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JUDUL: **LAND MANAGEMENT SYSTEM via WAP (LMWS)**

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^ Tesis dimaksudkan sebagai Laporan Projek Sarjana Muda (PSM)

LAND MANAGEMENT SYSTEM via WAP (LMWS)

SAADAH BINTI ABDUL RAUB

This report is submitted in partial fulfillment of the requirements for the
Bachelor of Information and Communication Technology
(Software Development)

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KOLEJ UNIVERSITI TEKNIKAL KEBANGSAAN MALAYSIA
2004

ADMISSION

I admitted that this project title name of

LAND MANAGEMENT WAP SYSTEM via (LMWS)

is written by me and is my own effort and that no part has been plagiarized without citations.

STUDENT : _____ Date : 19/10/04
(SAADAH BTE HJ. ABDUL RAUB)

SUPERVISOR : _____ Date : 19/10/04
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DEDICATION

To all my family, my fiancé, especially to my beloved mum and daddy...thanks for the support, love, and care to me by all the time.

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ABSTRACT

Land Management System via WAP is developed to increase the quality of public service at Land Office area of *Johor Darul Takzim*. The system provides several services such as tax payment, arrears check, and complaint. The purpose of system development is to apply wireless system in government department service. Software developer will recognized the main requirements of system development such as software, hardware, network, and execution by research case. The project scopes have several limitation and focus to land management department service at land office. The Land Management System via WAP (LMWS) that has been developed uses several of supporting software such as WML, PHP Engine Script Language, MySQL database, and Apache Server. The system is not necessary register member, its means only land owner that already have the record profile at land office can use the system function. The significant of this system development are for clients, land office organization, and staff of land management department. This new system will give important impact to Malaysia government in the effort to upgrade the country's public services. The methodology used for the development of this system is based on the Waterfall Model that consist seven phases which is preliminary investigation phase, requirement phase, specification phase, design phase, coding phase, integration and testing phase, and maintenance phase. The methodology will act as a guideline in order to accomplish the whole system development. All the functions in this system have been clearly explained in this documentation. This system documentation covered from preliminary investigation phase till maintenance phase. As a conclusion, Land Management system via WAP is a new technology approach that can be used by user anytime and anywhere. This system is expected to overcome the numerous tax arrears problem faced by land office. All the information have been confirmed through delicate researches to ensure that the system development meet the need of Malaysian society.

ABSTRAK

Sistem Pengurusan Tanah tanpa wayar dibangunkan untuk meningkatkan perkhidmatan sektor awam di pejabat tanah seluruh Johor Darul Takzim. Sistem ini menawarkan perkhidmatan semakan tunggakan cukai tanah, pembayaran cukai tanah, dan aduan. Tujuan pembangunan sistem ini adalah untuk mengaplikasikan teknologi terkini iaitu sistem tanpa wayar yang boleh dicapai melalui telefon bimbit dalam perkhidmatan kerajaan. Pembangun sistem mengenalpasti keperluan utama sistem seperti perisian, perkakasan, rangkaian dan perlaksanaan melelui penyelidikan awal. Skop projek mempunyai beberapa batasan dan tertumpu hanya untuk perkhidmatan dalam jabatan pengurusan tanah di pejabat tanah. Selain itu, pembangunan *LMWS* ini menggunakan beberapa perisisan utama seperti *WML, PHP Engine Script Language, MySQL database, and Apache Server.* Sistem ini tidak memerlukan pendaftaran pengguna. Ini bermakna hanya pemilik tanah yang mempunyai rekod yang sah di pejabat tanah sahaja boleh mencapai fungsi-fungsi sistem yang akan dibangunkan nanti. Kepentingan pembangunan sistem ini adalah untuk pemilik-pemilik tanah, organisasi pejabat tanah, dan kakitangan di jabatan pengurusan tanah. Pendekatan sistem baru ini akan memberi impak yang besar kepada Malaysia dalam usaha meningkatkan perkhimatan sektor awam kerajaan. Metodologi yang digunakan dalam pembangunan sistem ini adalah berpandukan *Waterfall Model* yang terdiri daripada beberapa fasa seperti *preliminary investigation phase, requirement phase, specification phase, design phase, implementation/coding phase, integration and testing phase, and maintenance phase.* Metodologi ini digunakan sebagai panduan dalam menyiapkan keseluruhan pembangunan projek. Keseluruhan fungsi sistem diterangkan dengan jelas dalam laporan dokumentasi ini. Dokumentasi sistem meliputi daripada fasa pertama sehingga fasa terakhir. Sebagai kesimpulannya, **Sistem Pengurusan Tanah tanpa wayar** ini adalah pendekatan teknologi terkini yang boleh digunakan oleh pengguna di mana-mana sahaja dan pada bila-bila masa. Sistem ini dijangka mampu mengatasi masalah tunggakan cukai tanah yang terlalu banyak di pejabat tanah. Segala maklumat yang sahih telah dibuat kajian yang teliti bagi memastikan pembangunan sistem menepati keperluan masyarakat Malaysia.

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LIST OF ACRONYMS

P2P	Person to Person
PC	Personal Computer
IT	Information Technology
SPHT	Sistem Pengurusan Hakmilik Tanah
PSPs	Payment Service Providers
WAP	Wireless Aplication Protocol
WML	Wireless Markup Language
WMLScript	Wireless Markup Language Script
WTLS	Wireless Transport Layer Security
LAN	Local Area Network
ITG	Independent Testing Group
PSM	Project Sarjana Muda
PSM 2	Project Sarjana Muda 2
DFD	Data Flow Diagram
ERD	Entity Relationship Diagram
LMWS	Land Management System via WAP
DFD	Data Flow Diagram
SDLC	System Development Life Cylce
RAD	Rapid Application Development
DBMS	Database Management System
GUI	Graphic User Interface
NIC	Network Interface Card
UID	User Interface Design
JRE	Java Runtime Environment
JDK	Java Developer's Kit
VCP	Version Control Procedure

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CHAPTER I

INTRODUCTION

1.1 Preamble / Overview

Nowadays, in this new era of Information Technology, all the things are moving into IT environment and every person must involve in IT world because its make such a very important thing in our life right now.

Astonishing growth of the mobile telephone industry is the precursor to an equally successful mobile information industry, in which people can request data and services from anyway and anytime.

Right now, mobile devices do not have enormous processing power, run a range of diverse, proprietary operating systems, and are constrained by the low speeds at which they can receive and transmit data. The Wireless Application Protocol (WAP) has emerged as an important technology in this area. While it reuses much of the existing Internet architecture for the transmission of information, it adds some new ideas that make the process more streamlined.

Thus, this chapter will introduce to the new system that will be developed and named **Land Management System via WAP**. The purpose of the system development is to increase a service at Land Office by reduce a current processes and give a user comfort. It also will be modified the current service to be more effective and efficient.

The user requirement will be capture from land office at PONTIAN. This company will specify the requirements and needs for the system. It is very useful for software developer to develop and implement the new system. Based on the observation, the land office is already used the online system to manage clients' business and data. But it is time consuming when the clients deal at the counter.

The main focus of this project development is a 'management system' at land management department. The function of the system is to record user payment information with effective, and systematic. Beside that, the client can check their tax arrears and give a complaint via WAP system. Thus, the system will be reduced the man power.

The project development is one of the alternatives to connect all land office in Malaysia by wireless system. Gather the user requirement such as interview, observation, reading, or questionnaire will be done to recognize problem of previous system. Preliminary investigation will be determine either the current system will be renew or remain the system with the additional function to be more efficient.

The system that will be developed is easier and faster than before. Management of land ownership can be done in should be a few seconds. It is because the administrator can generate a report by online data. Furthermore, the client can make a transaction by any time and anywhere.

This system also saves the cost because it is paperless work. Beside that, this system is providing a security based on limitation. This limitation is a state that cannot be done by the system. Value of program is fixed by password for clients. This method is to avoid system information from being hack by another user. The system will use a waterfall model as a methodology.

1.2 Problem Statement(s)

This system has been request by the client of land office *at Pontian*. LMWS need to build to fulfill the needs of the clients of land office to check arrears and pay a land tax comfortable and easier than before. LMWS also can be access anywhere and anytime.

1.3 Objective

As mentioned before, I intended to develop Land Management via WAP System to replace the current system. The objectives of the project are as shown below:

i) To improve the functions of current system. Software developer intended to improve certain function in current system that limits the user task before. All the problems occurred on current system will be fixed and improve in an efficient way.

ii) To develop a new system for land Office at *JOHOR DARUL TAKZIM area*. The software developer intended to upgrade certain functions on current system and add a new function.

iii) To find out a new way and method that can be implemented on the new system by using the specific software and hardware.

The system will be developed in new features, new looks and more functions that will satisfy the user requirements.

1.4 Scopes

The system using wireless application protocol (WAP) is useful to staff and client. This new system has a limitation in several scopes. Software developer will state out clearly about in which area this system will deal with and what kind of benefits from using it. The system will be developed using wireless application protocol (WAP). The several scopes of the project are shown below:

(i) Research the WAP technology and do the comparison among the technique of mobile payment.

(ii) Develop the WAP system that effort:
   a. Protect the system from unauthorized user.
   b. Retrieve arrear data from database record.
   c. Transaction of tax payment at anywhere and anytime.
   d. Submit the complaint data from user.

(iii) The coverage of the system development is around the *JOHOR DARUL TAKZIM* area. It means all the land office at the districts at *JOHOR* area can be used the system.

(iv) Only client module will be developed.

System development is limited by prototype and will be test by emulator such as OPENWAVE SDK WAP EDITION AND NOKIA MOBILE BROWSER.

1.5 Contributions

Every system development has its own contribution. Software developer would like to list out clearly about the contribution of the project to administrator, organization and public user. By doing this, the most important value in this new wireless system will be traced out. The contributions of the project are shown below:

i) Public user from different places can make a transaction via wireless system. The user will be able to make a payment, check arrear, and complaint process at anytime and anywhere they are.

ii) The organization will have the new wireless system to connect on the current system. This wireless system is very important in order to attract user to pay a land tax payment as soon as possible.

iii) The organization will have a new application in IT field by using this new wireless system. Currently, there are many organizations such as MAYBANK, BUMIPUTRA COMMERCE and so on that used online system to make a payment transaction. Therefore, Land office also should take this opportunity and apply the new technology in this globalisation era.

a) This wireless system will save budget, cost, time, and dealing with more wireless transaction and by this way it will also increase government service.

1.6 Expected Output

For the last stage of this project, what have been expected for the output are the systematic and user friendly wireless mobile process of the system. The system also expected can update client's account from the payment process.

CHAPTER II

LITERATURE REVIEW

2.1 Introduction

The researches are performed by interviews, observations, questionnaire, reading books, and browsing the Internet. Before using another fact-finding technique the information are captured by reading books and browsing the internet. From the entire books, the static information about land office and service at the organization are found out. Then browsing the Internet to find out more information and make a comparison all of the land office at Malaysia.

Observation can be a useful and beneficial to the fact-finding technique because it provides an ability to observe thoroughly and accurately. User also can see exactly what is being done. Complex task are sometimes difficult to clearly explain in words. The observation can identify the task that have been missed or inaccurately describe by other fact-finding technique.

The most important element of an information system is people. No other fact-finding technique place as much emphasis on people such as interviews, but people have different values, priorities, opinions, motivations, and personalities. From the interview, it was the opportunity to motivate the interview to respond freely and openly to question.

The significant of the research before is to ensure the new system is useful and not redundant with the current system. Beside that, system developer gathers the user requirements that the previous system does not fulfil user needs such as time and cost.

2.2 Fact and finding

2.2.1 Current System Review

Based on the passed research, system developer had found the current online system is provided to admin and the current website only provides information to a public user. Land office has been provided many of services in manual according the department such as registration of ownership, registration letter business and non business, collection of land tax, collection of revenue from all registration transaction. From all the services the land management is the one of the service that related to the tax payment service. The manually system for user and staff are shown below.

2.2.1.1 User

Everyone of the landholder must pay a land tax every year. Rate of the tax based on the district and area of the land. The steps of tax payment are shown below:

i) Payment of the land revenue must pay and settle before 1st June every year.

ii) The last claim notice that will be imposed and if the tax still unperformed in 3 month from the notice date, the land will be confiscated.

iii) The payment by check or money order or bank draft must be put by treasure name and must be crossbar only by recipient account.

iv) Name, identity card number, payer address, and ownership's information back of the check or money order or bank draft.

v) The penalty will be imposed if the payment has done after 31st May every year.

2.2.1.2 Admin

The process is online system at Land Office counter. That is flow the tax payment process:

i) Turn on PC.
ii) Double click 'Start SPHT Online'.
iii) Then insert ID user and password.
iv) Then main menu of SPHT Online will be preview. Its content 11 transaction.

a. Revenue Acceptance
b. Land tax Maintenance.
c. Revenue Maintenance.
d. Exemption Overdue Penalty.
e. 6A Notice.
f. Trust.
g. Land Information.
h. Administration SMAT Report.
i. Inquiry
j. Maintenance.

v) From the menu select 'Revenue Acceptance'. It contents submenu such as:

a. Land Tax Acceptance.
b. CAC Acceptance.
c. 5A Form Acceptance.
d. Variety Acceptance.
e. Developer Acceptance.
f. Receipt cancellation.
g. Entrance the Overdue Receipt of other transaction.

vi) Select menu Land Tax Acceptance.

vii) Land Tax Acceptance have 5 menu such as:

a. Information Searching.
b. LKK Acceptance.
c. Cash Acceptance.
d. Others Acceptance Mode.
e. Display Complete Land tax Information.

viii) Client can pay by 2 options which is identity card number or company registration or Ownership's information.

ix) By Information Searching:

a. Push identity card number or company registration or Ownership information radio button.
b. If tax record payment exists, the information will be listed.
c. If the record is not complete or not listed will be referred to update.

x) By LKK Acceptance :

a. Push the record is needed.