**Project title**

* University Content management system

**A broad indication of project type**

* Web-Based System

**Introduction**

Nowadays, with the rapid development of technology to the high-tech era, we have also begun to gradually accept the paper documents change to use electronic documents for storage. In the past, there are still many colleges that use paper to store information. Of course, there will be no problems at the beginning, but as time slowly builds up, the problems will become very apparent such as waste space, difficult searching, and other. Therefore, to effectively manage the growing paper documents, a paper-based document management system is needed. Since we are hooked on smartphones, tablets, etc., these devices now play an important role in electronic documents. It turns out that books are gradually being replaced by electronic teaching materials such as CD or USB. Therefore, University Content management system is essential for university colleges.

The University Content management system is a document system which is developed for Dean, head of department (HOD), Lecturers and Students. The University Content management system is a web-based system and it is accessed by the internet connection to receive, track, manage and store documents and reduce paper. So, the University Content management system will focus on Five target user such as the Admin, Dean, HOD, Lecturer and Student.

There is no doubt that paper document cannot be replaced in completely. However, the University Content management system can effectively, properly create, share, organize and store information. This can help paper-based documents solve problems facing them. The most important thing is to reduce paper documents. Most paper documents are Assignments, Test, Quiz and Final exam questions of some courses, which can be replaced by system archives. The system can also let lecturer put the teaching materials on the system, so that students can download and quote for free anytime, anywhere. Lecturers can also put teaching plans on the system so that students can follow and track. Dean and HOD can easily monitor lecturer and student performance.

**Project Objective**

After developing this project, I can achieve the objectives as shown as below:

* To provide a platform to let the student download the course materials in anywhere and anytime.
* To provide a platform to let the lecturer store the course materials and track himself to improve performance.
* To provide a platform to let the Dean and HOD more easily to track the lecturer and student performance.

**Personal Objectives**

After developing this project, I can achieve the personal objectives as shown as below:

* To increase my web programming skills.
* To improve the design and analysis skills of the project.
* To learn how to allocate the time and resources to the project and produce a well-planned schedule.
* To learn how to develop a formal report

**Rationale for project choice**

The reason I chose this project is that take Southern University College as an example. After the students handed over the assignment, they could not get it back. Because lecturers need use them to store paper-feeding documents. This causes students from reviewing back the assignment again. Plus, this led to the outbreak of paper documents in the college. University Content management system is a complex and detailed system, so the most important skills I need to improve are analysis and design skills. This can improve my programming skills and project management skills. Therefore, in this project, I want to learn how to design an efficient database and improve database design skills.

**Background Research**

With the explosive growth of internet, fundamental content management has also grown. No longer can information be

published in a manual process and left unattended. Online information must be continually reviewed and updated by content

editors. The internet forced subject matter experts to more rapidly maintain and update information for their constituents.

Content management was born out of these increased published needs.

A content management system (CMS) allows publishing, editing, and modifying content as well as site maintenance from

a central page (Boiko, B., 2001). It provides a collection of procedures used to manage work flow in a collaborative

environment. These procedures can be manual or computer-based. Content management system encompasses the system and

processes whereby information is managed, published and archived. Information typically passes through this channel for a

particular period of time. The core features of Content Management Systems vary widely from system to system; many

simpler systems showcase only a handful of features, while others, notably enterprise systems, are much more complex and

powerful. In a CMS, data can be defined as nearly anything: documents, movies, text, pictures, phone numbers, scientific

data, and so forth. CMSs are frequently used for storing, controlling, revising, semantically enriching, and publishing

documentation. Serving as a central repository, the CMS increases the version level of new updates to an already existing

file. Due to all these aforementioned characteristics, the problem of how to develop a good and effective Content

Management System comes up.

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Management System comes up.

With the explosive growth of internet, the information is no longer stored in paper archive. No longer can information be published in a manual process and left unattended. Nowadays, many universities still use paper-based documents to store materials. University Content Management System (UCMS) can help them very well. A Content Management System (CMS) is a computer application that allows content to be published, edited, modified, organized, deleted, and maintained from a central interface. A University Content Management System (UCMS) is a system for managing university content. This content management system provides the process of managing workflow in a collaborative environment.

The primary role of UCMS is to manage digital assets used for developing learning products. These systems provide a database called a course content that will save the lecturer of course materials, which can be accessed by moderator or Dean to audit it. Students can also download related course materials from this system.

* Problem Statement

I developed this (UCMS) based on our Southern University College. My University College does not yet have a relatively complete (CMS) to store data, and most of them use paper documents to store. This leads to:

* 1. A lot of paper documents, which takes up a lot of space.
  2. Finding information is very troublesome.
  3. Easy to lose.
  4. Most of these documents are student assignments, test questions and other, which results in students having no way to review back it.
* Challenge

1. Too much information

The University College has many information need to manage and store. I need to assign it very clearly, otherwise it is easy to cause confusion and loss.

1. Class issue

In university colleges, every employee has his own position, and each position corresponds to a different function. I need to know very well about every employee of function appears in my system and make corresponding functions.

**Literature review**

In this part, I am going to explore the products related to my project that have been conducted by other academic previously. University Content Management System an online system or software which is used to manage content of university. It helps in administration and tracking. In this regard, I explored two system of research paper related to my project, which are Content Management System(CMS) and Document management system (DMS).

Many people think that there is no difference between this two system, which may cause confusion when it comes to the number of solutions, especially when the boundaries between solutions are not well defined. Document Management Systems (DMS) and Content Management Systems (CMS) offer similar features, but they also have some key differences. Generally, a DMS works to help create, track, and store digitized documents. These systems retain, classify, and protect electronic data. In addition to this, a DMS supports collaboration, versioning, and workflows. However, a CMS creates and manages different kinds of digital content, besides more traditional documents. Rather than solely managing PDFs, Excel files, or Word files, a CMS can manage web pages, images, flash files, and records.

Document management systems and Content management systems both do the following:

## Function of CMS and DMS in Similar

1. **Both Are SaaS-Based Technology**
   1. SAAS-based technology, also known as software as a service technology, is a method of software delivery that is hosted on third-party servers and makes them available to users over the internet.
   2. Both DMS and CMS can be hosted on a third-party server whereby all the data are safely stored in the cloud. The data can be accessed from any device having a secure internet connection.
2. **Acts as a Centralized Data Storage**
   1. In terms of similarities, both offer a centralized database whereby all the information about your staff, business, and other confidential information are stored. These documents are easily accessible, and the plus point is that you can restrict the access of the database to individual roles and actions.
3. **Enables you to Easily Manage, Store, and Retrieve Information**
   1. Both DMS and CMS are capable of systematically collecting and storing data. You can index the documents so that you can effortlessly search the files you need. The information doesn't get lost in the piles of files stored in the system. One core benefit is that both the system allows you to search and retrieve the information needed without any hassle.
4. **High-Level Security**
   1. Another similarity between the two is that both offer high security to preserve and safeguard your confidential business data. It prevents the system from any unauthorized access. Moreover, in case you delete your files accidentally, you can also retrieve them back. The cloud-based technology creates an automatic back up of your data.

Despite the similarities, DMS and CMS tools differ in a number of ways. Each has some key features that the other doesn’t have, and they deal with different types of data.

* Function of CMS and DMS in difference

1. A DMS manages structured data and is focused on documents in the traditional sense in such formats as Word, PDF, PowerPoint, Excel, etc. A CMS, on the other hand, can handle both structured data and unstructured data, such as web content (HTML and PDF files) and digital assets (images and audio and video files).
2. The key purposes of a DMS are regulatory compliance and workflow management, while the key purposes of a CMS are storage, retrieval and publishing of content.
3. DMS applications have advanced imaging and scanning capabilities, such as optical character recognition (OCR), handprint character recognition (HCR), optical mark recognition (OMR) and more. CMS tools usually don’t support those functions.
4. Integration with enterprise systems (such as enterprise resource planning and customer relationship management tools) is essential for a DMS but secondary for a CMS.

In this regard, our university colleges do not have a more complete Document Management System. So, I will use some of the functions of these two management systems to build a more complete University Content Management System. Many photos and documentation will be stored in this system, I will use scanning capabilities, such as optical character recognition (OCR) to help the lecturers and students to find some relevant information. This system will also store some course materials in PDFs, Excel files, or Word files. Hence, the University content management system is more difficult to handle than I thought.

**Research**

**Laravel**

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Laravel is a free and open source PHP Web framework created by Taylor Otwell , designed to implement the MVC architecture of Web software , and as an alternative to CodeIgniter . Since Laravel has been developed for a long time, it has many discussions and solutions, so it makes it easier for me to develop University Content management system. Moreover, my system is a web-based system that will require PHP for server-side scripting.

***MySQL***



MySQL is an open-source relational database management system (RDBMS). Its name is a combination of "My", the name of co-founder Michael Widenius's daughter, and "SQL", the abbreviation for Structured Query Language.

MySQL is free and open-source software under the terms of the GNU General Public License, and is also available under a variety of proprietary licenses. Since it is free and open source, I will use MySQL as my database because its development technology is relatively mature and more familiar to me.

Web Service

A **Web Service** is a client server application or application component for communication. It is also a method of communication between two devices over network. Moreover, web service is a collection of standards or protocols for exchanging information between two devices or application. For example, java application can interact with Java, .Net and PHP applications. So, web service is a language independent way of communication.

**Outline of scope of the system**

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| --- |
| **Project Title:** University Content Management System |
| **Project Justification:** Provide content management system |
| **Product Characteristics and Requirements:**   1. Information Modules 2. Moderator Modules 3. Course Portfolio Modules 4. Faculty Portfolio Modules 5. Report Modules |
| **Detail**   1. **Information Modules**  * Add, view, edit and delete the faculty details. * Add, view, edit and delete the department details. * Add, view, edit and delete the programme details and subject details. * Add, view, edit and delete the MPU subject details. * Add, view, edit and delete the student details. * Add, view, edit and delete the staff details.  1. **Moderator Modules**  * Review specified of courses.  1. **Course Portfolio Modules**  * Add, view, edit and delete the course details. * Add, view, edit and delete the teaching plan about the course. * Assign students in own course. * Store the course materials. * Search keyword for question using by OCR. * Download the course materials. * Student can submit the assignment in image that marked by lecturer. * Generate the QR code for student take attendance himself. * Scan the QR code for take attendance.  1. **Faculty Portfolio Modules**  * Store the faculty materials such as activities and other. * View the Lecturer CV and Syllabus about that faculty.  1. **Report Modules**  * Generate the report based on Faculty, Department, Course, Lecturer and Student. |

My project focuses on the basic University Content Management system, which consists of five modules, which are Information modules, Moderator Modules, Course Portfolio modules, Faculty Portfolio modules and Report modules. In Information modules allow admin to add new staff and student. Staff is dean, Head of department and Lecturer. Before create the staff need to select the position, faculty and department. That also need to upload the Lecturer CV for each staff. The Information modules allow admin to add new faculty and department, who also can add the new programme and assign the subjects in each programme. The MPU subject will assign to the programme based on the programme level.

In Moderator module is display the course that need to review by specify Lecturers. The moderator is assigned by dean in create new course function.

In Course Portfolio modules allow the dean to add the new course. Each Course the lecturer need to write down the teaching plan, let the student can follow it. The Lecturer can enter students into that course. In this way, students do not need to enroll the subject themselves. Lecturers can upload the course materials to system. Lecturers and students can search question by keyword from course materials of past year. Students can download the course materials on this modules. Lecturers can generate the QR code for student, let they can take attendance by themself or take attendance in manually.

The Faculty Modules allow Dean to store the new portfolio about own faculty to system. Dean can view the faculty portfolio such as Lecturer CV and Syllabus.

The Report Modules allow Dean to generate the report based on Faculty, Department, Course, Lecturer and Student. The HOD can generate the report without the Faculty. The lecturers can view all the Student Report in that faculty.

**Curriculum Vitae**

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| --- | --- | --- |
| **Name of Insituition** | **From-To** | **Highest Qualification Attained** |
| SJK(C)Kuo Kuang 2 | 2005-2010 | UPSR |
| SMK Taman Selesa Jaya | 2011-2015 | SPM |
| Southern University College | 2016-2018 | Diploma in information Technology |
| Southern University College | 2018-present | [Bachelor of Software Engineering (Hons)](https://www.southern.edu.my/FEIT/en/department/computer/bse.html) |

**Educational Qualifications:**

**Communication skill:**

•Spoken and write level (Best= 10 and Worst= 1)

|  |  |  |
| --- | --- | --- |
| **Language** | **Writing level** | **Speaking level** |
| English | 3 | 5 |
| Malay | 3 | 5 |
| Mandarin | 3 | 7 |

**Project Schedule**

