MINI PROJECT – I

(2018-19)

Canteen Automation System

MID TERM REPORT

Institute of Engineering & Technology

Team Members

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Supervised By

Dr. Anand Parkash Gupta

Technical Trainer

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ABSTRACT

The Project “Canteen Automation System” enables the end users to register online, read and select the food from e-menu card and order food online by just selecting the food that the user want to have using android application or website. The results after selecting the food from the E-menu card will directly appear on the screen near the Chef who is going to cook the food for you. The system is the combination of Android as well as Web Application. By using this application, the work of the waiter is reduced and we can also say that the work is nullified. The benefit of this is that if there is a rush in the Canteen then there will be chances that the waiters will be unavailable and the users can directly order the food to the chef online by using this application. The user will have a username and password, by using which they can login into the system. This implies that the customer is a regular user of the Canteen.

The manual system involves paperwork in the form of maintaining various files and manuals. Maintaining critical information in the files and manuals is full of risk and a tedious process. Including a framework showing how to apply Internet technology progressively as skills and confidence grow, the project demonstrates the route from adapting materials to developing an online environment.

Nowadays people don’t have much time to spend in the canteen by just there and waiting for the waiter to take their order. Many customers visit the canteen in their lunch break and recess so they have limited time to eat and return to their respective office and colleges. So this software helps them to save time and order food whenever they want without calling the waiter again and again.

Contents

Introduction

General Introduction to the topic

In today's age of fast canteen automation in the canteen, many canteens have chosen to focus on quick preparation and speedy delivery of orders. Until very recently, all of this delivery of orders were placed over the phone, but there are many disadvantages to this system, including the inconvenience of the customer needing to have a physical copy of the menu, lack of a visual confirmation that the order was placed correctly, and the necessity for the canteen to have an employee answering the phone and taking orders.

The main advantage of an online ordering system is that it greatly simplifies the ordering process for both the customer and the canteen. When the customer visits the ordering web page, they are presented with an interactive and up-to-date menu, complete with all the available options and adjusting prices based on the selected options. After making a selection, the item is then added to their order, which the customer can review the details at any time before checking out. This provides instant visual confirmation of what was selected.

This system also greatly lightens the load on the canteen's end, as the entire process of taking orders is automated. Once an order is placed on the web page, it is entered into the database and then retrieved, in pretty much real -time, by a web-based application on the canteen's end. Within this application, all items in the order are displayed, along with their corresponding options and delivery details, in a concise and easy to read manner. This allows canteen employees to quickly go through the orders as they are placed and produce the necessary items with minimal delay and confusion.

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Area of Computer Science

The computer has brought a revolution in every sphere of human life, whether it is business, education, governance, medical science etc. The computer has reduced the human workload, businesses are going global and everything is available at the click of a mouse. Most of the customers have to go to market to order or buy food which is a time-consuming task. Different sellers have different rates of the food items they are selling. So, the customer has to go to different shops to get the food items at a feasible rate.

Hardware and Software to be used

a. *Hardware**:***

- Minimum 8GB Ram
- Disk Space 80GB

b. *Software*:

- Android Studio
- XAMPP Apache Server

Problem Definition

Canteen Automation System is the system where customers order their food and receive food in the canteen without any delay as they can directly go and collect what they ordered without waiting for a turn or waiting time. This system aims to accelerate customer orders and customer order system used by employees to accept customer order.The purpose of the system is to develop a simple Canteen Automation System and implement it, which later will be used for a web-based application

Objectives of the project

Our objective is to make a platform independent application to maintain a database of all orders ordered from various sources and all the different services required by each of them. Established canteen automation practices should provide the needed connectivity and accountability between those two operational units, and when managed properly, enhances the effectiveness of both operations as Registration , Order ,Payment , Update.

The objectives of the project are as follows:

- To order food rapidly
- To make it convenient for people who have limited time
- Cost reduction
- Reduced paperwork
- Computerized Order and billing system

Methodology

The menu management system will be available only to canteen employees and will, as the name suggests, allow them to manage the menu that is displayed to users of the web ordering system. The functions afforded by the menu management system provide the user with the ability to, using a graphical interface:

1. Add a new/update/delete food category to/from the menu.
2. Add a new/update/delete food item to/from the menu.
3. Add a new/update/delete option for a given food item.
4. Update default options for a given food item.
5. Create an account.
6. Manage their account.
7. Log into the system.
8. Navigate the canteen's menu.
9. Select an item from the menu.
10. Customize options for a selected item.
11. Add an item to their current order.
12. Review their current order.
13. Remove an item/remove all items from their current order.
14. Provide payment details.
15. Place an order.
16. Receive confirmation in the form of an order number.

Implementation Details

The implementation is divided in two parts:

1. Backend Development:

   MySQL:

   Modern day websites seem to be relying more and more on complex database systems. These systems store all of their critical data and allow for easy maintenance in some cases. The Structured Query Language (SQL) is a very popular database language, and its standardization makes it quite easy to store, update and access data. One of the most powerful SQL servers out there is called MySQL and surprisingly enough, it's free. Some of the features of MySQL

   Include: Handles large databases, in the area of 50,000,000+ records. No memory leak

   Node.js:

   Node.js is an open-source, cross-platform, JavaScript runtime environment that executes JavaScript code outside of a browser. Node.js lets developers use JavaScript to write

command line tools and for server-side scripting—running scripts server-side to produce dynamic web page content before the page is sent to the user's web browser.

2. Frontend Development:

The technology used for developing frontend is HTML, CSS, JAVASCRIPT. User will have to register themselves before login.After registration the data of user is saved into localhost and this data is cross-checked with the database according to validation applied and user gets the message sign successful or error message is displayed. In android, we are parsing the data coming in JSON from the backend and displaying it on android application .

DATABASE TABLES

Abbreviations listed below -

PK-Primary Key
FK-Foreign Key
NN – Not Null (Required)
UC – Unique Constraint
SLT – Single Line of Text
MLT – Multiple Lines of Text
PG – Person or Group
Yes/No (check box) – Yes/No

Table 1:

- **Customer**

Table Name	Customer		
Description	This table will contain the personal information of the customer who places an order in the canteen.		
Primary Keys	Cust_Id		
Field Name	Data type	Constraints	Comments
Cust_Id	Int	PK	
FirstName	varchar(50)	NN	
LastName	varchar(50)	NN	
EmailId	varchar(50)	NN	
UserName	varchar(50)	NN	
Password	varchar(25)		Must contain 8 character
Mobile No.	varchar(10)		It could be home or cell, should take more than one and allow numbers + text like Home-408-888-3333, cell-408-888-9999
Address	varchar(100)		
City	varchar(20)		
State	varchar(20)		
Country	varchar(50)		
Zipcode	varchar(8)		

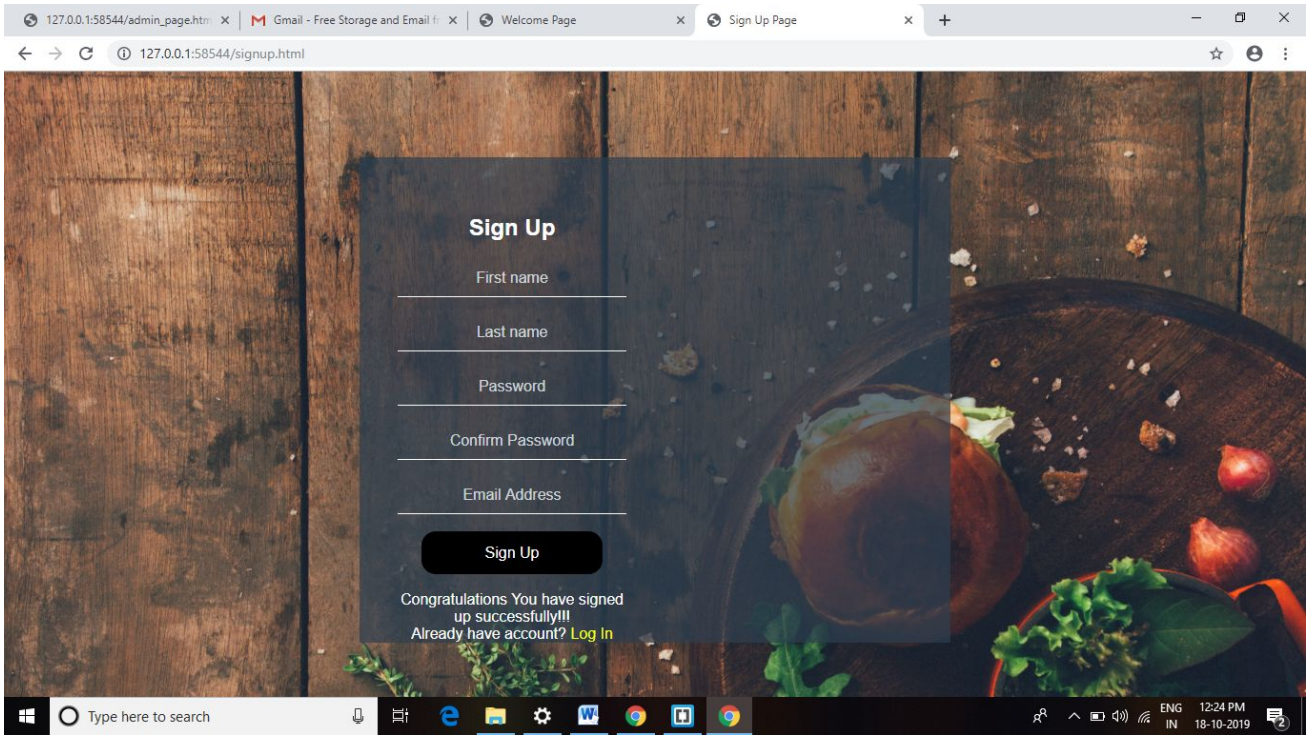
- **Admin**

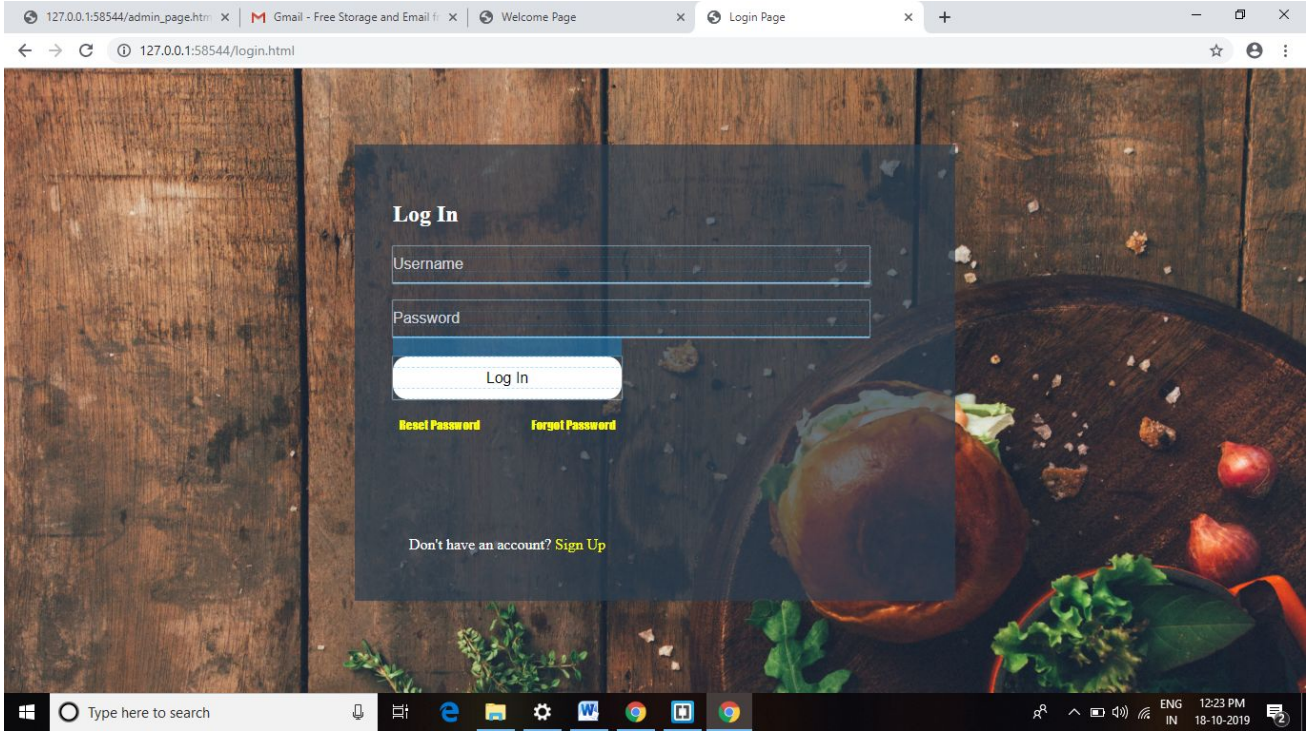
Table Name	Admin		
Description	This table will contain the personal information of the admin that verify the college registration.		
Primary Keys	Admin_Id		
Foreign Keys	College_Id		
Field Name	Data type	Constraints	Comments
Admin_Id	Int	PK	
College_Id	Int	FK	
FirstName	varchar(50)	NN	
LastName	varchar(50)	NN	
EmailId	varchar(50)	NN	
UserName	varchar(50)	NN	
Password	varchar(25)		Must contain 8 character
Mobile No.	varchar(10)		It could be home or cell
Address	varchar(100)		
City	varchar(20)		
State	varchar(20)		
Country	varchar(50)		
Zipcode	varchar(8)		

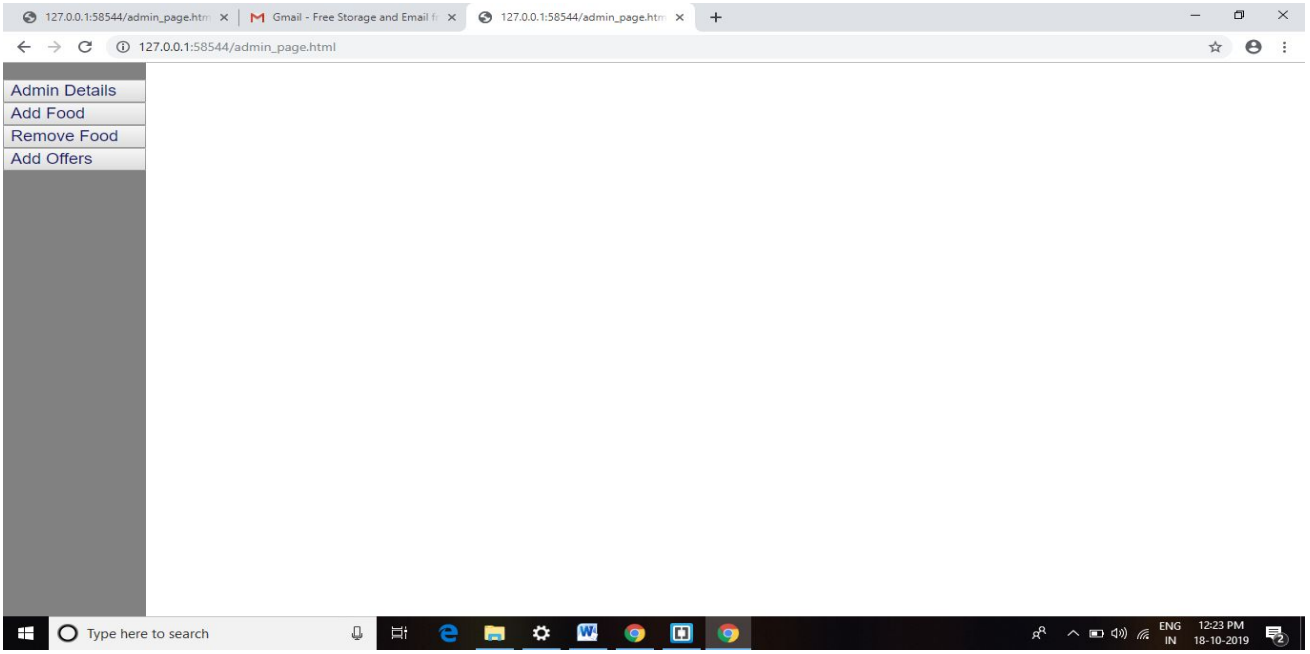
- **Canteen Owner**

Table Name	Canteen Owner		
Description	This table will contain the personal information of the canteen owner.		
Primary Keys	College_Id		
Foreign Keys	Cust_Id,Order_Id,Item_No		
Field Name	Data type	Constraints	Comments
College_Id	Int	PK	
Cust_Id	Int	FK	
Order_Id	Int	FK	
Item_Id	Int	FK	
FirstName	varchar(50)	NN	
LastName	varchar(50)	NN	
EmailId	varchar(50)	NN	
UserName	varchar(50)	NN	
Password	varchar(25)		Must contain 8 character
Mobile No.	varchar(10)		It could be home or cell
Address	varchar(100)		
City	varchar(20)		
State	varchar(20)		
Country	varchar(50)		
Zipcode	varchar(8)		

PROJECT PROGRESS



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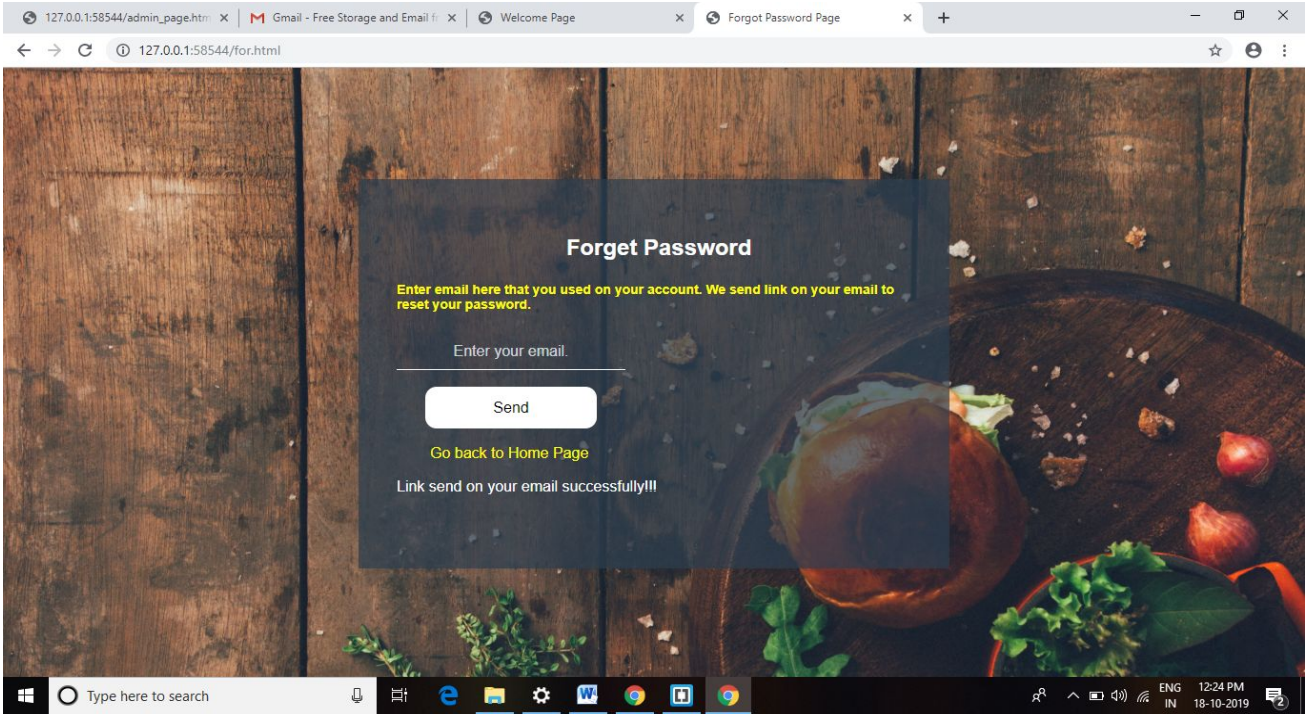
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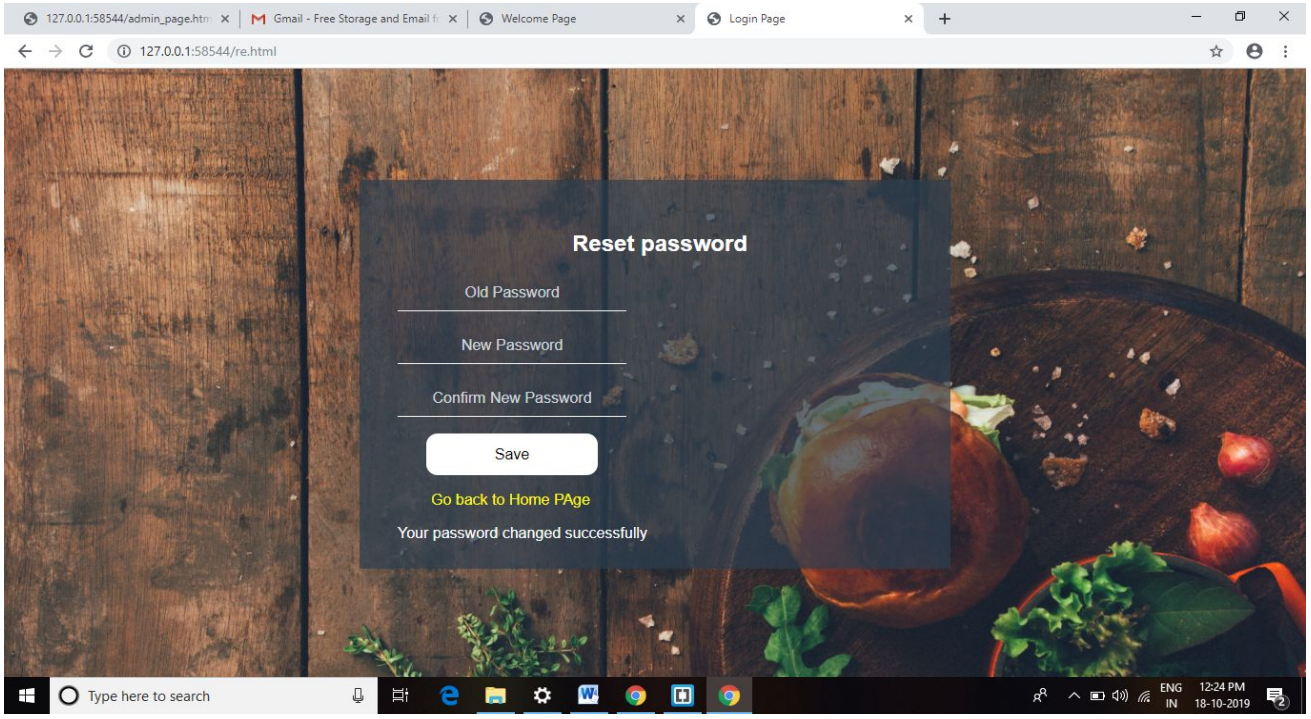

Contribution Summary

We have divided the project into four parts :

1.Backend Development
2. Frontend Development
3. Android Development
4. Documentation

- Shruti Sharma is responsible for backend development using note.js.
- Adesh Chauhan is responsible for front-end development using html, css, javascript..
- Anugrah Agarwal is responsible for android development.
- Aryan Sethi is responsible for Documentation and android development.

Progress Till Date and the Remaining Work

Till date we have completed front end and started learning about note.js.
Remaining Part:
Android Development
Database connections
Validations

References

1. https://developer.android.com/docs
2. https://developer.mozilla.org/en-US/docs/Web/HTML
3. https://nodejs.org/api/documentation.html