UMP SQUASH RESERVATION SYSTEM USING LIGHTING CONTROL

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A thesis submitted in partial fulfilment of the requirement for the award of the Degree of Bachelor of Computer Science (Software Engineering).

Faculty of Computer System & Software Engineering
University Malaysia Pahang

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LIST OF ABBREVIATION

ABBREVIATION	TITLE
CSS	Cascading Style Sheets
HTML	Hypertext Transfer Markup Languages
VB	Visual Basic
ASP	Active Server Page
PHP	Hypertext Pre-processor
MySQL	My Structured Query Language
LED	Light Emitting Diode
LCD	Liquid Crystal Display
VGA	Virtual Graphic Array
RAM	Random Access Memory

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ABSTRACT

University Malaysia Pahang (UMP) sports center is the main place for students and staff doing their activities, such as playing squash, badminton, football and etc. Unfortunately, the manual reservation form using have many vulnerabilities. Some of the vulnerabilities are the staff need to write and print manual reservation form every day. Moreover, a customer using squash games without doing any reservation and payment. Next the customer will extend the games until the next customer comes in. This issue occurs because lack of surveillance from the staff to monitor the court or to turn off the light. Therefore, the UMP Squash Reservation System using Lighting Control was developed to overcome these problems. These system used agile: scrum as its project methodology. The outcome of UMP squash Reservation System using Lighting Control help UMP sports center staff to manage reservation and implement control over courts usage.

ABSTRAK

Pusat sukan Universiti Malaysia Pahang menjadi tumpuan utama bagi para pelajar dan staf untuk melakukan aktiviti harian yang digemari serperti bermain squash, badminton, bola sepak dan sebagainya.Malangnya, sistem yang digunakan sekarang iaitu mengunakan borang terlalu banyak kelemahan yang berlaku. Contohnya pelanggan mengunakan gelanggang squash tanpa membuat tempahan dan bayaran.Malahan, staf terpaksa mencetak borang setiap hari.Ini akan menyebabkan staf melakukan kerja lebihan.Kelemahan yang seterusnya ialah pelanggan mengunakan gelanggan sehingga pelanggan seterusnya datang. Kelemahan ini dijadikan keuntungan kepada pelanggan yang tidak perlu bayar untuk masa tambahan. Kejadian ini berluasa kerana kurangnya perhatian dari staf untuk meninjau penggunaan gelanggang.Suis lampu juga terlalu senang untuk dibuka oleh pelanggan. Justeru ‘UMP Squash Reservation System using Lighting Contol’ telah dibuat dan dibangunkan untuk mengatasi masalah tempahan gelanggang di pusat sukan di UMP. System ini mengunakan Scrum:Agile sebagai methodologi projek.Penghasilan daripada project ini ialah ,dapat membantu staf di Pusat Sukan di UMP untuk mengurus tempahan gelanggang sukan di UMP.

CHAPTER 1

INTRODUCTION

1.1 Introduction

University Malaysia Pahang (UMP) sports center is the main placed for the students and staff for doing their activities, such as playing squash, badminton, football and basketball. The UMP sports center provides two squash courts to the student and staff to use. They must make a reservation and pay with affordable price to use the court. Users must pay for RM 1.00 (Student) and RM 5.00 (Staff) for one hour. The concept to make a reservation is first come, first serve. Unfortunately, the manual reservation has many vulnerabilities. After doing some interview session with Mr Azizi as assistant administration in the UMP sports center, there have been issues that the customer using squash games without doing any reservation and payment. Furthermore, the customer will extend the games until the next customer comes in. This situation occurs because lack of the surveillance from the staff to monitor the court. The customer will take these advantages because of vulnerabilities in the UMP reservation management. Moreover, staff needs to print reservation form every day and write manually the available squash court using notice board.

So in this project, we will design and try to develop the system which will provide the user to display a countdown timer using the LED screen. This system will have the sound beam that notifies the user that the time is running out. Furthermore, this system will turn off the lamp automatically when the time is running out to avoid customer to play ‘FREE’ games.

1.2 Problem Statement

i. User (student and staff) using squash court without permissions and payment.
ii. User (student and staff) does not alert when the time is running out.
iii. Admin who handles reservation need to print and write manually using the notice board for court information every day.

1.3 Objectives

The objectives for developing this project are:

i. To display countdown timer for each squash courts to users.
ii. To control the light and sound for UMP Squash Reservation System
iii. To enhance the manual reservation form by using a system.

1.4 Scope

a) User

- University Malaysia Pahang (UMP) staff and student will become the user for this application.

b) Technology

- PHP, Jquery, Javascript, Android studio and Adruino UNO as a controller to control the light and sound.

c) Feature

- Provide automatic on/off lamp and thermal printer to print receipt.
- Sound beam to notify the customer that the time is running out.
- Provide a countdown timer using digital LED screen.

1.5 Thesis Organization

This thesis consists of seven (7) chapters. First (1st) chapter will discuss on the introduction of the project, second (2nd) chapter will discuss about the project literature review from related materials, the third (3rd) chapter will cover on the methodology used through the project, fourth (4th) chapter will shows the implementation and result discussion and fifth (5th) chapter will conclusion. The list of chapter same as below:

i. Chapter 1 (INTRODUCTION)
ii. Chapter 2 (LITERATURE REVIEW)
iii. Chapter 3 (METHODOLOGY)
iv. Chapter 4 (IMPLEMENTATION AND RESULT DISCUSSION)
v. Chapter 5 (CONCLUSION)
vi. REFERENCES
vii. APPENDICES