

# Canteen Automation System

Submitted by Group: 15

1<sup>st</sup> Kavisha Kirithbai Solanki  
*School of Computer Science*  
*University of Windsor*  
Windsor, Canada  
[solan11j@uwindsor.ca](mailto:solan11j@uwindsor.ca)

3<sup>rd</sup> Yash Savjibhai Anghan  
*School of Computer Science*  
*University of Windsor*  
Windsor, Canada  
[anghany@uwindsor.ca](mailto:anghany@uwindsor.ca)

2<sup>nd</sup> Arti Bipinbhai Vekaria  
*School of Computer Science*  
*University of Windsor*  
Windsor, Canada  
[vekariaa@uwindsor.ca](mailto:vekariaa@uwindsor.ca)

4<sup>th</sup> Nikunj Labhubhai Chopda  
*School of Computer Science*  
*University of Windsor*  
Windsor, Canada  
[chopdan@uwindor.ca](mailto:chopdan@uwindor.ca)

**Abstract**—The Canteen Automation Project described in this document has been designed to fill a specific niche in the market by providing small restaurants with the ability to offer their customers an online ordering option without having to invest large amounts of time and money in having custom software designed specifically for them. The system, which is customized, allows the admin to easily manage the content of the site or the menu, themselves through an intuitive graphical interface. The project makes use of Django with the Python platform. It will provide three login modules, each for customer, admin and chef. Customers will be able to place orders online, track status of the order, view history of orders, and make payment online. Admin (manager) will be able to manage items, chefs, order and order details, along with viewing all customers as well as deleting items and chefs. Chef can login with a unique id assigned according to the department and can prepare the order within the category. Chef can also update status while preparing the order.

**Keywords**— Canteen, Automation, Food Order, Canteen Automation System, Food Menu, Point of Sale

## I. ACKNOWLEDGEMENT

It is our privilege to express our sincerest regards to our guide and professor, Dr. Ziad Kobti for his valuable inputs, able guidance, encouragement, wholehearted cooperation, and constructive criticism throughout the duration of our project. We deeply express our sincere thanks to our tutors Nachiket Bhide and Samaneh Miroostami for encouraging and allowing us to present the project on the topic “CANTEEN AUTOMATION”. Last but not least we express our sincere thanks to all our lecturers and friends who have directly or indirectly helped our project.

## II. INTRODUCTION

### A. Problem Statement

In today's date, canteens still use manual systems. According to our point of view and current pandemic situation, there are some issues concerning the traditional way to order food in canteens. It results in major challenges like efficiency and customer satisfaction. The customers do not have a pleasant experience of ordering food in canteens. Customers have to stand in long queues for placing the

Name	Functionality
Kavisha Solanki	ADMIN Login & Forgot Password Functionality Add New Chef & Item Functionality Work Functionality Update Chef & Item Functionality View Details Functionality
Arti Vekaria	CUSTOMER Change and Forgot Password Functionality Edit Profile functionality History functionality View History Details Functionality Payment Functionality using PayPal
Yash Savjibhai	CUSTOMER Login Functionality Choose Order Functionality Place Order details Confirm Order functionality
Nikunj Chopda	CHEF Login Functionality Prepare Order functionality Work functionality History functionality

TABLE I  
DISTRIBUTION OF USER STORIES

order and when the order is placed, they have to wait near the counter until the order is prepared.

Secondly, efficiency in a food canteen should be maintained in their standard operations and the quality of the product and services should be maintained no matter how much crowd is present in the canteen. This affects the verbal communication between cashier and customer or the telephonic conversation, in that case. Especially in busy hours in canteens, the communication may result in error i.e. in understanding what the person wants to say. When the place is very crowded and noisy, miscommunications are common. Problem is even worse if the cashier and/or the customers do not speak the native language.

Another problem to be considered is menu display. The competition between food canteens motivates each canteen to launch new items on their menus on a more frequent basis. In most canteens the menu is usually attached to the wall behind the counter, and it is not kept up-to-date which means that the customers are not aware

of the new item. Furthermore, not all items on the menu list have a graphical illustration to help customers to make decisions easily about what they want. The print is sometimes small and not visible to customers.

Also, these days people cannot afford to spend more time in the cafeteria, waiting there for waiters to note down their orders. Customers often visit the cafeteria to eat lunch during breaks and it leaves them with very little time to have lunch and head back to their respective offices/schools.

Hence, automating the entire process will help us resolve these issues and will assist them in placing their food order online and will save customer's time.

### B. Motivation

In India, there are several small business owners affected by the covid-19 pandemic and they have faced financial hurdles due to that. So we have taken this situation as motivation and want to build a web application for them to survive financially in the current pandemic situation. This project will allow the small scale business owners to start their businesses again. Due to this Covid-19 pandemic, all restaurants and canteens (at College or University) around the world are encouraging customers to follow the safety measures of Covid-19 and order and make payment online. The purpose of our canteen automation system is to provide facilities to order online food and online payment. The scope of our project is that it can be provided with food without standing in a queue. Moreover, we already are directly or indirectly familiar with how the powerful Python programming language makes it easy to make dynamic web designs and applications.

### C. Background

Currently, most of the cafeteria conducts food ordering manually which includes a ton of paperwork. Retaining all the manually created files involving personal information of customers can prove to be a risky and tedious job. Since everything is done manually, it also becomes prone to human error. Here, our project will incorporate the use of such technology that will provide authorization to customers as well as the chef and admin (manager), so as to provide secured access. The idea of Canteen Automation web application is to provide a web page seen by the customers, which is then developed dynamically based on the current state of the system, so any changes made are reflected in real time. Customers to the site, once registered, are then able to easily navigate the category and menu, add food items to their cart, and then they can confirm order by doing payment through PayPal account. This simplifies the ordering process. Back in the restaurant, placed orders are promptly retrieved and displayed to the chef in an easily readable format for efficient processing. [1]

### D. Objectives

- Canteen automation system will run as a web application using internet connectivity.
- The system will provide users with such features that they do not have to wait in long queues, instead they can directly order food from a web application.
- The system will reduce the cost of labor associated with order management.
- The system will reduce the paperwork at the canteen and online payment will reduce the spread of Covid-19.
- It will speed up the entire process from ordering food to delivery of food.
- The system will increase the customer satisfaction by reducing the staff errors related to ordering of food.
- Good user interface is also useful for users to operate this system in an easy manner.
- The Chef can see the live order and can prepare food accordingly.

- The owner of the canteen can add, update and delete products according to available stock.

### E. Risk and Mitigation Plans

#### Risks involved:

- Site may crash due to high number of active users
- Due to budget limitation, use of certain requisite assets need to be eliminated.
- It is difficult to foretell from where and when the users will be accessing the site.
- It might not be possible to deliver the project in time if requirements keep changing frequently.
- Online Security Breach: Many hackers can break into the network of a company and access sensitive information.
- Credit Card Scams: Hackers or anybody can use a stolen credit card to make an online transaction.
- The canteen owner may or may not be literate enough to use the website.

#### Risk Management:

- System maintenance and backup should be performed periodically.
- Surveys can be conducted for the target audience to know them better.
- Buffers in the budget shall be set at the prior keeping in mind the future requirements.
- All the requirements will be clarified at the beginning so as to avoid confusion later.
- Enforce additional layers of network security. Select a safe and secure e-commerce platform that uses object-oriented programming language.
- Use Secure Sockets Layer authentication for protection of data, and SSL certificates are essential for transactions.

### F. Report Breakdown Description

The purpose of this document is to provide in-depth descriptions of design and implementation details of the system, as well as descriptions of all available functionality and plans for evolution. We have included a section for related work that describes similar technology which is already in existence. In the Approach section, we have explained in detail about methodologies used in our project starting with the assumptions, environment, setup, and leading to the algorithms for the prototype you have proposed and developed. The execution of the prototype and the experiments i.e. the runs or tests are included in Experimental setup or Demonstration. It will describe the steps needed to build the prototype and its components. In the discussion section, behaviour/result of the prototype, changes in the phases and the entire plan is elaborated. We have discussed the achievements and failures we faced while working, also describing the benefits and limitations of the project in the Conclusion section. In the Future Work section, we have discussed the enhancements that can be made in the future. Further, we have provided references and special acknowledgements from the sources that we used for this documentation.

## III. RELATED WORK

### A. Previously Existing Products/Implementations

- **Paper-Based System:** In India, Most of the canteens use a paper-based system to take an order, make bill and store the order details into the paper. This system has many drawbacks which are mentioned below: The system is used mostly paper which can easily be damaged and lost due to some circumstances. Moreover, it takes more time to write down the order on the paper which eventually consumes more time to take the order. Additionally, small changes into the bill paper require a lot of time and it also leads to errors into the number of bill payments too. [2]

- Computer Accommodated Industry System:** Computers pioneered automation food order systems useful to take orders from the respective computer screen and then orders are displayed on the screen in the kitchen. All the staff members in the kitchen prepare the order according to the new pending notification screen in the kitchen. After that, the waiter is notified when the order is prepared and delivered to respective tables. The system is also informing the chef about the availability of a dish. If some dishes are not available in the kitchen then the chef tells the admin for changes or even cancels a customer's order. After serving the particular order, the bill is generated at the cash counter as per customer order.

## B. Reviewed from Research Paper

- Digital Restaurants and Inter-Restaurant Navigation Using Smartphones:** It is a wireless food ordering system that is based on android devices. The main objective behind developing this system was to reduce the imperfections in the existing systems. It uses wireless communication and smartphone technology for implementing this automated system. Its functionality has three modules: user module, kitchen module, manager module. Manager has the control of adding and updating the menu. In the kitchen module, the chef receives the order of the item selected by the customer. Users can see the menu and can order food online by making payment. But while using this app, no other application can be used in the smartphone, which is the major drawback of this system. Also, another drawback of this system is that it can only be accessed through android smartphones. So we are developing a more robust web application that will consist of a broader range of functionalities. For instance, that helps the customer select food according to their choice of cuisine. [3]

## IV. APPROACH

### A. Our Methodology

Implementation of the Canteen Automation system includes many phases for development of a fully functional system. This development is based on a top-down approach. Starting from the requirements gathering in the first phase to development of the partial system in the second phase.

The first phase is starting from the problem identification. The major problem is identified with the existing manual food management system. After preparing the SRS document for this problem, we got the exact requirements, which needs to be implemented in the project. Later we defined the system architecture and creation of the database, which will help to design according to our requirements. Initially, in phase 1 we have created login functionality for our different types of users like customer, chef, and admin.

Furthermore, in phase two, we divided our requirements according to users, and implemented functionalities like add item/chef, update item/chef and delete item/chef for admin, prepare work and view history for chef, and choose order, add to cart, place order, confirm order, view order history, and edit profile for customer.

To develop this system, we created this automation system in python and used MySQL database to store information.

We are hoping that after successful implementation of this system will solve many issues identified during the system analysis.

## B. UML Diagrams

### 1) ER Diagram

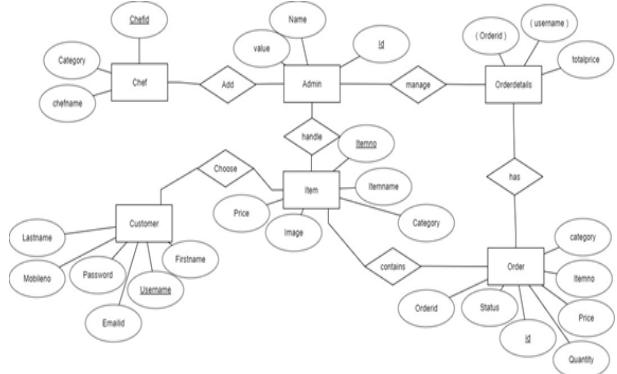


Fig. 1. ER Diagram

### 2) Use Case Diagram

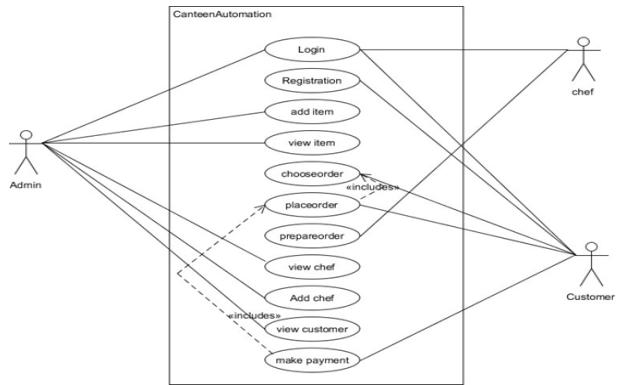


Fig. 2. Use Case Diagram

### 3) Class Diagram

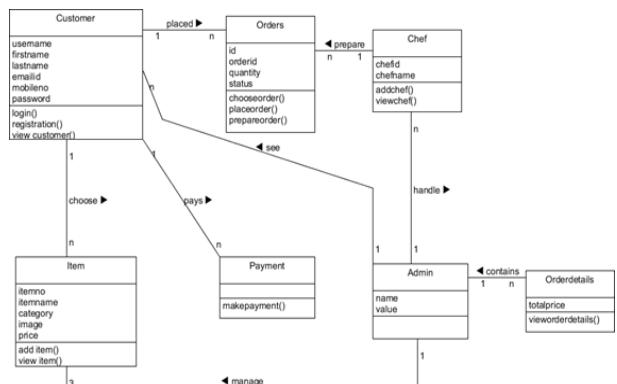


Fig. 3. Class Diagram

### C. Project Environment Setup Information

- We have used Pycharm IDE as our software development in Python.
- We have used the Django platform to create our functionalities in python.
- We have set up a MySQL connection to store our data.
- GitHub link: <https://GitHub.com/nikchopda/CanteenAutomation>

### D. Software Project Management System

- We have used the Trello project management tool for our project to track all the tasks distributed among our team members.
- Link to Trello Software Management tool for Canteen Automation Project: <https://trello.com/b/8jMUEKdc/canteen-automation>

## V. EXPERIMENTAL SETUP

### A. Components

#### Django Models

- class Item(models.Model)
- class Customer(models.Model)
- class Orders(models.Model)
- class Admin (models.Model)
- class Orderdetails(models.Model)
- class Chef (models.Model)

### B. How to Setup and Execute the Prototype?

We are implementing this system using python technology and Django framework. We are using MYSQL database with it. All the frontend design is done in html using either bootstrap or materialize css and JavaScript.

For the given project, we are using following versions :

- Python - 3.6.3
- Django - 2.0.0

**Note:** Refer Appendix B – Pre-requisites for running project section for installation of PyCharm and Django.

### C. Database Structure - SQL DDL

The list of tables created in database for our project is as mentioned below:

- chef\_chef
- client\_customer
- client\_item
- client\_orders
- prog\_admin
- prog\_orderdetails

## VI. DISCUSSION

In initial development for the first phase, according to our gathered requirements, we have decided to develop a login module. It will include sub modules like sign up, login, forgot password and change password on the basis of users' email address for chef, customer and admin categories. After verification of sub modules, everything went according to the plan except that the users could log in without any proper email format.

Furthermore, in the second phase, we identified the wrong behavior of the login functionality. For that, we have created a proper validation for the correct email format. After validating the login module, with proper designed test cases, the behaviour of the login module was working correctly.

In addition to this, in phase II, we have covered the assigned functionalities for this particular phase mentioned as follows:

- Chef - Prepare order, Work functionality, History

- Customer - Added profile, History, View History details, payment functionality, Choose order, Place order and Confirm order.
- Admin - Add new chef and item, Work functionality, Update chef and item, View details.

After verification of phase II, we found some issues as follows:

- We have created a menu display according to its category but it was showing random items in random categories.
- According to the update status feature for the order placed, it should reflect real-time to the customer which was not working as expected.
- Initially, when we developed the module 'view user' for admin, admin was able to modify the user's personal data. So it violated the privacy of the customer.

We rectified above bugs by doing following changes in our code:

- So, we created one extra field in the database which will assign every item according to its respective category.
- Hence we modified the code accordingly and the status of the order reflected according to our plan.
- To overcome this violation, we modified the code so that admin cannot do any changes to user's personal information.

## VII. CONCLUSION

According to set of our objectives, we have achieved:

- Now users can easily access our system, order online food according to their choices, and make payment by using PayPal. It will reduce the efforts, energy and time for customers by eliminating manual food ordering procedures. The chef will receive the order placed by the customers and can set the status for the same. The admin can manage the inventory of the food items.

Unfortunately, the objectives that we could not achieve:

- As an initial stage for the development of the application we were not able to shift our database on cloud and we could only integrate one payment method. The offline notification for the status of the order could not be developed. As this application is developed for local use and small businesses, open data source cannot be used since they do fall under the franchise concept.

Assumptions:

- It is assumed that the user has proper devices like laptop, tablet, mobile devices to access the web application.
- The internet connectivity should be available at that location.
- The user should have login credentials for accessing the system.
- The user should have a PayPal account for making the payment.
- Installation of any browser on the devices is required to run the web app.
- The user is assumed to be literate.

Limitations:

- In this developed system, users will not be able to customize their menu (like meals). They can only order the food items displayed on the menu.
- Only one payment method is integrated in the system. The user cannot make payment using any other option.
- Only walk-ins are welcomed at the canteen; no delivery options are available.

Benefits:

- It is a real time, cross platform web application.
- Python-Django platform makes the system very responsive.

## VIII. FUTURE WORK

Below section shows the future work that can be done:

- Customers can modify and add specific ingredients according to his/her choice for a food item.
- Developers can add more payment options instead of PayPal. Like Debit Cards, Credit Cards, and UPI etc.
- User Interface can be enhanced by adding changes like Offers, Promotions, and Advertisements.
- Home delivery options can be added for better service.
- Developers can add graphical features for the ordering process including order time, status of order etc.
- Developers can send order notification after completion of every stage of order processing.
- Developers can put the location of the canteen on the home page.
- Android or iOS applications can be implemented using this idea of Canteen Automation System.

## REFERENCES

- [1] C. J. D. Mundo, "An Online Food Ordering System Requirements Specification," Accessed: Nov. 27, 2020. [Online]. Available: [https://www.academia.edu/27192023/An\\_Online\\_Food\\_Ordering\\_System\\_Requirements\\_Specification](https://www.academia.edu/27192023/An_Online_Food_Ordering_System_Requirements_Specification).
- [2] K. Dahake and A. D. Bhoi, "ANDROID BASED CANTEEN AUTOMATION USING WIFI," p. 8.
- [3] P. JadHAV, P. Teli, S. Korade, and V. Chavan, "Implementing Digital Restaurants and Inter-Restaurant Navigation Using Smart Phones," p. 6, 2015.
- [4] "Git Handbook · GitHub Guides. Accessed: Nov. 27, 2020. [Online]. Available: <https://guides.github.com/introduction/git-handbook/>.
- [5] "Resources - Documentation — PyCharm," JetBrains. Accessed: Nov. 27, 2020. [Online]. Available: <https://www.jetbrains.com/pycharm/documentation/>.
- [6] "Django documentation — Django documentation — Django." Accessed: Nov. 27, 2020. [Online]. Available: <https://docs.djangoproject.com/en/3.1/>.

## APPENDIX A GROUP WORK

### A. Group Collaboration

Meetings on Google Meet: On a regular basis, our team conducted meetings to discuss tasks distribution, progress in tasks, and tasks evaluation.

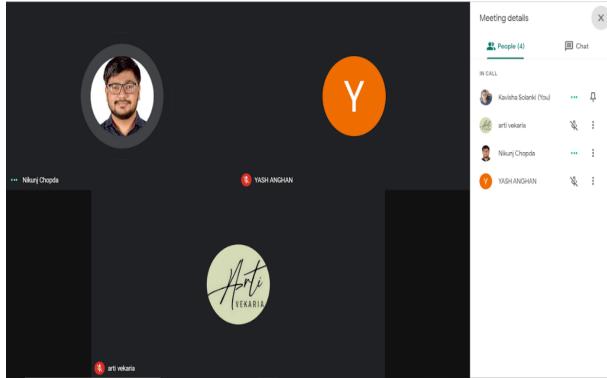


Fig. 4. Google Meet

### 1) Project Management Tool:

- We have used the Trello project management tool for our project to track all the tasks distributed among our team members.
- We have divided the tasks into 4 sprints on a weekly basis as shown in our project on Trello and followed the Agile methodology for task completion.
- Link to Trello Software Management tool for Canteen Automation Project: <https://trello.com/b/8jMUEKDc/canteen-automation>



Fig. 5. Trello

### 2) GitHub Repository:

- The hosting for project development and version control, we have used GitHub. It offers the distributed version control and source code management functionality of Git.
- In the git repository, we have two different branches named master and test. Where master is our main branch and test is a second branch.

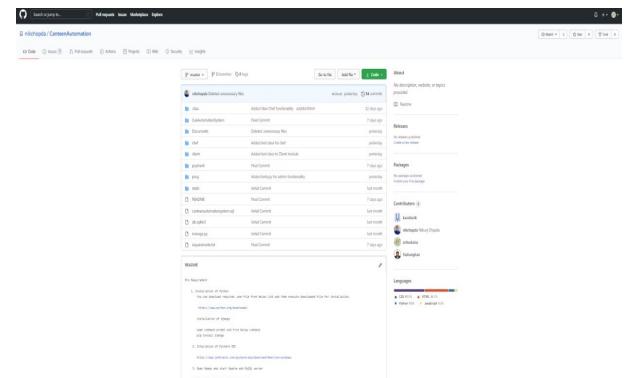


Fig. 6. GitHub Repository

The above screenshot is of our project GitHub repository <https://GitHub.com/nikchopda/CanteenAutomation>.

### B. GitHub

GitHub installation and usage steps:

- 1) Installation
  - In the browser, visit [desktop.github.com](https://desktop.github.com). Download it and run once done. Allow the installation to download and install. Once the installation completes, GitHub Desktop will launch.
- 2) Signing In and setting up credentials

- Sign in with your GitHub credentials. If you don't already have a GitHub login, create a new (free) account. Once you successfully sign in, you are ready to start using GitHub Desktop.
  - After the installation, you must set your Git username with the command (run from Git Bash):  
`git config --global user.name  
"USERNAME"`
  - Next, set the email address associated with your Git account.  
`git config --global user.email "EMAIL"`
  - Make sure to close GitHub Desktop and reopen (otherwise it will not see that Git was installed).

### 3) Commands

- The commands used to add, commit, push and pull the code to and from the repository are as follows (Please refer to the screenshot as well): [4]
    - git add -A
    - git commit -m "message"
    - git push -u origin master
    - git pull

```
C:\Users\Nik Chopda\CanteenAutomation>git add -A
C:\Users\Nik Chopda\CanteenAutomation>git commit -m "Added Documentation"
[master a5d4665] Added Documentation
 3 files changed, 46 insertions(+)
  create mode 100644 Documents/README.txt
  create mode 100644 Documents/diagrams.zip
  create mode 100644 Documents/screenshots.zip

C:\Users\Nik Chopda\CanteenAutomation>git push -u origin master
Enumerating objects: 6, done.
Counting objects: 100% (6/6), done.
Delta compression using up to 4 threads
Compressing objects: 100% (5/5), done.
Writing objects: 100% (5/5), 5.19 MiB | 2.75 MiB/s, done.
Total 5 (delta 1), reused 0 (delta 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To https://github.com/nikchopda/CanteenAutomation.git
 7704742..a5d4665  master -> master
Branch 'master' set up to track remote branch 'master' from 'origin'.

C:\Users\Nik Chopda\CanteenAutomation>
```

Fig. 7. GitHub Commands

### *C. Testing Methodologies*

## 1) Unit Testing

- We have created unit test classes in tests.py for the login module of chef, customer and admin.
  - We can create test classes for remaining functionalities.

## 2) System Testing

#### a) Performance testing

- In our project - Canteen Automation, we will perform the performance testing:
    - verify response time in accordance with active users,
    - how many maximum users load the site can handle,
    - how well the system can sustain load for longer time
  - During the performance test execution, the range, load, etc are measured and these are set as per the requirements and specification.

#### b) Security testing

- In our project - Canteen Automation, we will perform the security testing to:
    - A password should be in alphanumeric format
    - Application or System should not allow invalid users
    - Check cookies and session time for application

c) Volume testing

- In our project - Canteen Automation, we will perform the volume testing to:
    - Verify if the data can be added, updated or deleted in web app
    - Verify if there is any data loss
    - Verify there is no timeout or any error/warning encountered while navigating in web app

#### D. PyCharm IDE

PyCharm install and run <https://GitHub.com/nikchopda/CanteenAutomation/wiki/Requirements>

- Download the required package or executable from the official website of PyCharm <https://www.jetbrains.com/pycharm/download/#section=windows>. Here you will observe two versions of the package for Windows.
  - Download the community package (executable file) onto your system and mention a destination folder.
  - Now, begin the installation procedure similar to any other software package.
  - Once the installation is successful, PyCharm asks you to import settings of the existing package if any.[5]

#### E. *phpMyAdmin*

We have used phpMyAdmin on the local system for storing the database for the project.

The snapshot for the same is pasted below for reference.

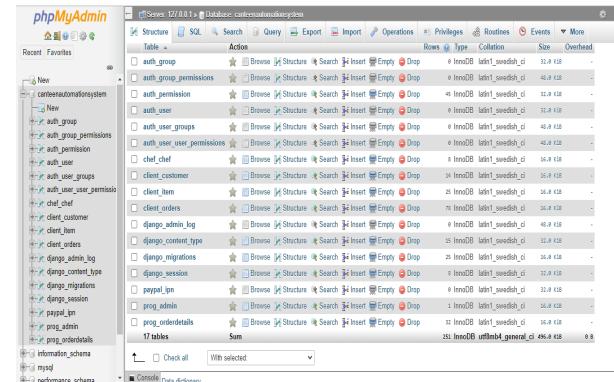


Fig. 8. phpMyAdmin Database

## APPENDIX B

## PRE-REQUISITES FOR RUNNING PROJECT

#### *A. Execution of Project*

### *1) Installation of Python:*

- For Windows users:  
You can download required .exe file from this link and then execute downloaded file for installation.
  - For MAC OS users:  
For Mac OS X 10.6 and later they can download required installer from this link and install that package.
  - For UNIX / Linux users:  
For users who are using newer version of Linux / UNIX they can use following command:

- \$ sudo apt-get update
  - \$ sudo apt-get install python3.6

If anyone who are not able to install by above command, they can use below command:

- \$ sudo apt-get install software-properties-common
- \$ sudo add-apt-repository ppa:deadsnakes/ppa
- \$ sudo apt-get update
- \$ sudo apt-get install python3.6

**2) Installation of Pip:** Pip is a package manager for Python. It makes installing and uninstalling Python packages (such as Django) very easy. To install a pip use following command.

- \$ curl https://bootstrap.pypa.io/get-pip.py -o get-pip.py
- \$ python get-pip.py

### 3) Installation of Django:

- a) Before installing Django, verify that python is already installed into your computer and PATH variable is set.
  - Check if python is installed by using the following command in command prompt: -python -V.
  - It should return the version of installed python. If not, install python and check again.
- b) Install Django
  - Django can be installed easily using pip within your virtual environment.
  - In the command prompt, ensure your virtual environment is active, and execute the following: Command: -pip install django.
  - This will download and install the latest Django release.
  - We can verify it by using django-admin --version in the command prompt.
  - We can get errors in case if the PATH system environment variable is not set to python directory.
- c) Command for migration of models to database:
  - python manage.py makemigrations appname
  - python manage.py migrate [6]

### 4) Python Command Cell Access:

- 1) Two ways to access python command cell
  - a) Command Prompt
    - open command prompt
    - set path to your python installed directory
  - b) Command Prompt
    - Install and open Pycharm
    - go to view menu
    - select Tool Windows
    - select terminal
- 2) New Project Creation
  - Command: django-admin.py startproject projectname OR django-admin startproject projectname
- 3) New App Project Creation
  - Go to project directory.
    - python manage.py startapp appname
  - Run project
    - python manage.py runserver
    - Server ip address
    - 127.0.0.1:8000

## B. Screenshots of Output

### 1) Customer Portal:

#### a) Customer Login

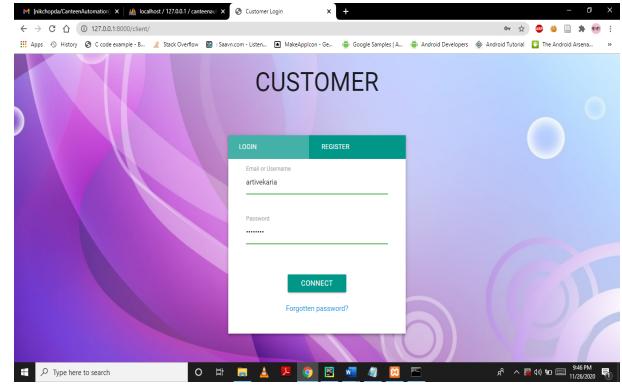


Fig. 9. Customer Login

#### b) Customer Registration

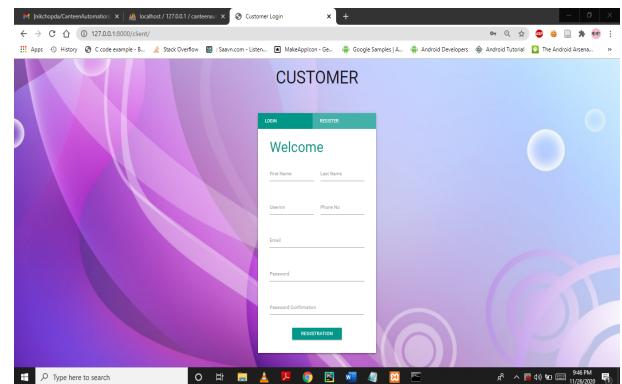


Fig. 10. Customer Registration

#### c) Forget Password

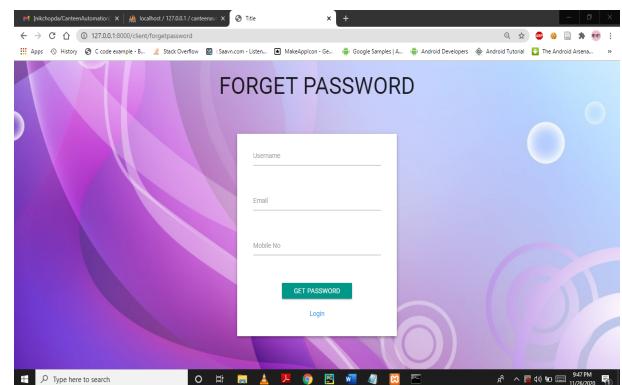


Fig. 11. Forgot password

d) Choose Order

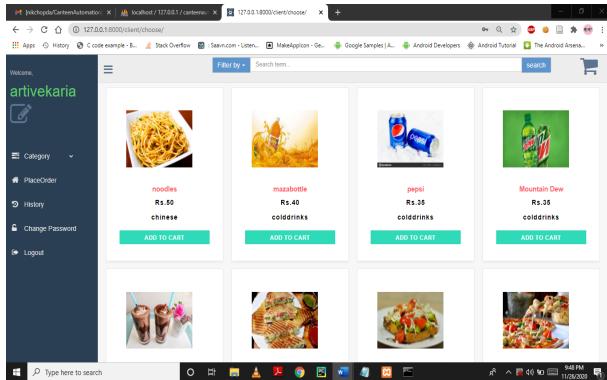


Fig. 12. Choose Order

g) Confirm Order

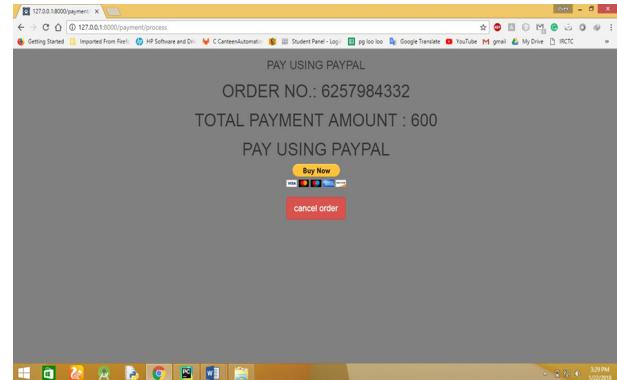


Fig. 15. Confirm Order

e) Add to Cart

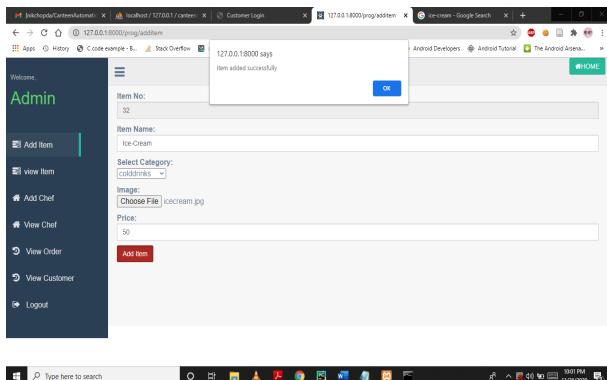


Fig. 13. Add to Cart

h) PayPal Payment

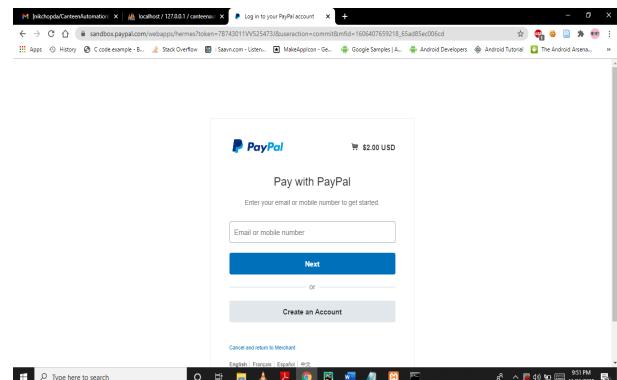


Fig. 16. PayPal Payment

f) Place Order

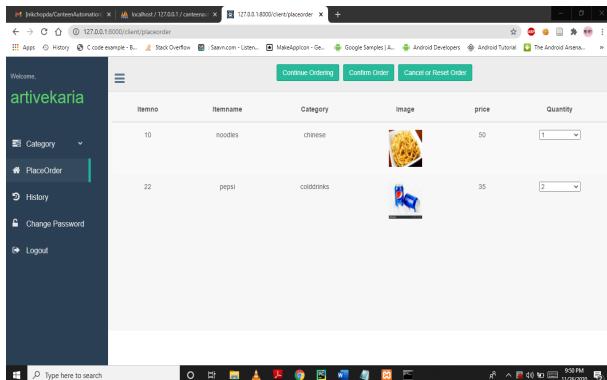


Fig. 14. Place Order

2) Admin Portal:

a) Admin Login

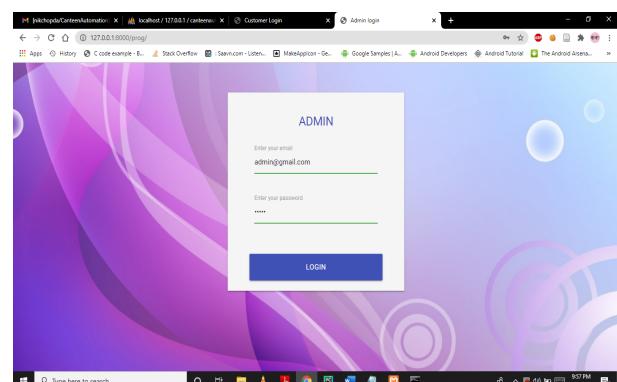


Fig. 17. Admin Login

b) Add Item

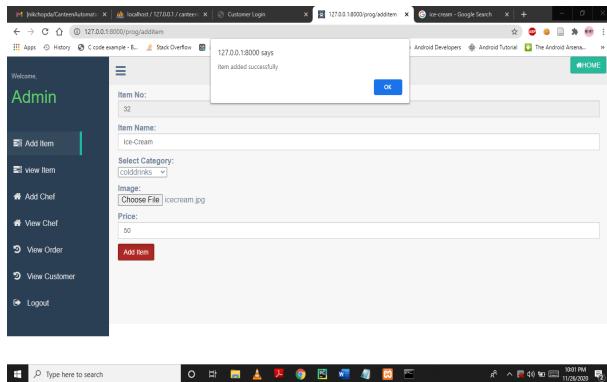


Fig. 18. Add Item

e) Add Chef

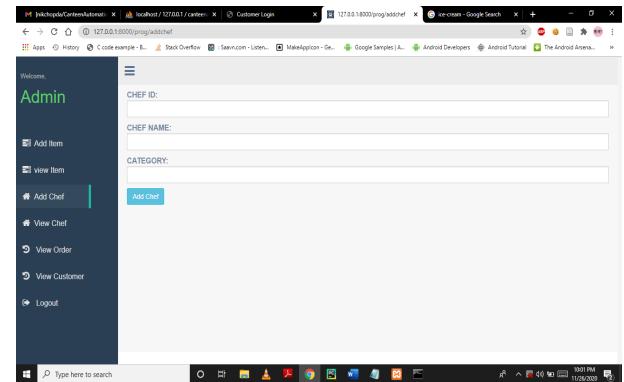


Fig. 21. Add Chef

c) View Item

Id	Name	Category	Image	Price	Delete	Update
10	noodles	chinese		50	<button>Delete</button>	<button>Update</button>
26	Mountain Dew	colddrinks		35	<button>Delete</button>	<button>Update</button>
31	thickshake	colddrinks		90	<button>Delete</button>	<button>Update</button>
32	Ice-Cream	colddrinks		50	<button>Delete</button>	<button>Update</button>
23	mazabottle	colddrinks		40	<button>Delete</button>	<button>Update</button>
22	pepsi	colddrinks		35	<button>Delete</button>	<button>Update</button>

Fig. 19. View Item

d) Update Item

Item No: 31  
Item Name: thickshake  
Select Category: COLDDRINKS  
Image: thickshake.jpg  
Price: 90  
Update Item

Fig. 20. Update Item

f) View Chef

chefid	chefname	Category	delete	update
1	rampal	Gujarati	<button>Delete</button>	<button>Update</button>
2	shyamali	punjabi	<button>Delete</button>	<button>Update</button>
3	dhansal	chinese	<button>Delete</button>	<button>Update</button>
4	katalal	starter	<button>Delete</button>	<button>Update</button>
5	tatalal	southern	<button>Delete</button>	<button>Update</button>
6	matalal	fastfood	<button>Delete</button>	<button>Update</button>
7	popatal	colddrinks	<button>Delete</button>	<button>Update</button>

Fig. 22. View Chef

g) View Order

orderid	username	totalprice	view detail
1259809622	bhind	330	<button>View Detail</button>
1729522377	gamno	190	<button>View Detail</button>
2219974156	gamno	250	<button>View Detail</button>
238892122	bhind	50	<button>View Detail</button>
2551605067	gamno	45	<button>View Detail</button>
2675643549	gamno	220	<button>View Detail</button>
2893493143	bhind	35	<button>View Detail</button>

Fig. 23. View Order

### h) View details of order

The screenshot shows a table with columns: ordern, itemno, itemname, category, quantity, and price. The data is as follows:

ordern	itemno	itemname	category	quantity	price
1259869622	10	noodles	chinese	1	50
1259869622	22	pepsi	colddrinks	2	35
1259869622	26	Mountain Dew	colddrinks	2	35
1259869622	24	pizza	fastfood	1	80

Fig. 24. View details of order

### b) Prepare History

The screenshot shows a table with columns: ordern, itemno, itemname, and quantity. The data is as follows:

ordern	itemno	itemname	quantity
7573727037	13	masala papad	4
7369508344	13	masala papad	4
365741193	4	tomatosoup	2
365741193	6	pavva	5
746762791	4	tomatosoup	1
924819949	13	masala papad	4
6421236539	6	pavva	1
6421236539	4	tomatosoup	1

Fig. 27. Prepare History

### i) View Customers

The screenshot shows a table with columns: Username, Firstname, Lastname, Password, EmailID, and MobileNo. The data is as follows:

Username	Firstname	Lastname	Password	EmailID	MobileNo
arivekaria	ari	vekaria	ari@123	arivekaria97@gmail.com	6354744088
thindi	vivekumar	bhingaradhy	thindi	vivekthindibhingaradhy5@gmail.com	7049529618
captain	shyam	butani	captain	shyam.butani6@gmail.com	9588655862
chopda	Chopda	Lakhshmi	123456	nikunjchopda1996@gmail.com	9628690067
cybim	cybim	cybim	123	xcybim@tjmj.com	9874531230
dtstds	cybim	dsfadsdf	123	rustflop@tjmj.com	1234567890
earth	ari	patel	earth	ari@patel73@gmail.com	9866484097
ganno	darshan	gawswami	ganno	goso.darshan7@gmail.com	8143930254
kd	keyur	dosri	kd	kdoshi6@gmail.com	8511410091
mear	chandni	hotni	mew	chandnihotni23@gmail.com	8401478276

Fig. 25. View Customers

### 3) Chef Portal:

#### a) Manage Order

The screenshot shows a table with columns: ordern, itemno, itemname, quantity, and status. The data is as follows:

ordern	itemno	itemname	quantity	status
7594827395	13	masala papad	4	process

Fig. 26. Manage Order

## APPENDIX C

### SPECIAL ACKNOWLEDGMENT

We would like to give special acknowledgement to the following platforms that we have used in the development of our project.

#### A. PayPal Integration

PayPal is quite a popular payment software that is used to transact money between people and businesses online. It is user friendly and easy to use. The main advantage of using PayPal API is that it is extremely easy to implement in our project. Further, it easily generates everything from invoicing to safe fund transfer. However, while using PayPal a customer is taken to another page for completion of payment and hence it limits optimization of the checkout.

#### B. Django Integration

It is a Python-based free and open-source web framework that follows the model-template-views architectural pattern. The advantages are that it gives great back-end support, better CDN connectivity and content management, fast processing, offers rapid development, scalability and security. The disadvantages are that it is monolithic, it is not for smaller projects and uses regular expressions for URLs.

#### C. Database phpMyAdmin

For the initial stage of development we have used phpMyAdmin to store our data.phpMyAdmin is open source and free software to store databases locally. It is a very popular Administration tool for web hosting services.

##### • Advantages

- It provides separate panels for different tasks, like SQL query editor, Database manipulation, Status tracking etc.
- No cost for database creation and maintenance operations.
- It supports major database formats, which will be used for documentation purposes.
- Shows all active plugins, which are connected to phpMyAdmin.

##### • Disadvantages

- It only supports MySQL and MariaDB.
- Even though it makes use of authoritative servers, it does not meet up the standards of the current technical market.

As of now we have made our project on a local system, but for further enhancements and features that we could not cover as of now, we will move to Google Firebase for storage of databases.

#### *D. Google Firebase*

Firebase is a platform developed by Google for creating mobile and web applications. The pros of using it are that it gives JSON storage means no barrier between data and objects, simple serialization of app state, minimal setup, easy access to data, files, auth, provides massive storage size potential, highly secure and serverless. The cons are not widely used, have limited querying and indexing, no aggregation and can't query or list users or stored files.