

 اونیورسیتی ملیسیا فہق السلطان عبد اللہ UNIVERSITI MALAYSIA PAHANG AL-SULTAN ABDULLAH	FACULTY OF COMPUTING		MARKS:
	COURSE: Web Engineering	CODE: BCS2243	
	TOPIC: Chapter 1-9	SEM: I 2024/2025	
	ASSESSMENT: Project	DURATION: 13 weeks	

General Instructions:

- Each group consists of **4 members** only.
- Please refer:
 - Table 1** for the project activities and datelines of submission.
 - Appendix 1** for the project description.
 - Appendix 2** for the rubric evaluation.
 - Appendix 3** for the cover page for each report submission.
- Any late submission or plagiarism will be penalized.**

Course Outcome:

The Course Outcome (CO) for this assessment as followed:

Course outcome	Outcome description
CO1	Design appropriate solution using fundamental web engineering concepts.
CO2	Construct a web-based application prototype using HTML, web server, database and scripting language based on web engineering methodology.
CO3	Demonstrate communication effectively in written and oral form through group discussion, meeting and presentation session.

The CO and marks distribution is summarised in Table 1:

Table 1. Assessment percentage according to CO

Assessment type		Course outcome percentage			
		CO1	CO2	CO3	Total (%)
Proposal		5	5	0	10
Progress	Progress 1	0	2	0	5
	Progress 2	0	3	0	
Project	Prototype	7	8	0	15
	Presentation	0	0	10	10
Grand total					40
(%)					40

Question:

You are required to develop a web application prototype. The requirement of the application is attached in the **Appendix 1**. Table 2 summarised the project activities and submission.

Table 2. Project activities and submission dateline

Week	Day/Time	Assessment percentage	Milestones
7	24 Nov 2024	10%	Project proposal submission
8	Lab session C2: 2 December 2024 C1: 3 December 2024 (Changes will be announced by the lecturer)	2%	Progress presentation 1: Development environment setup Database created Web page design Login module
10	Lab session C2: 16 December 2024 C1: 17 December 2024 (Changes will be announced by the lecturer)	3%	Progress presentation 2: User session Manage data (insert, update, delete, view)
13	Lecture and Lab session 6 – 10 January 2025 (Exact date will be announced by the lecturer)	25%	Complete prototype from deployment server Final report submission

Students are required to prepare a proposal consists of the following items. The detailed evaluation is attached in Appendix 2.

1. The idea / principle of the solution
2. Review of TWO EXISTING SYSTEMS that similar to your idea
3. Project Management Framework
4. Project Requirements
5. Proposed Design (diagram required: use case diagram, use case scenarios and access model)
6. Data Design (Entity Relationship Diagram (up to 3NF), data dictionary and sample data)
7. Proposed Design
8. Testing Plan
9. Deployment Plan

Appendix 1

Project name: UMPSA Koop Printing Management System (RapidPrint)

The Universiti Malaysia Pahang Al Sultan Abdullah (UMPSA) operates on two campuses in Gambang and Pekan, both of which offer a cooperative university mart (UMPSAKoop) with printing services. Numerous suggestions have been received to enhance these services, as summarised in **Figure 1**. Your development team has been assigned designing a web-based solution to manage the printing services at both campuses, named RapidPrint. You are required to hold progress meetings with stakeholders every two weeks until the application is delivered.

Anonymous 1: I really hope the UMPSAKoop will implement a web-based application to manage the printing service, as long queues can be quite frustrating. 😞😞😞

Anonymous 2: It would be convenient if I could simply send my documents to someone at the UMPSAKoop. I could then pick them up while walking to the faculty.

Figure 1

The basic requirements for the project are:

Module 1: Login, Manage Koperasi branch and printing package

1. *Login*

The login page with a web session is designed for different types of users: administrators, registered customers (postgraduate and undergraduate students), and UMPSAKoop staff. Users will see their registered names displayed on the page once they have successfully logged in.

2. *Manage Koperasi information*

The RapidPrint administrator manages all information related to UMPSAKoop branches including creating, updating, deleting, and viewing branch details.

3. *Manage printing package*

The administrator is responsible for managing all printing packages, including creating, updating, deleting, and viewing them. In some cases, certain printing packages may be temporarily suspended due to machine maintenance or inventory shortages. RapidPrint will display this information in the application and restrict orders for these packages.

4. *Administrator dashboard*

The student responsible for this module is also assigned to develop the RapidPrint **administrator** dashboard. Student should collaborate with the student in Module 3 to identify different yet relevant information that facilitates calculations and generates insightful reports in graphical formats, such as graphs and charts.

Module 2: Manage user and membership point

1. *User registration*

All users are required to have an account before logging into the application. User registration will be handled by the administrator. Once registered, students must upload a copy of their student card for status verification, which will then be approved by the RapidPrint administrator.

2. *User profile management*

The module allows the system administrator and account owners to manage user profiles, including creating new users, updating existing profiles, deleting users, and viewing profile information.

3. *RapidPrint membership card*

All customers are entitled to apply for a RapidPrint membership card. Once the membership application is complete, customers will receive a QR code for their card. The membership card will record the points collected for each printing order. Customers can add money to the card and update their personal information. The application also allows customers to cancel the card and discontinue their membership. Customers can check their accumulated points by scanning the QR code or entering their membership identification number.

4. *User dashboard*

The student responsible for this module is also assigned to develop the RapidPrint customers dashboard. Student should identify relevant information that facilitates calculations and generates insightful reports in graphical formats, such as graphs and charts.

Module 3: Manage order and payment

1. *Manage order*

All customers will be able to view, filter, and select available printing packages. Customers can add, cancel (within a specific duration), update, and view their orders. They must confirm the order details before proceeding to checkout. The checkout menu should provide users with the total amount due. Customers will earn points for each order placed, which can be redeemed for future purchases. Non-registered customers can also place orders but will not earn points for their transactions.

2. *Payment*

Online orders can be paid for using a membership card or cash. Upon successful payment, the application will generate a QR code for order reference. The order status will be updated to "Ordered" once the payment is complete.

3. *Administrator dashboard*

The student responsible for this module is also assigned with developing the RapidPrint **administrator** dashboard. You should collaborate with the student in Module 1 to identify different yet relevant information that facilitates calculations and generates insightful reports in graphical formats, such as graphs and charts.

Module 4: Manage printing

1. *Manage printing*

The RapidPrint staff is responsible for managing and updating order statuses in the application. They must check orders placed by the customer. A new invoice is generated for each accepted order and the total cost is calculated. The application allows staff to update, delete, and view printing invoices, as long as the order status is not changed to “Order Complete”.

2. *Manage printing completion*

Upon order completion, the RapidPrint staff will update the status to "Order Complete" in the application. This status can be viewed by administrators, staff and customers who placed the order. Once the order is collected by the customer, the staff will change the order status to “Collected”.

3. *Reward system for staff*

The UMPSAKoop rewards program offers bonuses for staff based on the monthly printing sales they manage as in Table A. Points and bonuses earned will be displayed in each staff's account. Additionally, a QR code will be generated for every staff; scanning this code will display a page containing their basic information, total printing sales for the current month and the bonus earned.

Table A. The bonus rewards according to accumulated monthly printing sales

Total printing sales	Bonus obtained
More than RM200	RM50
More than RM280	RM80
More than RM350	RM120
More than RM450	RM150

4. *RapidPrint staff dashboard*

The student assigned to this module is also responsible for developing the RapidPrint staff dashboard. The student should identify relevant information that allows for calculations and generates insightful reports in graphical formats, such as graphs and charts.

General guidelines for project development and presentation:

- Each group member is responsible for a specific module and required to:
 - propose a detailed process
 - develop the *CRUD* functionality (create, read, update and delete)
 - develop appropriate reporting for the module. The report must include a single table and a join table using Structured Query Language (SQL) and they must be distinct from each other. Repetition of calculations and report features will result in a deduction of marks.
- All modules must be integrated with one another and presented as a complete web application.
- The final presentation (complete prototype) is required to be hosted on Indah server or any free web hosting platform.

4. **Absence from the final presentation will result in a zero mark.**
5. You are recommended for a backup strategy by uploading your documents to online storage options (such as OneDrive, Google Drive, email or free web hosting).
6. A marks penalty will be applied for late submissions, while a score of zero will be given for failure to submit.

Appendix 2: Rubric Evaluation

2.1 Peer Review

Peer review will be evaluated using a google form make available to you in KALAM upon your submission date. The evaluation items for peer review are listed in Table 1. Each of the group member must fill in peer review form once it is available in KALAM.

Table 1. BCS2433 WEB ENGINEERING PROJECT: PEER EVALUATION FORM SEM I 2024/2025

Course Learning Outcomes:	
CLO3: Work effectively in group and promote leadership's	PLO4: Communication Skills

PEER EVALUATION RUBRICS						
ITEM		SCORE				
		0	1	2	3	4
A.	CONTRIBUTION	Very Low	Low	Moderate	High	Very High
	Contribute to the effort in writing as well as in team	Your partner had contributed 0%-19% of the report writing and and team effort (eg: absent in every meeting @ attend meeting but quiet) - sleeping partner	Your partner had contributed 20%- 49% of the report writing and and team effort (eg: partially attend and team has to do for him/her part)	Your partner had contributed 50%-69% of the report writing and and team effort (eg: attend meeting but team has to cover his/her part)	Your partner had contributed 70%-89% of the report writing and and team effort (eg: attend all meetings but his/her report was submitted late)	Your partner had contributed 90%-100% of the report writing and and team effort (eg: full attendance in every meeting and complete his/her part in report)
B.	PARTICIPATION	Very Passive	Passive	Normal	Active	Very Active

	Participate actively in leading / facilitating discussion / team meetings / developing ideas and planning project (every meeting must provide logbook and snap group photo - as an evidence)	Your partner did not participate at all (eg: empty record in logbook)	Your partner participated above 20% of all activities in group	Your partner participated in between passive and active. Sometimes passive and sometimes active. (50% attended)	Your partner participated actively in most activities	Your partner participated actively in all activities in your group
C.	COLLABORATION	Entry Level	Adoption Level	Adaptation Level	Infusion Level	Transformation
	Worked cooperatively with other group members regards races, genders and seniority	Your partner was unable to collaborate in your group although he/she exists.	Your partner had taken action to collaborate but not in depth	Your partner had certain blending with all team members between the given expectation	Your partner had ability to mixture and collaborate with all team members	Your partner had transformed not only him / herself but also other member in class
D.	ATTITUDE	Very Negative	Negative	Neutral	Positive	Very Positive
	Displayed positive approach and made constructive comments in working toward goal	Your partner showed extreme negative feedback (eg: not interested to complete his/her tasks and create hatred and sabotage your	Your partner showed negative feedback (eg: not interested to complete his/her tasks only)	Your partner had neutral feedback which did not showed any extreme positive or negative actions	Your partner has shown positive feedback in his/her actions in team	Your partner had shown extremely positive not even in his/her group but also in overall member in the class
PEER EVALUATION RUBRICS						
ITEM		SCORE				
		0	1	2	3	4
E	COMMUNICATION	Never	Rarely	Sometimes	Frequent	Always
	Expressed thoughts clearly and show efforts in communicating well within group	Your partner was blurred in all discussions	Your partner was unable to give clear explanations and sometime can talk but the fact is not true	Your partner was able to give some parts of clear explanations	Your partner was able to deliver his / Her understanding within knowledge in teaching learning	Your partner was consistently deliver his communication with fluent and good knowledge (eg: the way he / she talk is truth and polite)
F	RESPONSIVENESS	Unresponsive	Responsive to	Responsive to	Awake	Alert

	Reacted sensitively to verbal and nonverbal cues of other team members within group	Your partner was unable to respond for any request in his / her tasks	Your partner was unable to respond verbal	Your partner was unable to respond nonverbal	Your partner was able to respond to verbal and nonverbal with good respond	Your partner was able to respond to verbal and nonverbal with advanced respond
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USING THE ABOVE RUBRICS, EVALUATE YOUR TEAM MEMBER (By giving appropriate scores)								
GROUP NAME:		EVALUATION CRITERION (BASED ON ABOVE RUBRIC RANK 0 TO 5)						
YOUR NAME (STD ID):								
YOUR TEAM MEMBER:								
No	Name (Std ID)	A	B	C	D	E	F	TOTAL
1								
2								
3								
4								
5								

Appendix 3: Sample Front Page Cover



FACULTY OF COMPUTING

BCS2243 WEB ENGINEERING SEMESTER I 2024/2025

TITLE : *(Project Name)*
SECTION : **01 / 02 / 03 / 04 / 05** *(Remove unnecessary info)*
LECTURER : *(Your lecturer's name)*

Student Detail: *(Adjust all photos to fit in one page)*

Name	Student ID	Student Photo

-END-