

CHAPTER I INTRODUCTION

1.1. Background

Humans, as a social intelligent creatures, have the needs to hoard and share informations. Along with the development of new technologies, the world is going digital. Because of this, many users use the advantage of these new technologies in order to store large volume of information. The informations can be included in the form of text document, images, or videos. Therefore with various kind of information, the process of information sharing can also be done in various ways. (Gogade, Dharmik, Patil, & Adapanawar, 2015).

The technology that has been notably evolving in rapid speed and has become crucial in a part of our life is smartphones. Cell phones have evolved from being a simple calling device into a portable powerful device as a smartphone. Smartphones have become a minicomputer which are able to withstand storing an increasing amount of data (Kulkari, Kumar, Shivaraju, & Shivaraj, 2016). Sharing files such as high-resolution image through mobile devices at the same time is becoming a popular application. Smartphones are always used to upload and download the shared files through WiFi, 3G, or LTE, but these ways will naturally incur high expense and security threat when large scale data needs to be shared. The things that must be focused when sharing files with many users are sharing efficiency and security (Wang & Wang, 2017).

The challenging problem in data sharing is figuring out the way to effectively share sensitive data through encryption. Encrypted data that has been

downloaded from storage can be decrypted and sent to others again for sharing, but by doing so loses the value and meaning of data storage itself. In data sharing, users should be able to give the access rights of the data to others. That way users can access data directly from the server without the need to process them again. (Kharpas, Khandave, Dani, Godase, & Dhakulkar, 2016).

One of the efficient and quick method of file sharing is the use of QR (Quick Response) codes as a medium between client and stored data. This sharing medium can be read, scanned, and parsed by utilizing the camera of a smartphone which will display a string of text or a link that can be redirected. QR codes can only be read by a machine therefore the contents inside the QR codes cannot be determined by human eyes. There are many ways that QR codes can be used such as business marketing, providing detailed information on a product, sharing website URL, contact informations, emailing service, and even provide Wi-Fi access (Dyade & Bhande, 2017).

Based on these statements, the author is eager to analyze and produce solutions for these problems. Thus the author conducted a thesis study entitled “Development of QR Code-based Data Sharing Web Application using System Development Life Cycle Method”.

1.2. Problem Statements

Based on the stated backgrounds of the problem, it can be defined that the research problem is how to implement and develop a data sharing web application which utilizes QR code as sharing medium. The web application is developed using Laravel PHP framework and generates up to 300 character alphanumeric QR code.

1.3. Research Objectives

In accordance to the research problems that has been stated, the research purposes to be achieved in this study are stated as follows:

1. To provide an overview about the practice of generating QR codes and its capabilities in terms of data sharing.
2. To apply and implement education that has been taught in the field of computer science.
3. To meet one of the requirement in achieving bachelor degree in information system study program.
4. To further increase author's knowledge as an academic reference about data sharing functionality and security.

1.4. Benefits of Research

The benefits of this study involves multiple parties including author, academic, and users. The benefits are as follows:

1. Author

To develop and provide an efficient and applicable data sharing application to users.

2. Academic

To contribute knowledge regarding system information development specifically about data sharing methods.

3. Users

To utilize quick and effective data sharing method provided by the web application.

1.5. Report Structure

The writing structures of this thesis report is divided into several chapters as follows:

CHAPTER 1 INTRODUCTION

This chapters discusses the background of research, research problems, research scopes, research purposes, research benefits, and report writing structures. This chapter is a summary of the motivation and purpose that needs to be achieved in this study.

CHAPTER 2 LITERATURE REVIEW

This chapter discusses the literature reviews and theories that are related to this study.

CHAPTER 3 RESEARCH METHODOLOGY

This chapter discusses the method used in stages of analysis such as literature study, analysis, standard operational of variable, research model, design, implementation, and test result.

CHAPTER 4 IMPLEMENTATIONS AND DISCUSSIONS

This chapter discusses the database design, interface design, flowchart, final program result, program usage procedure, descriptive statistics of respondent and statistical analysis results.

CHAPTER 5 CONCLUSION AND RECOMMENDATION

This chapter discusses the conclusions taken from the study results and recommendation for future research.