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Contactless Computerized Canteen Management System

Siddhesh Tambe^{*1}, Avishkar Auti^{*2}, Zaid Sayyed^{*3}, Aryan Adsul^{*4}, Prof S.P.Chattar^{*5}

Student, Dept. of Information Technology, Pimpri Chinchwad Polytechnic, Pune,
Maharashtra, India ^{*1,2,3,4}.

Professor, Dept. of Information Technology, Pimpri Chinchwad Polytechnic, Pune, Maharashtra, India ^{*5}

ABSTRACT: Food service and canteen industry is an important part of collages. Canteens offer much required refreshments to students and dinner service to hostel dwellers. Its prime earning is from providing lunch to everyday. But rush hours in them lead to unorganised service, Public gatherings are a huge problem in confined spaces these days, now even more due to Covid-19 pandemic and application of new norms like social distancing and sanitation of all public places in regular intervals. The Contactless Computerized Canteen Management System is an application developed to automate the current canteen service industry by using modern and readily available software to built and maintain a database of orders and keep database of customers that dined in the restraint. This is important in times of Covid-19 when we need to limit the amount of exposure with people to as minimum as possible and keep a database to contact-trace people with Covid-19 spread in a possibility of an outbreak.

KEYWORDS: Automation, Hygiene Guidelines, Computerized System.

I. INTRODUCTION

The aim to design and implement this Contactless Computerised Canteen Management System is to automate and simplify existing manual system of paper and pen by using a software, thus eradicating productivity problems. This also results in storage of data in a safe manner to keep track of sales and maintain a directory in case of an outbreak of Covid-19 by making contact tracing possible. The System is coded in Java Programming Language, so the maintenance and scalability is a massive advantage of it. System enables canteen staff to concentrate efforts on providing satisfying customer service rather than do repetitive manual task of bookkeeping via paper receipts and trading physical cash with plastic tokens.

This leads to time saving by not standing bunched up in unorganised mobs and reduced minimal errors by canteen cashiers as they aren't required to remember each order printed on tiny pieces of paper and individual paper cash transaction. The proposed system is protected by password and could only be accessed by authorized personnel, this providing a security factor

II. LITERATURE REVIEW

The idea for development of this system came from noticing the drawbacks of the existing manual system in the canteen of my own college, where huge crowds of students would formulate in the morning. This was validated as conducting a survey with my friends and on the web. As we identified the problem of inconsistent productivity and usage of outdated methods, the procedures undertaken to overcome them are mentioned in this paper.

Some solutions we came across are listed below.

In paper "Automatic Order Management System for Restaurants", The user has to create an account to use online service to access canteen menu, customer can select desired item from list, provide payment through online transactions via online payment gateway system upon confirmation, the canteen staff get order details and being processing it, data stored in database can be accessed by admin login. A user feedback system is implemented to improve service and provide feedback.

In paper "Cloud Based Canteen Management System", the process of food ordering is automated using cloud computing features, and no hardware installations, system bridges gap between canteen functioning and modern technologies. Using radio frequency identification card for transactions at counter for food service, they reduce waiting times and waiting lines. They have also developed a mobile application where payment deductions directly take place

from pre-existing customer account, Recharge of accounts possible through online transfer s and e wallets, they offer both mobile and service platforms to host this service on cloud.

In paper “Online Canteen System”, a system developed around Wi-Fi technology and remote LCD screens are used to place orders from phone. Customer can’t access any other sites without going through this process. Order is taken from the LCD place on the table once logged in after connecting to Wi-Fi user creates account they can place order, verify it from the storage cart option. System comes with paperless billing system, the billing info is directed to kitchen t avoid delay in processing orders Once order payment is done the, order gets stored and customer internet access is terminated.

In paper “Cashless Canteen Management System”, Cashless management system automates existing system. The mentioned system will make use of ReactJS and NodeJS for frontend and backend respectively. The system massively helps in avoiding long queues for giving and collecting orders. A card payment is encouraged to pay via card to facilitate quicker service and ease of use. System can be implemented regardless the scale of business, due to it being user friendly. Admin and track and monitor all activity in application. System is inexpensive to build and implement on various platforms.

All listed resources, the experiences of my teammates and guidance of my project mentor, the follow system and paper has been crafted.

III. SYSTEM ARCHITECTURE

The standard Architecture for Proposed Canteen Management System separates application logic into a number of tiers. These tiers signify a logical and physical organization of components into an ordered chain of client input and data storage. Components within a tier typically consume the services provided by components in an adjacent provider tier and provide services to one or more components in an adjacent database tier.

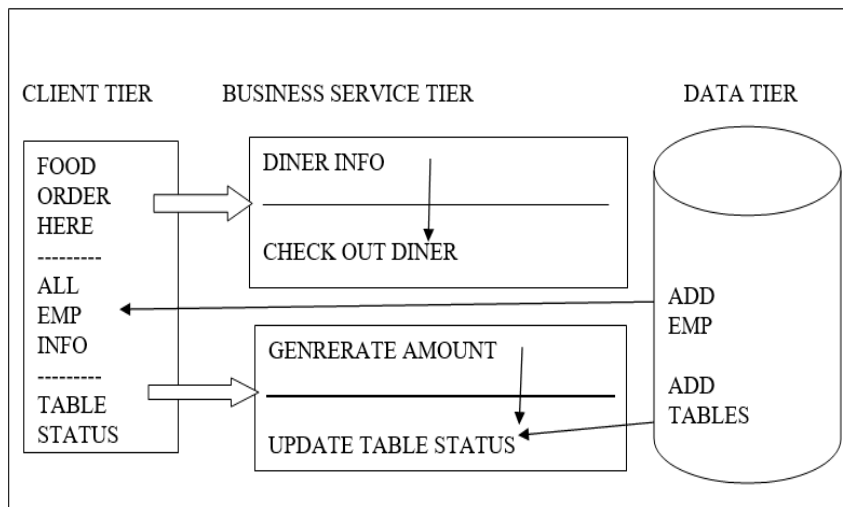


Figure1: Diagram of System Architecture

IV. PROPOSED SYSTEM

Objective of this System:

Suggest and implement changes in current system to manage process and staff in efficient way.
Provide Solutions to stated problems.

Procedures Carried Out inthe APPLICATION:

User create a login and password to get access to the system. As the system contains information about diners and the canteen finances this is extremely important to safeguard the data in the application. The user can then sign in using email authorized by canteen authorities and feed the window a personal password. This Password exclusive to the user that is cashier or canteen employee and not to be shared.

Figure2:Login Page.

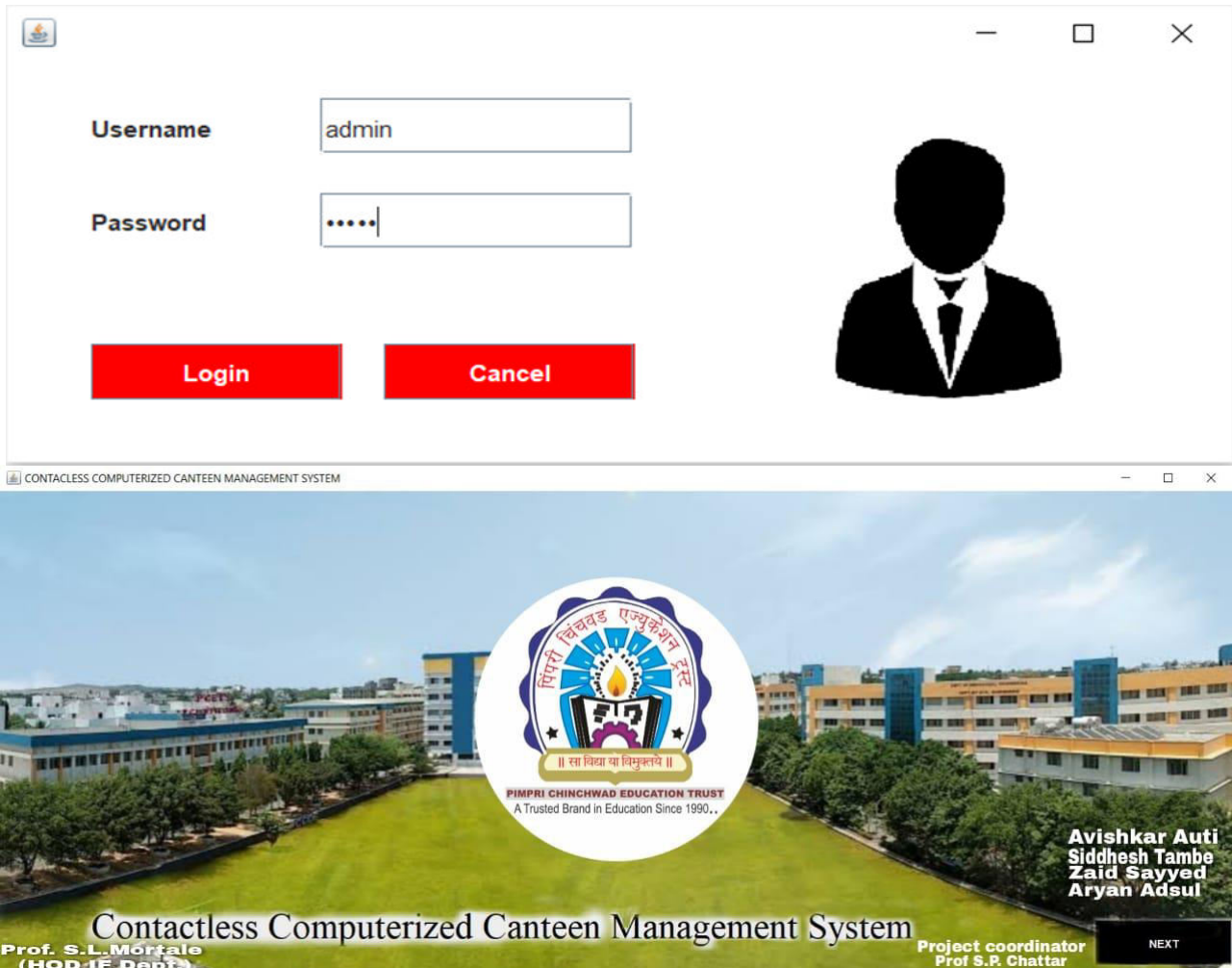


Figure3:Welcome Page.

There are two Administrative Models here:

I. Admin

1.1 The user can use the “Add Employee” option to add the people working at the time of usage, with people having jobs ranging from cooks and dishwashers to sanitation staff and supervisors for the day. This can be displayed and used by the user if a customer requests to talk to an employee regarding the food and sanitation standards and would like to provide constructive feedback to improve this system. The feedback would be conveyed

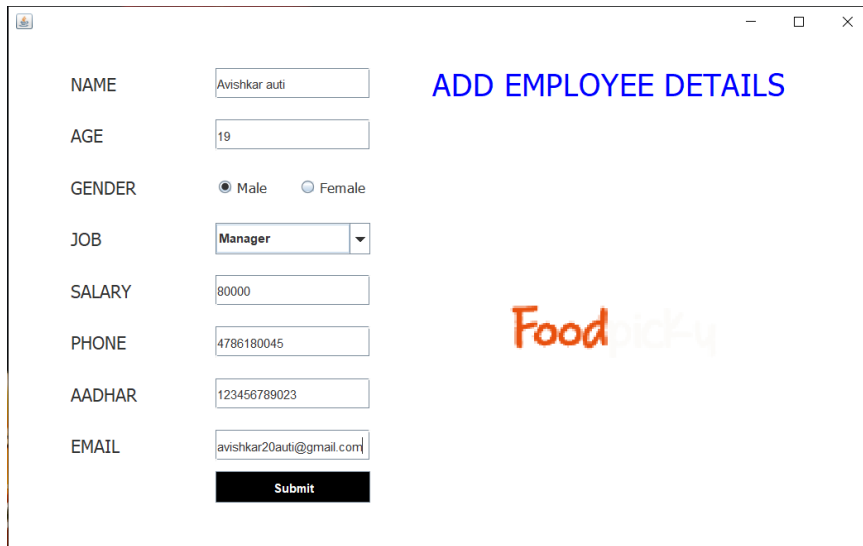


Figure4:ADD EMPLOYEE TAB

1.2 The user then goes on the “Add Table” feature to allot the amount of dining area to be used in canteen for the day, this is because no places are granted permission to work at full capacity to maintain social distancing norms and follow safety measures. So user decides half full or required capacity to be allowed in canteen. A database is created having data about ‘Table Number’ ‘Arability’ ‘Table Status’ ‘Service Charge’ and ‘Type Of Table’.

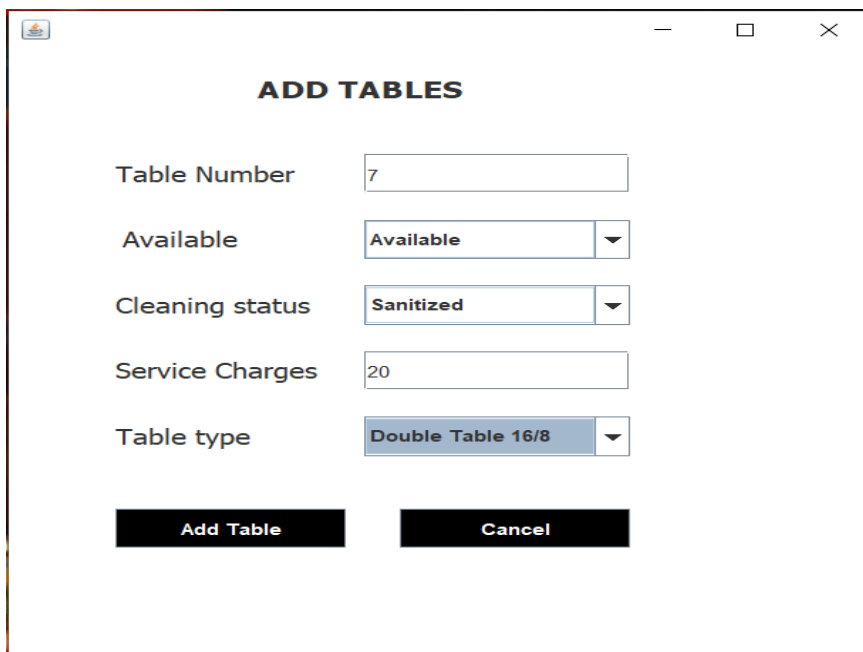


Figure5:ADD TABLES tab

II. Canteen Counter



Figure6:CANTEEN COUNTER.

1. Ordering process starts with “Order Food Here”. This is a custom form built with to accommodate all the required diner information to complete an order. The process initiated with filling the persons college id. All the data provided to analyse trends about most ordered item, average order amount and ratio of diners from different grades. This will affect menu and offers to be displayed in the future.

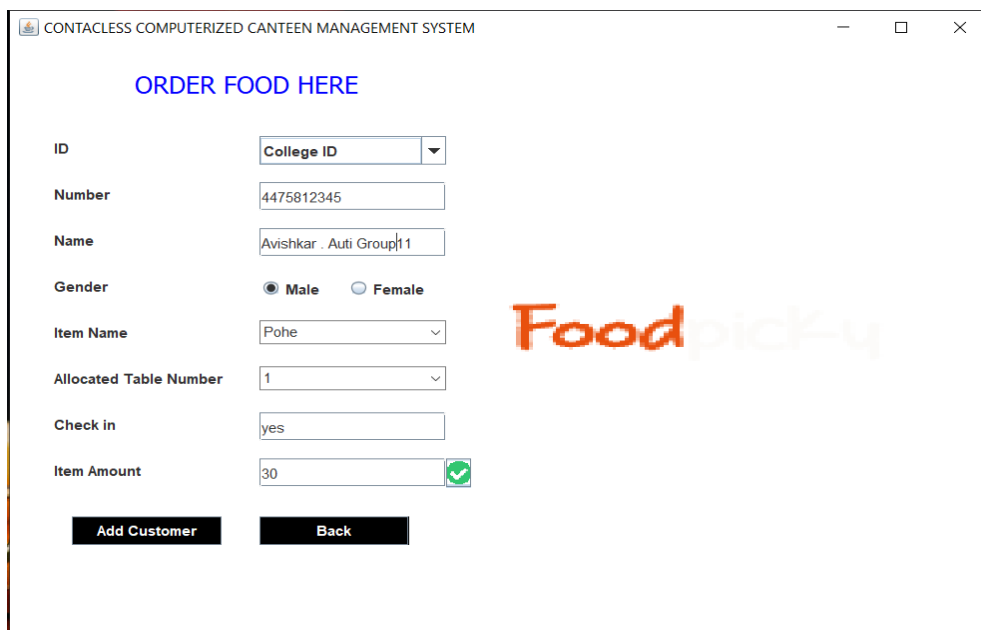


Figure7:ORDER FOOD HERE Form.



2. User Checks “TABLE STATUS” this can be used to determine which tables should the user dine on to maintain social distancing. Table type decided the amount of people allowed to sit at a time

ID	Number	Name	Gender	Item Name	Allocated TN	Check In	Item Amount
College ID	1234567980	Avishkar A Group11	Male	Tea	1	yea	10
College ID	4567891230	Siddhesh Tambe Grou	Male	WadaPav	3	yes	15
College ID	7894561230	Zaid Sayyed	Male	Idli	7	yea	50
College ID	4561237890	Aryan Adsul	Male	Dosa	9	yes	60

Figure8:TABLE STATUS tab

3. The user looks at the menu if the customer is unsure about the portion size of food or its pricing. It is to be updated as item availability.

Item List	Cost
Pohe	30
Idli	50
Milk	20
Dosa	50
WadaPav	15
Tea	10

Figure9:MENU

4. The user then moves on to “GENERATE PAYABLE AMOUNT” tab to notify the diner of the final bill amount to pay which is automatically calculated with a service fee or extra charge.

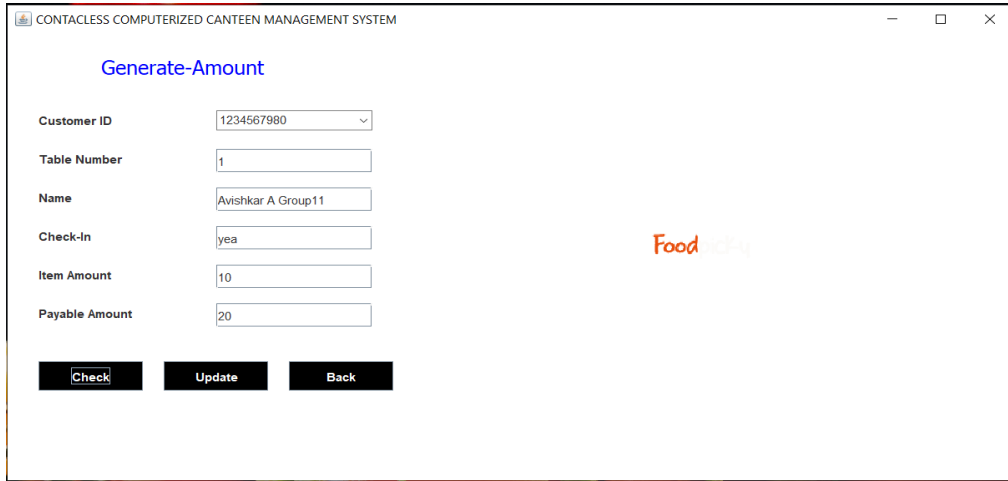


Figure10:BILLING tab

5. The user then goes to “CHECK OUT DINER” to get free up the allotted status of a table to a person. Then this information is conveyed to the sanitation workers.

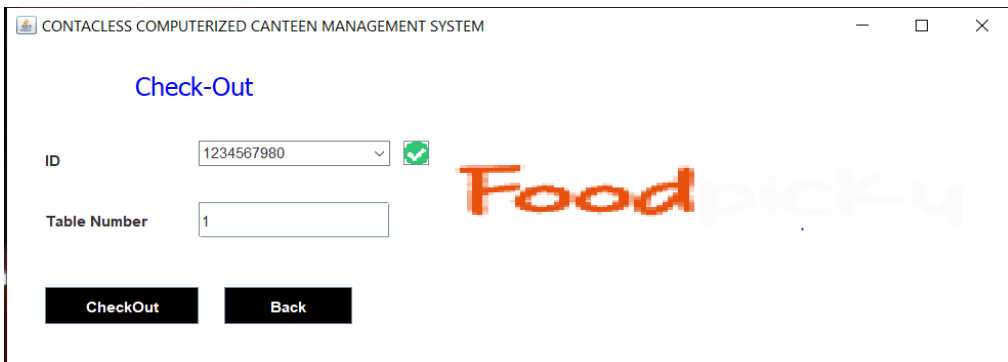


Figure11:CHECKOUT tab

6. Finally user goes to “UPDATE TABLE STATUS” to change its state to available until its and the sanitation status to reflect on the current situation. This is achieved by making changes to the “Manage Table Status” database.

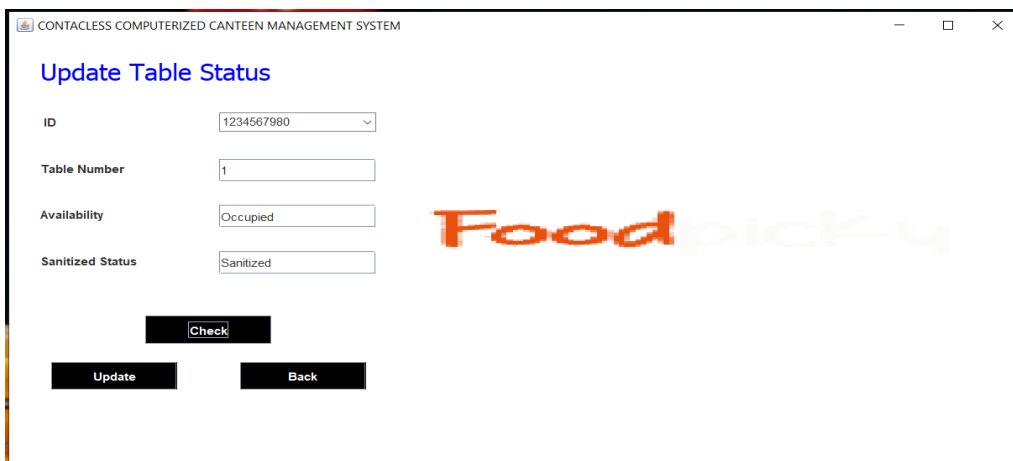


Figure12:UPDATE STATUS tab.

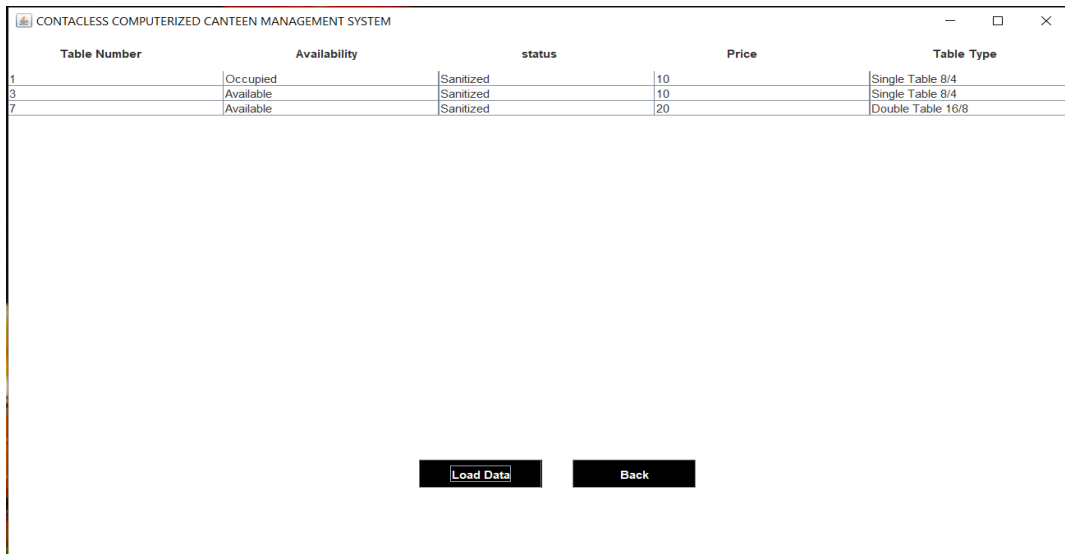


Table Number	Availability	status	Price	Table Type
1	Occupied	Sanitized	10	Single Table 8/4
3	Available	Sanitized	10	Single Table 8/4
7	Available	Sanitized	20	Double Table 16/8

Figure13:UPFATED TABLE STATUS.

7.Click on logout to exit the application

Implementation on Canteen Site:

1. Allotted person uses Computer Screen present on counter to start ordering from display order window.
2. Once order is paid customer seats on tables placed distant from each other.
3. Places order once ready is then placed on a moving conveyer belt by employee to reach intended customer in color coded plates indicating order number.
4. Customer places used plates on the conveyer belt on the opposite side of room. This moving belt leads to washing and sanitation area.
5. Customer uses checkpoints equipped with sanitizer and hand dryers after this process.

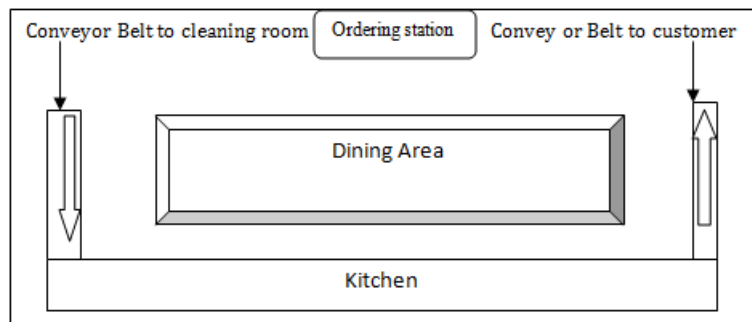


Figure14: Diagram of Implemented System.

V. SOFTWARE REQUIREMENTS

1. Language – Java
2. Database – MySQL
3. Browser – Any windows supported browser
4. Web server – Tomcat7
5. Development kit – Latest JDK
6. Scripting language enable – JSP
7. Database JDBC Driver – MySQL connector

VI. FUTURE SCOPE

Considering the huge potential of this system, these are the following additions to be implemented in future:

1. Enable two factor authentications to application.
2. Transfer data in SQL to cloud server.
3. Allow customer to customize predetermined combos to order if for frequent buys.
4. Allow customers to book tables in advance on ordering site.
5. Add Delivery service to campus buildings.

VII. CONCLUSION

Successful implementation of this project leads to a finer dining experience. The possibility of errors in execution is extremely low due to system being fully automated and computerized. The above proposed system can also be modified to find successful application in other management systems and institutions. The added benefit is that system endorses the guidelines being enforced in current pandemic. A positive and constant feedback provided by customers and staff will lead to addition of features in system. This Contactless and Computerized Canteen Management System empowers collage canteens to provide great service to student while also taking care of their safety and health, thus playing huge role in their successful future careers.

VIII. ACKNOWLEDGEMENTS

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REFERENCES

- [1] Ms.Minu, Kowshik Reddy, Sumanth, Ashik Teja, Gopi Krishna, "Online Canteen System", (ISSN-2349-5162) © 2018 JETIROctober2018, Volume 5, Issue 10 www.jetir.org
- [2] Tazeen Khan, Daniel Yunus, "Cloud Based Canteen Management System", International Journal for Research in Engineering Application & Management (IJREAM), (ISSN : 2494-9150) Vol-02, Issue 08, Nov2016
- [3] Rohith, Swathi N Rao, Sweeda Noronha, Ujwala J Shett, Wilson Samuel Mathias, "Automatic Order Management System for Restaurants", International Journal of Innovative Research in Electrical, Electronics, Instrumentation and Control Engineering ,(SSN 2321 –2004) ISO 3297:2007 Certified Vol. 5, Issue 6, June 2017
- [4] M. Ambika, Saravana Kumar R, Sandhya S Nair, Ranjith Kumar S, "Cashless Canteen Management System," International Journal of Innovative Technology and Exploring Engineering (IJITEE)ISSN: 2278-3075, Volume-9 Issue-7, May 2020
- [5] <https://www.fssai.gov.in/>



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