AGRICULTURE DATABASE: IMAGE CONTENT ATTRIBUTES STORAGE AND RETRIEVAL DESIGN FOR PADDY INSECT

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A thesis submitted to the Faculty of Information Technology in partial fulfillment of the requirement for the degree of Master of Intelligence System, Universiti Utara Malaysia

By

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PUSAT PENGAJIAN SISWAZAH
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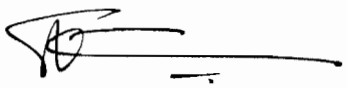
(Signature) : 

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ABSTRACT (ENGLISH)

Storing and retrieving the image and its associated information of paddy insects can be useful to Malaysia especially who required information about paddy insects. As Malaysia is focusing on agriculture, there must be technology provided in this field. In this study, the prototype of database design developed with a method of choosing the attributes, and this technique described by the content of image to achieve the suitable image storage and retrieval and enable effective in indexing image database for online paddy insects. Through the Internet online prototype, the end user can get the information of paddy insects and they also can see the image of paddy insect by using search engine that provided in this prototype. There are two types of search engine provided which are using Structured Query Language (SQL) and Fuzzy Logic. The prototype is also provides the administrator to add, search, update and delete information of paddy insects.

Keywords: Agriculture, paddy insect, storing and retrieval image database, choosing attributes, SQL, Fuzzy Logic

ABSTRACT (BAHASA MALAYSIA)

Penyimpanan dan pencapaian data imej tentang maklumat serangga padi adalah berguna kepada Negara Malaysia khususnya kepada sesiapa yang memerlukan maklumat tentang serangga padi. Malaysia kini menjurus kearah pertanian, maka mestilah disediakan teknologi yang berkaitan dengan bidang ini. Dalam kajian ini, suatu prototaip rekabentuk pangkalan data direkacipta dengan menggunakan kaedah pemilihan atribut-atribut dan teknik ini menerangkan kandungan imej gambar serangga padi di mana mencapai kesesuaian untuk penyimpanan dan pencapaian data dan keberkesanan di dalam pengindeksian untuk imej gambar serangga padi. Melalui prototaip berinternet ini, pengguna akhir boleh mendapatkan maklumat serangga padi dan juga dapat melihat gambar serangga padi dengan menggunakan engin carian yang mana disediakan di dalam prototaip ini. Dua jenis engin carian disediakan iaitu menggunakan bahasa queri berstruktur dan fuzzi logic. Prototaip ini juga menyediakan kemudahan kepada pentadbir yang mana boleh memasukkan data, carian, kemaskini dan memadamkan maklumat serangga padi.

Keywords: Pertanian, serangga padi, penyimpanan dan pencapaian imej pangkalan data, pemilihan atribut, SQL, Fuzzi Logik

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INTRODUCTION

Nowadays, Malaysia is focusing on agriculture technology with big budgets for agriculture. According to Dato' Seri Abdullah Bin Hj. Ahmad Badawi, Malaysia Prime Minister in his speech for budget 2006, the government has allocated 2.8 billion for agriculture project (Perbendaharaan Malaysia, 2006). In Kedah, the information related to paddy is needed because Kedah is a special place that has the biggest size of paddy field in Malaysia. Thus, Kedah is the suitable place to provide paddy related information. Many researchers did and have made some researches about paddy. For example, Matteson (2000) study about management pests and Kartini (1979), study on how to control pests in paddy area. Another researcher, Rajini (2001), developed prototype of pest management for farmers to minimize pest infection.

In this project, pictures or images of paddy insects will be stored in database. The advantages to store in database are to ensure the data are

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