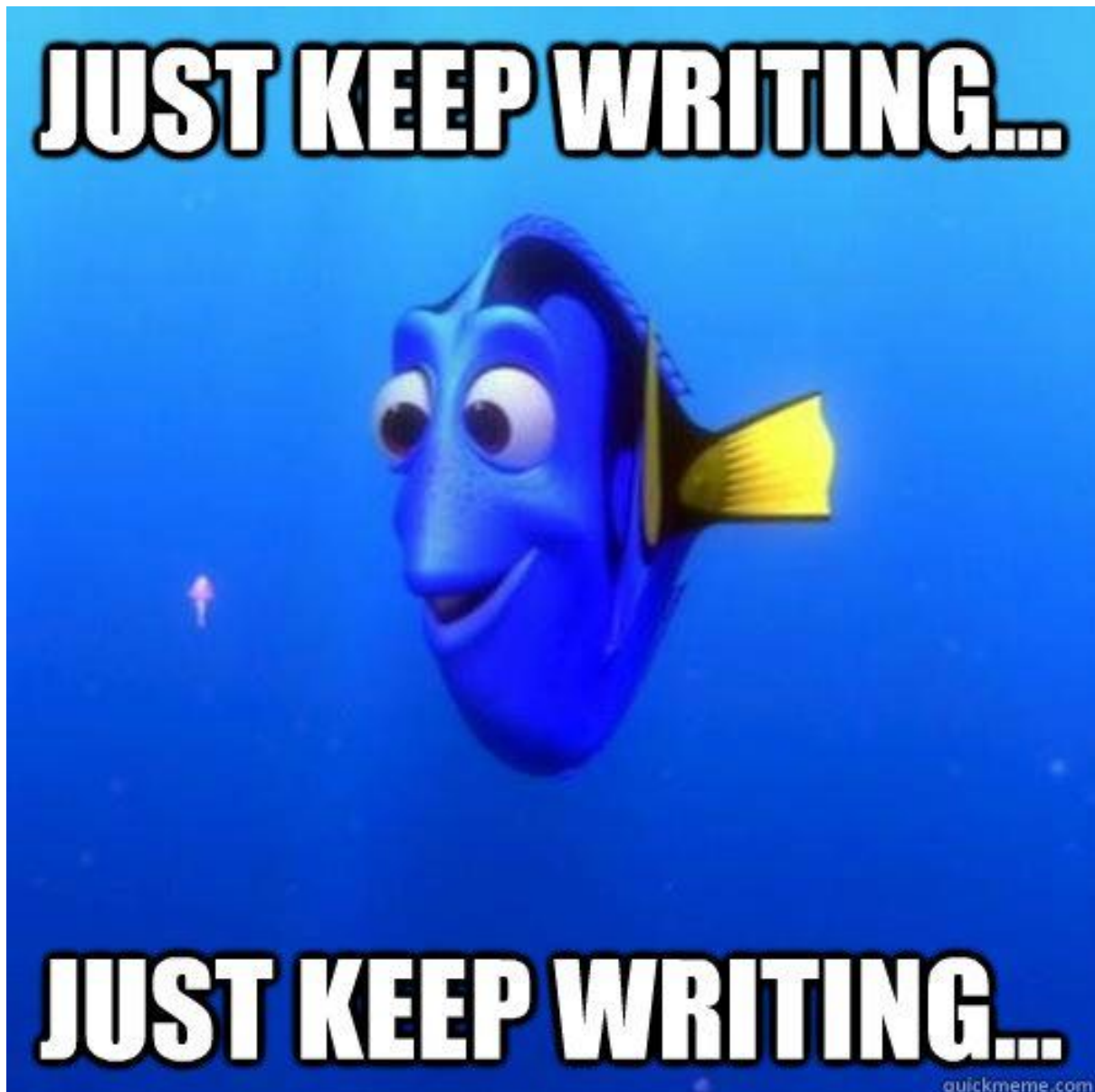

Figure 2.1: Clear proof of theorem.

As stated in the Decentralized Application (DAPP) theorem, I'm right.

Chapter 3

Geatest Common Divisor

Decentralized Application Ethereum Virtual Machine (EVM) Smart Contract (SC) Transaction Bitcoin Cryptocurrency Blockchains

Appendix

Bibliography

Articles

[1] A. Fakhry, "How i created the theory of relativity," *Physics today*, **jourvol** 35, **number** 8, **pages** 45–47, 1982.

Glossary

Acronyms

AIC   Al-Azhar ICPC Community

DAPP   Decentralized Application

EVM   Ethereum Virtual Machine

SC   Smart Contract

TX   Transaction

Terminology

bitcoin   A cryptocurrency that uses a blockchain network to regulate the generation of coins/tokens and transfer of funds. Bitcoin is the most widely used cryptocurrency and is the most widely traded currency in the world.

blockchain   A blockchain is a distributed database that is shared among the nodes of a computer network. As a database, a blockchain stores information electronically in digital format.

cryptocurrency   Digital money which uses encryption and consensus algorithms to regulate the generation of coins/tokens and transfer of funds. Cryptocurrencies are generally decentralized, operating independently of central authorities.

List of Figures

Listings

List of Tables