	FACULTY OF COMPUTING		MARKS:
	COURSE: Web Engineering	**CODE:** BCS2243	70
	TOPIC: Chapter 1-9	**SEM:** I 2023/2024	
	ASSESSMENT: Project	**DURATION**: 13 weeks	

General Instructions:

1. This project carries out **35%** from your total assessment marks.
2. Each group consists a maximum of **4 members** only.
3. Please refer:
    (a) **Table 1** for the project activities and datelines of submission.
    (b) **Appendix 1** for the project description**.**
    (c) **Appendix 2** for the rubric evaluation.
    (d) **Appendix 3** for the cover page for each report submission.
4. **Any late submission or plagiarism will be penalized.**

Course Outcome:

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

Course outcome	Outcome description	Assessment percentage
CO1	Design appropriate solution using fundamental web engineering concepts.	10%
CO2	Construct a web-based application prototype using HTML, web server, database and scripting language based on web engineering methodology.	15%
CO3	Demonstrate communication effectively in written and oral form through group discussion, meeting and presentation session.	10%

Question:

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

Table 1. Project activities and submission

Week	Day/Time	Assessment percentage	Milestones
7	3 December 2023	8%	Project proposal submission
9	Lab session Section 1: 12 Dec 2023 Section 2: 11 Dec 2023	2%	Development environment setup Database created Web page design Login module
10	Lab session Section 1: 19 Dec 2023 Section 2: 18 Dec 2023	3%	User session Manage data (insert, update, delete, view)
12	Section 1: 2 Jan 2024 Section 2: 4 Jan 2024	2%	User dashboard and reports
14	Lab session Section 1: 16 Jan 2024 Section 2: 15 Jan 2024	20%	Complete prototype from deployment server Final report submission

Appendix 1

Project name: Fakulti Komputeran Food Kiosk Management System (Kiosk)

The Faculty of Computing, Universiti Malaysia Pahang Al-Sultan Abdullah provides ten stalls which located at the level one hallway of the building. The stalls provide various type of food and beverage for the students and staffs. Currently, all the procedure of the stall business is performed manually and the business management such as monitoring the profits, sales and demand on the day is according to the food vendor.

You are given a task to develop a web-based application which aim to manage the Fakulti Komputeran Food Kiosk Management System (Kiosk). The potential users for this application system are administrator; whom the coordinator of the PETAKOM FK, registered user (UMP staffs and students), general user and food vendor. All users will have their own username and password to access the application.

Every group member is responsible for a module. Students are required to propose the detailed process and suitable reporting for each module. The report **must** implement single table and join table using structured query language (SQL). The basic requirements for Kiosk are:

Module 1: Login and manage user

1. *Login*
   A login page with a web session is a must. Log in to the system are applicable for different type of users; administrator, registered user (staff and student) and food vendor.
2. *User registration*
   All users are required to create a user account able to log into the application. Only for the food vendor registration is required for administrator approval. Upon registration, the application will generate a QR code for each of food vendor and user.
3. *User profile management*
   The module allows the system administrator and account owner to manage user profile, such as create new user, update, delete and view profile.
4. *Administrator dashboard*
   The student who responsible for this module is also in charge for the development of the administrator dashboard. The student should identify any suitable information that implements calculations and insightful reports in graphical representation (graph, chart).

Module 2: Manage menu and food

1. *Daily food availability list*
   All users able to view the information on daily menu availability, kiosk operation status and remaining foods for each kiosk in the main page of the application.
2. *Manage menu*
   The food vendors manage all menu provided by their kiosk, such as create new menu, update, delete and view the menu. Upon creation, the application will generate a QR code for each of the menu. The QR code will be used to record the on-store sales (refer Module 4), while the menu information added by the food vendor will be viewed by all users. The administrator also has the authority to manage the menu for particular kiosk.
3. *Manage daily menu*
   The food vendors will manage the daily information of menu availability and remaining foods for their kiosk. This information will be viewed by all users as the requirement in 1.
4. *Manage collected order*
   The food vendor will receive the order details and prepare the order (refer Module 3). Once prepared, the food vendor will update the status as *'Prepared'* in the application and the user who make the order will able to view the status. The order is collected at the kiosk by reading the QR code, accept for cash payment (if required) and the food vendor should update the order status as *'Completed'* once the order collected.
5. *Food vendor dashboard*
   The student who responsible for this module is also in charge for the development of the food vendor dashboard. The student should identify any suitable information that implements calculations and insightful reports in graphical representation (graph, chart).

Module 3: Manage online order and payment

1. *Make order*
   All registered users will able to view, filter and choose available menu. Users will make the order and allow to add, cancel, update, and view the order list. User must confirm the order list before proceed to the *Checkout*. The order status will be changed as *'Ordered'* once the checkout is completed. The checkout menu should provide user with the total amount to pay. Users will receive points for each order made. Users allowed to redeem the point for purchase made. Non registered users are also able to make order but will not able to receive order points. All ordered foods are collected at the kiosk by using an order receipt as reference.
2. *Payment*
   The online order is allowed for online payment, kiosk membership card payment or cash. Upon completion of payment, the application will generate a QR code for the order.
3. *User dashboard*

The student who responsible for this module is also in charge for the development of the user dashboard. The student should identify any suitable information that implements calculations and insightful reports in graphical representation (graph, chart).

Module 4: Manage in-store selling

1. *In-store selling*

   User is also allowed for buying at the kiosk. The food vendor will need to record the selling by scanning the QR code generated for each menu (refer Module 2) and select the payment type. The food vendor will able to add, cancel, update, view the selling list and the total amount to pay. Users will receive points for each purchase. Users allowed to redeem the point for purchase made. The application will generate a receipt for each purchase.
2. *Kiosk membership card*

   All users are entitled to apply for kiosk membership card. Upon membership application completed, users are given a QR code for the membership card. Users able to check the accumulated points by scanning the QR code or insert the membership identification number.
3. *Administrator dashboard*

   The student who responsible for this module is also in charge for the development of the administrator dashboard. The student should discuss with the student in Module 1 to identify any suitable information that implements calculations and insightful reports in graphical representation (graph, chart).

Before Submission

1. Each student is responsible to at least one module and for each module students need to apply *CRUD* functionality (create, read, update, delete).
2. For every module, calculation and report feature should be distinct. Repetition of calculation and report feature will result in mark deduction.
3. QR code generated in each module must be based on the report prepared specifically for each module.
4. All modules must be integrated with one another and represented as a complete web-pages.
5. The complete prototype presentation is required using Indah server or any free web hosting server. Absence for the final presentation will be given zero mark.
6. You are advised to perform a backup strategy such as uploading your document to online storage (skydrive, Google Drive, email, free web hosting etc). Any late submission or failure to submit will cause you a penalty or zero mark.

Appendix 2: Rubric Evaluation

Table 2. Proposal Rubric Evaluation

Item	Criteria	CO	Weight	Given Mark	Total
IDEA					
1	Problem statement	CO1	2		
	The concept/idea/principle of the solution	CO1	3		
	Review of two existing systems that have similarity with your idea.	CO1	2		
	Significant impact or benefits	CO1	1		
SYSTEM DESIGN					
2	Process design (use case diagram, use case scenarios, access model)	CO1	15		
	Non-functional requirements	CO1	5		
	Logical data design (data dictionary, ERD, sample data)	CO1	15		
	Visual design (presentation model, interface prototype etc)	CO1	15		
PROJECT MANAGEMENT					
3	Development plan (schedule/Gantt chart etc).	CO1	2		
	Testing and deployment plan	CO1	2		
TEAM MANAGEMENT					
4	Minutes/report of meeting or discussion.	CO3	5		
	Peer assessment: Team communication	CO3	5		
	Self-assessment: Team communication	CO3	5		
ACADEMIC INTEGRITY					
5	Turnitin report with similarity result not more than 12%.	CO3	3		

Table 3. Prototype & Presentation Rubric Evaluation

Item	Criteria	CO	Weight	Given Mark	Total
GROUP EVALUATION					
Deployment	Implemented (client-server)	CO2	2		
Session	Fully implemented	CO2	3		
	> 50% implemented	CO2	2		
	< 50% implemented	CO2	0.6		
	No implementation	CO2	0		
System Integration	Fully implemented	CO2	2		
	> 50% implemented	CO2	1		
	< 50% implemented	CO2	0.4		
	No implementation	CO2	0		
INDIVIDUAL EVALUATION					
Progress	Progress evaluation 1 (2%)	CO2	4		
	Progress evaluation 2 (3%)	CO2	6		
	Progress evaluation 3 (2%)	CO2	4		
Data manipulation	Insert data	CO2	1		
	Delete data	CO2	1		
	Update data	CO2	1		
	View data	CO2	1		
	Upload function	CO2	1		
	Search function	CO2	1		
	Correct implementation of data integrity (PK/FK)	CO2	2		
	Correct implementation of table attributes & datatype	CO2	2		
	Correct dataflow	CO2	1		
Generate Report	Implementation of suitable user dashboard	CO2	3		
	Simple queries (1 table)	CO2	1		

	Complex queries (> than 1 table)	CO2	2		
	Other functions (calculation e.g.sum, count)	CO2	2		
	Implementation of graph/diagram	CO2	2		
QR Code	Functioning QR code generator and scanner	CO2	2		
Web Content and Design	Use of appropriate HTML elements	CO2	2		
	Provide informational pages	CO2	1		
	Appropriate user interface design	CO2	2		
	Form validation/filtering	CO2	2		
	Implementation on Javascript methods	CO2	3		
Logic Business System Flow	Considered logic	CO2	5		
	> 50% logic implementation	CO2	3		
	Not considered as logic	CO2	0		
Completeness	Complete according to requirements	CO2	5		
Documentation	Provide description on implementation and testing	CO3	2		
	Updated report according to development	CO3	2		
Presentation	Oral (presentation)	CO3	4		

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 2023/2024

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

PEER EVALUATION RUBRICS						
		SCORE				
ITEM		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 Positve**

	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 i**n 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**

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 2023/2024

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-