

Android Based E- Wallet Canteen Billing System

Amaan Husen Shah¹, Abhishek Ninad Soundankar², Alish Muktar Shaikh³, Altaf Niyajoddin Shaikh⁴,
Prof. Chandrabhan R. Ghuge⁵. 1,2,3,4 students, Department of Computer Engineering, Guru Gobind Singh Polytechnic, Indira
Nagar, Nashik, 5 Lecturer, Department of Computer Engineering, Guru Gobind Singh Polytechnic, Indira Nagar, Nashik

Abstract— During breaks, there is a huge crowd in the college canteen. Starting from the queue at the coupon counter to the serving counter a lot of time is spent waiting due to which the students and faculty get late for their lectures. Both students and faculty, often wish to have a way to considerably reduce or get rid of this waiting time. One solution to this problem is to have a system by which once the order gets placed it is directly displayed on a monitor in the kitchen. This would avoid the time wasted at the serving counter when a server takes time to deliver previous orders before taking a new coupon and placing it in the kitchen. Also one can have a facility for placing orders in advance so that his/her order is kept ready just for the particular time he/she chooses. The time spent over tendering change can also be reduced by facilitating payments via e-wallet. And also he/she can pay with cash on delivery.

Keywords: Cashless, E-wallet, Canteen payment management system, E-wallet security, e-wallets.

INTRODUCTION

Traditional canteens are based on pen-paper records, cash, manual calculations and manual record keeping of credits which in today's time in an inefficient way to operate a business. We aim to accomplish this task by creating a web application for managing the canteen menu and orders. The proposed application is mainly beneficial for reducing the time wasted waiting in the

queue by sending the orders directly to the kitchen, placing orders in advance & by providing a prepaid wallet facility which saves time spent in tendering change. We offer quality solutions to students in the form of Canteen Management software, which can be used in many large- or small-scale canteens.

Lots of time is spent in queues at a college canteen. The proposed software is effective in cutting the amount of time spent in the queue to send orders straight into the kitchen, placing orders before and with the option to use a card payment system that reduces time spent in tendering changes. This time can be used for any other purpose that must be relevant. Cash payment in canteens is nowadays the only option for making the payment. The situation was well adapted for small canteens. For some large canteens, credit card facilities are offered but this is very unusual.

The major downside of cash payment system is that the user seems to want to carry the cash all time. And he / she has to pay the correct sum else there might be issues in providing the balance money. The owner should hold some register as he needs to provide the consumers of the canteen via coupons. Once the owner of a canteen gives a coupon for the last number then the buyer could lift the coupon. On such a situation a student account is maintained in a notebook. Canteen owner writes sales regularly and the balance is reported at the end of the month.

PROJECT CONCEPT

The purpose is to design an Android application which contains student information of the college, that should improve efficiency of college record management and decrease the space between student and college. The College Personal App would be a new way to record and manage the transaction processing that would achieve efficiency on processing student information. This App manages all the information about College; Student, Session, College. The project is totally built at administrative end and thus only the administrator is guaranteed the access. Provides the searching facilities based on various factors. Such as College, Course, Batch, Session. It tracks all the information of Faculty; Student.

PROJECT DESIGN

There are two modes of payment, E-wallet, and Cash on delivery. Online orders can be paid only through E-Wallet. Since the E-wallet is prepaid it needs to be recharged at the counter by paying cash to be able to use. Recharge function is available in administrator login. Her we had achieved he main aim of this project Canteen management system is to provide fast services to their college students, Staffs etc. Usually People have to go to canteen and order the foods and they have to wait in queue for a long time to pay the bills. But with the help of this you just have to follow a very simple process to pay your bill. And you need not to wait in the long queue. This application will provide the list of different menu list with different categories. User can select any item from canteen and can order for it by using wallet Payment. Wallet Recharging available with debit card details or admin can add amount in user's wallet. Users must register with valid details which will get login with canteen. Users also get recommendation for food items,

Trending food items. Canteen Management system manages the all details of food items which contains name, description, image, price etc. Admin can update the menu available in the canteen. Customer can check their balance, order history and able to delete the order according to order status.

SYSTEM ARCHITECTURE

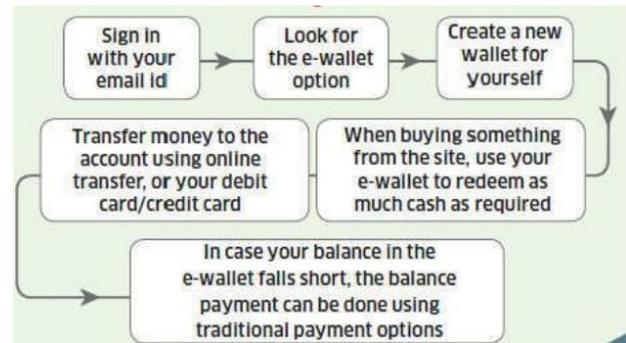


Fig No 1: Basic Architecture of the system

PARALLEL DEVELOPMENT APPROCH

This model of methodology attempts to address the problem of long delay between analysis phase and the delivery of the system. Instead of doing design and implementation in sequence, it performs a general design for the whole system and then divides the project into a series of distinct subprojects that can be design and implemented in parallel. Once all subprojects are complete, there is a final integration of the separate pieces, and the system delivered.

DEVELOPMENT TOOLS

I. Android Studio

Android Studio is the official integrated development environment (IDE) for Google's Android operating system, built on JetBrains' IntelliJ IDEA software and designed specifically for Android development. It is

available for download on Windows, macOS and Linux based operating systems. It is a replacement for the Eclipse Android Development Tools (ADT) as the primary IDE for native Android application development. Android Studio supports all the same programming languages of IntelliJ (and Clion) e.g. Java, C++, and more with extensions, such as Go and Android Studio 3.0 or later supports Kotlin and all Java 7 language features and a subset of Java 8 language features that vary by platform version. External projects backport some Java 9 features. While IntelliJ that Android Studio is built on supports all released Java versions, and Java 12, it's not clear to what level Android Studio supports Java versions up to Java 12 (the documentation mentions partial Java 8 support). At least some new language features up to Java 12 are usable in Android.

II. MYSQL

MySQL is free and open-source software under the terms of the GNU General Public License, and is also available under a variety of proprietary licenses. MySQL was owned and sponsored by the Swedish company MySQL AB, which was bought by Sun Microsystems (now Oracle Corporation).

In 2010, when Oracle acquired Sun, Widenius forked the open-source MySQL project to create MariaDB. MySQL is a component of the LAMP web application software stack (and others), which is an acronym for Linux, Apache, MySQL, Perl/PHP/Python. MySQL is used by many database-driven web applications, including Drupal, Joomla, phpBB, and WordPress. MySQL is also used by many popular websites, including Facebook, Flickr, MediaWiki, Twitter, and YouTube.

MySQL is offered under two different editions: the open source MySQL Community Server and the proprietary Enterprise Server. MySQL Enterprise Server is

differentiated by a series of proprietary extensions which install as server plugins, but otherwise shares the version numbering system and is built from the same code base.

ER DIAGRAM OF THE SYSTEM

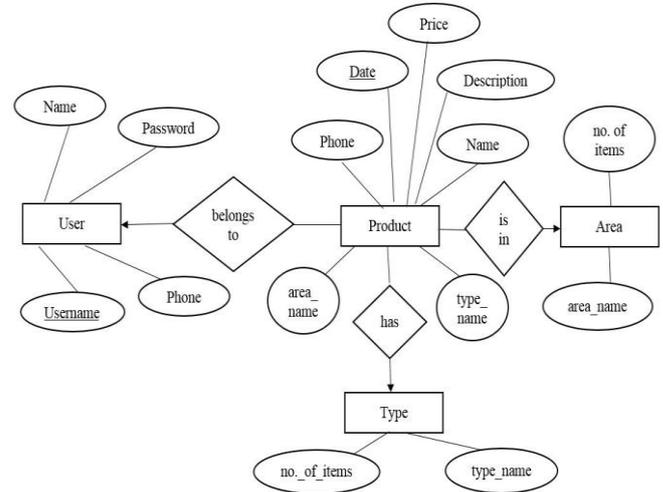


Fig No 2: ER Diagram

DATA FLOW DIAGRAM

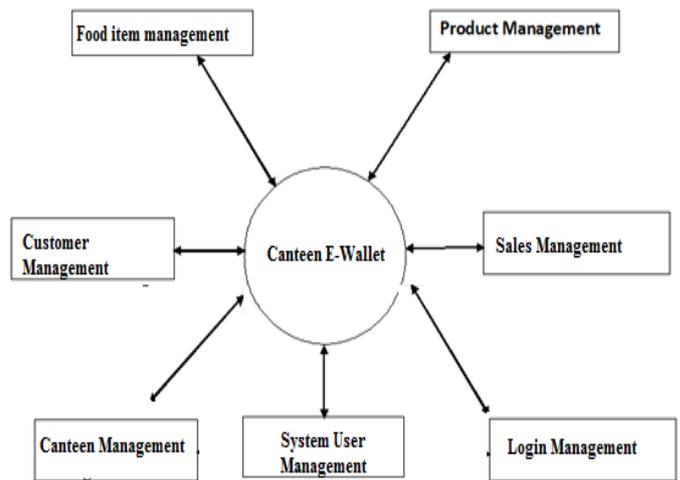


Fig No 3: Data Flow Diagram

APPLICATIONS

1. College Canteen
2. Office Canteen

ADVANTAGES

1. Quick, easy and paperless.
2. Top quality service. Safe and reliable.
3. Multiple options for selection.
4. Simple Status & Resolutions.
5. Accuracy in work.
6. Decrease the load of the person involve in existing manual system.
7. Work becomes very speedy.

LIMITATIONS/CONSTRAINTS

1. Requires Internet connection.
2. Requires Android Smart Phone.

CONCLUSION

With the proposed system is ready and fully functional. The administrator is now able to manage and hence run the entire work in a much better, accurate and error free manner. This paper discusses the canteen issue and finally proposes an effective working solution for the same. It further discusses the importance of the payment method using E-Wallet and the cash paid by the user for recharge of the wallet very efficiently and hence is very good performing system as compare to the existing system.

REFERENCES

- [1] Lizeth Ghandi, Catarina Silva, Tatiana Gualotuna "Mobile application development process – a practical experience" Information Systems and Technologies (CISTI), 2017 12th Iberian Conference.
- [2] Lavina Mall, Nihal Shaikh – "Canteen management system using rfid technology based on cloud computing", International journal of engineering sciences & research Technology Volume: 173, April -2017 from Rizvi College of Engineering, India.
- [3] M. N. Mohammed, S. al- Zubaidi, \Study on "RFID based Tracking and Library Information System ", IEEE

15th International colloquiumon Signal Processing and its applications Volume: 03, Issue: 04, March-2019.

[4] Rameshwari Fegade, Gaurav Nandge, Pranjali Patil, Tejas Gaikwad, Prof. P.P. Bastawade "Canteen management android application using e-wallet", International Research Journal of Engineering and Technology volume: 06, Issue: 03, Mar- 2019.

[5] Prashant Sharma, Bibin Mathew, \RFID based canteen cashier system", International Journal for Research in Engineering application and management Volume: 03, Issue: 04, May- 2017.