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JSS Mahavidyapeetha

JSS Science And Technology University

(Established Under JSS Science and Technology University Act No. 43 of 2013)

(Formerly Known as SJCE)

JSS SCIENCE AND TECHNOLOGY UNIVERSITY MYSURU

Subject name: Data Structures And Algorithms

Event –4

Report on: Food order Management system

Submitted by

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JSS SCIENCE AND TECHNOLOGY UNIVERSITY

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Subject name: Data Structures And Algorithms

Event – 4

Name	**AKASH M K**
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Evaluation Component	Max. Marks	Marks Scored
Presentation skills	**8**	
Documentation	**8**	
Interaction/Viva	**4**	
Total	**20**	

Name of the faculty	**D R PAVITHRA**
Signature of the faculty	
Signature of the student	

Comments:

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Subject name: Data Structures And Algorithms

Event – 4

Name	**AYUSHI G JAIN**
Roll Number	**11**
Section	**B**
USN	**01JST18EC014**
Submission Date	

Evaluation Component	Max. Marks	Marks Scored
Presentation skills	**8**	
Documentation	**8**	
Interaction/Viva	**4**	
Total	**20**	

Name of the faculty	**D R PAVITHRA**
Signature of the faculty	
Signature of the student	

Comments:

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Subject name: Data Structures And Algorithms

Event – 4

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Section	**B**
USN	**01JST18EC037**
Submission Date	

Evaluation Component	Max. Marks	Marks Scored
Presentation skills	**8**	
Documentation	**8**	
Interaction/Viva	**4**	
Total	**20**	

Name of the faculty	**D R PAVITHRA**
Signature of the faculty	
Signature of the student	

Comments:

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JSS SCIENCE AND TECHNOLOGY UNIVERSITY MYSURU

Subject name: Data Structures And Algorithms

Event – 4

Name	**SUMUKH K A MOUDGALYA**
Roll Number	**48**
Section	**B**
USN	**01JST18EC097**
Submission Date	

Evaluation Component	Max. Marks	Marks Scored
Presentation skills	**8**	
Documentation	**8**	
Interaction/Viva	**4**	
Total	**20**	

Name of the faculty	**D R PAVITHRA**
Signature of the faculty	
Signature of the student	

Comments:

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FOOD ORDER MANAGEMENT SYSTEM

ABSTRACT:

Food Order management system is a data structure based systematic software to manage and order the food and payment through software. this food management and order system can be used in offline stores where the order can be received through the software and food items can be continuously added and deleted based on the availability in the store. Here even the payment can also be done through this software. This system also can be used for online food order or other items order system by linking it through the network, this project can be mainly used in the restaurants where manpower is less and also can cut down the cost of extra manpower. It can also be used in the hotels where robots are used to deliver the food.

PROBLEM STATEMENT:

- Almost all small and medium scale hotels use humans to take the order and deliver it to the customers this increases the need for more manpower during peak business time and very less manpower during low business time. Having more workers is more expensive to the small and medium scale business because irrespective of the business salary should be given to all workers and having less manpower does have their disadvantages like increased waiting time for customers and poor service experience. So, to overcome this problem this software-based Food order management can be used so that customers order the food from the menu available at this software and humans and even in future robots can deliver that order where humans are only used to deliver the order, hence decreasing extra expense as well as giving good service experience.

- The normal Card menu used in hotels cannot be updated when the product is unavailable and even the price cannot be changed regularly this software-based menu and price can be updated any time based on the availability.

INTRODUCTION:

The food business in restaurants is being carried out in the same fashion for so many decades. In the restaurants, when the customers visit, they will read the large menu cards which just has the name of the item and price. They have to decide in moments and place the order just to wait in the queue for getting the ordered items on their table. Sometimes, the waiting time is so huge that the customers will actually lose interest in the item. Moreover, some customers will be in their office or busy to come physically to the restaurant and eat. There is a lot of scope for food ordering and management business and we can tap it to the max extent possible as everyone has access to this via this simple software. Food businesses usually will have high demand and hence software-based food ordering should be profitable. We will provide an easily accessible interface wherein the customer can view and place the order easily. and it also helps the hotels to stay ahead of the competition.

The main theme of this application is to display the food items available and enabling the customers to order through the software and continue till the billing process. The Application consists of two interfaces, one is the customer interface and the admin panel as the other. The customer can register initially with minimum details and will be allowed to check the menu items before ordering them, adding them to the cart, and submit the order. The system records the details so that it will be easy to retrieve later. The users of the system also include employee/admin who will handle info related to product addition and updating the price and also at the end admin can retrieve the amount of order and total business occurred. To ease the process of ordering the items, giving a description of each item, and getting the item on the table the food ordering system is designed. Some of the common problems are listed below.

The general problems faced while ordering food physically in a restaurant are listed below.

- Viewing the complete description of the menu item before ordering.
- Placing the order standing in a queue.
- Waiting for the waiter turn to come to the table to take the order

Features provided for the customers:

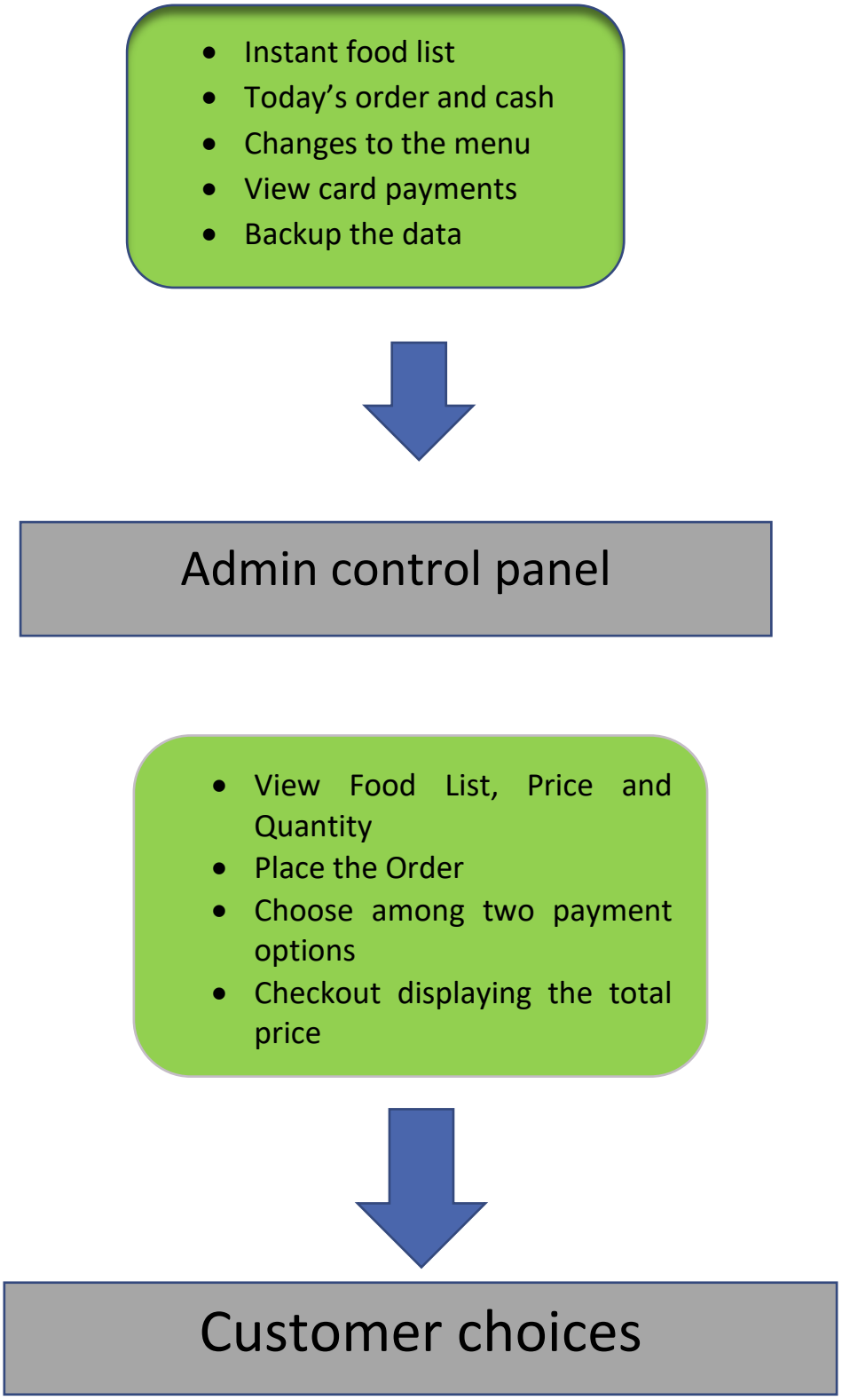
- Displays the food item list along with their price, quantity, and the stock available.
- The customer needs to enter the food serial number and the quantity desired thus displaying their total cart price.
- If they wish to order more, they could go back and choose again. Two-way payment options are made available i.e., Cash and Credit. This will take their card number and pin which will not be saved by us.

Features provided for the admin panel:

- Check the total cash made today and view the details for the card payments.
- Add a food item or delete it from the menu.
- To ensure that the item is added accordingly, we have an option for the instant food list. Item counter displays the number of food items available.
- Backing up the data and Instant Order Preview displays the food item along with the quantity remaining
- A text document is created including the date and Total business of the day

DATA LAYOUT:

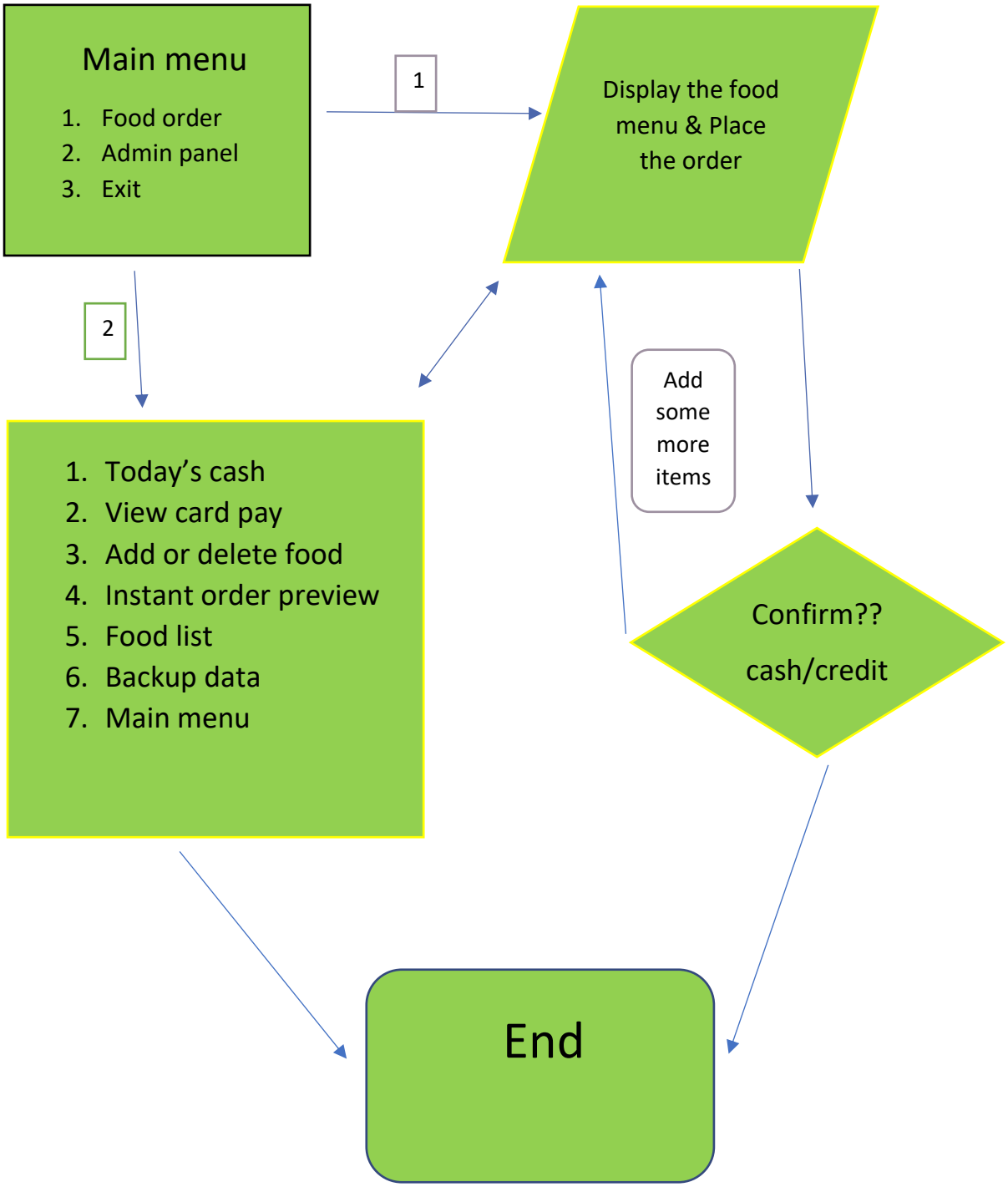
The basic structure of the layout of our program is explained in the below flow chart. It mainly contains Admin control panel and customer choices.



Flowchart representing the structure of the program

DESIGN OF THE APPLICATION:

The complete structure of the working of the program can be seen in the below flowchart. Depending on the options selected the output is shown.



Flow chart representing the flow of the program

THEORY:

To program this software, we make use of a famous linked list. Where in each node's information such as food name, quantity available, price, and many more details of the food is added, and we also make use of stacks and queue to update the cart price once the item is purchased and for further billing process. For visual effects, we make use of visual studio and dos functions.

Linked lists:

A linked list is a linear collection of data elements whose order is not given by their physical placement in memory. Instead, each element points to the next. It is a data structure consisting of a collection of nodes that together represent a sequence. In its most basic form, each node contains data and a reference (in other words, a link) to the next node in the sequence. This structure allows for efficient insertion or removal of elements from any position in the sequence during iteration. More complex variants add additional links, allowing more

Structure:

The structure is a collection of variables of different data types under a single name. It is similar to a class in that, both hold a collection of data of different data types.

Every food in the menu has some details and information such as price, quantity, etc so to add these attributes to the food we are creating the node structure having details like food name, quantity, price, as shown in fig 1.

```
struct Node{
    char foodname[50];
    int quantity;
    float price;
    int data;
    struct Node *next;

};
```

Fig 1:Data present in the node

After adding all these details in the node structure of each node looks like this:

Fig2. Structure of node

Some functions used to operate the linked lists:

- **Insertfirst():** it is used to add the food items at the beginning of the program to initially create a linked list.
- **Insertmid():** at the run time if the admin chooses to update the food and enter the food in the middle of the list, he can do it from this function Insertmid().
- **Insertend():** this function is used to add the food items one by one to the menu at the beginning of the program.
- **Updatefood():** this function used to add the food items at run time by the admin including quantity price etc.
- **Deletefood():** if the food is out of stock then the admin can choose to delete the food from the menu using this deletefood() function.

Libraries that are used in the function:

- **Stdio:** stdio.h is a member of c library which contains all standard input and output function, here it is used to access the printf() and scanf() function from c library.
- **Stdlib:** stdlib is standard header files which contains all the input and output functions like getchar(),fopen(),fclose(),putw(),fgetc(),putc().
- **String:** The string.h header defines one variable type, one macro, and various functions for manipulating arrays and also to operate within strings, example strcmp(),strncmp().
- **Windows:** Windows.h is a windows specific header file for C and C++ programming languages which contains declarations for all of the functions in the Windows API, all the common macros used by Windows programmers, and all the data types used by the various functions and subsystems. It defines a very large number of Windows-specific functions that can be used in C.
- **time:** The time.h header defines four variable types, two macro and various functions for manipulating date and time. Functions like time() ,date().

ALGORITHM:

- Prototyping all the function that is used in the program.
- Creating the structure node that contains information about food.
- Adding the food item and details using insertfirst() function.
- Adding other food items and details using insert end and insertmid() function based on priority.
- Creating the admin menu and protecting it with a password.
- Adding the features like updating food deleting the food and counting the number of items in the list by calling predefined functions.
- Adding the payment related function and allowing to make multiple order and updating the cart.
- Using card functions to take the name and card number and pin of the card.
- Finally using display related functions for a better experience .

RESULT:

- The main menu of the program is seen in fig 3 ,which shows the customer choices

Fig3. Main menu

- List of foods and quantities available and price in the food list section where customers can order. Fig 4 shows the food list that the people can order from

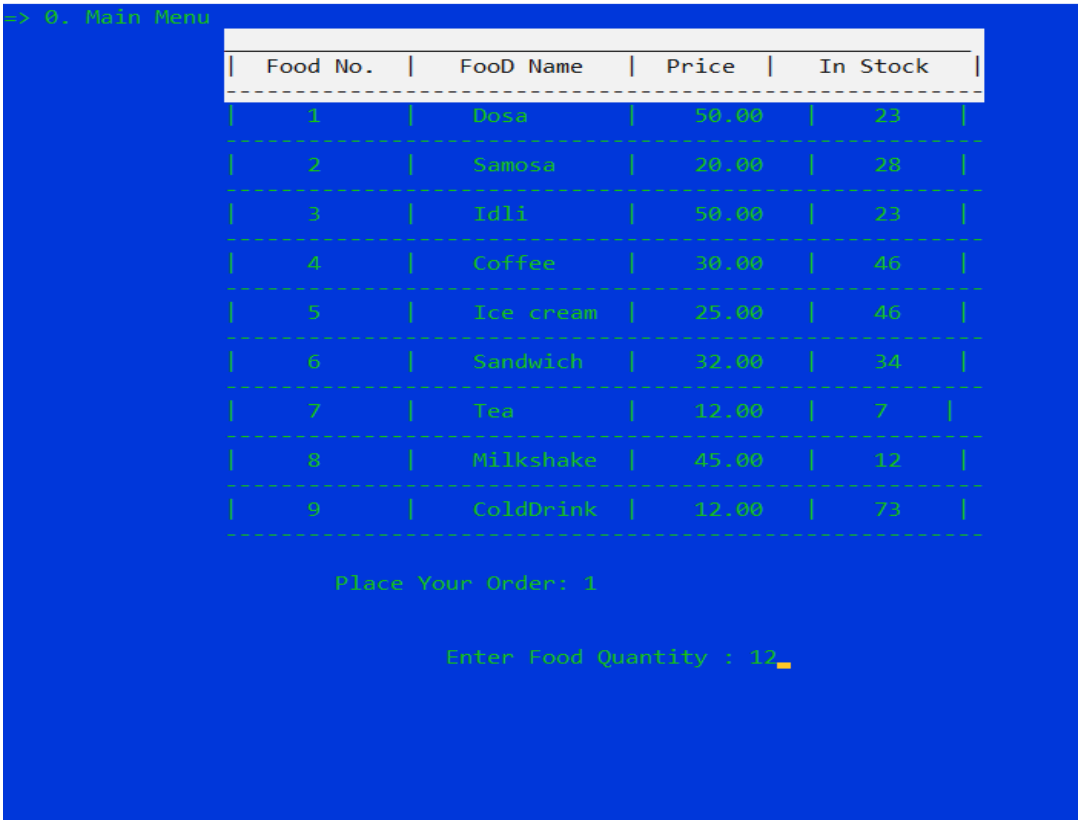


Fig4. Food list

- Payment gateway where cash and credit option is available is shown in fig 5.

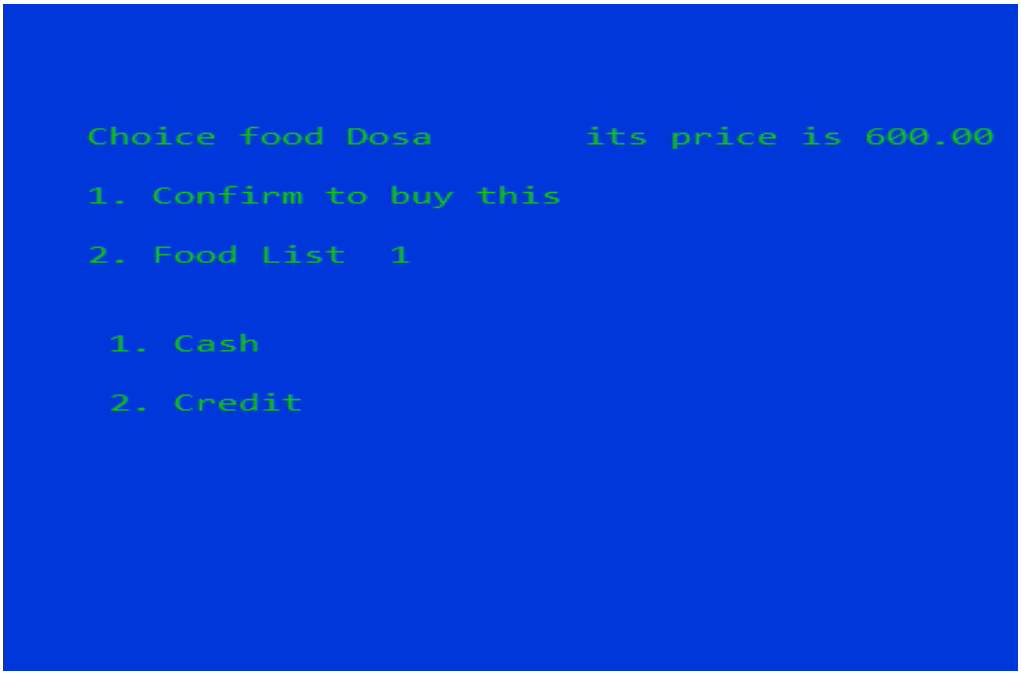


Fig 5:payment gateway

- Credit card payment method is seen in fig 6

Fig 6:Card payment method

- Password entry menu to enter Admin panel is show in fig 7.This is in order to prevent others from accessing it

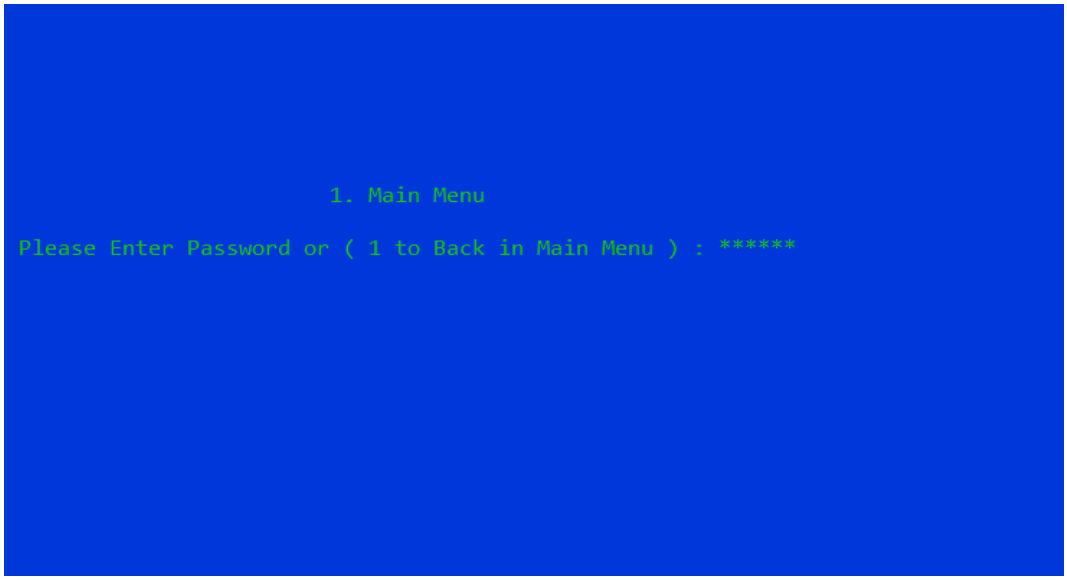


Fig 7:Admin panel password page

- Options in Admin panel. There are a number of options for admin in fig 8

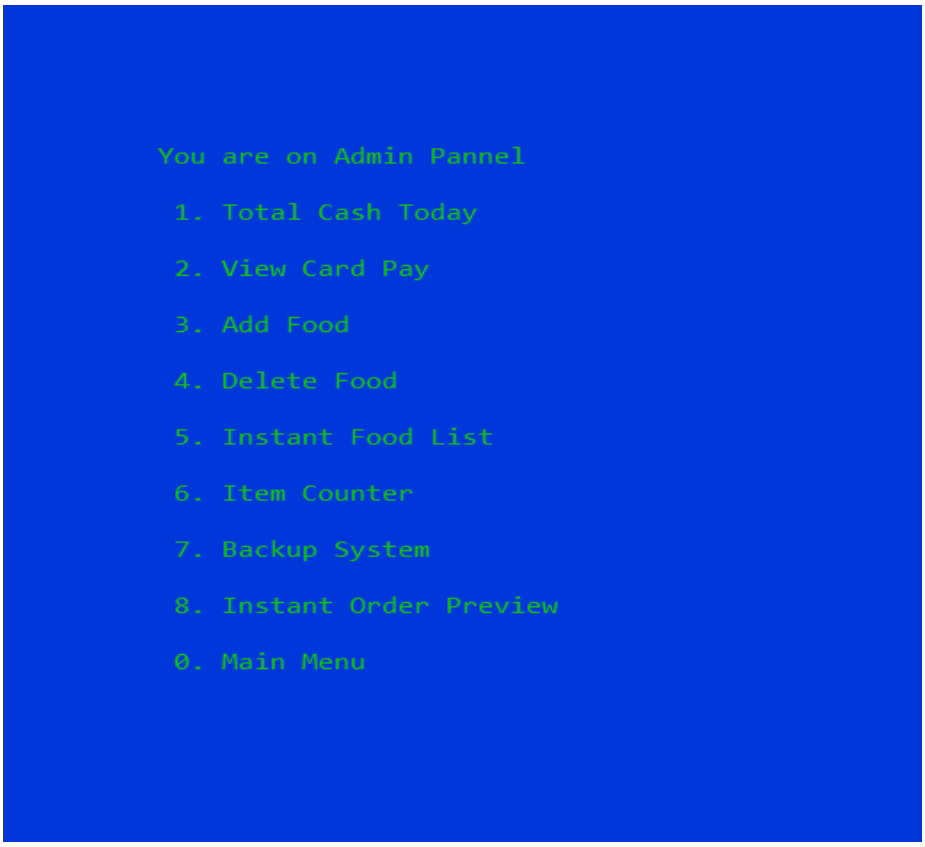


Fig 8:Admin panel menu

- Total account business display menu. As seen in fig 9 total cash earned is displayed

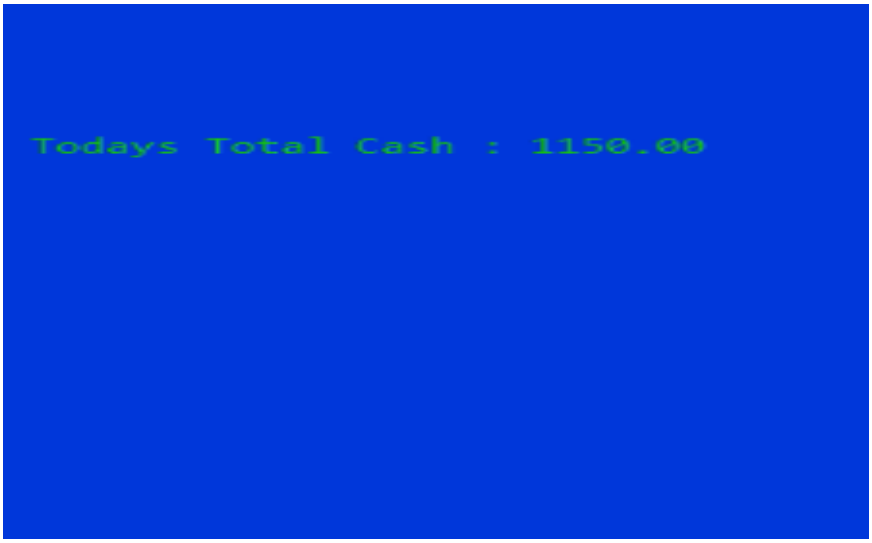


Fig 9:Total cash

- Debit and credit card history for admin convenience as shown in fig 10.This helps admin to understand the payment made through credit card and cash.

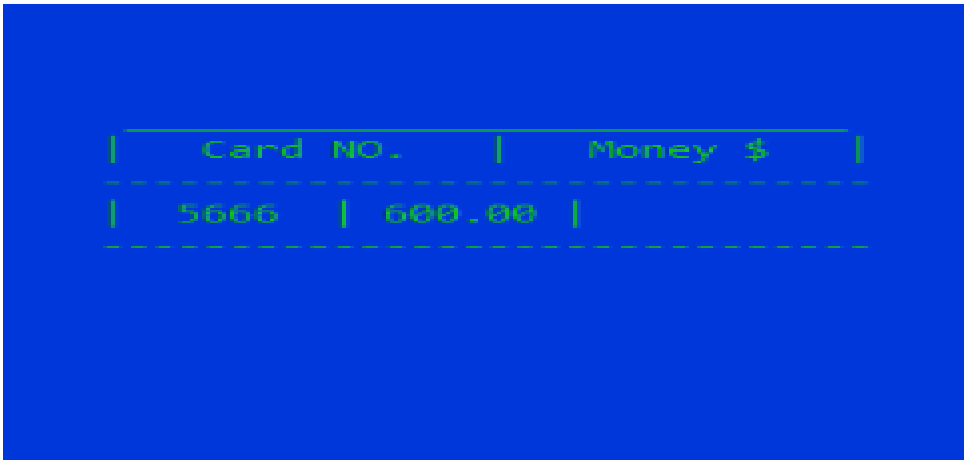
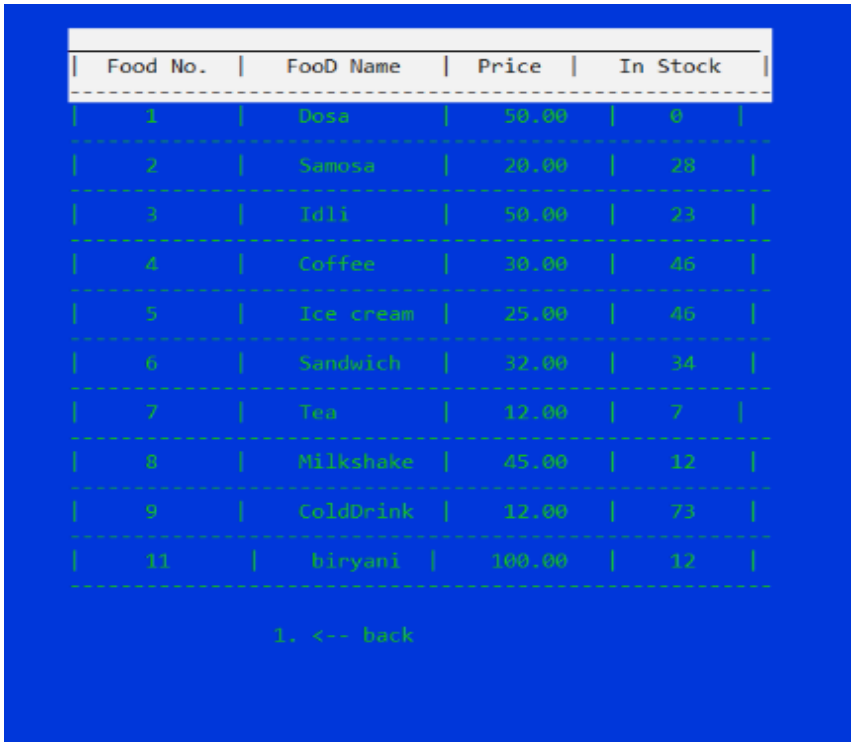


Fig 10:Credit card history

- Adding food item at real time can be seen in fig 11 ,after which the food list gets updated

Fig 11:adding food at real-time

- Food list after addition of food item at the run item is show in fig 12 where the food is updated



Food No.	FooD Name	Price	In Stock
1	Dosa	50.00	0
2	Samosa	20.00	28
3	Idli	50.00	23
4	Coffee	30.00	46
5	Ice cream	25.00	46
6	Sandwich	32.00	34
7	Tea	12.00	7
8	Milkshake	45.00	12
9	ColdDrink	12.00	73
11	biryani	100.00	12

1. <-- back

Fig 12:food list after update

- Total orders and quantity of food items left displaying the window for admin are shown in fig 13

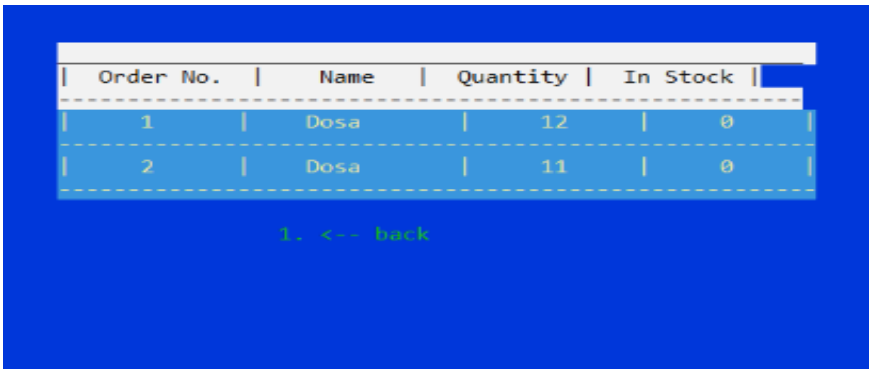


Fig 13: Ordered items

CONCLUSION:

- This software-based design with cloud service and internet service can be used as an online delivery system since Customers are turning more towards online food services options for the convenience its offers. Even on festival days, these online food delivering services are available giving maximum flexibility for customers.
- This software provides the owner of the hotel clear picture of how the business is going and take methods to prevent loss.
- This software can improve the customer-owner service experience.

ADVANTAGES:

- Makes the ordering process easier.
- Efficient customer and order management.
- Monitor your expenses incurred in real-time.
- The convenience of mobile ordering.
- Stay ahead of the competition.
- Free and cheap marketing.
- Can cut-off unused manpower.

DISADVANTAGES:

- If the system is used as an in-hotel food order management system then the initial investment is high since every table requires a device to run this software.
- Since the system is basic model signup and login methods cannot be used .
- It requires an admin to control all functions hence it requires a person with bit technical knowledge.

APPLICATION:

- This system with cloud and internet service can be used as an online food ordering system.
- Can be used in even smaller hotels due to simplicity in design .
- This software can also be used to keep the accounts clean since each transaction of the day is recorded .
- This software can also be used by any person, no need of expertise in handling hence it can be used in small scale hotels.
- This system also can be used to deliver the order to the home of the customer .

REFERENCES:

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2. https://www.geeksforgeeks.org/applications-of-linked-list-data-structure/
3. https://1000projects.org/food-ordering-management-system-php-mysql-project.html
4. https://www.cpp.edu/~ftang/courses/CS240/lectures/slist.htm
5. https://www.sanfoundry.com/c-program-create-linked-list-display-elements/

APPENDIX:

The github link for the project is given below:

https://github.com/sumukh-moudgalya/Food-order-management-system-using-datastrcuture-c-