Faculty of Computing and Information Technology
Diploma in Science (Computer Science and Management Mathematics) Year 2

Academic Year 2019/2020

AACS3244 Windows Application Programming
System Proposal

(To be filled by students)

Project Title	:	Canteen Management System
Tutorial Group	:	2DCN1
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(To be filled by supervisor)

Date/Time Received	:	[　] On time / [　] Late
Remarks *(If any)*	:	
Signature	:	

A. Mark Sheet

(To be filled by supervisor)

Criteria	Excellent	Good	Average	Poor	Score
System Description and Targeted Users **5%**	Great variety of points written. Provide good overview of the company with reasonable length. Content is easy to understand, with the aid of relevant explanations and diagrams. **5%-4%**	Written with adequate variety of points. Provide easy to understand overview of company with reasonable length. **3%**	Fairly adequate variety of points written, or show some evidence of work without understanding but with reasonable length. **2%**	Grossly inadequate number points written, and hence hardly show understanding. **0 - 1%**	
Functional Modules **10%**	Very good module with very easy-to-read descriptions with reasonable length. Content shows good understanding, with the aid of relevant explanations and diagrams. **10%-9%**	Good module and easy-to-read descriptions with reasonable length. Content is presented with relevant explanations and diagrams, shows some understanding. **8%-6%**	Content is not organized well. The length is not appropriate. No diagram or appropriate description is provided to aid explanation, hence making the content difficult to understand. **5%-3%**	The content is basically copied from other sources without demonstration of understanding. No clear framework or grouping of content, hence make it very difficult to read. **0% - 2%**	
				Total :	
					15%

B. Table of Content

Company Background

Our company is Tunku Abdul Rahman University College. The company was established in the date February 12, 1969. The company is a tertiary education institution and it provides education to students who have recently graduated from secondary school. The company's canteen is in need of a new system and the company has hired a group of individuals to design and implement a new canteen management system so the company can better service students who dine at the canteen.

Functional Requirements

(A) System Description and Targeted Users

The Canteen Management System is the replacement of printing Canteen Coupons (paperless) and manually maintaining a record of its usage is a tedious and time-consuming task. It can help to keep track of daily activities carried out in a canteen and finally can calculate the monthly sales. The objective of this system is automatic record down all purchase transaction of canteen. The system can also let vendor to define their food menu and it is categorized in the categories of food, beverages, desserts and snacks. The system also provides cashless payment to reduce transaction time. Our targeted users are the vendors of the canteens and the customers of the canteens like students. Example like the vendors can enter their own food menu to the system for the purchasing of the customers. The administrator of the system will also involve managing the system to ensure that the system can work as usual.

(B) Functional Modules

1. <u>Security</u>

    ● **Register and Login**

    For both the admin and vendor side to access the functions of the program, they have to log in by using username and password. If the admin's username and password was entered to the system, the system will be proceeding to the management side of the program. Else if the vendors' username and password was entered to the system, the system will be proceeding to the user side. The admins and vendors have to log in to use the several management functions, to ensure the security of the system. On the other side, the student can simply use the purchasing function without logging in.

    ● **Security pattern**

    Instead of using the security question like other websites, we prefer to use the security pattern. The security pattern is formed by a combination of 5 X 5 of checkbox, and it is set up during the register time by the admins and vendors. The user may choose any 5 of the checkboxes to form a pattern that was easy to remember for the user. The security pattern was used to log in when the user had forgotten his / her password. The security pattern can help to access and the user may reset his / her password in the system.

    ● **Recover through email**

    If the user had forgotten his / her password and also security pattern, then the account can be recovered through the user email. A recovery code or so call back-up code of 6 numbers will be sent to the user's email for recovering purposes. Then the users have to enter the code that have been sent to his / her email to reset his / her password and also security pattern after logged in successfully.

2. <u>**User Maintenance**</u>

    ● **User Roles**

    There are several pages for different sides of user that contain different types of functions for them to use. For administrator main page will consist to add, edit or update the vendor details and generate reports. For vendor main page, vendors can add or edit their food. Other than that, vendors can also view about the student feedback on their food to enhance their services to the food quality. For students' main page, students can order their food through the system and make a payment in the system.

    ● **Vendor Registration**

    The vendor needs to register to the administrator to have a chance for selling their food in school's canteen. Once they had registered for their vendors account, they can access the vendor side to use the functions for managing their food or beverage details.

    ● **Edit / Update vendor profile**

    The vendor can edit their information or update the new information. For example, changing food details or adding some new food.

    ● **Delete vendor**

    The administrator will have a right to delete the vendor whose have a bad attitude and delayed rental fees. For example, vendor that do not pay rental fees on time or fail to maintain the cleanliness.

3. Core Business Processes

- **Search Catalog**

  The system allows the user to search the food they want based on the category. All the food and beverages that sold in the canteen will be listed in the menu for user to browse. Price and the availability status of the food and beverages will also be included to make it convenient for user to choose.

- **Food Ordering**

  User need to select the food or beverages with quantity stated and add into order list to make an order. After confirming the items added, the user can then proceed to the payment page to complete the order.

- **Process Payment**

  When it comes to checkout page, the system will show a QR code and prompt the user to scan in order to pay for their food. Successful payment message will be generated to the user when the transaction is confirmed.

- **Generate receipt**

  User need to scan a QR code to get their E-receipt. Order number will also be printed on the receipt for reference.

- **Receive Feedback**

  The system provides a function which allows users to give their feedback on food, beverages or report any issues about canteen. By clicking the feedback button, a QR code will be shown for users to scan. It will then link the user's device to a feedback form for them to fill in.

4. <u>**Data Maintenance**</u>

- **Add new food or beverage details**

    Vendors can add the details of the new food or beverage into the system. For example, the name of the food and drink, price, availability and etc.

- **Edit / Update food and beverage details**

    Vendors can edit and update the details of the food and beverage by logging to the vendor's account. For example, vendor can change the price of the food and beverage anytime. Besides, if the particular food or beverage are out of stock, vendor can also update the availability status to out of stock.

- **Delete food and beverage details**

    The vendor can delete the details of the food or beverage that want to remove from the menu.

- **Manage food and beverage orders**

    The foods or beverages that ordered by the customers will be added into an order list. The backend staff can prepare the food or beverage based on the order list. If the food is prepared, the details of the particular food will be clear. This will help the backend staff can manage the orders more efficiently and reduce the mistake of preparing the excess food or drink.

- **Food Ordered transaction records**

    All the vendors able to view the ordered transaction records for reporting purposes.

5.   **Report Generation**

- **Detail Report (Yong Yit Ming)**

  The detail report will show that the ***total feedback form from the customer in a particular month***. This report will show all the feedback form in one month and it will show the result about half of the year. The purpose of this report is to let administrator to know how were the feeling from the customers and what were the comments and suggestions to improve the canteens. Furthermore, the administrator should tell the vendor to increase the food quality if the customers feedback form related to the food quality.

- **Summary Report (Ong Yong Jiet)**

  The summary report shows that the ***food selling trends of a particular vendor in a particular time***. This report will show all items sold by that particular vendor in a time period of three months, and it is categorized monthly and it is showing in a form of bar chart. The purpose of this report is to help the vendor to analyse the best selling product and maybe they can prepare more for that particular item to increase their sales. They can also see the grows and drops of the sales on every item in that period of time and investigates for the reasons.

- **Summary Report (Wong Ke Ying)**

  The summary report shows the ***sales summary of all the vendors in a particular period of time***. The report will show all the vendors' monthly sales summary and the total sales of the canteen based on the month selected. The purpose of this report is to help the admin to track the sales performance of the canteen and determine which vendor cannot attract students' attention.

- **Exception Report (Eng Wei Hang)**

  The exception report will show the ***top 10 food that have the most ordered quantity in a period of time***. The purpose of this report is to help the vendor to have better decision making. The vendor can based on this report to add in more ingredients of that particular food to prevent the food out of stock. Besides, the vendor can also set the top 10 food be the recommended food in the menu.

(C) Tasks Distributions

No	Module	Person in Charge
1.	Security	Ong Yong Jiet
2.	User Maintenance	Yong Yit Ming
3.	Core Business Processes	Wong Ke Ying
4.	Data Maintenance	Eng Wei Hang
5.	Report Generation	Ong Yong Jiet, Yong Yit Ming, Wong Ke Ying, Eng Wei Hang