Jorhat Engineering College, Jorhat

A flutter Project Report On Mobile Application for

JEC CANTEEN

Submitted by

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In fulfillment of 5th Semester End Term Examination of Master of Computer Application

Under the guidance of:

Dr. Dhurba Jyoti Baruah

Associate Professor

ACKNOWLEDGEMENT

We take this opportunity to express our sincere gratitude to all those who helped us in various capacities in undertaking this project and devising the report.

We want to give our heartiest thank to the faculty of the MCA department in providing a helping hand in guiding this project and also to accomplish such project.

Last but not least, it is our immense pleasure to acknowledge the wishes of our friends for their constant support and cooperation. In both academic and non-academic spheres.

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5th semester MCA

CERTIFICATE

This is to certify that the mobile application project entitled "**Jec Canteen**", which has been jointly submitted by **Meghna Dutta, Pallab Saikia, Pompi Basumatary, Preeti Devi Narzary and Richad Yamin Ali** for their partial fulfillment of 5th Semester of Master of Computer Application course is a bona fide project work carried out by them under my supervision.

I wish them all success in future.

H.O.D.
Master of Computer Application
Jorhat Engineering College

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I wish them all success in future.

Mr. Abinash Borah
Assistant Professor
Master of Computer Application
Jorhat Engineering College

DECLARATION

We hereby declare that the project report entitled **"Mobile Application for Jec Canteen"** submitted by us for the partial fulfillment of 5th Semester of Master of Computer Application course is an authentic and original work carried out by us and is not submitted to any other university or institute for the award of any degree or for any other purpose.

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INTRODUCTION

Mobile applications are one of the daily aspects of our everyday life which helps us to perform multiple tasks by reducing our effort as well as keeping us entertained. A Mobile Application or popularly called as app is a set of software which is designed and developed in such a way that can run on any mobile device, smart phone or tablet.

The project “Mobile application for JEC canteen” is an online food ordering application built for the faculties of the college with the support of internet. It involves a simple and interactive UI which can be easy to understand and handle.

Every organization face some hardships to maintain their manual records for their transaction. This application will help the canteen members and employees to manage their order and delivery online in a hassle-free way and keep track of the customer requirements.

The canteen app will enable faculties to order their food and make payment online on credit basis as well as immediate pay and order method. Our food ordering application enables ease for the customers by overcoming the traditional hustle and queuing system infront of the canteen. The JEC canteen app will show the food menu and the availability of the food items. Customers will be able to create their own account from which they can add and place order as per their choice.

This canteen app will help the admin to manage the entire system by keeping eye on the food availability and customer’s account about their order placed and payment balance. The administrator doesn’t have to sit and manage the entire activities on paper and at the same time this system will give him the flexibility to manage the entire system from a single online portal. This will lead an error-free, secure and computerized data.

OBJECTIVES OF THE PROJECT

The objective of this project is to develop and design a Canteen application for the JEC faculties on credit basis(a process in which a borrower receives something of value immediately and agrees to pay for it later) instead of the immediate pay and order process.

The aim of the mobile app is to automate the existing manual system with the help of computerized equipments and software so that the organization can maintain error-free, secure, reliable information without any redundant entries. At the same time, it aims at providing easy user interface and better delivery services to the customers.
It keeps track of the canteen's products, detailed transactions meal and meal types, sells occurred etc.

ADVANTAGES:

1. Security of data.
2. Ensure data accuracy’s.
3. Proper control of the admin.
4. Minimize manual data entry.
5. Minimum time needed for the various processing.
6. Greater efficiency and Better service.
7. User friendliness and interactive.
8. Minimum time required.

FEASIBILITY STUDY

The feasibility study of any system is mainly intended to study and analyze the proposed system and to decide whether the system under consideration will be viable or not after implementation. That is it determines the usability of the project after deployment. To come to result a set of query is answered keeping the efficiency of the software and its impact on the domain for which it was developed. It main emphasis is on the following three questions elucidated below as:

What are the user's requirements and how does a candidate system meet them?

What resources are available for the proposed systems? Is it worth solving the problem?

What is the likely impact of the proposed system on the organization? i.e. how does the proposed system fit within the organization?

Thus since the feasibility study may lead to commitment of large resources, it becomes necessary that it should be conducted competently and no fundamental errors of judgment are made. Different types of feasibility study and the way we performed on our project "Soundex Design and Development for Bodo Language**"**.

TECHNICAL FEASIBILITY

In technical feasibility, we study all technical issues regarding the proposed system. It is mainly concerned with the specifications of the equipment and the software, which successfully satisfies the end-user's requirement. The technical needs of the system may vary accordingly but include:

- The feasibility to produce outputs in a given time.
- Response time under certain conditions.
- Ability to process a certain volume of the transaction at a particular speed.
- Facility to communicate data.

Under this analysis process questions like

(i) Does the compatible platform exist within our domain or can we procure it?

(ii) Does the proposed equipment have the technical capacity to hold the data required using the new system?

(iii) Both at the development site and at server where we will be hiring the space for the website, and also the database would it be possible to upgrade the system after it is developed and implemented, if necessary? And would the recommended technology guarantee the reliability, accuracy and data security?

This analysis process requires more emphasis on system configuration given more importance rather than the actual hardware specifications.

The configuration of the existing systems is:

- Processor : Any Dual Core, 1000 MHz (or above)
- Memory : 1024 MB (or above)
- Secondary storage : 20 GB (or above)

For Software there are following alternatives:

Operating System: Windows 10

Text Editor Used: Visual Studio Code

Database: Firebase

REQUIREMENTS ANALYSIS

HARDWARE REQUIREMENTS -

The hardware facilities, which are required in order to cope up with, the proposed systems, are as follows: -

Dual Core processor

Minimum of 3 GB of RAM

SOFTWARE REQUIREMENTS —

The minimum software requirements for the proposed system would be:-

- Windows operating system (7 or later)
- Web browsers such as Chrome, Mozilla Firefox etc

Tools requirements

The software tools that are used to build the system are as follows:

User App(Android):

1. **IDE:** Visual Studio Code
    - **Visual Studio Code** is a code editor redefined and optimized for building and debugging modern web and cloud applications.

2. **Framework:** Flutter
    - **Flutter** is a free and open-source mobile UI framework created by Google
    - It is used to develop cross platform applications for Android, iOS, Linux, Mac, Windows.

3. **Language:** Dart
    - **Dart** is a programming language designed for client development, such as for the web and mobile apps.

4. **Database:** Google Firebase Firestore
    - **Firebase** is a Google-backed application development software that enables developers to develop iOS, Android and Web apps.

5. **Version Control:** Git
    - **Git** is software for tracking changes in any set of files, usually used for coordinating work among programmers collaboratively developing source code during software development

Admin (Web App):

1. **Front end**: HTML, CSS, Java script, jQuery, Bootstrap
    - The Hyper Text Markup Language, or **HTML** is the standard markup language for documents designed to be displayed in a web browser.
    - **CSS** is the language we use to style an HTML document. CSS describes how HTML elements should be displayed.
    - **JavaScript** one of the core technologies of web development and can be used on both the front-end and the back-end.
    - **jQuery** is a JavaScript library designed to simplify HTML DOM tree traversal and manipulation, as well as event handling, CSS animation, and Ajax.
    - **Bootstrap** is a free and open-source CSS framework directed at responsive, mobile-first front-end web development

2. **Language:** PHP
    - **PHP** is an open-source, interpreted, and object-oriented scripting language that can be executed at the server-side.

3. **Database:** Google Firebase Firestore

4. **Storage:** Google cloud storage for Firebase
    - **Google Cloud Storage** is incorporated into Firebase apps, we gain access to Google security measures and the ability to secure any uploads or downloads in our app.

5. **IDE:** Visual Studio Code

6. **Version Control:** Git

System Design

System designing is the most crucial part of any information system development process. System designing is a solution about how to approach to the creation of a new system. It is a highly creative process and it requires a substantial amount of knowledge and creativity on part of the system analyst.

System design is mainly concern with the co-ordination of activity, job procedures and equipment utilization in order to achieve organizational objectives.

System design is a highly creative process, which can be greatly facilitated by the following:

1. There should be a strong problem definition.

2. Pictorial description of the existing system.

3. General background information of the area under study.

4. A good understanding of the current system and a set of requirements for the system.

Design specification

In this stage, the software design document defines the overall architecture of the software that provides the functions and features described in the software in the software requirements documents.

The document describes the logical subsystem and their respective physical modules. It ensures that conditions are covered.

INPUT DESIGN:

Inaccurate input data are the most common cause of errors in data processing. Errors entered by data entry operators can be controlled by input design. Input design is the process of converting user oriented user inputs to a computer-based format. In the input design phase, inputs are collected and organized into groups of similar data. Once identified appropriate, input media are selected for processing.

OUTPUT DESIGN:

Computer output is the most important and direct source of information to the user. Efficient intelligent output design should

improve the system relationship with the user and help in decision making. A major form of output is a hard copy from the printer.

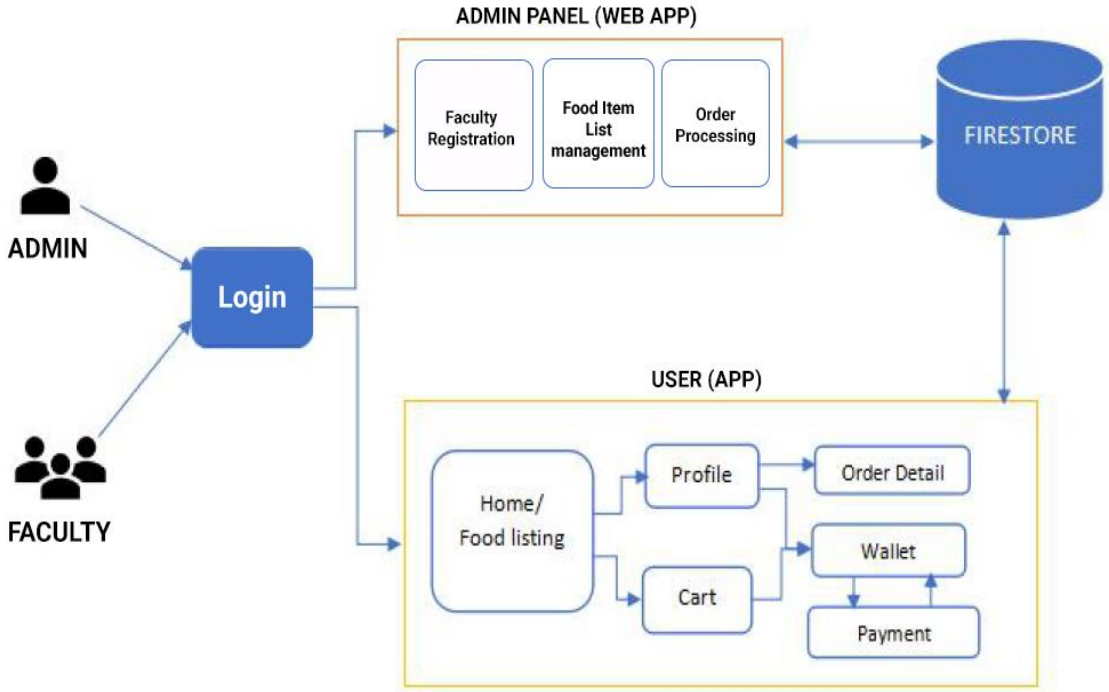
FORM DESIGN:

A form is a tool with a message. It is the physical carrier of data and information. It also can constitute authority for action. For the purpose, in a kind of system under consideration, which employs the method of online data entry through keyboard, the data entry operator must be assisted by a well-designed input form in accordance with the source document sheet.

DATABASE DESIGN:

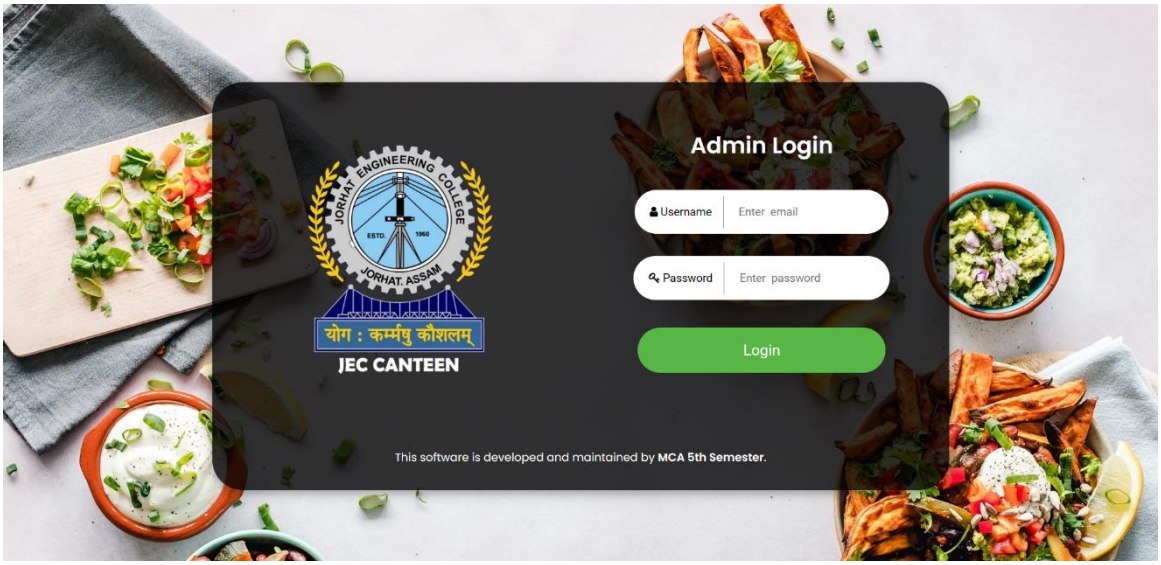
The collection of data is usually referred to as the database. The database contains information about one particular organization. Database system is designed to manage large quantities of information. The management of data involves both for storage and the provision for mechanisms for the manipulation of the information. In addition, the system must provide for the safety to the information stored in the database.

SYSTEM ARCHITECHTURE

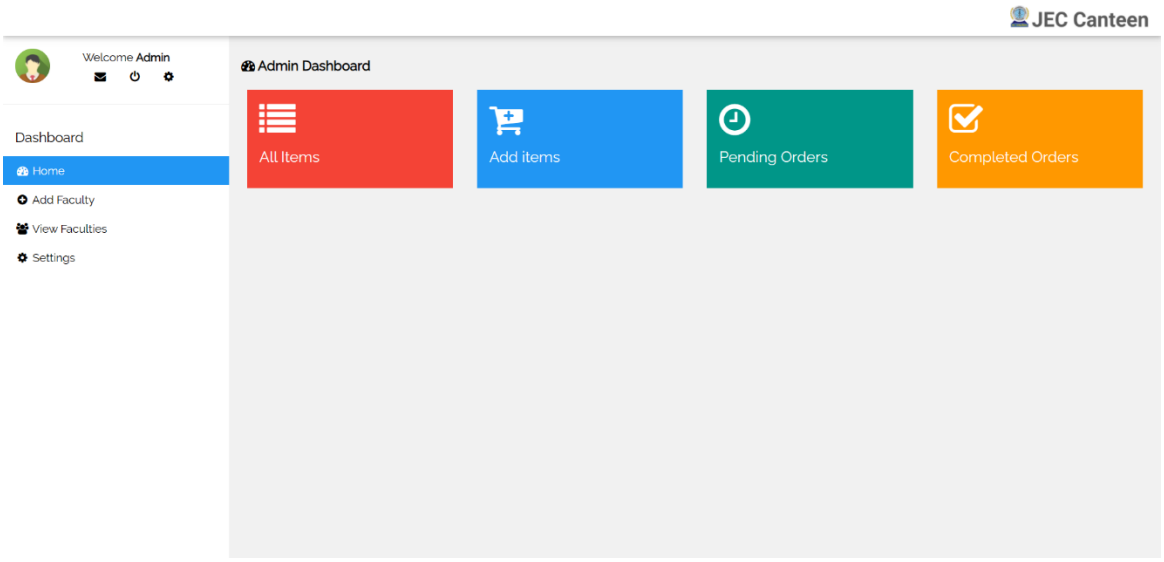


SCREENSHOT OF THE PROPOSED SYSTEM AT VARIOUS RUNNING STATES:

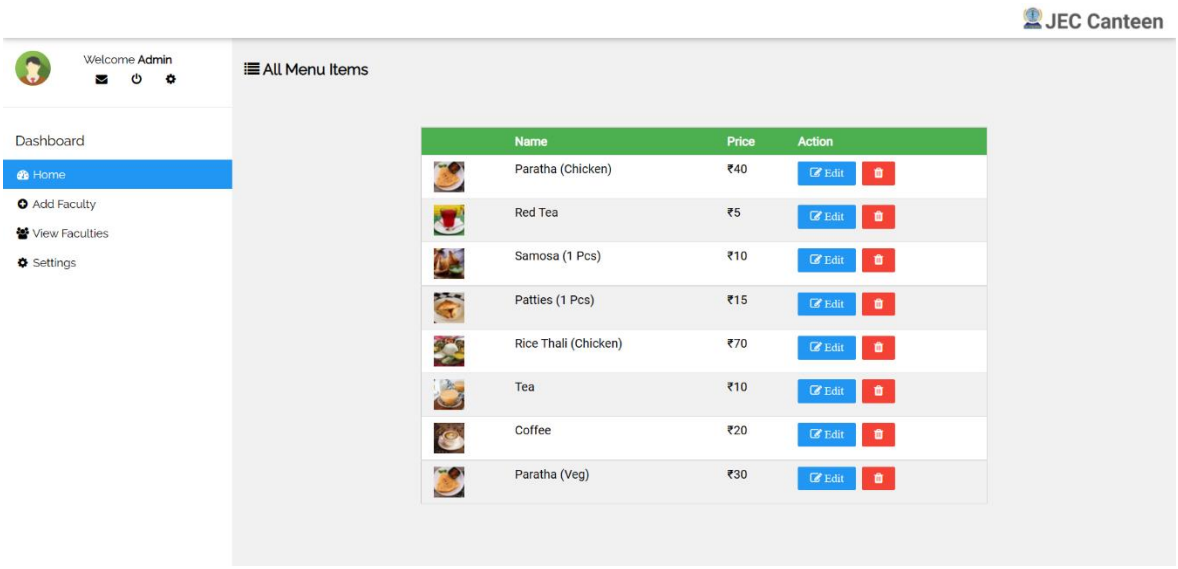
Admin Login:



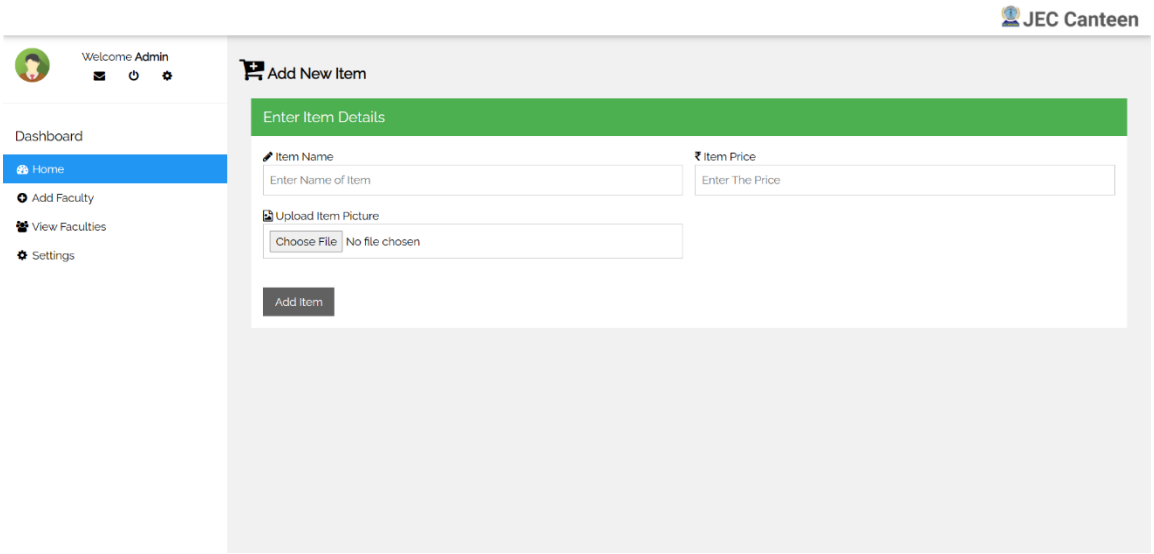
Admin Dashboard:



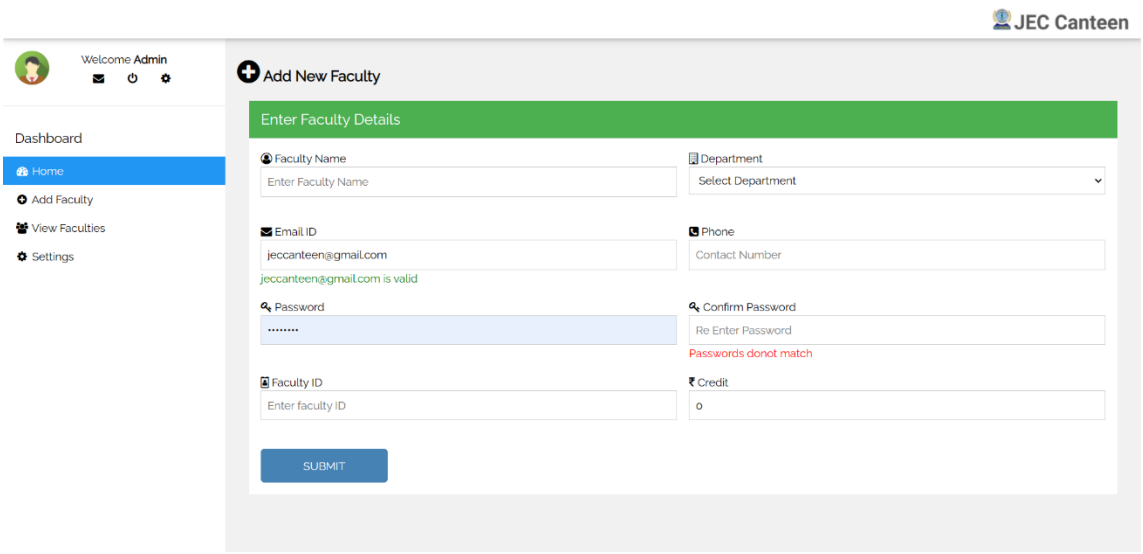
Item List:



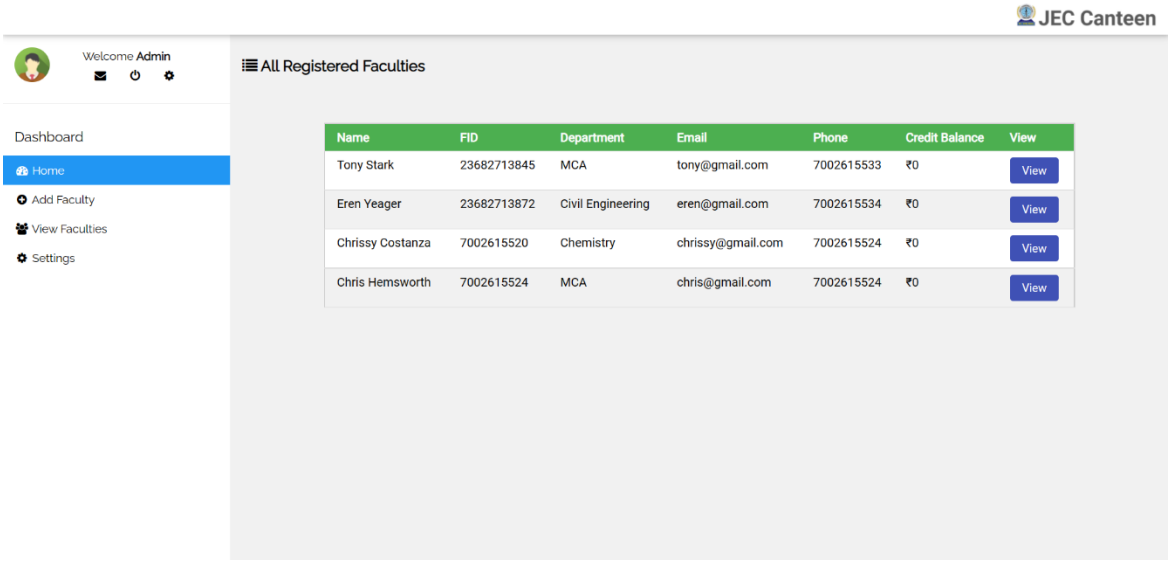
Add Item:



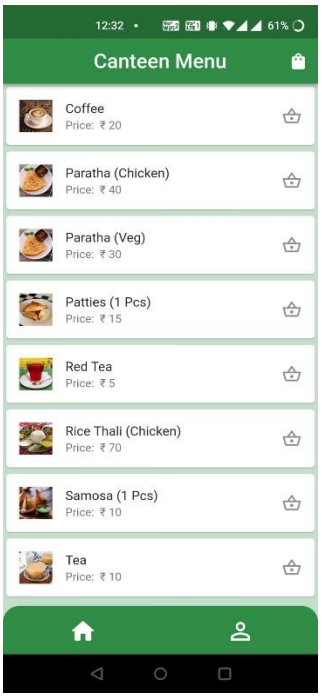
Faculty Registration:

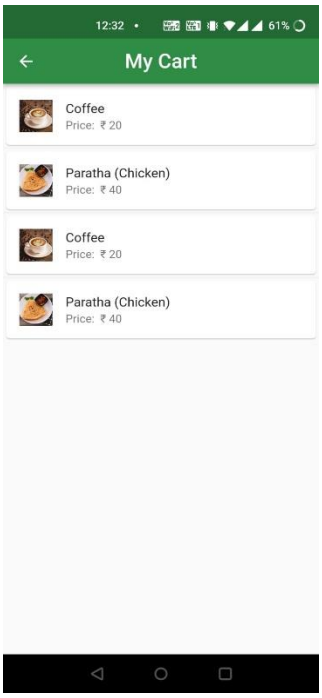


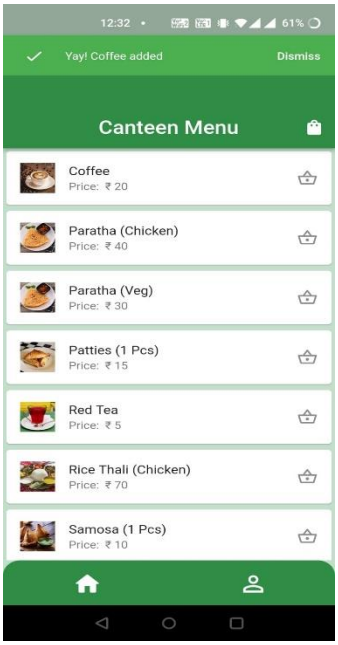
Registered Faculties:



View Menu


12:32 • 61%
Canteen Menu
Coffee
Price: ₹ 20
Paratha (Chicken)
Price: ₹ 40
Paratha (Veg)
Price: ₹ 30
Patties (1 Pcs)
Price: ₹ 15
Red Tea
Price: ₹ 5
Rice Thali (Chicken)
Price: ₹ 70
Samosa (1 Pcs)
Price: ₹ 10
Tea
Price: ₹ 10


12:32 • 61%
My Cart
Coffee
Price: ₹ 20
Paratha (Chicken)
Price: ₹ 40
Coffee
Price: ₹ 20
Paratha (Chicken)
Price: ₹ 40


12:32 • 61%
Yay! Coffee added
Dismiss
Canteen Menu
Coffee
Price: ₹ 20
Paratha (Chicken)
Price: ₹ 40
Paratha (Veg)
Price: ₹ 30
Patties (1 Pcs)
Price: ₹ 15
Red Tea
Price: ₹ 5
Rice Thali (Chicken)
Price: ₹ 70
Samosa (1 Pcs)
Price: ₹ 10

FUTURE SCOPE & CONCLUSION

The present system depends on the online management. This can be improvised by the automation of the software's. The data storing will take time and it requires the manual observation. With the help of the automation it would store the data instantly. This will reduce the effort time by the manual observation. The updated data will be finalized and alerts time to time to the admin.

Adding some advancement to the project, machine learning algorithms can also be used for the prediction of the most preferred item by the customers. The customers will give the feedback and this will be sent to the database. Using the machine learning algorithms these feedbacks will be analyzed and preferred food item will be displayed to the regular users on the online system. The menu list can also be updated according to the admin's choice by the shortcut methods used in the learning algorithms. The wavenet technology will help in the recognition of the user. It is done the voice recognition of the user where it does convert them into small wavenets which on average final wave of the user's voice will be generated.

The advantage of using a cloud based system is that the scale of a canteen does not make any difference. This system can be implemented on small as well as large scale canteen business. We can have track of ordersand we can cook the food based on customer satisfaction and we can give feedback form after delivery of food in application so the chef can cook as per customer's wish.

REFERENCES

- w3schools.com
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- stackoverflow.com
- github.com
- tutorialspoint.com