UNIVERSITI TEKNOLOGI MARA

A Secure Blockchain-based Web Application Voting System

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ABSTRACT

In almost every university, election for Student Representative Council is done through voting system. The purpose of the election is for better management and communication between the student and University. However, the voting process itself can sometimes be manipulated and problems such as voter fraud can happen. This could lead to spoofing the results and causing tainted ballot. The objectives of the Secure Blockchain-based Web Application Voting System are to design and develop a web application blockchain-based voting system that can enable a secure online voting and terminate all possible fraud in voting process. This system will use student identification for their own unique identification. By using the blockchain-based system, the project will have full transparency of the voting process thus avoiding the result spoofing. It is expected that from the result, this web-based system may eliminate the problem in voting process and secure the online voting system. Keyword: voting; blockchain; security; web application;

TABLE OF CONTENT

Contents

Chapter 1

INTRODUCTION

This chapter provide an overview of the research project and discussion about the project background, problem statements, aim, project objectives, scope, significance of research, and limitation of project.

1.1 Project Background

The Secure Blockchain-based Web Application Voting System is a voting system that can be done via online and can be apply to the current voting system. Andrew Barnes (says that the most common way in which a country votes is through a paper-based system and that the frequent issues in manual voting system is the time, data control, and security. Therefore, by developing a web-based voting system that can be access anywhere using any devices will surely make voting process much convenient compared to making it manually.

The manual voting system was done through paper-based system and will surely take time in the process of counting the vote. This project will be developed in a web-based system and it can be browse through any kind of devices that have access to internet connection. Hence, making the web application voting system to benefit in terms of time as it was not done manually.

The project is a blockchain-based web application voting system specifically for Faculty of Computer and Mathematical Science students. The drawback of manual voting system in terms of security can be overcome with the implementation of blockchain. As it is a web voting system and easier access to the system, without a doubt the percentage of the voter will likewise increase. The voter will also confidently cast their vote in addition to the secure web application voting system.