MESS

MANAGEMENT

SYSTEM

Project Memebers
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INTRODUCTION

AIM

Creating an online portal to facilitate the process of mess registration at the beginning of every semester in NITK hostels. The project aims to reduce the workload on the hostel authorities by minimising the paper work and preventing long queues in hostel offices.

RELEVANCE

The Mess Management System helps the user to access all the functionalities of the mess without having to visit the mess physically and to apply for leave.

It enables the admin to view the inventory and access guest details. This application is free of cost for the users. Individuals who wish to use any functionality of the mess can simply log in to the system and have everything on their fingertips.

It uses the internet to update all user queries and put it across to the admin. Using the information provided by all the users the admin can take decisions and the inventory for the mess can be managed.

DESCRIPTION

The purpose of this application is to automatize the hostel mess functionality and provide both the user and the admin a smart platform to interact with each other. To use this facility, the users are provided with account credentials. Once logged in, the user can use the functionalities of the mess such as accessing

his/her account information, applying for leave and checking the menu. On the other hand the admin can log on and check the inventory details and also get to know the number of guests visiting the mess that day. This application aims at providing ease to both the users and the admin.

EXISTING SYSTEM

The existing system to facilitate mess functionalities for the students is the normal pen and paper method. Any query is addressed by physically visiting the mess and records are taken on a register. The account information is only available with the hostel staff and it requires a lot of effort to access it.

PROPOSED SYSTEM

The new management system will allow the user to interact with the admin directly through the use of this application to address his/her queries and this will also enable the admin to make the functionalities faster.

SOCIAL IMPACT

- It will have a positive impact on the mess proceedings making it more organized.
- Amount of food wasted will decrease as the mess staff will have a prior estimate of the Guest Count.
- The students will be able to apply for a leave even when they have sudden plans of leaving the hostel.
- The concerned authorities will have information of the food ingredients present in the mess.

REQUIREMENT SPECIFICATIONS AND ANALYSIS

- The obvious purpose of this system, which triggered the idea of developing it in the first place, is the Online Mess Registration. Every student will be provided with an account where they can login and register for desired messes and check the status of their application. This feature will completely eliminate the problem of crowd in the hostel office during start of each semester. The database will contain basic information about every student like Name, branch, Roll no, Mess roll no and the mess they opted for. It will also have the information about the messes such as mess capacity, type of mess (government/private), region of mess, person in charge, mess contact no. etc.

- Often during the selection of messes, students are confused as different regional messes have different menu. Hence, the detailed menu for each mess for breakfast, lunch and dinner for all the 7 days of the week will be displayed. Students can see the menu beforehand which will help them to decide the mess they want to opt for. Once applied for a particular mess and approved, Students can suggest changes to the menu by giving feedback if they want something different.

- As we know that feedbacks are important for any organisation to improve upon their current status, this system will also be equipped with a feedback section where the students can give feedback about the quality of food being provided so as to help in the improvement of the services provided by the messes. Having a proper feedback section will make sure that the students are satisfied with the services provided to them. Thus,
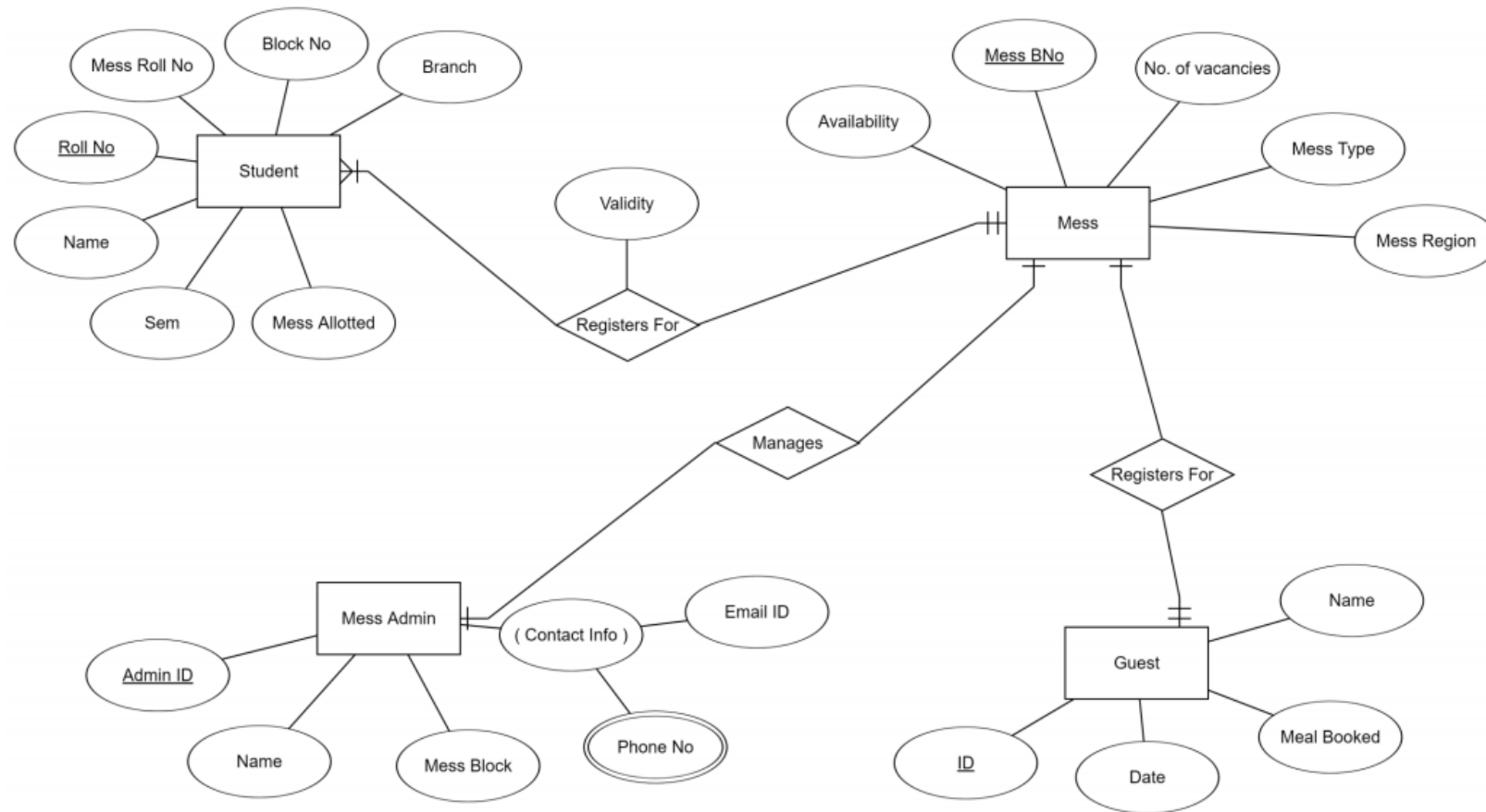
the attendance in the mess will be high throughout the semester and it greatly reduce the wastage of food which is mostly caused due to low attendance.

- There are times when some students go home during weekends or a series of long festive holidays, in those cases the mess staff doesn't have the idea of how many are leaving in order to prepare food only for those staying in the hostels. This is a serious issue as it results in a lot of wastage of food. Also, it is not practical to charge fees from the students when they are not eating in the messes. Hence, students will have an option to take leave from the messes for a specified time and the money for that period of time will be refunded at the end of the semester. Thus, wastage of food can be minimised and also the students will be satisfied with the refund.

- Sometimes, during grand dinners a large number of people go to those messes and have the meal. Due to this, the mess employees do not have a proper idea of about how many people are going to turn up apart from the registered students thereby creating shortage of food and long queues in the messes while the extra meal is being prepared. Keeping this problem in mind, an extra feature to book online meal is required. Hence, the private messes will also have an option to book a particular meal online so that they will have a count of people turning up in order to prepare food accordingly. The students or any staff will just have to show their booking details in the mess for confirmation. This will also prevent an additional queue in the mess.

- The Homepage of the system will contain timelines for any new announcements, or the dates for the Grand Dinner for respective messes. For every mess the menu for that day will be displayed.

- The administrators of the respective messes will be able to change the mess menu from time to time. They will also be able to update their mess details like contact no, no. of staffs employed, post any announcements, set the dates for grand dinner etc.

- The administrators for each mess block will be able to see a list of students registered for their mess block. The administrator will have the rights to approve or disapprove the registration of a particular student.

- The feedbacks given by the students for different messes will be displayed in the accounts of respective mess administrators. This will greatly enhance the communication between the students and the hostel authorities.

- The contact details of mess in-charge will be shared on the homepage. This will allow the students to contact the messes and clarify their queries.

- The students will be allowed to apply for changing the mess at the end of each month. The messes will be assigned based on the time stamp of the submitted applications.

- The dates for the mess committee meetings will be posted on the system from time to time. A list of mess committee student members will also be posted so that other students can contact them personally and convey their grievances as they are more open to their friends.

- Also, the details of the latest meeting will be shared to notify the students about any latest decisions taken.

PROJECT DESIGN

ER DIAGRAM

Mess Roll No

Block No

Branch

Roll No

Student

Name

Sem

Mess Allotted

Validity

Registers For

Availability

Mess BNo

No. of vacancies

Mess Type

Mess

Mess Region

Manages

Registers For

Mess Admin

Admin ID

Name

Mess Block

(Contact Info)

Email ID

Phone No

Name

Guest

ID

Date

Meal Booked

RELATIONAL SCHEMA

STUDENT

USN	MESS RNO	NAME	BNO	BRANCH	SEM

MESS

MESS BNO	MESS TYPE	MESS REGION	NO.OF VACANCIES

MESS REG

USN	MESS BNO	VALIDITY

MESS ADMIN

ADMIN ID	NAME	MESS BNO	EMAIL	PHONE

MESS MENU

MESS BNO	DAY	MEAL TYPE	FOOD NAME

GUEST REG

ID	NAME	MEAL_BOOKED	DATE

FEEDBACK

MESS BNO	COMMENTS

IMPLEMENTATION

PLATFORMS AND FRAMEWORKS USED

- The proposed Mess Management System is a web-app built using HTML5/CSS3. It also utilises Bootstrap CSS framework for better designing and formatting. Bootstrap is an open source toolkit for developing with HTML, CSS, and JS. It makes development of responsive and mobile-friendly websites very easy. Most of the times, people use smartphones to use the internet. Hence, it becomes important to build responsive websites so that they are easy to use on mobile devices.

- The back-end part of the system is made using Django which is a high-level Python Web framework that encourages rapid development and clean, pragmatic design. The reason we chose to work with Django is that it is free, open source software and easily available on the internet. Since experienced developers build it, it takes care of much of the hassle of Web development, so we can focus on writing our app without needing to reinvent the wheel. Django is a very powerful framework, which has secure methods for authentication and storage of data.

- The database used for storing information is SQLite3. It is a self-contained, highly reliable, embedded, full-featured, public domain, SQL database engine.

- The IDE used to implement all the above is done using PyCharm. It is specifically designed for Python. It provides code analysis, a graphical debugger, an integrated unit tester, integration with version control systems (VCSes), and supports web development with Django.

KEY FUNCTIONALITIES

Home Page

The home page for the system is made very interactive and user-friendly. It consists of three sections – Students Login, Mess Menu, and Guest Meal Booking. Each section redirects the user to its corresponding page.

Student Login

The students are provided with account credentials so that they can login into the system. The authentication system provided by Django is used to make sure that the student's personal information is secure and users can only login to their respective accounts. Once logged in the user can use the functionalities of the mess such as accessing his account information, register for a desired mess and checking the menu.
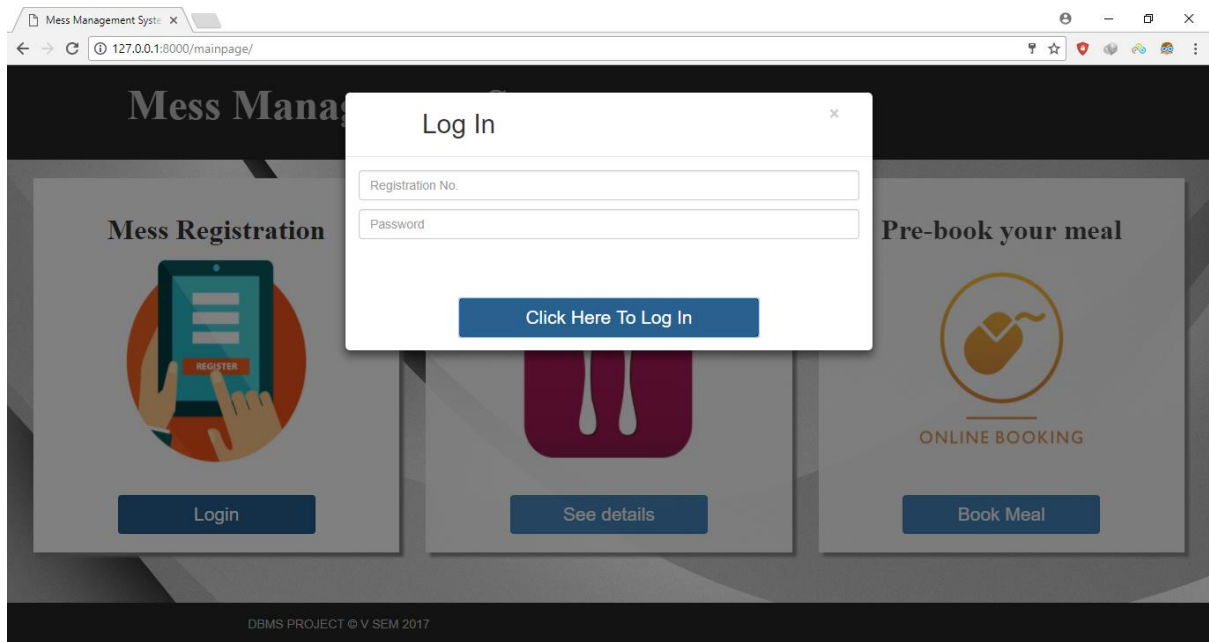
Online Mess Registration

The students will be able to register for their desired messes online. A List containing the mess blocks, mess types, and the vacancy for each block will be displayed. The students will have to select the mess and register.
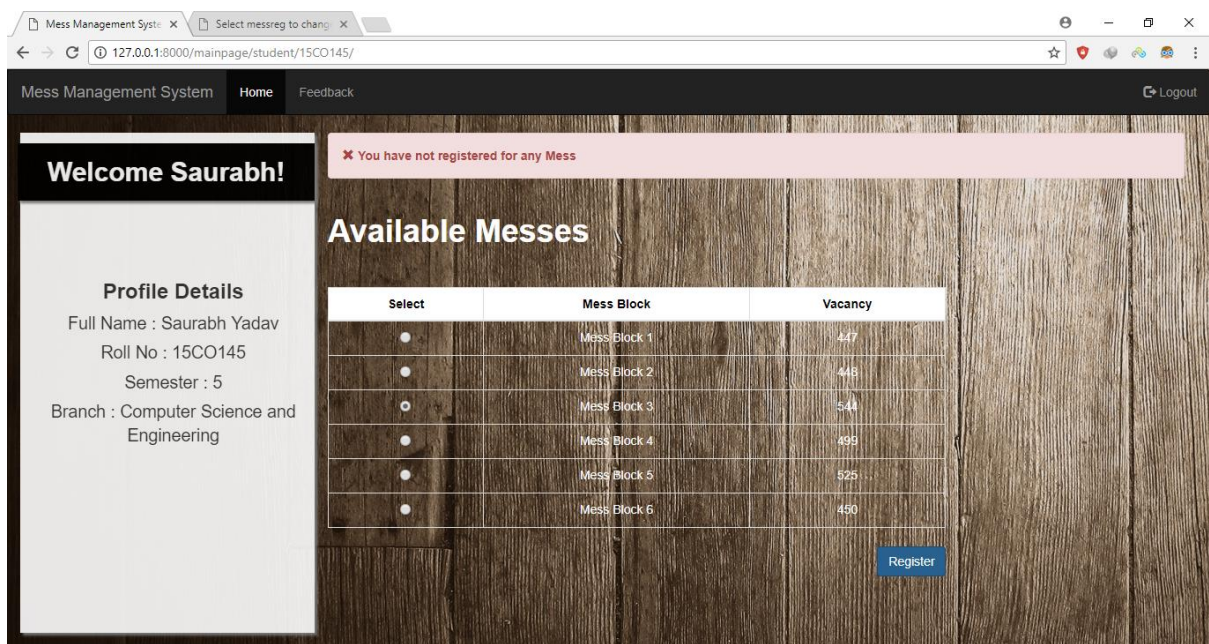
Once registered, the users will see a confirmation message indicating that their registration is successful.
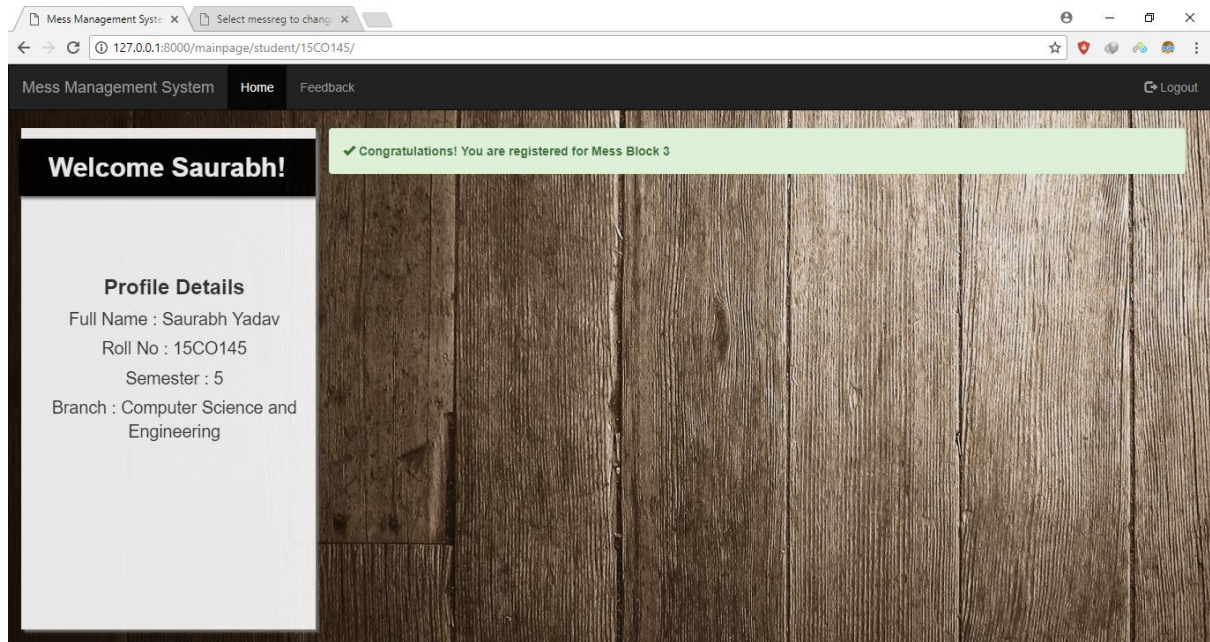
Complaints and Feedbacks

The students can give feedbacks on the quality of food or suggest changes in the mess menu by submitting feedback. The feedbacks will be totally anonymous and the names of the students will not be disclosed. The students can only give feedbacks for mess they are registered to. They need not specify the mess block while giving feedback but it is assumed that the feedback entered by the user correspond to the mess they have been registered to.
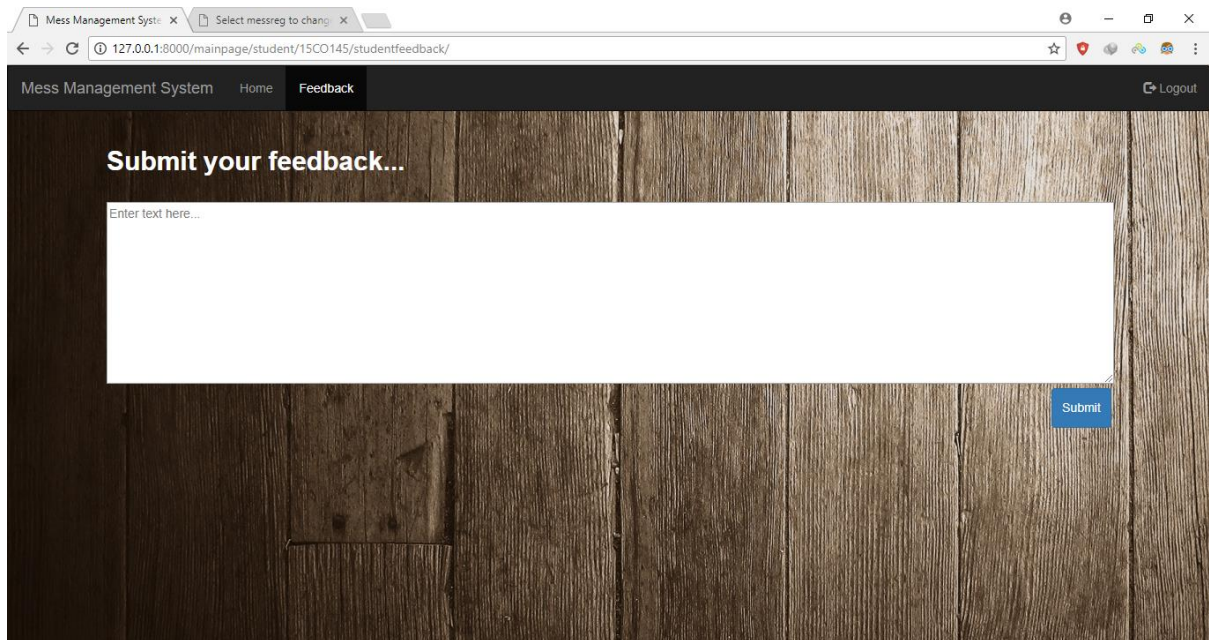
If a user who hasn't registered for any mess tries to give feedback, he/she will receive a warning message to register for the mess to proceed further.
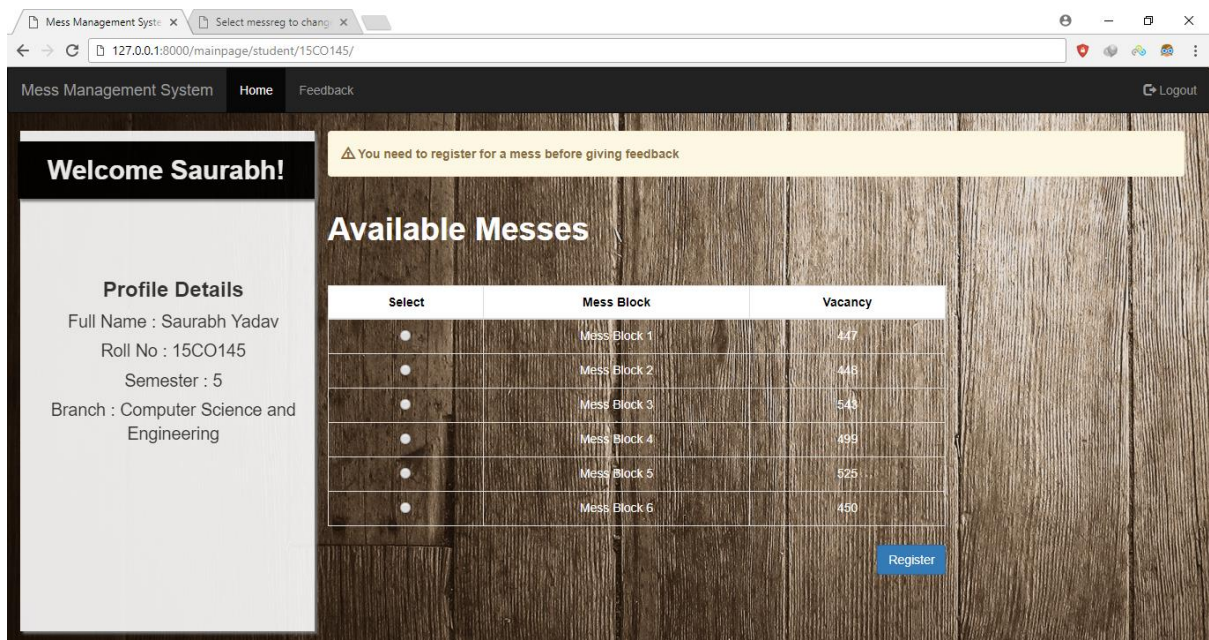
Mess Menu

The mess menu page contains the menu for all the messes for each weekday. The users can either see the mess menu for a particular day or the entire week's

menu. The admin will also be able to modify and update the mess menu from time to time.The following is an example of how the mess menu works.

Fig 1: The below image displays the mess menu of entire week for Mess Block 1.
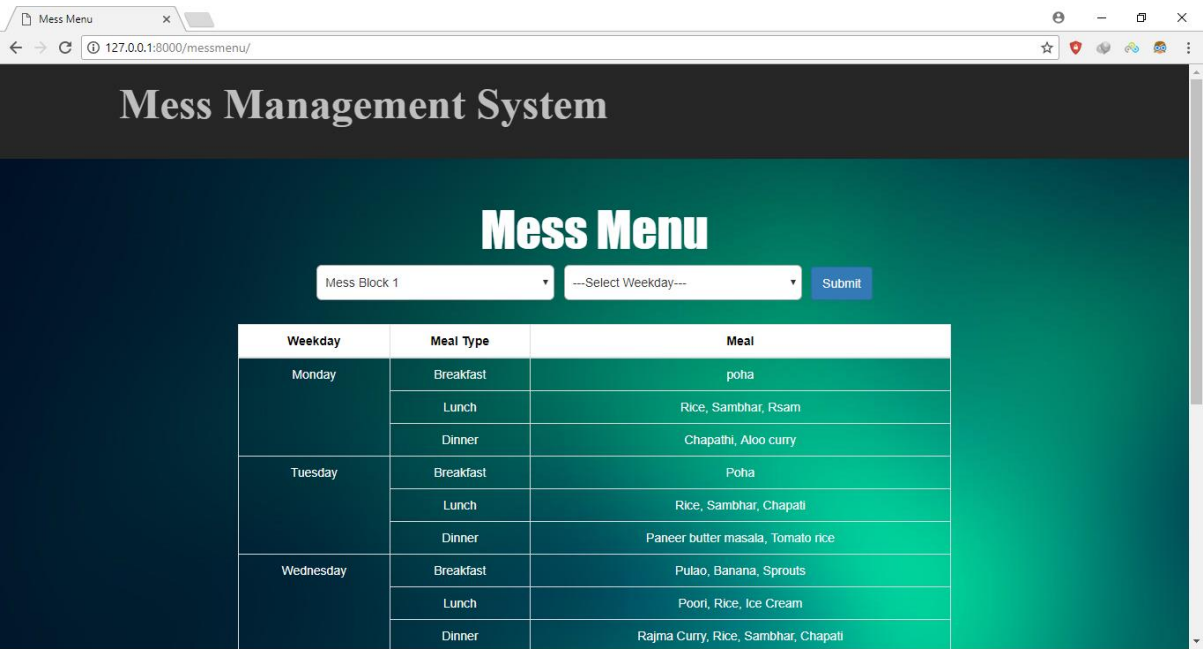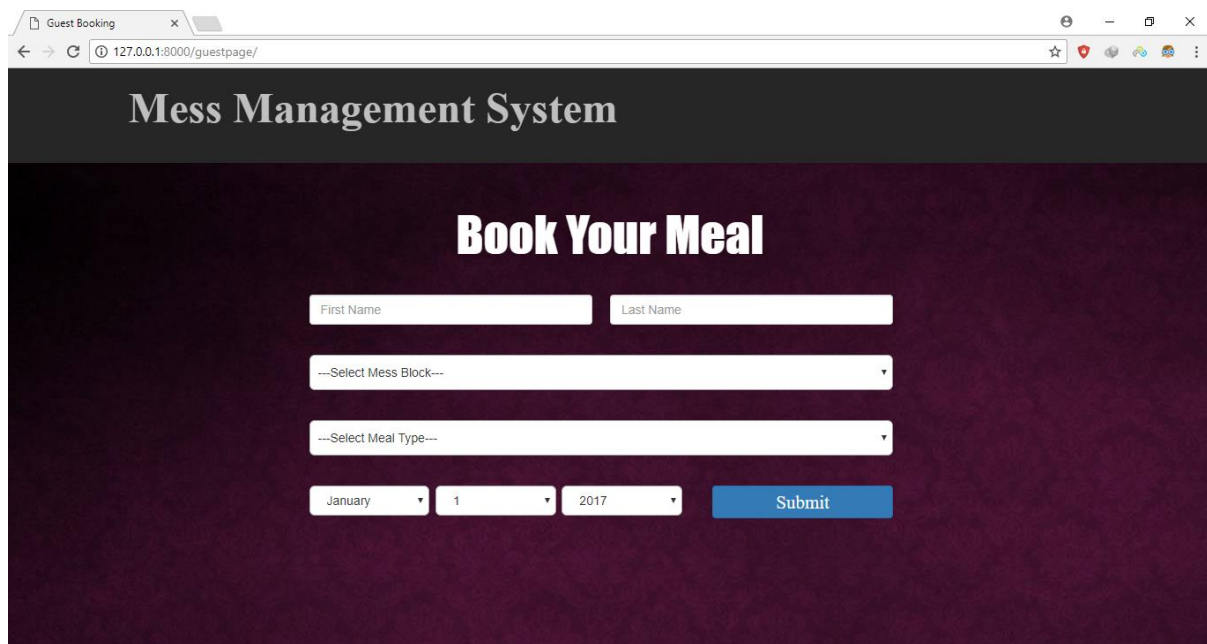
Fig 2 : The below image displays the mess menu for Monday of Mess Block 1.
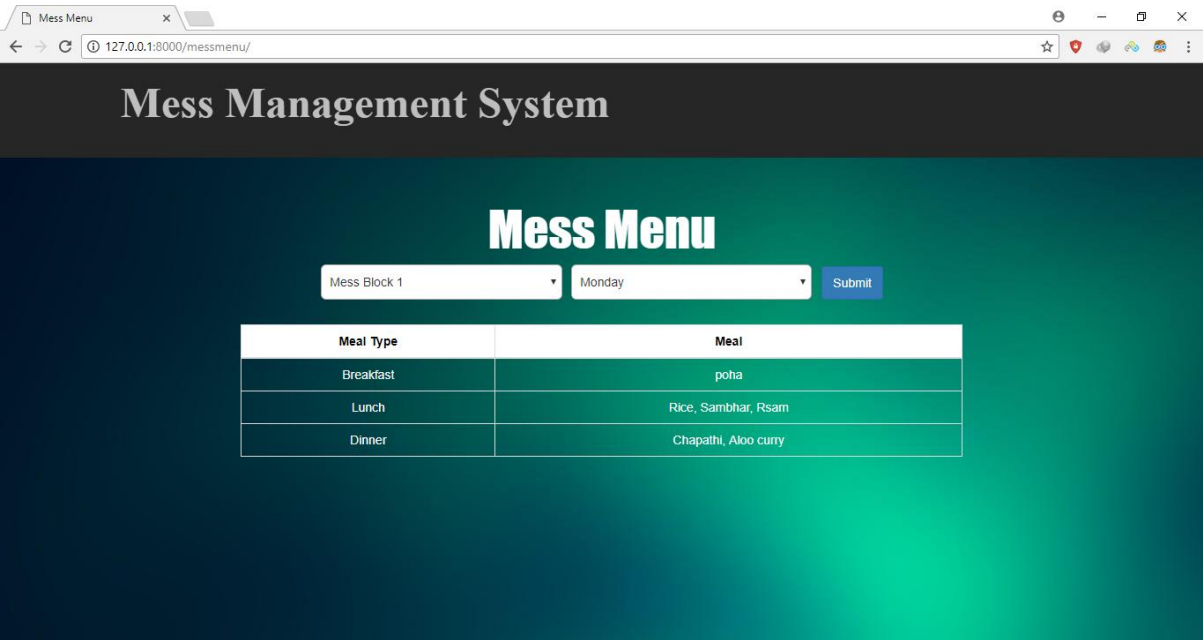
Online Meal Booking

Guest users will be able to book their meal online before coming to the messes. This feature will help the mess employees to keep a count of the number of people turning for a particular meal on a particular day in order to prepare food accordingly. This will reduce the food wastage upto a large extent. The Guest users will only have to provide their name, the mess block they are going to, the meal type and the date on which they intend to go. Once submitted, the entry will be saved to the database and it will be reflected on to the account of respective mess administrators.
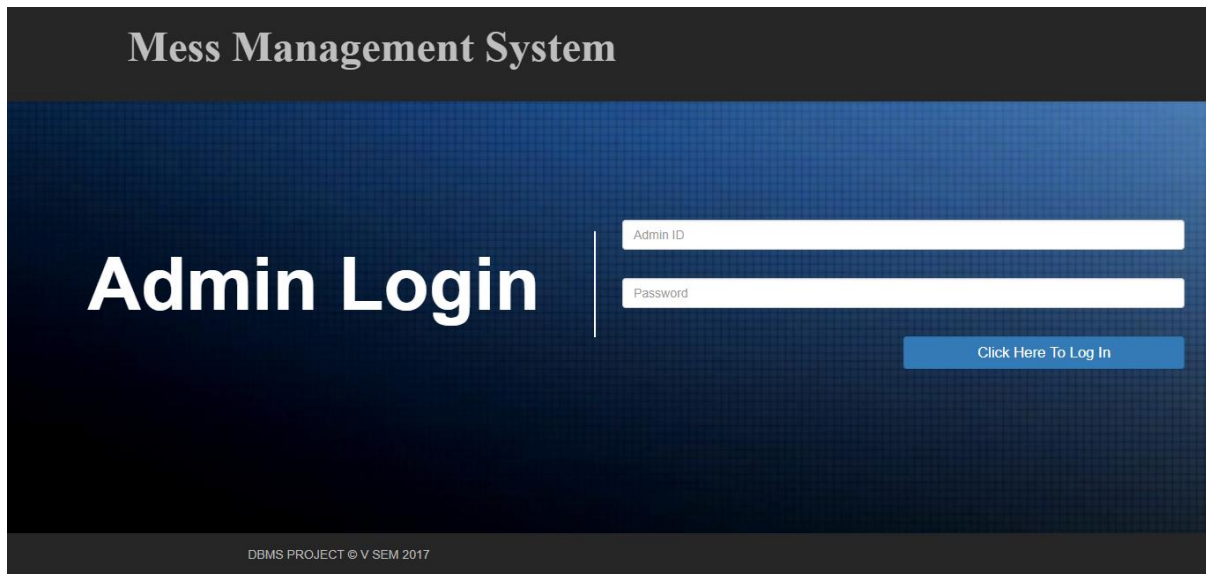
ADMINISTRATOR LOGIN

Each mess administrator is provided with unique administrator ID and password so that they can login to access the various functionalities provided for them. The authentication system provided by Django is used to make sure that the administrator's personal information is secure and users can only login to their
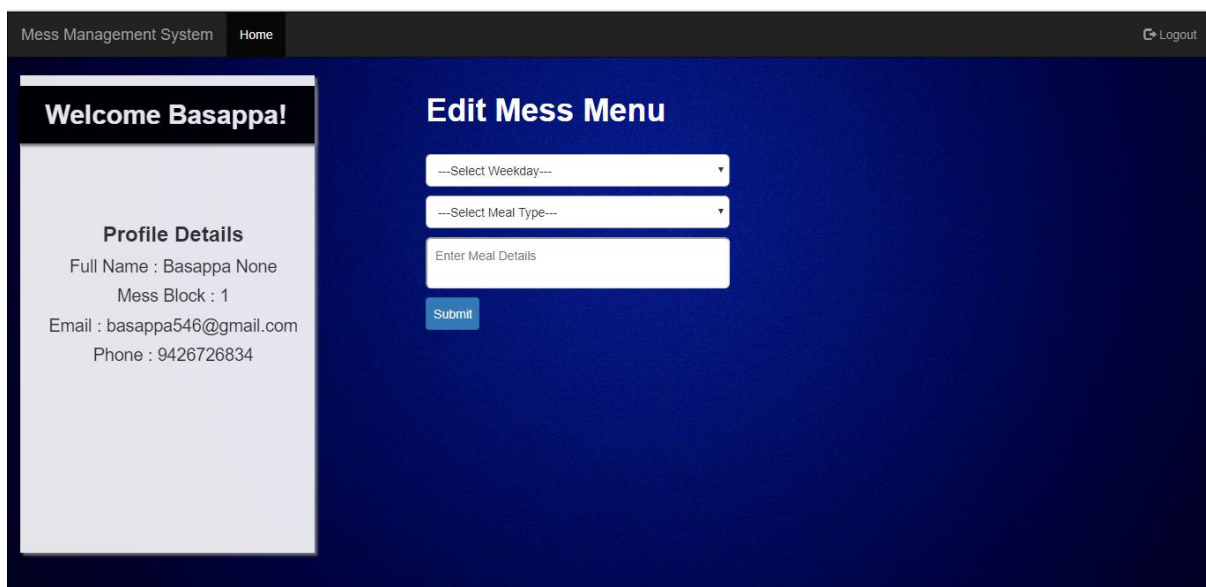
respective accounts to control the information of their respective mess blocks.

Editing the Mess Menu

The administrator, once logged in, can modify and update the mess menu. The admin will have to enter the weekday, the meal type and the latest meal details. The administrators can only modify the details of their respective mess blocks. After submitting the form, the user will see a confirmation message and the mess menu will be updated in to the database. The updated menu can be checked through the mess menu page.

CONCLUSION

The proposed system for Mess Management has been successfully implemented. We tried our level best to include all the functionalities that were summarised during requirement analysis phase. There are some functionalities which were not implemented because of the time constraints and the challenge we faced while learning Django and Python for the first time. We intend to extend our project with the rest of the features and make it fully-functional so that it is ready to be deployed in NITK and replacing the current old fashioned system of pen and paper.

FUTURE WORKS

- The administrators for each mess block will be able to see a list of students registered for their mess block. The administrator will have the rights to approve or disapprove the registration of a particular student.
- The feedbacks given by the students for different messes will be displayed in the accounts of respective mess administrators. This will greatly enhance the communication between the students and the hostel authorities.
- The contact details of mess in-charge will be shared on the homepage. This will allow the students to contact the messes and clarify their queries.

- An option for online payment will also be provided while guest booking. This will promote the idea of digital india and allow people to go cashless.
- The students will be able to apply for refund whenever they are taking leave from the mess. This will lead to greater satisfaction of the students.
- Another functionality will be provided where the students can apply for changing the mess at the end of each month. The messes will be assigned based on the time stamp of the submitted applications.

******* END *******