

CHAPTER 1. INTRODUCTION

1.1 Background

Green Open Space is an elongated area/lane or group, the use of which is more open, a place to grow plants, both growing naturally and intentionally planted. It can resemble in urban areas, some of which include, city parks, nature tourism parks, urban forests, nature reserves, and botanical gardens.

One of its functions, namely in socioeconomic, Green Open Space, is as a medium of communication for an urban city, recreation areas, places for education, and research.

Boyolali Regency has at least 20 natural tourism areas spread across various districts, and will still be added, according to the Boyolali Regency Spatial Plan 2011-2031, in Boyolali District Regulation No. 9 of 2011. Some of the new areas are included in the category of green open spaces such as Boyolali City Forest, Indrokilo botanical garden, and parks around the city. Various types of plants can be found in these areas, especially in the Indrokilo Botanical Garden, whose primary purpose is as a place for plant conservation.

In order to provide education to visitors, there is a board/label containing the name of the species in the collection plants in the botanical garden. The existence of a tag or description on the collection provides many benefits, but this also has a weakness, namely, how to burden the memory of the learner's capacity manually, the selection process will fail and negatively influence the acquisition of plant morphology skills and knowledge (Gao, Liu, & Paas, 2015).

From the problems above, the writer has an alternative to create a collection of information systems data in green open spaces Boyolali based on QR Code to facilitate visitors in obtaining information.

QR-code has several features, such as large-capacity data encoding, high-speed readings, small file sizes. QR-codes are more effective than selecting manual searches for learning regardless of the target number. The way this system works is that the user scans the QR-code installed in the plants collection, after the code is scanned the system sends information to the server and the information will come out, with that the process is considered complete. The proposed method is not only cheap and cost-effective but also helps users without experiencing any hassle.

This system is expected to help visitors to get information quickly and easily. This system is made in the form of an Android-based information system. Therefore, when visitors want to see a collection of plants but are constrained by distance, time, or other, visitors can access it through the Android application via smartphones at home or anywhere with conditions connected to the internet.

1.2 Problem Identification

Based on the background, the author can identify the problems for the development of this application, as follow:

- a) How to design an application that show plants information in green open spaces in Boyolali
- b) How to implement QR code scanner in application
- c) How to add Multilanguage feature in application

1.3 Purpose

The purpose of this system development is listed as follows:

- a) This application is used to give more information of plant in green open space areas in Boyolali to visitor.

1.4 Limitation

In this final project, to get optimal results. Then it needs to be limited to what things will be researched and done. Problems will be limited to:

- a) This application can only be operated in a smartphone supports OS (Operating System) Android version 6.0 (Marshmallow) and above.
- b) Information used in system build for general purpose, not depend on one place.
- c) This application only supports English and Indonesia language
- d) The application only can be used when the user's mobile phone is connected to the internet.

1.5 Benefit

The Benefit of this research are as follows:

- a) This application can give more information of plant to visitors than common signboard.
- b) Since the information is common and not limited by one place, application can be used in many areas of green open space.

1.6 Writing Structure

For the systematical structure, this thesis is divided into six chapters, with an explanation for each chapter is as follows:

CHAPTER 1. INTRODUCTION

In this chapter, the author discusses the background of the research, problem identification, limitation, purpose, and benefits of the research.

CHAPTER 2. LITERATURE REVIEW

This chapter discusses the fundamental theories that support and relate to this research.

CHAPTER 3. RESEARCH METHODOLOGY

At this stage of the research methodology, the author discusses there are several stages, such as research flow, system development methods, research activity schedules, data collection methods, and types and sources of data. It also discusses the requirement of the development.

CHAPTER 4. ANALYSIS AND SYSTEM DESIGN

This chapter discusses the analysis and design of the system; there are several stages, such as problem identification, system analysis, user requirements analysis, system design, and also system testing methods.

CHAPTER 5. IMPLEMENTATION AND TESTING

This chapter discusses the implementation of the analysis and design of the system. Then, implementation processes into coding to produce a system that can be used by the user. Moreover, it also illustrates the user interface result of the system and conducts testing of the system to determine whether the system is working excellent or need improvements.

CHAPTER 6. CONCLUSION AND RECOMMENDATION

This chapter contains the conclusions of this thesis and recommendations that are used as references for future development.