SMART CANTEEN MANAGEMENT SYSTEM

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Abstract- "**Smart Canteen System**" enables the end users to register online, read and select the food that the user wants to have using web application. It reduces the rush in the canteen and avoids wastage of food. The user will have a username and a password, by using which they can login into the system. The manual system involves paperwork in the form of maintaining various files and manuals. So this software helps them to save time rather than waiting for a long time to receive their food.

Keywords: Smart canteen, cashless, Barcode reader.

I.INTRODUCTION

A smart canteen management system is being developed to reduce time and increase efficiency in monitoring the stock. This reduces the work of human since everything is automized. It is important to provide a method to efficiently monitor the process.A web application is proposed for ordering the food using "PHP", with the help of barcode scanner the student identification is done. A **barcode reader** (or **barcode scanner**) is an optical scanner that can read printed barcodes, decode the data contained in the barcode and send the data to a computer. It consists of a light source, a lens and a light sensor translating for optical impulses into electrical signals. Additionally, nearly all barcode readers contain *decoder* circuitry that can analyze the barcode's image data provided by the sensor and sending the barcode's content to the scanner's output port. With the help of the thermal printer the bill generated is printed in the thermal paper. **Thermal printing** (or **direct thermal printing**) is a digital printing process which produces a printed image by selectively heating coated thermochromic paper, or thermal paper as it is commonly known, when the paper passes over the thermal print head. The coating turns black in the areas where it is heated, producing an image. Two-color direct thermal printers can print both black and an additional color (often red) by applying heat at two different temperatures. QR code is generated after the order is placed through the mobile application which should be shown to the person in-charge at the food counter.

II. LITREATURE SURVEY

A. Sustainable consumption and production(SCP) in the food supply chain:

The paper presented the change and the increase in the importance of SCP with a focus on the food industry. One important part of SCP is to decrease the food wastage.

B. Cost-optimization modelling for fresh food quality and transportation:

Taking into account the degradation in quality of food products through temperature and transport time, the model seeks to optimize total cost by maintaining the quality of food products above an acceptable level during the transportation. The transportation cost, cooling cost and devalued cost of food products due to reduced quality.

C. Food safety and sustainability in Wal-Mart's honduran produce supply chains:

Public-private partnerships between supermarket retailers and development agencies help small-scale producers reach growing domestic markets in developing countries. The responsibility and costs for incentivizing growers to change their practices is shifted to nongovernmental organizations.

III. PROPOSED SYSTEM

A smart canteen management system is being developed to reduce time and increase efficiency in monitoring the stock. This reduces the work of human since everything is automized. It is important to provide a method to efficiently monitor the process.

IV. BLOCK DIAGRAM

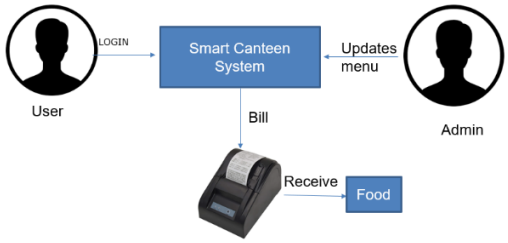

Fig 1: System diagram

The main purpose of the Smart canteen System is to make students to have their lunch even when cash is not available. Then to monitor the stocks daily and to avoid the wastage of foods.

Fig 2: Thermal printer

Thermal printing (or direct thermal printing) is a digital printing process which produces a printed image by selectively heating coated thermochromic paper, or thermal paper as it is commonly known, when the paper passes over the thermal print head. A thermal printer comprises these key components: Thermal head: generates heat; prints on paper. Platen: a rubber roller that feeds paper. Spring: applies pressure to the thermal head, causing it to contact the thermosensitive paper. In order to print, thermo-sensitive paper is inserted between the thermal head and the platen.

The printer sends an electric current to the heating elements of the thermal head, which generate heat. The heat activates the thermo-sensitive coloring layer of the thermosensitive paper, which changes color where heated. Such a printing mechanism is known as a *thermal system* or *direct system*. The heating elements are usually arranged as a line of small closely spaced dots.

Fig 3: Barcode Scanner

A **barcode reader** (or **barcode scanner**) is an optical scanner that can read printed barcodes, decode the data contained in the barcode and send the data to a computer. Like a flatbed scanner, it consists of a light source, a lens and a light sensor translating for optical impulses into electrical signals. Additionally, nearly all barcode readers contain *decoder* circuitry that can analyze the barcode's image data provided by the sensor and sending the barcode's content to the scanner's output port. Laser scanners work the same way as pen-type readers except that they use a laser beam as the light source and typically employ either a reciprocating mirror or a rotating prism to scan the laser beam back and forth across the barcode. As with the pen-type reader, a photo-diode is used to measure the intensity of the light reflected back from the barcode. In both pen readers and laser scanners, the light emitted by the reader is rapidly varied in brightness with a data pattern and the photo-diode receive circuitry is designed to detect only signals with the same modulated pattern.

VI. CONCLUSION

By this Smart Canteen System the canteen management gets relief from two things, one the crowd at the bill and food counter will be controlled and reduced, the second is they get the detailed sales report of a particular day. This helps in the control of the food wastage. The student can purchase anything during that time.

VII. RESULT

Fig 4: Home Page

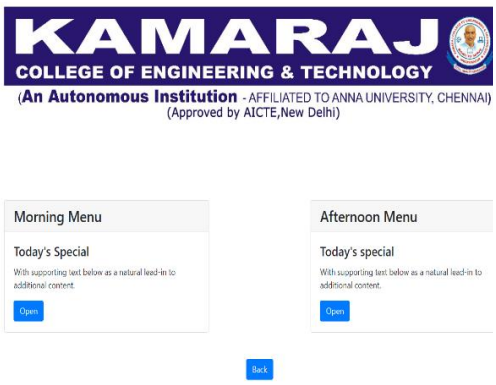

Fig 5: Menu page

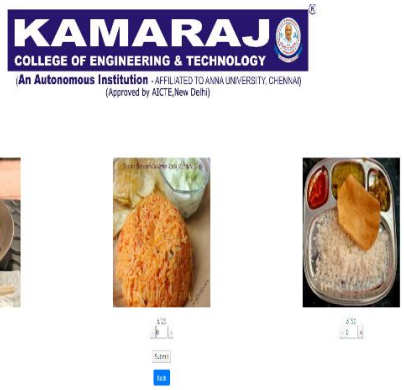

Fig 6: Item page

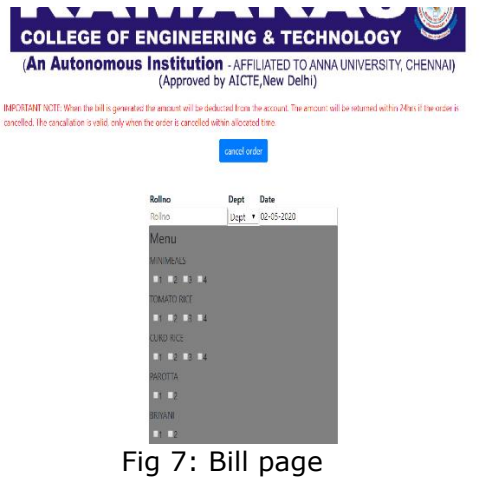

Fig 7: Bill page

KCET Canteen	
Roll No: **16UCSE041**	Date: 02-05-2020
Dept: **cse**	Bill.No: **92**
Items	**Total**
Minimeals = Rs50 Tomatorice(2)= Rs50	100
Total :	100/-

Print now Log Out

Fig 8: Generated Bill

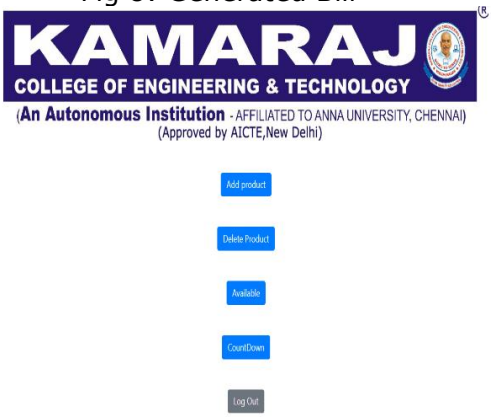

Fig 9: admin page

Browse Structure SQL Search Insert Export

billr	rollno	Dept	Date	Tot	Menu	
61	16ucse041	cse	29-04-2020	30	Parotta	
62	16ucse041	cse	29-04-2020	30	Parotta	
63	16ucse041	cse	29-04-2020	30	Parotta	
64				0		
65	16ucse041	cse	30-04-2020	60	Noodles	
66	16ucse041	cse	30-04-2020	60	Noodles	
67	16ucse041	cse	30-04-2020	60	Noodles	
68	16ucse041	cse	30-04-2020	60	Noodles	
69	16ucse041	cse	30-04-2020	60	Noodles	
70	16ucse041	cse	30-04-2020	60	Noodles	
71	16ucse041	cse	30-04-2020	60	Noodles	
72	16ucse041	cse	30-04-2020	60	Noodles	
73	16ucse041	cse	30-04-2020	60	Noodles	
74	16ucse041	cse	30-04-2020	60	Noodles	
75	16ucse041	cse	30-04-2020	60	Noodles	
76	16ucse041	cse	30-04-2020	60	Noodles	
77	16ucse041	cse	30-04-2020	30	Parotta	
78	16ucse041	cse	30-04-2020	30	Parotta	
79	16ucse041	cse	30-04-2020	50	Minimeals	
80	16ucse041	cse	30-04-2020	50	Minimeals	
81	16ucse041	cse	30-04-2020	50	Minimeals	
82	16ucse041	cse	30-04-2020	50	Minimeals	
84	16ucse016	cse	01-05-2020	100	Minimeals	Tomatorice(2)
85	16ucse026	cse	01-05-2020	100	Minimeals	Tomatorice(2)
86	16ucse041	Dept	01-05-2020	50	Minimeals	
87	16ucse041	Dept	01-05-2020	25	Tomatorice	
88	16ucse041	cse	02-05-2020	25	Tomatorice	

Fig 10: Bill stored in DB

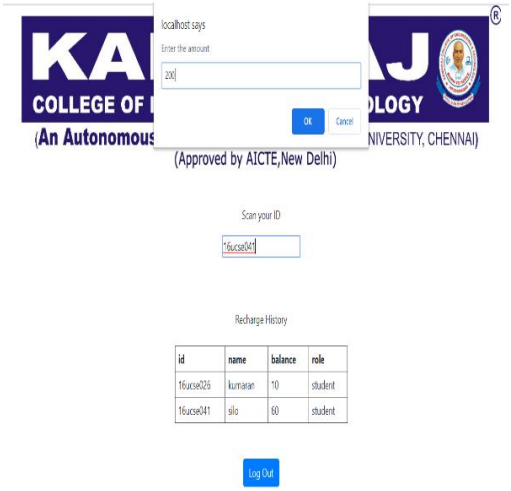

Fig 11: Recharge page

VIII. REFERENCES

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