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COLLEGE CAFETERIA USING DATAMINING

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Abstract

The main aim of the project is to provide fast services to their college students, Staffs etc. Usually, People must go to canteen and order the food and wait in queues for a long time to get the orders. But with the help of this app, you must follow a very simple process. This app will provide a menu containing different categories. Users must register with valid details to login with the canteen. Users also get recommendation for food items. The system manages all the details of food items which contains name, description, image, price etc. Admin can view the confirm order and update the delivery status of the order accordingly. Customers must mention the department name and the room number in the building in the location so that the food will be delivered to the rooms of their respective departments. Here we will use one of the data mining algorithms "K-means clustering algorithm" to make the menu items in different clusters.
To build our application, we will use Android Studio as a development environment with java programming language and MySQL database Server to store database.

Keywords: K-means, Canteen, Java, Android Studio, Mobile application, MySQL

I. INTRODUCTION

The basic core of the education process is the student where the educational environment must be comfortable for the students as well as the educational staff. Canteens are an important part of university campuses and are designed for use by staff, students and visitors in general and are the most visited component of the university. It is also a place where students can take a short coffee break and exchange conversation. The well-designed canteen adds to the functional efficiency of the university. [1]
The canteen in all universities of the world is considered one of the most important and attractive facilities for male and female students, professors and the administrative body, as the university student spends most of his time on the campus, and therefore the canteen facility is the first place to fill hunger so that the student can continue to learn without thinking about the stomach. [2]
The application we intend to develop will help students have their meals, snacks, drinks ready between their lectures without the need to go to the canteen and wait in queues to get their order. Where the application will be available for students as well as the educational staff which will make the valuable time saved for both students and staff and will increase the profit for the canteen owners especially when using the technology of data mining to discover the most

requested items in the canteen and provide messages like "other students who ordered this item ordered also …." and discover the items that have minimum request which will give them a clear understanding of the selling.

II. WHAT IS COLLEGE CAFETERIA

The "Canteen Data Mining" will be of a great benefit for all parties of the system where it will assist the admin in the management of the canteen items and organizing the orders of the canteen items where he can arrange the delivery of the orders according to the building. The application will increase the profit of the canteen owner by using the data mining technology in the recommendation of items for the users. The application will prevent the canteen owner as well as the students and staff from losing money in using the electronic cards for the payment of the food. The students and staff will have more time to take their meal and be ready for the classes.

i. Build a mobile application that helps in managing the canteen.
ii. Help in tracking the information of items in the canteen.
iii. Provide clustering facilities for items in the canteen.

III. COMPARISION WITH THE OTHER APPLICATIONS

Restaurants have been around for a long time and are a part of human civilization. Travelers usually received better treatment from the institutions they visited. In ancient Greece and Rome, inns and residents were generally used to provide food for people who had to be away from home for a reason.

- HUNGER STATION
- TALABAT
- SNOONU

Here we describe the working of existing applications are different than the proposed application.

a) HUNGER STATION
Hunger station operates in KSA and Bahrain. It helps to find a restaurant regardless of its user rating. Helps find restaurants, cafes, etc. in the user's nearby region. The customer places an online order for food, and the order will be sent to the restaurant. After the restaurant receives the order, Hunger Station sends a confirmation message to the customer in case it is accepted. Otherwise, Hunger Station sends a message to the user to inform him/her about the status of the order. The customer can pay either by delivery or by credit. [7]

b) TALABAT
Talabat is an app that was created in 2004 by a group of young people who have a vision for the future of food delivery and online food ordering in Kuwait. Ten years after Talabat began operations, it has spread to seven additional Arabic countries, making it one of the largest online food ordering platforms in the Middle East. The application covers the needs of user and allow him to choose food for delivery anywhere in city all what user needs to download the app and pay within a few seconds with a Visa card or cash on delivery. [8]

c) SNOONU

Snoonu is a company based in Qatar which offers delivery services and eCommerce application as an E-Mall. Snoonu is the fastest shopping & delivery app in Qatar consisting of restaurants, grocery stores, retail shops and more. Customer can order food Delivery by taping and order food delivery from hundreds of restaurants in Qatar. Whether customer wants Pizza from Papa John’s or Yellow Cab, Burgers from McDonald’s, a Sandwich from Subway, Turkish from HuQQa, Japanese, Italian, Filipino, Chinese, Indian, and more types of food and the workers in the app will deliver the order to the location. [9]

Feature	Talabat	Hunger Station	Snoonu	College Cafeteria
Free installation	Yes	Yes	Yes	Yes
Delivery	Yes	Yes	Yes	Yes
Service inside the college	NO	NO	NO	Yes
Recommendation of other items	Yes	NO	NO	Yes
Payment on delivery	Yes	Yes	Yes	Yes
Work in KSA	Yes	Yes	NO	Yes
Payment electronically	Yes	Yes	Yes	Yes

IV. SAMPLE INTERFACE DESIGNS

Figure: 4.1 Registration and login screens

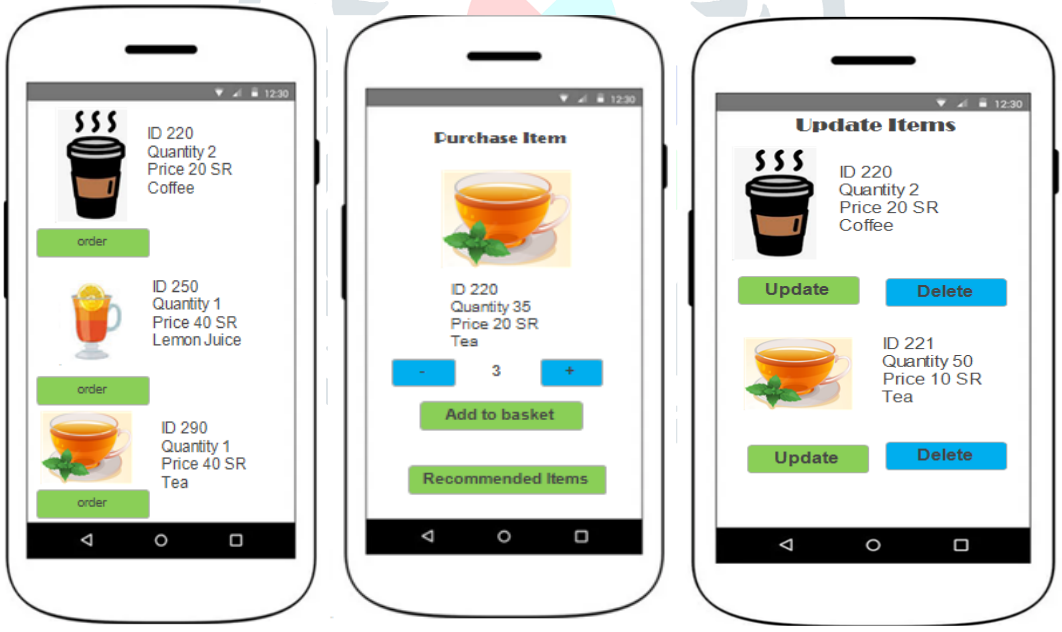

Figure: 4.1 List of items, purchasing items and Updating items by admin

V. FUTURE IMPROVEMENTS

The system can be improved by extending the services and add offers to the system like discount according to buying more than a limit of items.

The system can be improved by adding more languages to serve many parties in the university.

VI. CONCLUSION

In this report we presented the problem of managing the college canteen in delivering the orders of users within the KKU. The students and other employees in the college needs to make orders from the Canteen to have their request ready in the building in quick time. The canteen also needs to make advertisement for items in the canteen. We studied existing systems and compared between the proposed system functionalities and the existing ones in the existing systems. Then analyzed the system using UML diagrams and set the design of the mobile application and the tables of the database according to the ER diagram designed. The application will be developed using Android studio with JAVA programming language. The data mining algorithm for recommending items will be used for recommending items for the students who order items from the Canteen.

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