Mess Management System Implementation

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Abstract:- **The main aim of any canteen/mess is to provide clean and fresh food to the students/employees of the organization. In many organizations, entire mess management and billing calculations are done manually till date. It is very time consuming and increases the chances of performing calculation mistakes. It would be possible to do the same work within a short period of time and without using much efforts and manpower if there existed a software for the same. Thus, there arises a need to create a software for the same. Such a software would make the entire Mess related management an automated system. The software is not only restricted to food items and their billing manipulations, but handling the information of the cadets seeking training in the PTC is also possible in the software. Thus, such a combination in a single software is of great benefits.**

I. INTRODUCTION

For simplicity and better understanding of the PTC mess manager, this software is designed in Marathi language. It would avoid confusion and help operate the software easily. Also, such a software that is easy to use will reduce the work of mess managers who still maintain all the logs in registers and files. It would be of great benefit as all calculations would be done easily on the click of a button.

II. LITERATURE SURVEY

The overall goal of this project was to firstly study and understand the existing mess/canteen management softwares, then identify the limitations and contribute in the same topic with greater benefits. The main advantage of our proposed system over other existing systems is the GUI in Marathi language. This has enabled complete understanding and convenience for the user. Also, complex calculations are done within seconds and bills are generated on the single click of a button. As the name suggests, it is a software for maintaining any mess/canteen but it also enables handling of the information related to the students/employees who are a part of the organization. Another attractive feature in our software which is lacking in the existing softwares is the Backup and Recovery option. All data can be stored as a copy, that is, taking backup is also possible on a single click, plus recovery of lost data in case any failure occurs is also possible on a single click.

Thus, this system with great added features will serve beneficial to the people.

III. PROPOSED SYSTEM

We propose a system that will make the entire mess management an automated system.
The important features of the proposed system are as follows:
The software will be made in Marathi language as demanded by the PTC officials.
For security reasons, a Login feature will be provided so that only the mess manger can operate the software. Facility to change the password will also be available.
The system will also contain facility for manipulating the information of cadets seeking training in PTC as well as generate their bills based on number of meals they have consumed.
The Stores are divided on the basis of items purchased in-
1. Piece-Wise purchased items
2. Quintal/Kilograms
3. Litre/mL
4. Vegetables
5. Staff Bills
6. Miscellaneous expenses

Each store will contain options for adding or deleting an item, viewing the current day's bills, entire month's bills, backup & restore option. The recovery/bills for the entire month will be calculated.
The system will also alert the mess officer about the remaining stock of every item of each store. The items which have reached the limit will be displayed in red while those in abundance will be displayed in green. Option for changing the limit will also be provided.
The Software will also contain the diet charts so that the manager can refer these and plan the cadet's meals accordingly.

The software will also have access to the official site of kalamna market, Nagpur. In this site, the user can view daily rates of any food item & plan his purchases accordingly. Actual market rates may not be the same as shown in the website but may be a rough approximation for the same. A help module will be provided in every section of the software so that the mess officer can refer it for

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better understanding. Also, snapshots in every section of the help module will be provided.

IV. WORKING

The main functionality of each module is as follows:

LOG-IN & CHANGE PASSWORD:

This module is the authorization for entering into the system. Facility to change password is also possible. Once the user successfully logs in, he has following options to proceed:

A. ADD CADET INFORMATION:
    In this option, the user can enter cadet's information such as chest-id,name,city,year of joining etc.

B. DELETE CADET INFORMATION:

In this option, the user can delete cadet's information. Either single cadet information can be deleted or the entire batch can be deleted.

C. VIEW CADET INFORMATION:

In this option, the user can view entire cadet information.

D. COMPUTE CADET BILL:

In this option, the user can calculate bill for every meal of each cadet.

E. VIEW MONTHLY CADET BILLS:

In this option, the user can view entire cadet's billing information.

F. STORES:

There are five stores in the mess management system software namely Store A, Store B, Store C, Store D, and Store E. Each store maintains different kinds of items. Store A maintains all the items which are purchased piece-wise (example-eggs are purchased based on number of pieces instead of kg). Store B maintains all vegetables purchased in the mess. Store C maintains all items purchased in the mess on the basis of quintal/kg. Store D maintains all items that are purchased in litres or mL. Store E maintains all other miscellaneous expenses in the mess.

Each store has similar options as follows:

Add Item: Using this option, an item can be added to the store.

Delete Item: Using this option, an item can be deleted from the store.

View Today's cost: Using this option, the user can view current day's bills, that is, quantity bought, quantity used, total cost of purchasing, total cost of used items, etc.

View particular date's bill: Using this option the user can view all billing related information of an item for a particular desired date.

View monthly bill: This option serves same as the previous one except that this option displays billing information for the entire month instead of displaying for a particular date.

View stock status: Using this option, the user can check if there is shortage of any item & that item needs to be purchased or not. The user sets a particular limit for each item. On reaching this limit the item's row is displayed in red color else it is displayed in green color. The user also has a facility to change the limit of every item.

View stock: using this option, the user can view current records related to every item, that is, quantity of each item present in the store.

Backup: Using this option, user can take a backup of all information stored in store. On clicking on take backup, an excel file is downloaded. The user can choose where to save this file.

Restore: using this option, user can store all information back to store. This option is useful in case the user has deleted the store's information or the information has been lost because of some failure.

G. VIEW DIET CHART:

This option contains a few sample diet charts which mess officers can refer & plan their meals accordingly. This option was included keeping in mind health of all students/employees of any organization.

H. VIEW MARKET RATES:

This option contains a link to the official site of kalamna market, Nagpur. In this site, the user can view daily rates of any food item & plan his purchases accordingly. Actual market rates may not be the same as shown in the website but may be a rough approximation for the same. This is an essential feature as higher authorities can maintain a check on daily fluctuating rates & keep a check on the bills given by the mess officer. If a lot of variations are seen in website's rates & actual purchasing rates, then action can be taken accordingly.

The working of the system is as follows:

The user needs to log in to the system by entering the correct and valid username- password combination. If the user wants to change password, this is also possible. The user needs to enter a valid old password for the same without which changing the password wouldn't be possible. After successfully logging in, the user has options to manipulate cadet information or store information, view

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diet chart or view market rates. If user chooses to manipulate cadet information option, he can add or delete information, generate monthly bills of cadets, view cadet & billing information. If user chooses view diet chart option, a list of diets charts will be displayed for user's reference. If the user chooses view market rate option, he will be redirected to the official site of kalamna market, Nagpur where approximate rates of food commodities can be viewed. If user chooses the Stores option, he can add or delete an item in the store, view current stock, generate daily and monthly bills. A button to help module is provided in each page of the software. The flow of working is described in the following flowchart:
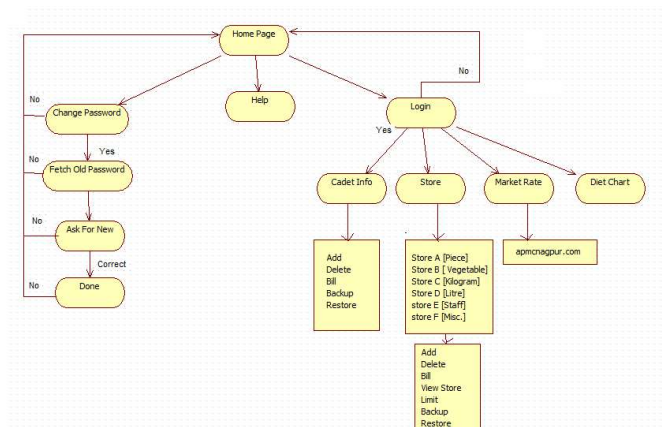

Fig.1: Flowchart depicting the working of the mess management system

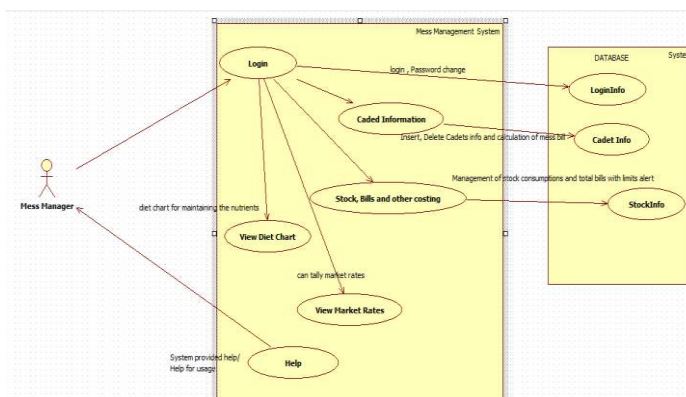The working of the system is also depicted in the following use-case diagram:

Fig.2: Use case diagram for mess management system

V. RESULT

The snapshots of the system are as follows:

1. Log-in page:

2. Homepage:
3. Store-A:
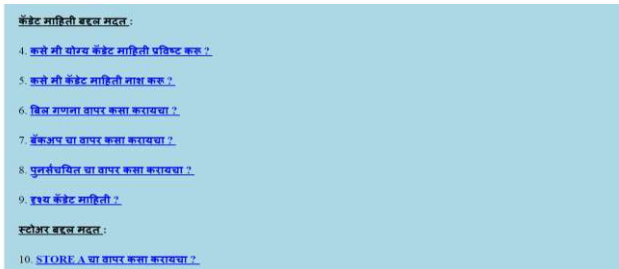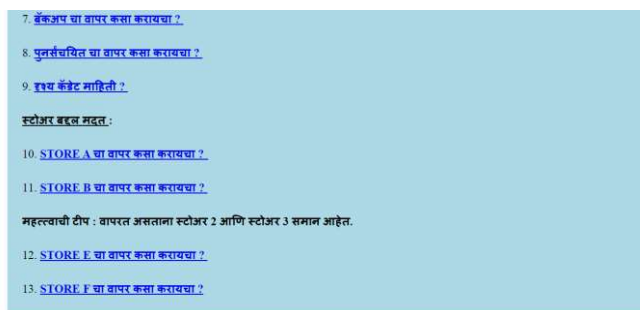

a. add item:

b. delete item:

4. Monthly bill for store B:

5. Stock-checking:

6. Help:

VI. CONCLUSION

This software will be useful to any school/college hostel or in general to any institute maintaining a mess or canteen. Security is maintained as the complete control of the system is only under the hands of an authorized person. It will enable mess managers to refer diet charts and plan healthy, nutritious diet accordingly for the cadets. Also, this system will enable Stock purchasing based on daily fluctuating rates. Since easy calculations and bill generations are done in minutes, therefore, it will lessen the work/load of mess managers. Using this software, alerts regarding the stock of commodities will be easily generated. It will never let scarcity prevail in the mess. Backup of data can be easily taken using this software on the click of a single button. Restoring the data back to the system is also possible in case of any failure.

Also, this software will reduce manpower, thus reducing the capital being invested. This project can be merged with any major projects in future where meals and their monthly calculations need to be done.

VII. REFERENCES

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