A WEB BASED HOUSEPLANTS RECOMMENDER SYSTEM TO OPTIMIZE RESIDENTIAL GREEN INITIATIVES

NUR SYUHADA BINTI SUHAINI

Thesis submitted in fulfilment of the requirements for
Bachelor of Information Technology (Hons.)
Faculty of Computer and Mathematical Sciences

January 2020
STUDENT DECLARATION

I certify that this thesis and the project to which it refers is the product of my own work and that any idea or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline.

........................................
NUR SYUHADA BINTI SUHAINI
2016565245

JANUARY 3, 2020
ABSTRACT

One of the easiest ways to participate in green initiatives is by planting plants around the house. Nevertheless, this is often overlooked by community of residents of residential areas because of lack of knowledge in choosing houseplants. Therefore, in this study, a web-based Houseplants Recommender System is developed. Houseplants Recommender System could give recommendation of the most suitable houseplants to the user. There are five questions regarding user preference that needs to be answered in order to receive recommendation from the system. The questions surround whether user loves indoor or outdoor plants, high maintenance or low maintenance plants, tropical plants of flowering plants, colourful plants or greenery plants, as well as size of plants whether small or large. In the output user will get information such as common name, scientific name, height, spread, light needed, watering frequency and some of the plant’s essential facts. Houseplants Recommender System techniques of rule bases to recommend houseplants to the user. There are several benefits in using Houseplants Recommender System; which are user can save more time from going to the nursery in order to search and decide on the ideal plant, user can choose the plants several times and get more information about the houseplants before actually deciding to buy it and the system helps user in learning how to care for houseplants properly. Two testing which are Heuristic Evaluation for experts review and User Acceptance Test based on Technology Acceptance Model (TAM) for the end-user were conducted. As a result, most of the respondents agreed Houseplants Recommender System that manage to recommend suitable houseplants based on user preference. Besides that it also provides tips how to take care for indoor plants, how to take care for orchid, how to water plants and types of plants disease.
# TABLE OF CONTENTS

SUPERVISOR APPROVAL .................................................................................. ii
STUDENT DECLARATION ........................................................................... iii
ABSTRACT ........................................................................................................ iv
ACKNOWLEDGEMENT ..................................................................................... v
TABLE OF CONTENTS ................................................................................... vi
LIST OF FIGURES ............................................................................................. ix
LIST OF TABLES ................................................................................................. xi
CHAPTER 1 INTRODUCTION .......................................................................... 1
  1.1 Background of Study .............................................................................. 1
  1.2 Problem Statement ............................................................................... 4
  1.3 Objective ............................................................................................... 4
  1.4 Project Scope ......................................................................................... 5
  1.5 Project Significance ............................................................................... 5
  1.6 Summary ............................................................................................... 5
CHAPTER 2 LITERATURE REVIEW ................................................................ 6
  2.1 Green Initiatives ..................................................................................... 6
    2.1.1 Green Initiatives Activities .............................................................. 6
    2.1.2 Green Initiatives at International Level ........................................... 8
  2.2 Houseplant ............................................................................................ 9
    2.2.1 Indoor Plants .................................................................................. 10
    2.2.2 Outdoor Plants .............................................................................. 10
  2.3 Recommender System .......................................................................... 10
    2.3.1 Rules-based Technique as a Recommender System ....................... 11
  2.4 Web-Based Application ........................................................................ 12
    2.4.1 Types of Web-Based Applications ............................................... 13
    2.4.2 Benefits of Web-Based Applications ............................................. 13
  2.5 User Acceptance Testing (UAT) ............................................................. 14
    2.5.1 Technology Acceptance Model (TAM) .......................................... 15
  2.6 Related Work ........................................................................................ 15
    2.6.1 Movies Recommender Systems ..................................................... 16
    2.6.2 Introduction to Music Recommendation and Machine Learning...... 17