Table of Contents

[**I.** **Introduction** 2](#_Toc372640675)

[**II.** **Project Requirement** 2](#_Toc372640676)

[**1.** **Academic/Foundation Year Module** 2](#_Toc372640677)

[**a.** **User Management** 2](#_Toc372640678)

[**b.** **Student Management Module** 2](#_Toc372640679)

[**c.** **Lecturer Management Module** 3](#_Toc372640680)

[**d.** **Subject Management Module** 4](#_Toc372640681)

[**e.** **Attendance Management Module** 4](#_Toc372640682)

[**f.** **Classroom Management Module** 4](#_Toc372640683)

[**g.** **Schedule Management Module** 5](#_Toc372640684)

[**h.** **Score Management** 5](#_Toc372640685)

[**2.** **Finance Management Module** 6](#_Toc372640686)

[**3.** **Administration & HR Module** 6](#_Toc372640687)

[**4.** **Report Management Module** 6](#_Toc372640688)

[**III.** **Conclusion** 7](#_Toc372640689)

# **Introduction**

University of Management and Economics (UME) Kampong Cham is one of the eight branches of University of Management and Economics which the head quarter is located in Battambang Province. UME Kampong Cham Branch has been established since 2003 with thousands of students are under graduated.

Because of many students enroll and studying at UME Kampong Cham Branch, UME Kampong Cham Branch has to develop the University Database System to control, manage and track students, classes, schedule and finance in order to enable UME works more effectively.

# **Project Requirement**

This project goal is to develop a University Database System which separated into modules as below:

## **Academic/Foundation Year Module**

This module is used to serve the academic purposes and to improve academic workflow. It is divided into sub-modules below:

## **User Management**

* + - **SysAdmin**: is a unique and built-in super user which has full privilege to control, manage, maintain, configure and customize the system. It is usually assigned to IT Manager.
    - **Manager**: is a user which has special privilege to access all modules especially generate and customize any kinds of report in order to monitor the work flow, to maintain the quality, to make the strategic plan or to develop the marketing strategy. This user can be created more than one and assign to members of board of directors only.
    - **Administrator**: is user which has Administration privilege on any modules which assigned by SysAdmin or Manager. But they will have Default Read-Only Permission to any modules in the system. Administrator user can manage the permission of users who are under their supervision or modules.
    - **Staff**: is a user created to use the system with only modules assigned by his supervisor or Administrator of each module.
    - **Lecturer**: is a user for lecturer to work with “Lecturer Management Module” only. This kind of user cannot access to any other modules besides “Lecturer Management Module”.
    - **Student**: is a user for student login to check their score of result of any examination. This kind of users cannot edit their profile.

## **Student Management Module**

This module is designed to maintain student records and profiles. This should be included as below:

**Student Registration:**

* After created a class, user can register students into the any classes they enrolled.
* The information would be inserted like
  + date-of-entering
  + Payment: student need to pay for the first time when they come to register.
  + Scholarship/Discount Value: value in percentage (for finance department, it should display in percentage and currency).
  + Scholarship/Discount Type: From UME or partner sponsorship.
  + Scholarship/Discount Period: can be forever or in a period of time.
* Users can also move student from class to another class up on any issue but it doesn’t effect to the payment of student.
* Users can suspend student for any cases issue.

Note: after created a class, the system will auto create the score module for entering.

**Student Record Management:**

* + - To create, edit or delete student records or profiles included: Full Name, Sex, ID, Date and Place of Birth, Permanent Address, Phone Number, Photo, Previous Study Records, Work Experiences, Emergency Contact Address and etc.
    - Student Suspension.
    - Generate ID Cards and Batch Printing.
    - Enroll students to any events, short courses, seminar or workshops.
    - Be able to export to Microsoft Access Database File to enable importing to database of Ministry of Education, Youth and Sports (MOEYS).

**Note:** Users in this module has default read-only permission, Edit and Delete Permissions can be assigned by Administrator Account. But any activities related to edit, delete or suspend students must be recorded into log file and/or with attach of documents.

## **Lecturer Management Module**

This module is designed to maintain and manage lecturer profiles and their teaching records included: teaching rate, evaluation result, teaching subjects and classes. This should follow by the main points below:

* + - Lecturer Profiles: Full Name, Sex, ID, Date and place of Birth, Permanent Address, Photo, Email, Phone Number, Employment Record and Degree obtained…
    - Lecturer Teaching Subjects.
    - Lecturer Evaluation Result:
      * Input the collective result which evaluated by students.
      * Generate the result with Head of Academic Office’s Comments.
    - Teaching History.
    - Teaching Rate (from start to present).
    - Motivation Record.
    - Teaching Schedule/Classes Viewer.

## **Subject Management Module**

This module is designed to manage any subjects under each faculty.

* + - Admin can create any subjects under each faculty.
    - The information of subject would be inserted like
      * Name of Subject in English
      * Name of Subject in Khmer
      * Code of Subject
      * Subject-type: Associate, Bachelor, Master or PhD.
      * Year of Study: Year 1, Year 2, Year 3 or Year 4.
      * Duration: period of time to study this subject in hours.
      * …
    - Admin can modify, suspend or, or remove any subject from system up on any issue.

## **Attendance Management Module**

This module is designed to track and to control students and lecturers attendance as following:

For Students:

* + - Daily student attendance log.
    - Record the number of absence individually by each subject.
    - Analyze and make report by daily, weekly, monthly and subject.
    - Notify student who absence 2 times in 2 days.
    - Deny student to take final exam in case they absent more than 8 times.

For Lecturers:

* + - Track and record lecturer attendance log.
    - Permission Leave Request and Substitution.
    - Notify to deduct 10$ or 20$ when lecturer absent with no permission leave.
    - Daily entry into Teaching Record (with notification when teaching hours is 24 hours or exceed).
    - Lecturer Attendance is one of the results to the lecturer evaluation.

## **Classroom Management Module**

This module is created to manage class (Batch/Promotion, Skills and Faculty/Department) and room.

**Create, Edit and Delete Class:**

* Admin can create, edit and delete class before he/she can add student into the class.
* The information of class would be inserted like
  + class-name: can be duplicated and follow by Year of Study, Skill, Promotion and/or Room. Exp: *Year2-English-Pro10* or *Y2-Eng-P10*
  + skill: can be created as many as skills under each faculties.
  + batch/promotion: cannot duplicate
  + room: select from room management
  + schedule-study: (by shift or session)
  + class-type: Weekday or Weekend classes
  + …
* Classes can be transfer to any shift of study (Mor, Aft, Eve or Weekend).
* Some Classes can be short courses, training, seminar or workshop.

**Room Management:**

* + - Create, edit and delete room according to the real physical room of each building.
    - The information of room would be inserted like
      * name-en
      * name-kh
      * room-type : can be lab room or normal room
      * room-capacity : can be number of seat in this room
      * …

## **Schedule Management Module**

This module is created to manage schedule of study. UME currently offers 4 shifts of study such as: Morning, Afternoon, Evening and Weekend.

* + - Create any Time of Study as Session, Hour, Half Day and Full Day…
    - Create, edit and delete schedule of each classes by selecting Subjects, Lecturers, Room and Class from its modules.
    - Create, edit and delete Timetable of each class.
    - Schedule and Timetable are customizable.

## **Score Management**

* + - The score of each subject is divided into 4 sections:
      * Attendance 10%
      * Homework, Quiz & Assignment 15%
      * Midterm Exam 25%
      * Final Exam 50%
      * The score above are editable at any time by admin only.
    - Academic Users can input any score section.
    - Lecturers can also input any score section except Final Exam Score.
    - According to the total score, Score Management Module should be able to calculate GPA, Rank and Grade as well.

## **Finance Management Module**

This module is created to manage the main tasks of finance department as below:

* + - Tuition Fee Receiving (Student Payment)
    - Other Receivable Account (such as: from supplementary exam…)
    - Expense
    - Old Balance Clearance.
    - Cash Management
    - Alerting System (exp: alert when student payment is deadline or schedule to repay for the new academic year.)
    - The system will check and display the remaining payment for each student in each class.
    - Term of payment will be applied by
      * Semester-payment
      * Year-payment
      * final-payment (pay the day left that less than 1month)
      * adjustable payment
    - The system will print the invoice for each payment.

Note: payment can be paid by Riel (៛) or Dollar ($) base on exchange rate. But the default currency is Dollar ($).

## **Administration & HR Module**

**Administration Section:**

* Asset/Inventory Control System
* Event Management System

**HR Section:**

* Manage Staff Profiles includes: Name in Eng, Name in Khm, Sex, Date & Place of Birth, Contact Address, Previous Employment Records…)
* Generate unique ID and ID Card Printing
* Staff Evaluation and Motivation.
* Current Employment Record (Start Salary, End Salary, Start Position and End Position…)

## **Report Management Module**

This is also an important module to generate report from every modules in all kinds of report such as graph, pie chart… There are 3 main rules apply to this module.

* Manager Users can query and generate any kinds of report and from any modules/departments.
* Administrator Users can only query and generate custom report of their own module/department only.
* Users can only generate limited report from their module/department only.

This Report Management Module should contain the report as below:

* Academic/Foundation Year Module
  + Student Report
  + Lecturer Report
  + Class Report
  + Room Report
  + Schedule Report
  + Attendance Report
  + …
* Finance Module
  + Daily, Weekly, Monthly and Yearly Operation Reports.
  + Financial Report
  + Revenue Report
  + Expense Report
  + Stock Report
  + …
* Administration & HR Module
  + Asset/Inventory

# **Conclusion**

In conclusion, this database application with the requirements above aims to enable UME Kampong Cham to improve the process and workflow of the university more effectively in order to grow merit, reputation and quality to become the best and university in Kampong Cham Province and/or in Cambodia.