1 COURSEWORK TITLE

REAL CHAMPIONS SPORT ACADEMY SYSTEM (RCSAS)

1.0 THE COURSEWORK OVERVIEW

REAL CHAMPIONS SPORT ACADEMY is one of the fast-growing Sport Centre in Malaysia that employed tens of coach to conduct sport classes on Swimming, Badminton, Football, Archery, Gymnastics, Volleyball, Basketball, Cricket, Tennis and Table Tennis in their various Sport Centers. All the coaches are paid by hourly rate ranged from RM100.00 – RM500.00, depends on the sport they give training. Coaches can be rated by the students on their training performance with a scale rating from 1-5, where 1 is "very poor performance" and 5 is "excellent performance". The Sport Centre needs a system to store information about their coaches (identified by Coach ID, Name, Date Joined, Date Terminated, Hourly Rate, Phone, Address, Sport Centre Code, Sport Center Name, Sport Code, Sport Name, Rating [a single digit integer number ranging from 1 to 5]). To maintain quality and consistency, one coach is allowed to give training on the sport in their specialized sport only.

Sport Centers are located in various locations and each of the Sport Centre is managed by an admin staff. All the sports' record, coaches' record and students' record are managed and maintained by the Sport Centre Head Quarter Human Resources Department. The current filing system of records is categorizing the coaches by their respective location. i.e. all coaches' records are filed together in the Sport center location. In each location, the coach's records are filed alphabetically by the coach's name. The main problem with this filing system is when searching for a record, the record could not be easily found as it might have been misplaced in another Sport Center or the record is not placed in the correct alphabet sequence. This problem proves challenging for the Sport Center admin staff when wanting to retrieve a coaches' record, sports' record and students' record quickly.

On the other hand, students need to register online by exploring system and get information about Sport Center, Sports, Coach, Coach performance with stars, Sport fees, Schedule of Sport, etc.

The admin manager of the Sport Center has decided that it is time to computerize the records of Coaches serving, Sports and students in the Sport Center due to the problems with the manual filling system. Since you have some knowledge in developing a computerized system, the Sport Center HR Manager has approaches you to assist them in developing the system.

This project requires you to develop Java program for the Sport Academy System which have 2 users and should contains features stated below:

Functionalities of Admin

i. Login to Access System.
ii. Add Records of
    a. Coach
    b. Sport
    c. Sport Schedule
iii. Display All Records of
    a. Coach
    b. Sport
    c. Registered Students
iv. Search Specific Records of
    a. Coach by Coach ID
    b. Coach by overall performance (Rating)
    c. Sport by Sport ID
    d. Student by Student ID
v. Sort and display Record of
    a. Coaches in ascending order by names.
    b. Coaches Hourly Pay Rate in ascending order
    c. Coaches Overall Performance in ascending order
vi. Modify Record of
    a. Coach
    b. Sport
    c. Sport Schedule
vii. Exit

Functionalities of All Student (Registered / Not-Registered)

i. View details of

a. Sport
b. Sport Schedule

ii. If new student Register to Access other Details
iii. Exit

Functionalities of Registered Student

i. Login to Access System
ii. View Detail of
a. Coach
b. Self-Record
c. Registered Sport Schedule only
iii. Modify Self Record
iv. Provide feedback and Star to Coach.
v. Exit

2.0 OBJECTIVES OF THIS COURSEWORK

Develop the practical ability to describe, justify, and implement an object-oriented system.

3.0 LEARNING OUTCOMES

At the end of this coursework, you should be able to:

- Design and develop a software solution using object-oriented paradigm and translate it into software application that exploit the strength of object-oriented paradigm (C6, PLO2)
- Demonstrate object-oriented concepts and their functionalities in the existing system (A3, PLO4)

4.0 TYPE

Group Assignment (2 in a group); Each member is expected to complete 50% functional requirements.

5.0 GENERAL REQUIREMENTS

- The program submitted should compile and be executed without errors
- Validation should be done for each entry from the users in order to avoid logical errors.

- The implementation code **must highlight** the use of object-oriented programming concepts as required by the solution.
- Students should use **text files** for storing and retrieving data required for the system.
- **Not allowed** to use any database tools like access / oracle etc.

6.0 DELIVERABLES:

- The system with complete code submit in the MOODLE.
- Documents submit in softcopy form in the MOODLE.
- Submission deadline: Friday, 28 May 2021, 7 PM.
- Late Submission deadline: Friday, 28 May, 2021, 7 PM – 11:59 PM.

6.1 SYSTEM & DOCUMENATION IN CD FORMAT

- The completed application of the system as well as the softcopy of the report must be submit in MOODLE.
- The application must contain all the relevant source code.

6.2 DOCUMENTS: COURSEWORK REPORT

- As part of the assessment, you must submit the project report in printed and softcopy form, which should have the following format:

A) Cover Page:

All reports must be prepared with a *front cover*. A protective transparent plastic sheet can be placed in front of the report to protect the front cover. The front cover should be presented with the following details:

- Module
- Coursework Title
- Intake
- Group member (Student name and ID)
- Date Assigned (the date the report was handed out).
- Date Completed (the date the report is due to be handed in).

B) Contents:

- Description and justification of the design and the implementation codes which illustrate the object oriented programming concepts incorporated into the solution
- A 2000-word report based on the object-oriented topic researched

C) Conclusion

D) References

- The font size used in the report must be 12pt and the font is Times New Roman. Full source code is not allowed to be included in the report. The report must be typed and clearly printed.
- You may source algorithms and information from the Internet or books. Proper referencing of the resources should be evident in the document.
- All references must be made using the Harvard Naming Convention as shown below:

  The theory was first propounded in 1970 (Larsen, A.E. 1971), but since then has been refuted; M.K. Larsen (1983) is among those most energetic in their opposition……..

  ```
  /**
  * Following source code obtained from (Danang, S.N. 2002)
  */
  int noshape=2;
  noshape=GetShape();
  ```

- List of references at the end of your document or source code must be specified in the following format:

  Larsen, A.E. 1971, A Guide to the Aquatic Science Literature, McGraw-Hill, London.

  Larsen, M.K. 1983, British Medical Journal [Online], Available from http://libinfor.ume.maine.edu/acquatic.htm (Accessed 19 November 1995)
  *Danang, S.N., 2002, Finding Similar Images [Online], The Code Project, *Available from http://www.codeproject.com/bitmap/cbir.asp, [Accessed 14th *September 2006]*

- Further information on other types of citation is available in *Petrie, A., 2003, UWE Library Services Study Skills: How to reference [online], England, University of Western England, Available from http://www.uweac.uk/library/resources/general/info_study_skills/harvard2.htm, [Accessed 4th September 2003].*

7.0 ASSIGNMENT ASSESSMENT CRITERIA

The assignment assessment consists of four components: Requirement Analysis (20%), Implementation (40%), Report (30%), and Presentation (10%). Details of the allocation for each component are as follows:

CRITERIA	MARKS ALLOCATED
REQUIREMENT ANALYSIS: [CLO2-PLO2]	**20%**
(a) Use case diagram (b) Class diagram	10% 10%
IMPLEMENTATION: [CLO2-PLO2]	40%
Group member A: (a) User-level Access and Logging activity (b) Learning module/subject management Or, *Group member B:* (c) Marks entry for students (d) Coursework report generator	20% 20% 20% 20% 20%
REPORT: [CLO3-PLO4]	**30%**
(a) Report Format and References (b) Program Documentation	10% 20%
PRESENTATION: [CLO3-PLO4]	**10%**
Ability to answer questions addressed by the lecturer pertaining to the work done and presented	10%

8.0 DEVELOPMENT TOOLS

The program must be written in Java language and you can use any Java development IDE as a tool but the back-end data store must be **.txt** files.

9.0 ACADEMIC INTEGRITY

- You are expected to maintain the utmost level of academic integrity during the duration of the module.
- Plagiarism is a serious offence and will be dealt with according to APU regulations on plagiarism.