
Design Document

for

Mess Automation System

Version 0.2

Prepared by

Group:7

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Date: 23 Apr 2023



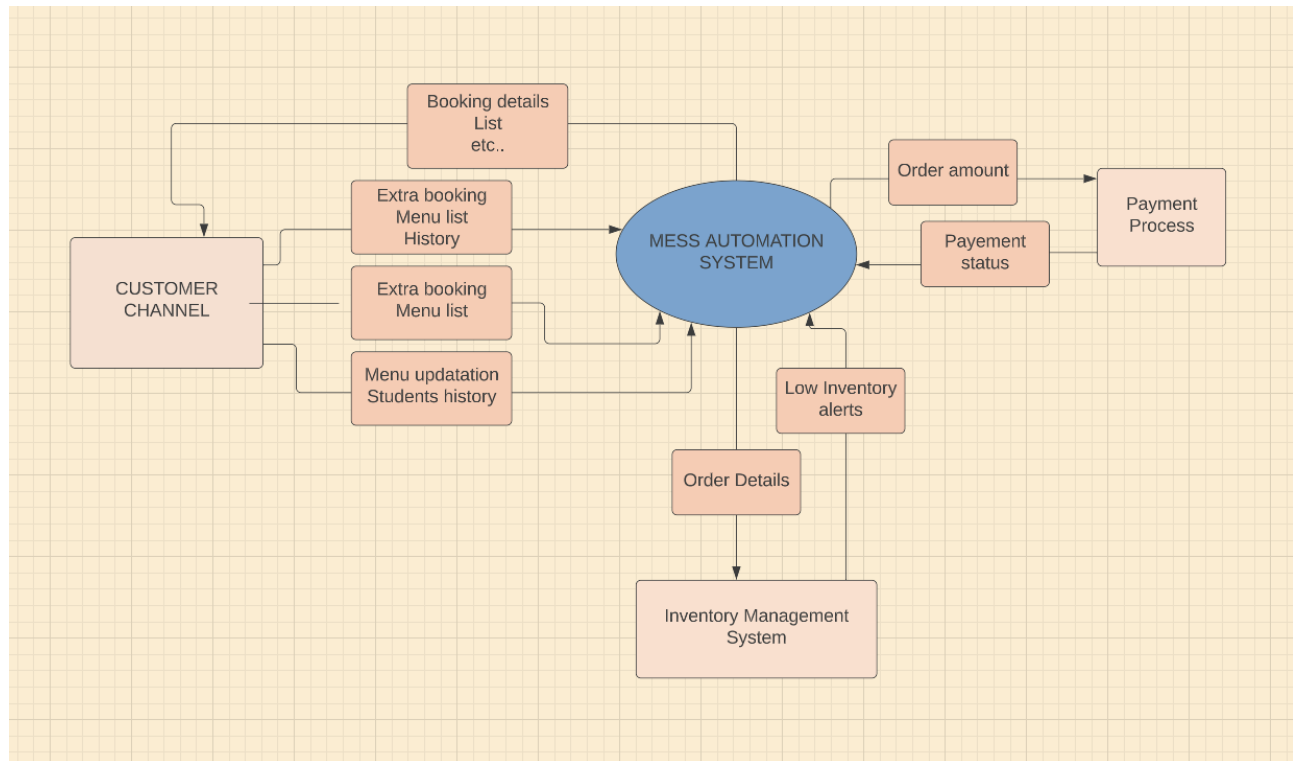
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Revisions

Version	Primary Author(s)	Description of Version	Date Completed
0.1	Ashutosh Agrawal Sawan H N Mansi Singh Prapti Dagli Sanjay Kumar Archisha Singh Mokshagna Prattipati Charugundla Chethan	First Draft	10/02/2023
0.2	Ashutosh Agrawal Sawan H N Mansi Singh Prapti Dagli Sanjay Kumar Archisha Singh Mokshagna Prattipati Charugundla Chethan	Final Draft	23/04/2023

1 Context Design

1.1 Context Model



1.2 Human Interface Design

There are **eighteen** **fifteen** interfaces in our web-app, each having its own utility. Each interface is meant to be used for either hall residents or mess manager **or guests** and facilitates a smooth user experience with the clients. The interface design of the mess automation system with all **eighteen** interfaces is given below.

Home Page



Mess Automation System

Sign In

Guest
Login

IITK-Mess

[Home](#) [Orders](#) [Complain](#) [Apply For Rebate](#) [Mess Menu](#) [Extras](#) [Mess-Bill](#) [Logout](#)

Name : chethan
RollNo : 210279
Extras : ₹488/-
Dues : ₹6/-

**Sign in(Manager and
Resident's Dashboard)**

sign_in(email-id,pswd)



Sign In

Email

Password

Sign In

**Mess Automation
System**
IITK

Login

Email address

Password

Sign In

Don't have an account yet? [Register](#)

Register(Resident'sDashboar)**sign_up(email-id,pswd,name,roll
no)**

Mess Automation System

IITK

Register

Name

Roll Number

Email address

Password

[Sign up](#)Already have an account? [Login](#)



Guest Login

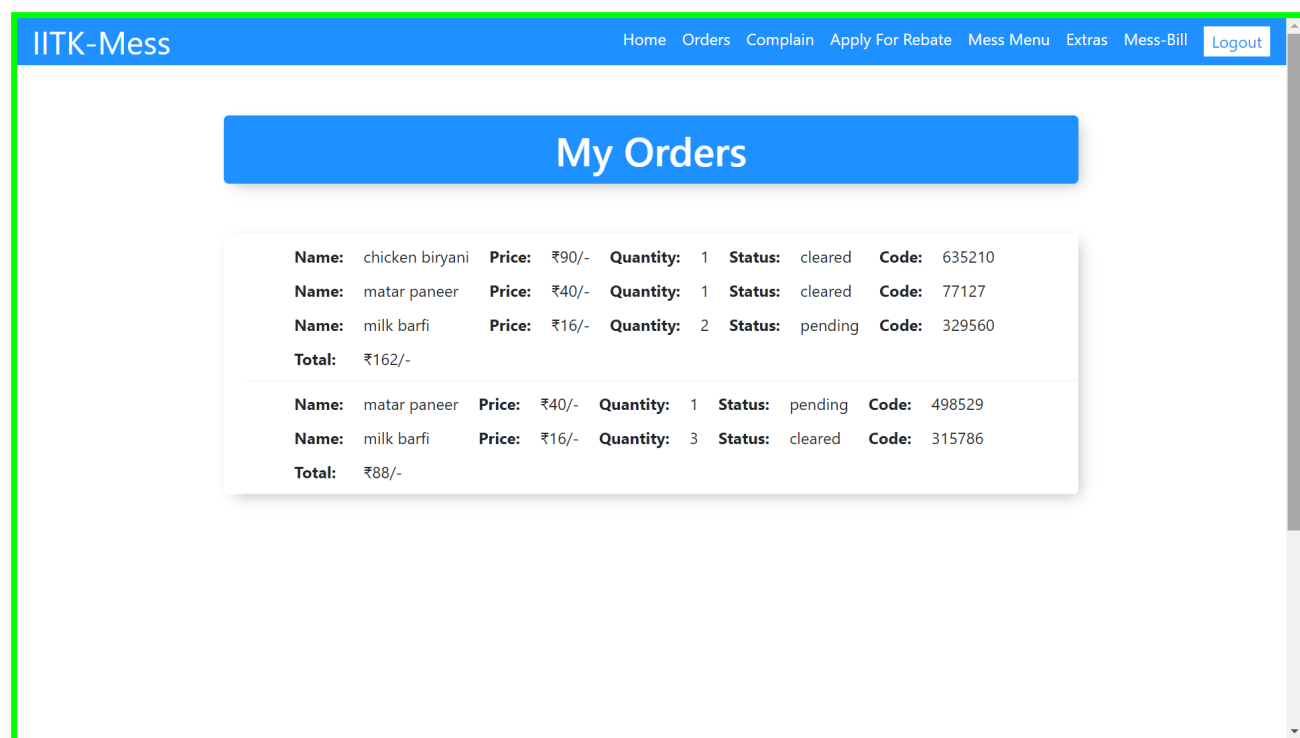
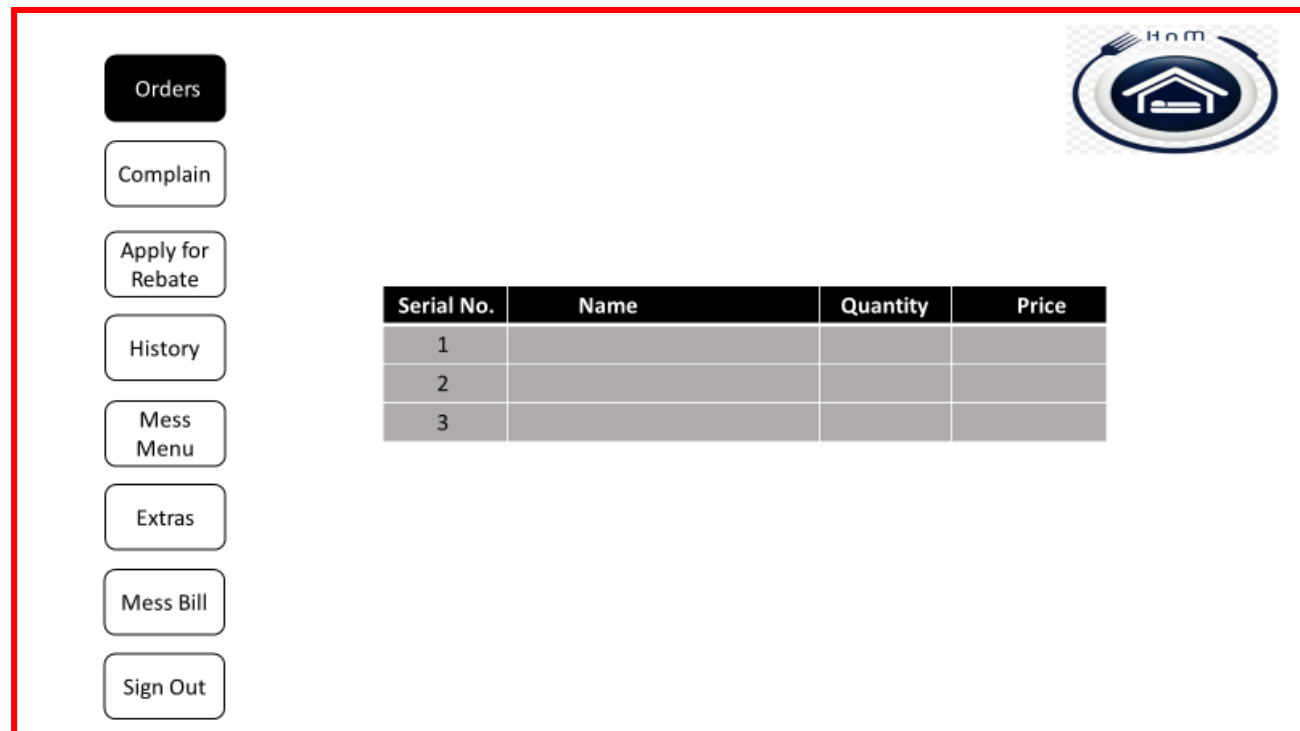
Mobile Number

Enter OTP

Login


**Orders(Resident's
Dashboard)**

Book_extras(extra_item_name)



**Complain(Resident's
Dashboard)**

Complain(complaint)



[Orders](#)
[Complain](#)
[Apply for Rebate](#)
[History](#)
[Mess Menu](#)
[Extras](#)
[Mess Bill](#)
[Sign Out](#)

Type your complaint here

[Complain](#)

IITK-Mess[Home](#)[Orders](#)[Complain](#)[Apply For Rebate](#)[Mess Menu](#)[Extras](#)[Mess-Bill](#)[Logout](#)

Type Your Complaint Below

Submit


My Complaints

X

Complaint: water quality is very bad
Reply: We will look into this

Apply for Rebate(Resident's

Dashboard)
Mess_Rebate(Roll_no, Date, Start_Date, End_Date, No_of_days)

Orders	Roll number	<input type="text"/>	
Complain	Date	<input type="text"/>	
Apply for Rebate	Number of Days	<input type="text"/>	
History	Starting Date	<input type="text"/>	
Mess Menu	End Date	<input type="text"/>	
Extras			Apply
Mess Bill			
Sign Out			

IITK-MessHome Orders Complain Apply For Rebate Mess Menu Extras Mess-Bill Logout

Active rebate
Starting date

Ending Date

Status

Withdraw

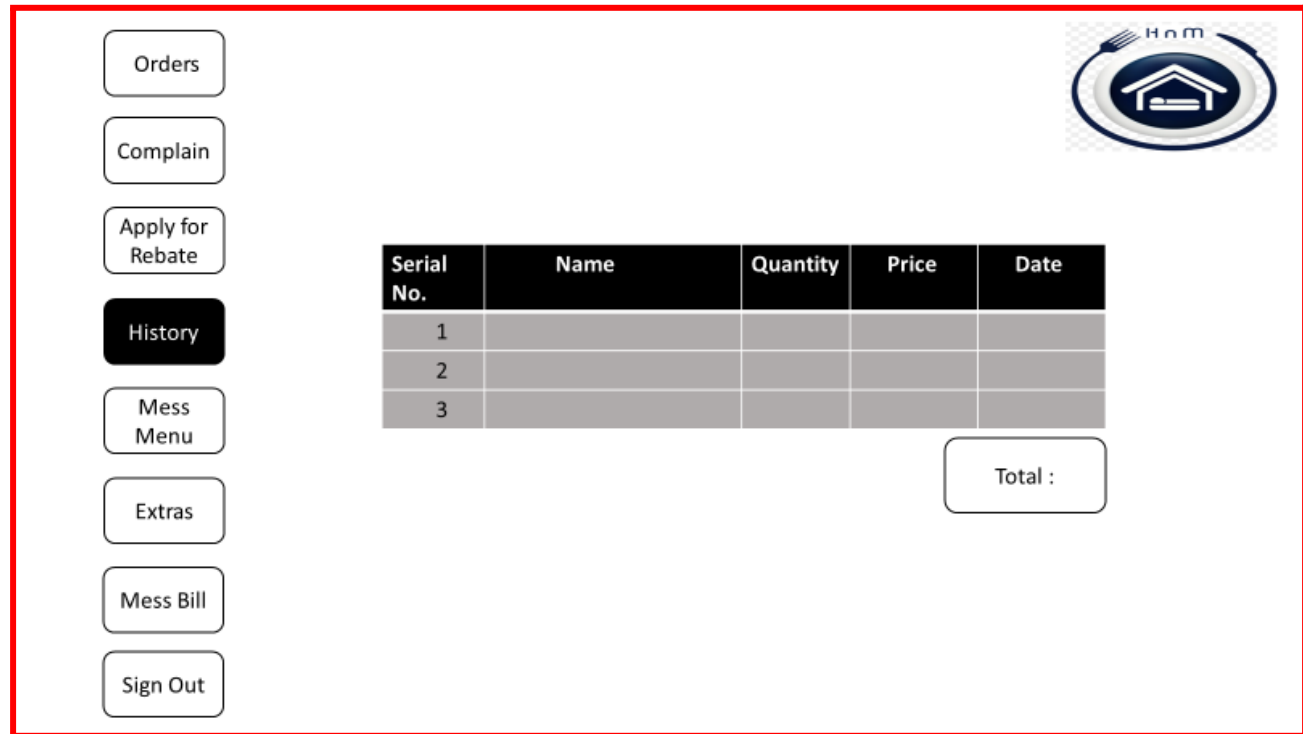
Request rebate
Starting date

Ending Date

Request

Past Rebate requests

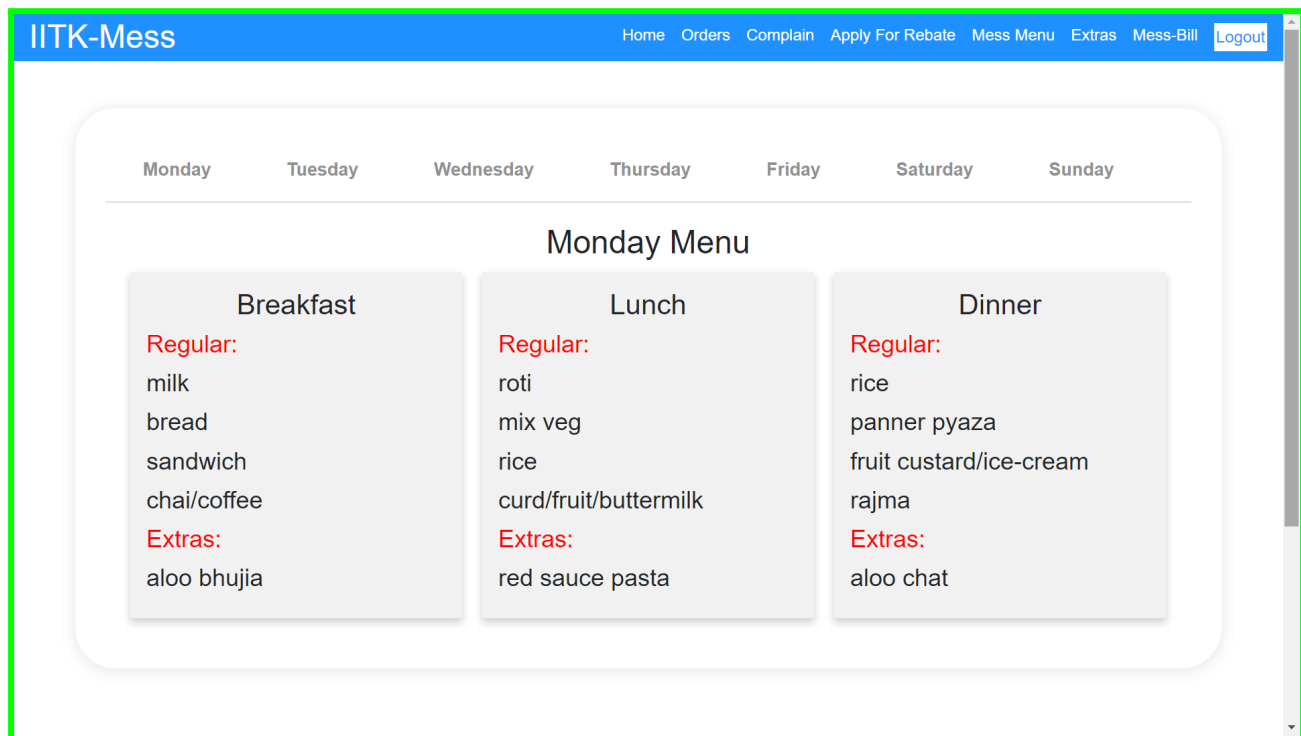
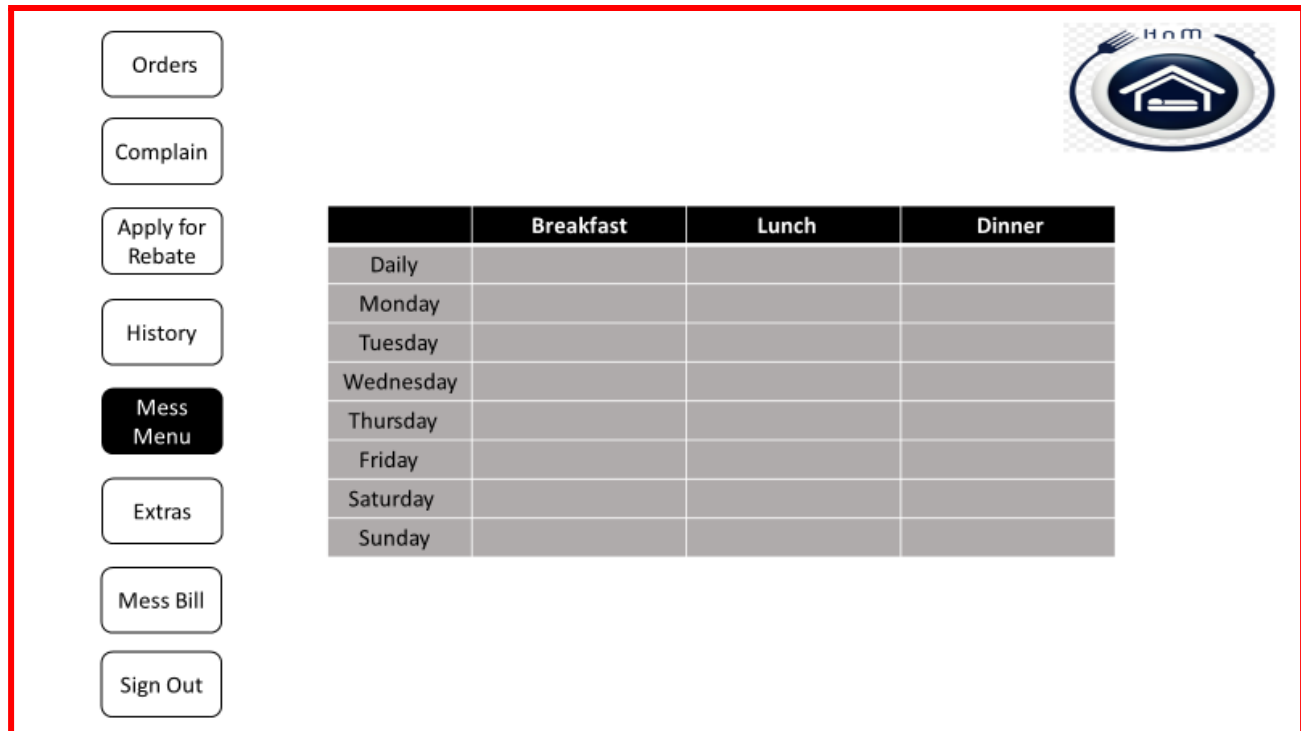
From: April 20, 2023 **To:** April 20, 2023
Days: 1 **Status:** Rejected

History(Resident's Dashboard)**History(User_id)**


Serial No.	Name	Quantity	Price	Date
1				
2				
3				

Total :


Mess Menu(Resident's and Guest's Dashboard)**get_menu(User_id)**



Extras(Resident's and Guest's Dashboard)

Book_extras(extra_item_name)

[Orders](#)
[Complain](#)
[Apply for Rebate](#)
[History](#)
[Mess Menu](#)
[Extras](#)
[Mess Bill](#)
[Sign Out](#)



Serial No.	Extra Items	Price	
1			Order
2			Order
3			Order
4			Order
5			Order
6			Order
7			Order
8			Order

IITK-Mess

[Home](#)
[Orders](#)
[Complain](#)
[Apply For Rebate](#)
[Mess Menu](#)
[Extras](#)
[Mess-Bill](#)
[Logout](#)

Extras

Name:

chicken biryani

Price:

₹90/-

Name:

matar paneer

Price:

₹40/-

Name:

milk barfi

Price:

₹16/-

Name:

Biryani

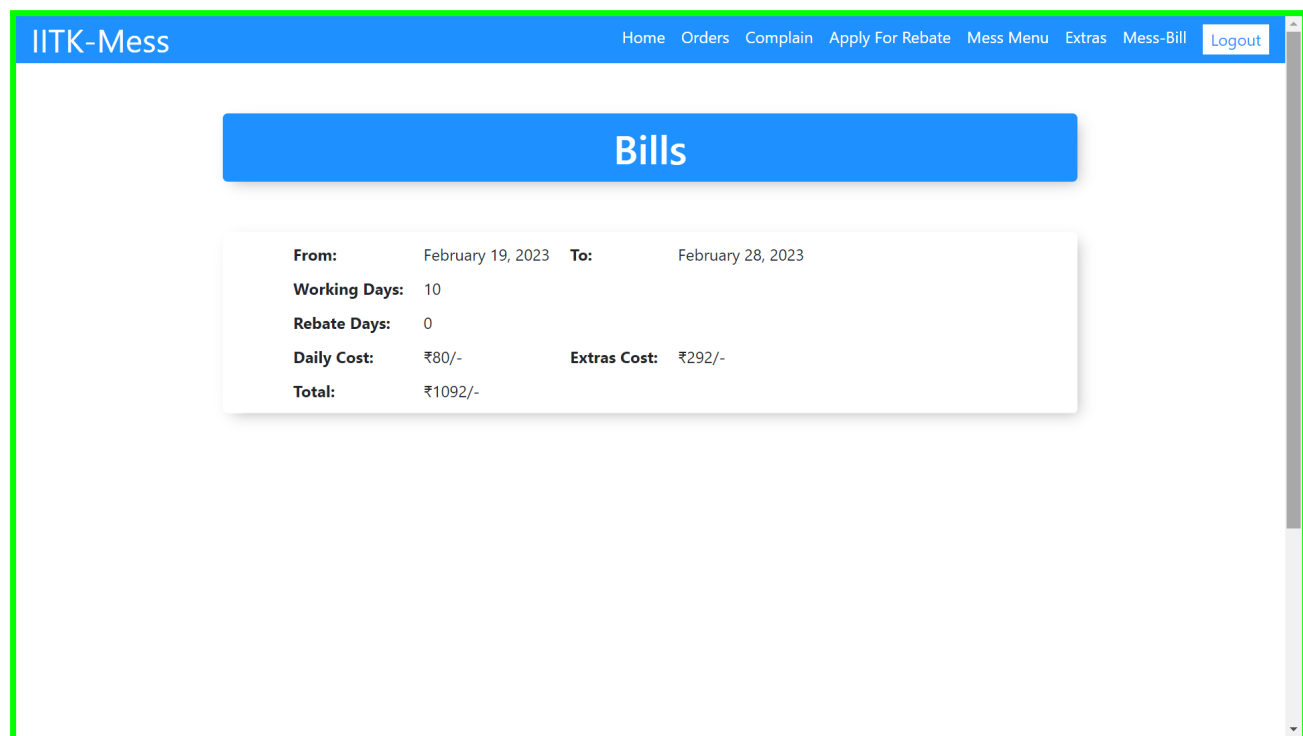
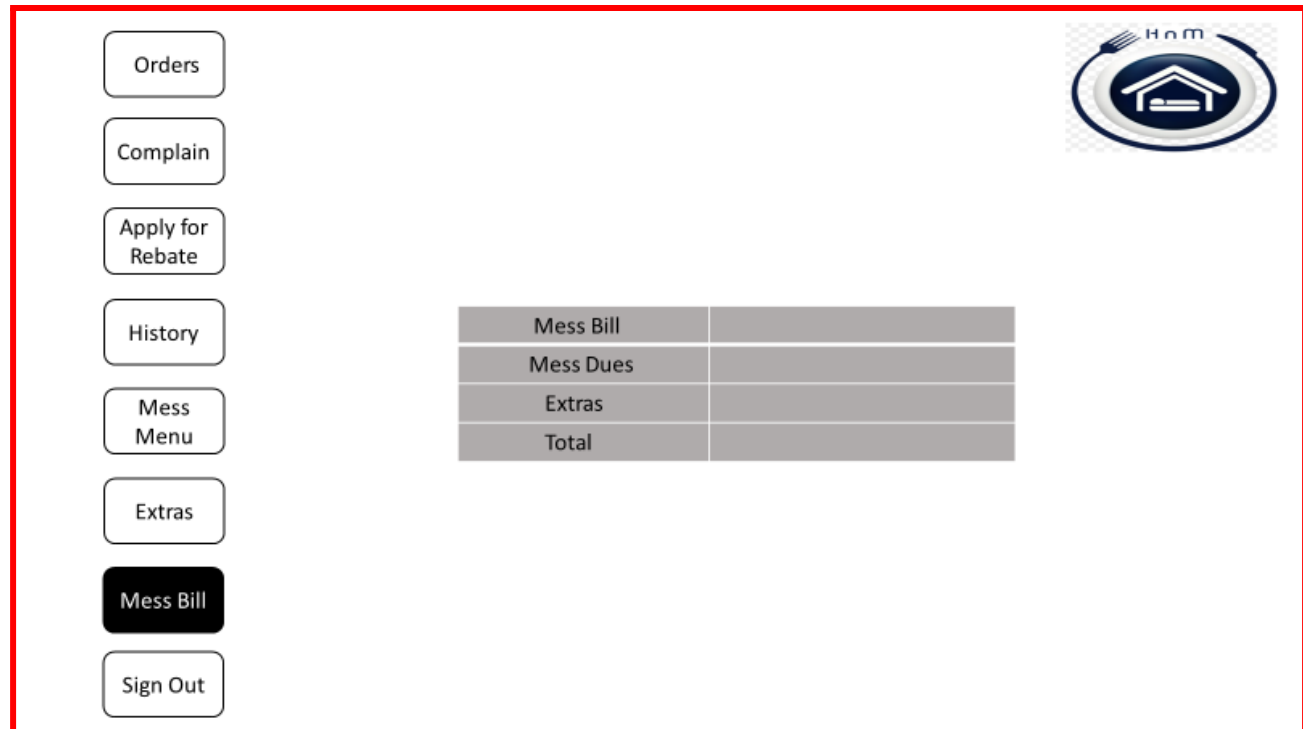
Price:

₹78/-

[Order](#)


Mess Bill(Resident's Dashboard)

See_mess_menu(User_id)



Orders(Guest's Dashboard)

Book(meal_name)



Orders

Mess Menu

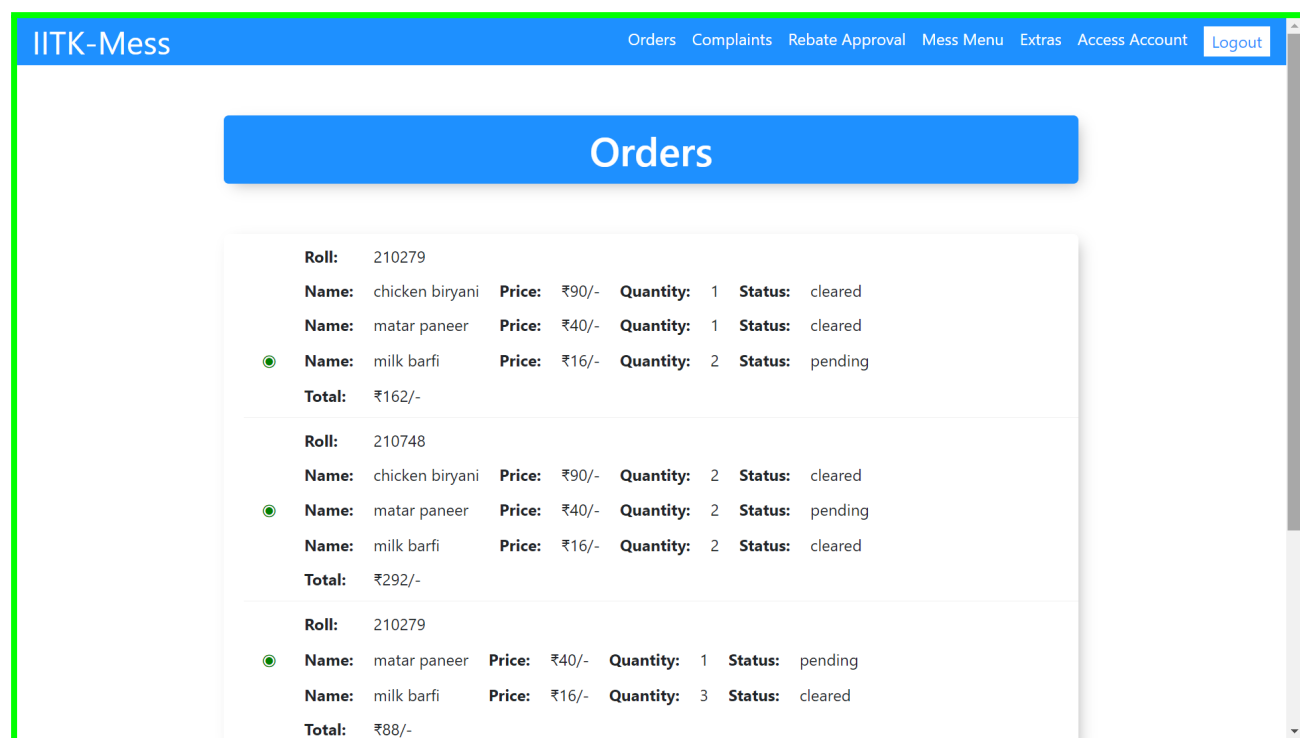
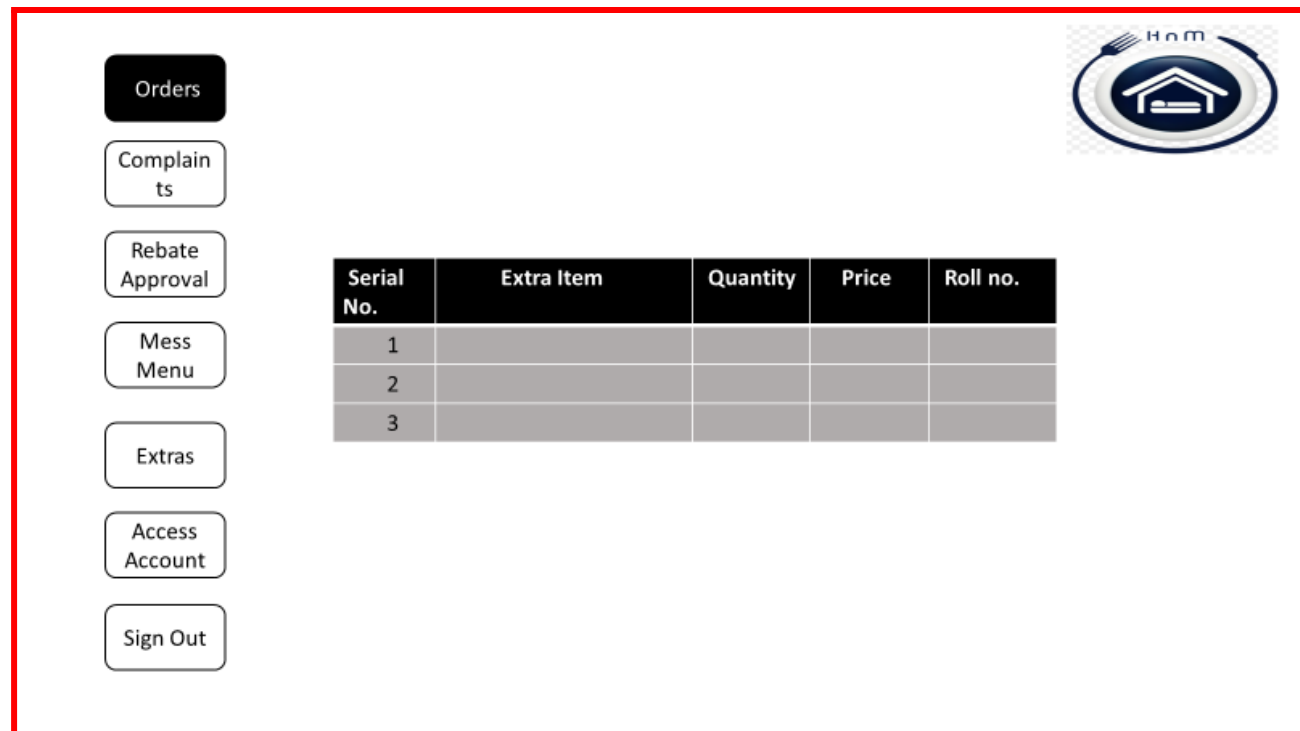
Extras

Log Out

	Date	Price	
Breakfast			Order
Lunch			Order
Dinner			Order

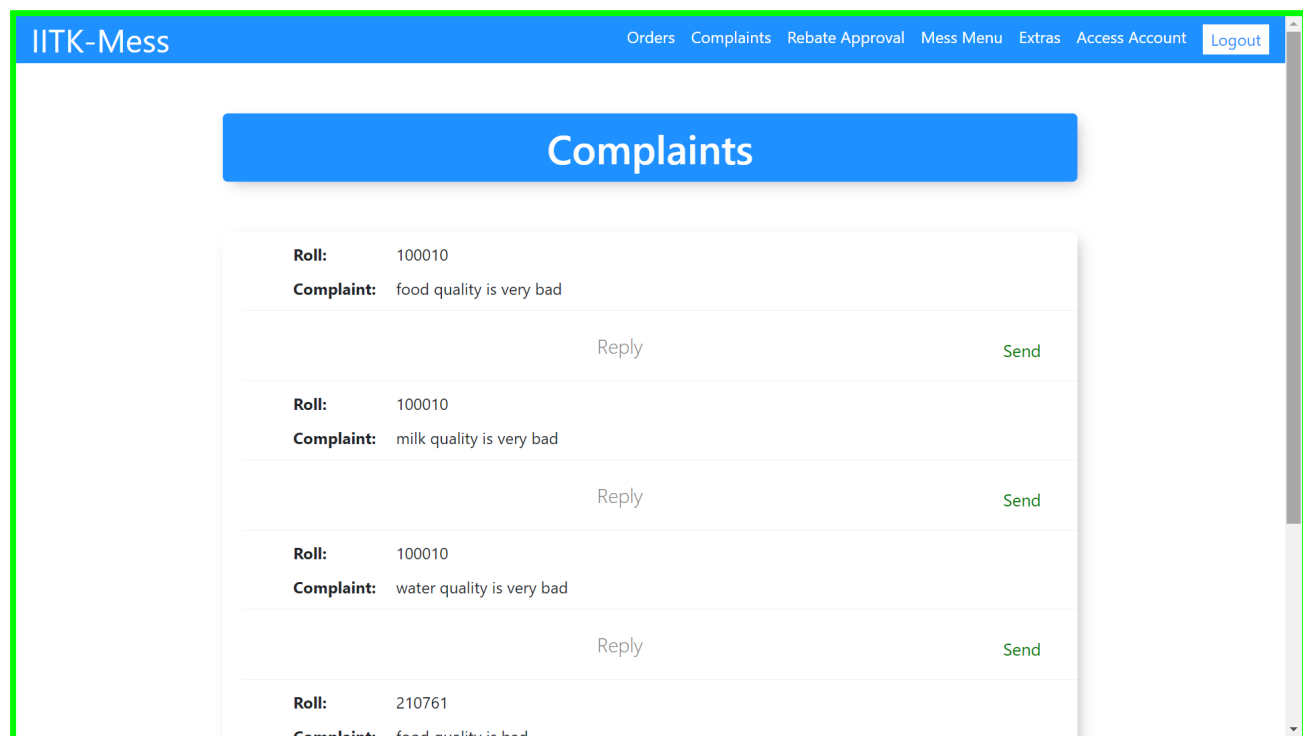
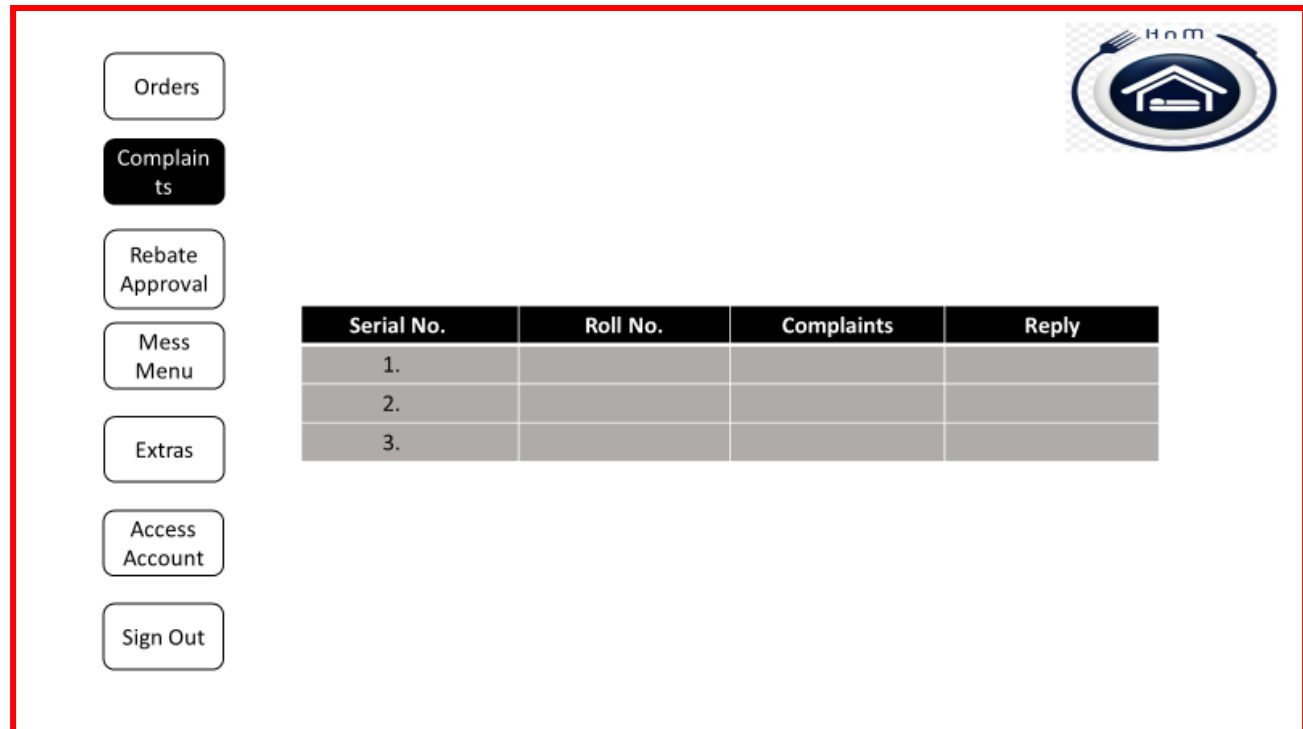
Orders(Manager's Dashboard)

See_order(manager_id)



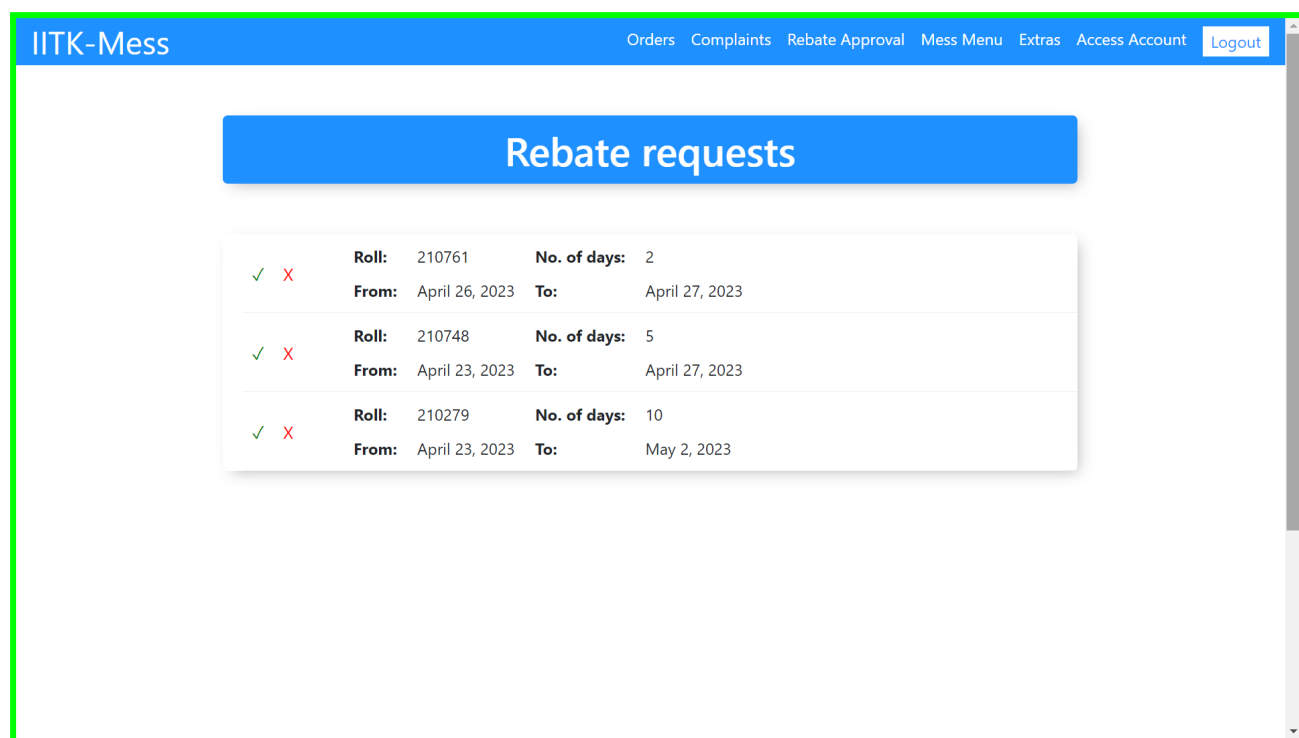
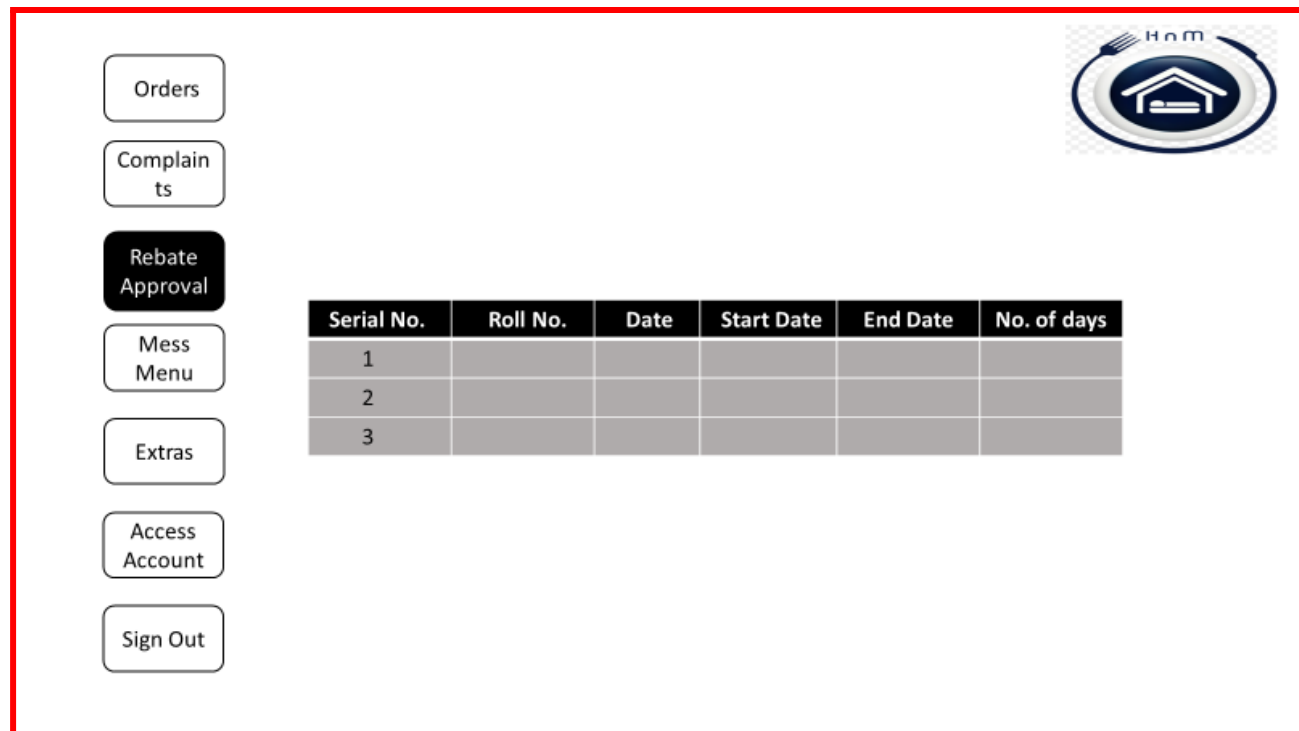
**Complaints(Manager's
Dashboard)**

Reply_complaints(Reply)



Rebate Approval(Manager's Dashboard)

Upload_rebate_form (manager_id)



Mess_Menu(Manager's Dashboard)

Upload_mess_menu (mess_menu)

Orders

Complaints


Rebate Approval

Mess Menu

Extras

Access Account

Sign Out



	Breakfast	Lunch	Dinner
Daily			
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Saturday			
Sunday			

EDIT

IITK-Mess

[Orders](#)
[Complaints](#)
[Rebate Approval](#)
[Mess Menu](#)
[Extras](#)
[Access Account](#)
[Logout](#)

Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday

Monday Menu

Breakfast

Regular:

milk
Remove

bread
Remove

sandwich
Remove

chai/coffee
Remove

Name
Add

Extras:

maggi, omlette, egg, full fry,
Remove

Lunch

Regular:

roti
Remove

mix veg
Remove

rice
Remove

rajma
Remove

curd/fruit/butter milk
Remove

Name
Add

Extras:

Dinner

Regular:

rice
Remove

panner pyaza
Remove

fruit custard/ice-cream
Remove

Name
Add

Extras:

Name
Add

Extras(Manager's Dashboard)

Upload_extras(extra_name,price)

Orders

Complaints


Rebate Approval

Mess Menu

Extras

Access Account

Sign Out



Serial No.	Roll No.	Extra Items	Price
1			
2			
3			
4			
5			
6			
7			
8			

EDIT

IITK-Mess
Orders Complaints Rebate Approval Mess Menu Extras Access Account [Logout](#)

Extras

Name:	chicken biryani	Price:	₹90/-	Remove
Name:	matar paneer	Price:	₹40/-	Remove
Name:	milk barfi	Price:	₹16/-	Remove
Name:	Biryani	Price:	₹78/-	Remove
	Name		Price	Add

Access Account(Manager's Dashboard)

Access(Roll_No)

Orders

Complain
ts


Rebate
Approval

Mess
Menu

Extras

Access
Account

Sign Out



Student Roll no.

ACCESS

IITK-Mess

OrdersComplaintsRebate ApprovalMess MenuExtrasAccess AccountLogout

Generate Bill

Starting date

Ending Date

Daily Cost

Generate

Find Account

Roll Number

Current Dues

Current Extras

Find

Update Account

Roll Number

New Dues

New Extras

Update

Generated Bills

From: April 6, 2023To: April 8, 2023

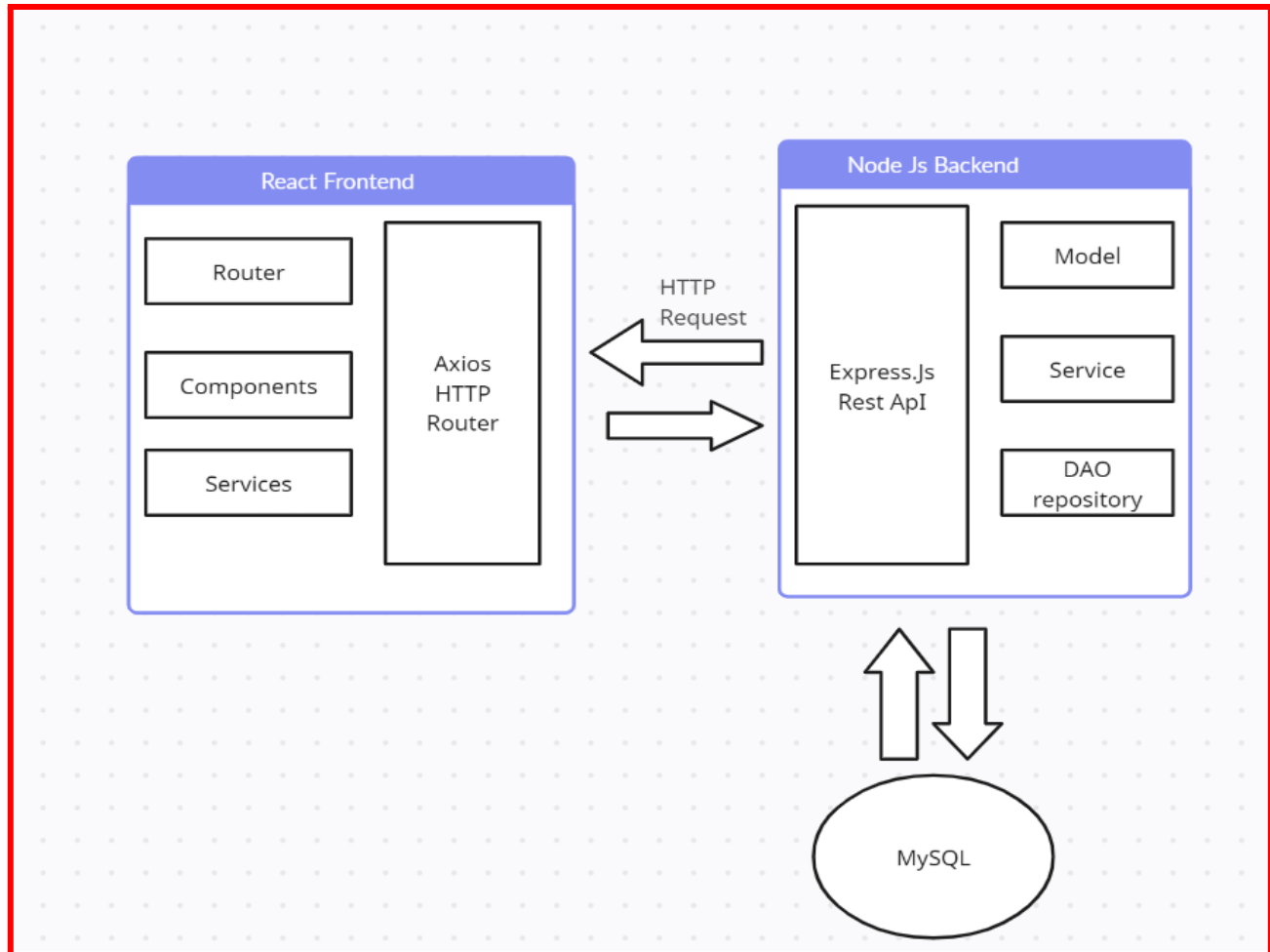
Verify Orders (worker's dashboard)**Edit status**

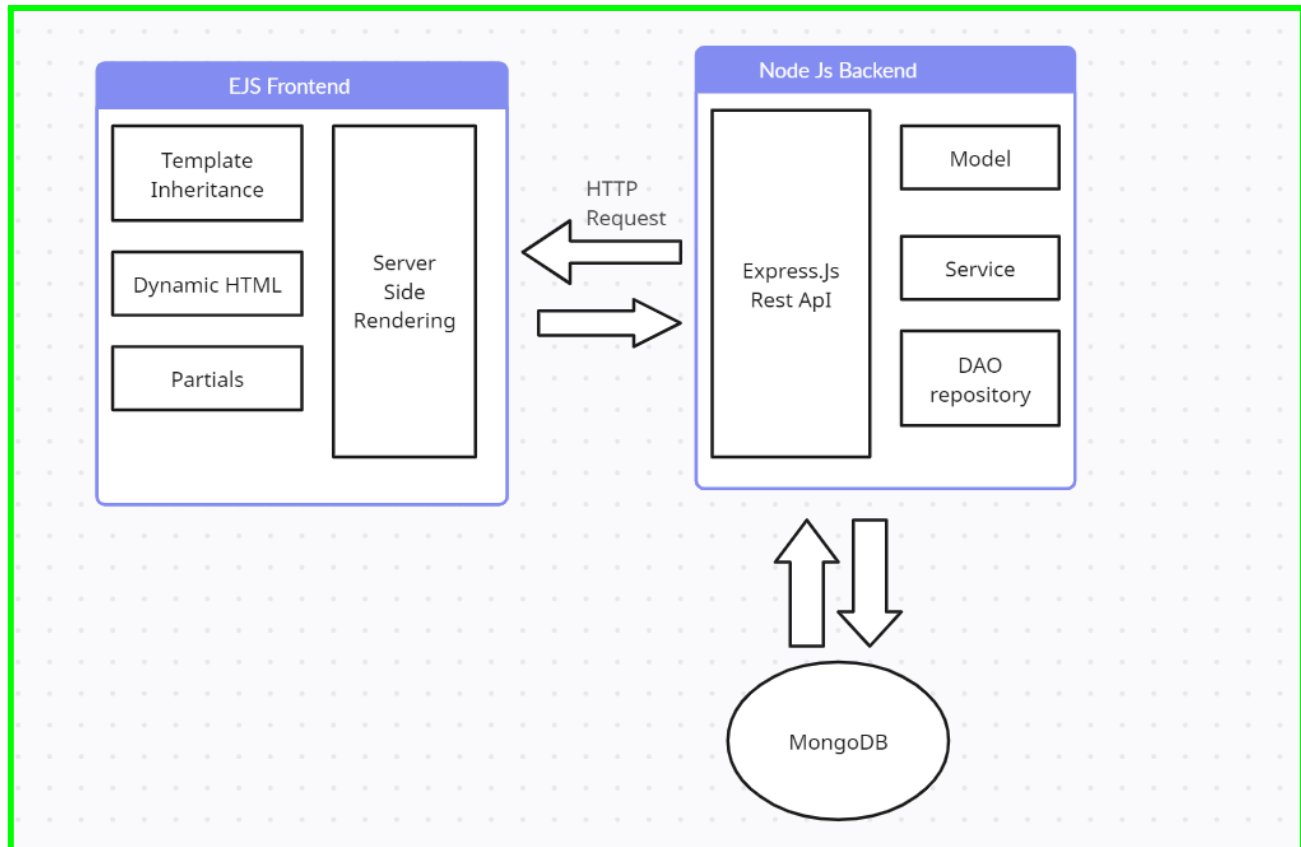


Serial No.	Code	Roll No.	Ordered Items	Status
1				
2				
3				
4				
5				
6				
7				
8				

2 Architecture Design

Mess Automation System is a web-based application implementing a Model-View-Controller model.





Why are we using this: We are using this model since we would be interacting with the data in multiple ways, like checking and receiving requests, managing orders, complaints and rebates , and storing transactions. Also, in the near future, one might think of adding some functionalities to it, which makes the Model-View-Controller model the best fit.

Advantages: One great advantage of this model is that the data can be represented in various manners. Which will prove helpful to us while sorting students based on dues, or from the same academic year or in some other fashion. Also, it allows the data to change independently, it would be helpful to add or remove students from the database.

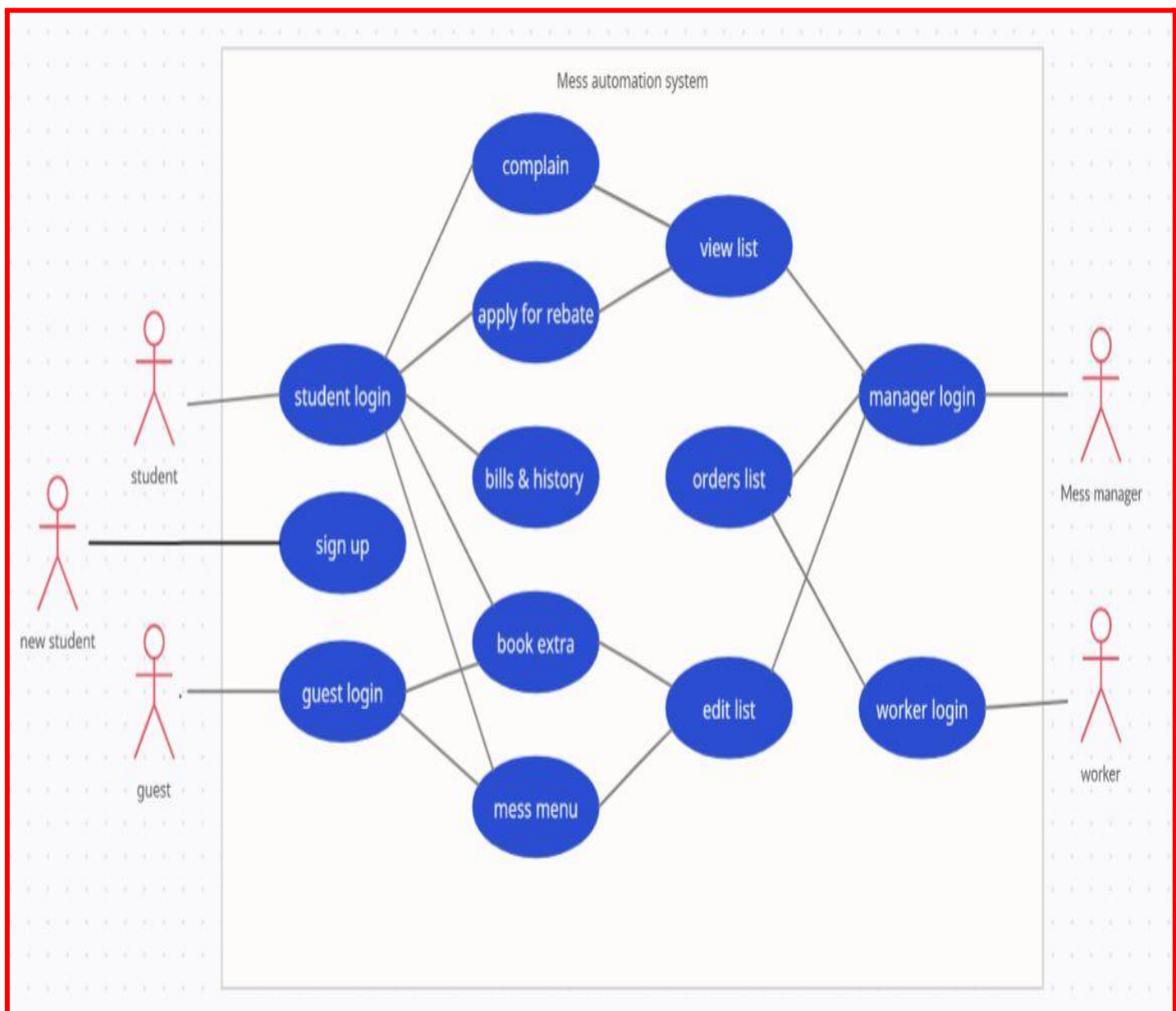
Disadvantages: One disadvantage is that we need to write some additional code for full functionality, even if we know that our implementation is simple in the starting stages.

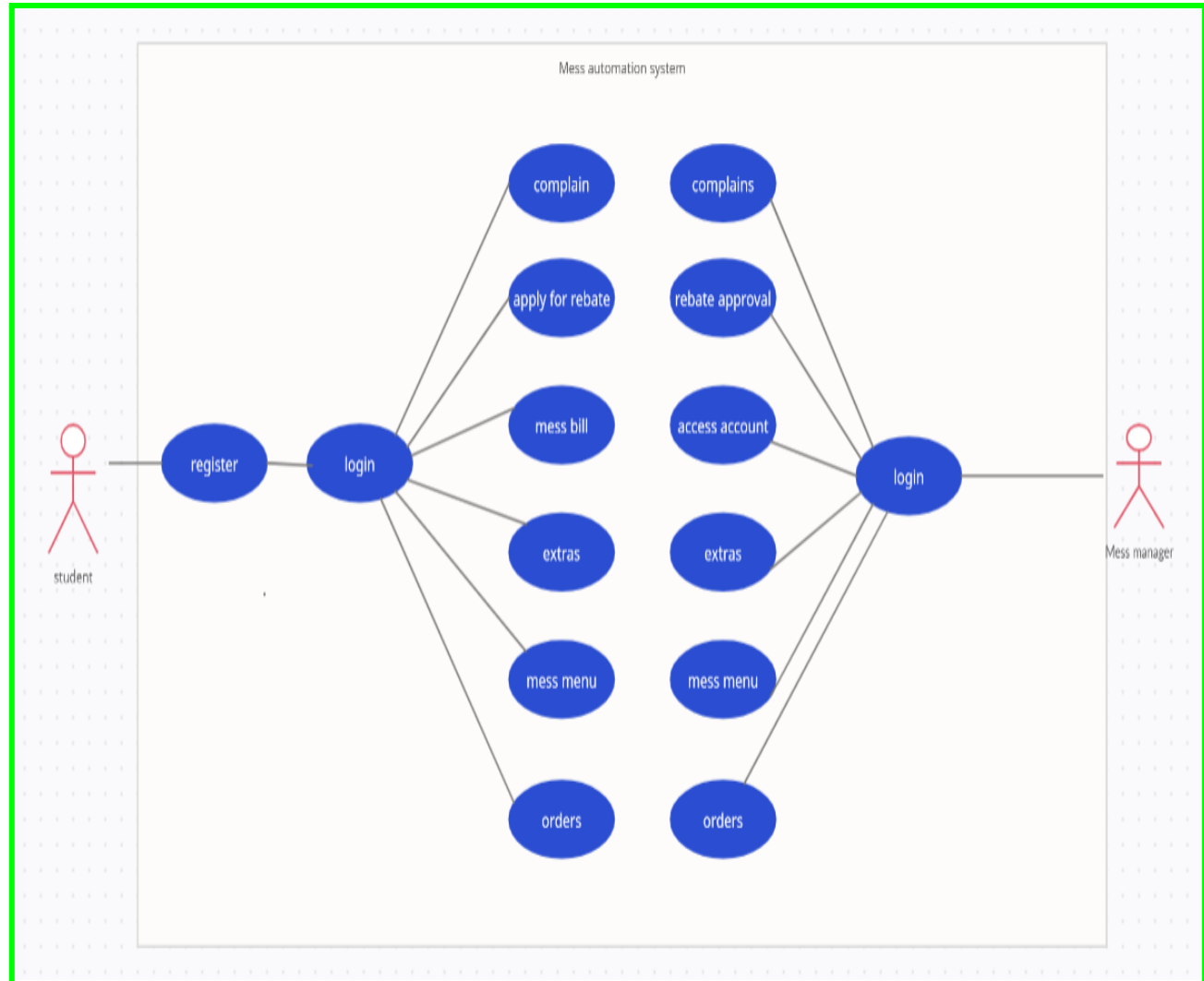
3 Object Oriented Design

3.1 Use Case Diagrams

We have given a consolidated diagram showing different use cases provided:

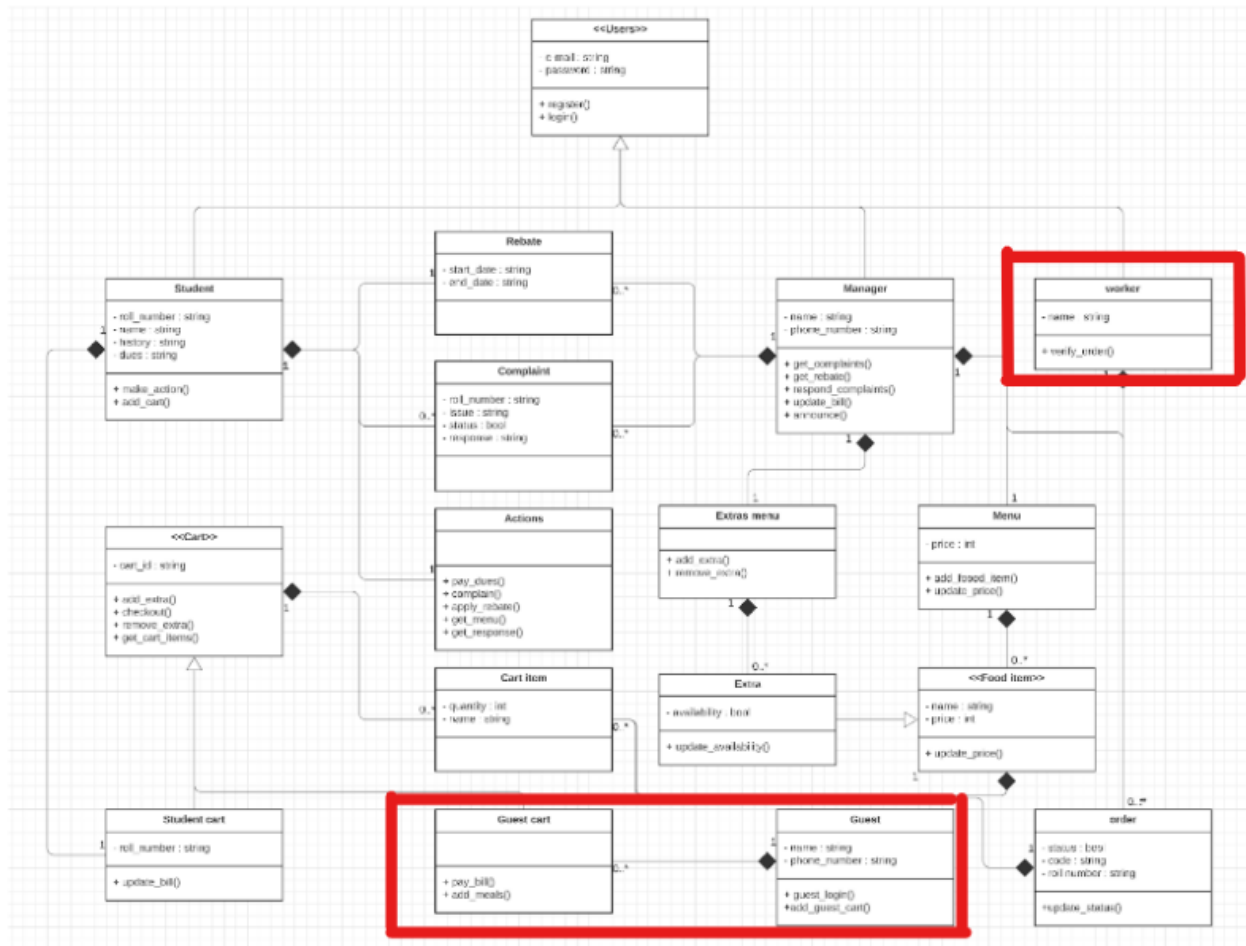
- Student registration and account creation.
- Bills and history of transaction linked to a particular student.
- Applying for a rebate.
- Register as a guest using email and OTP verification.
- Checking out and booking extras.
- Manager overseeing the transaction and addressing complaints and rebates.



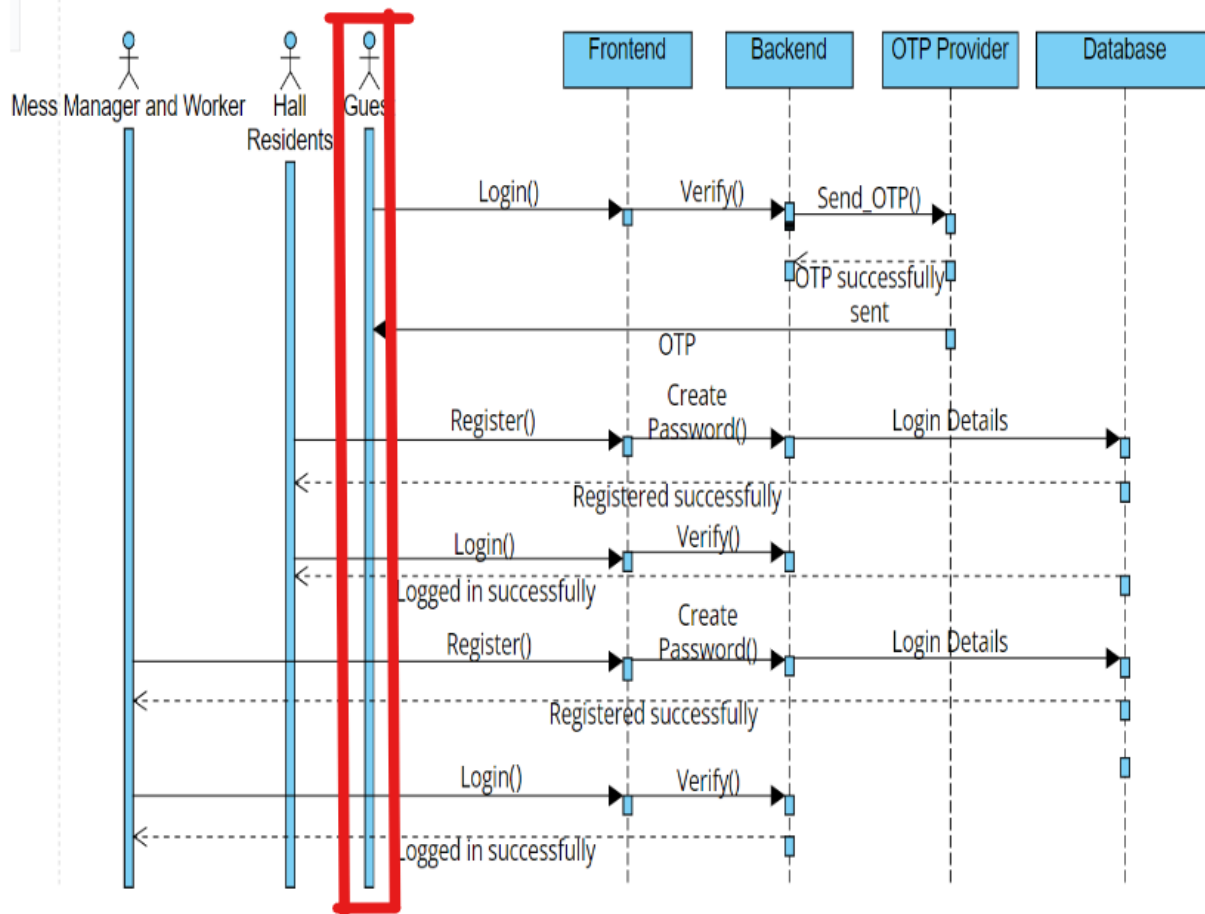


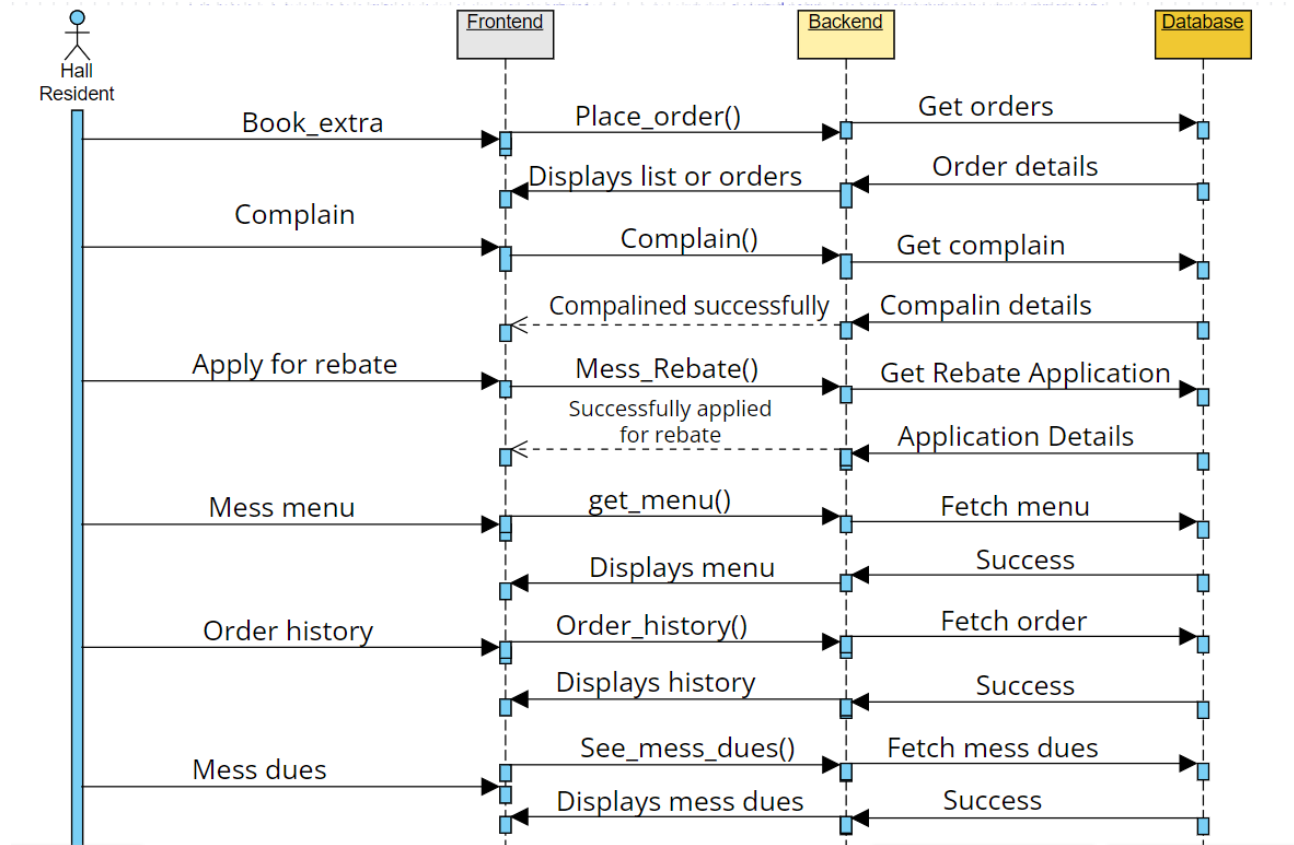
3.2 Class Diagrams

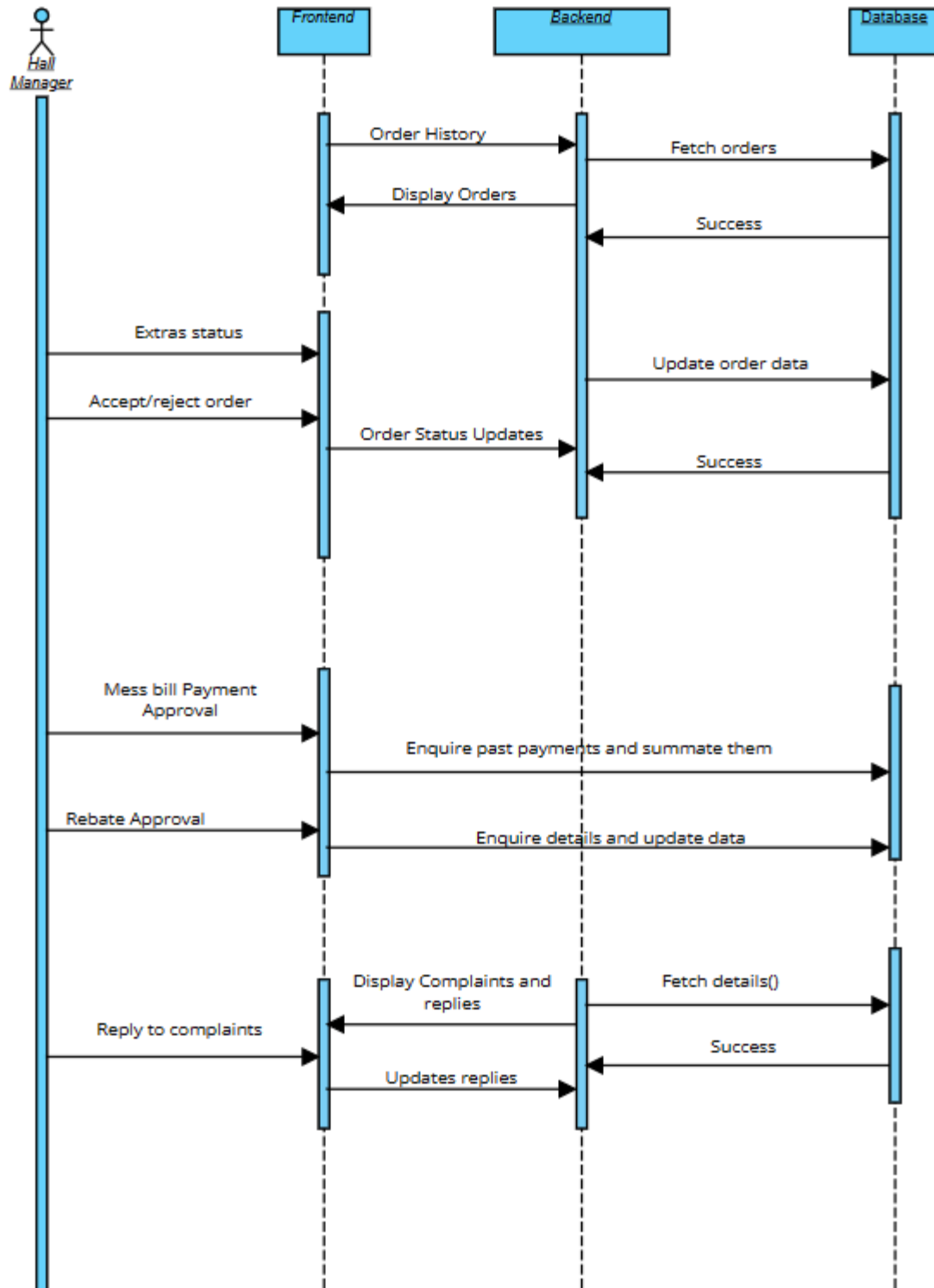
Mess Automation System



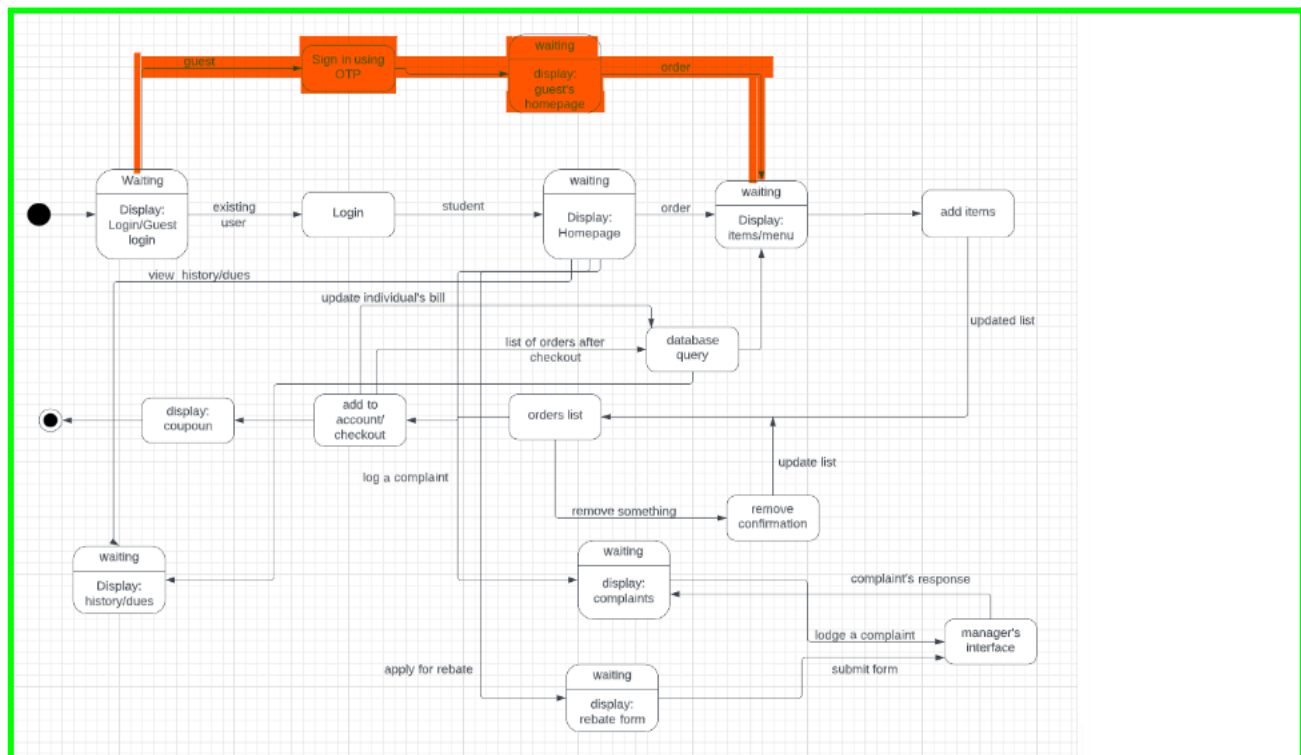
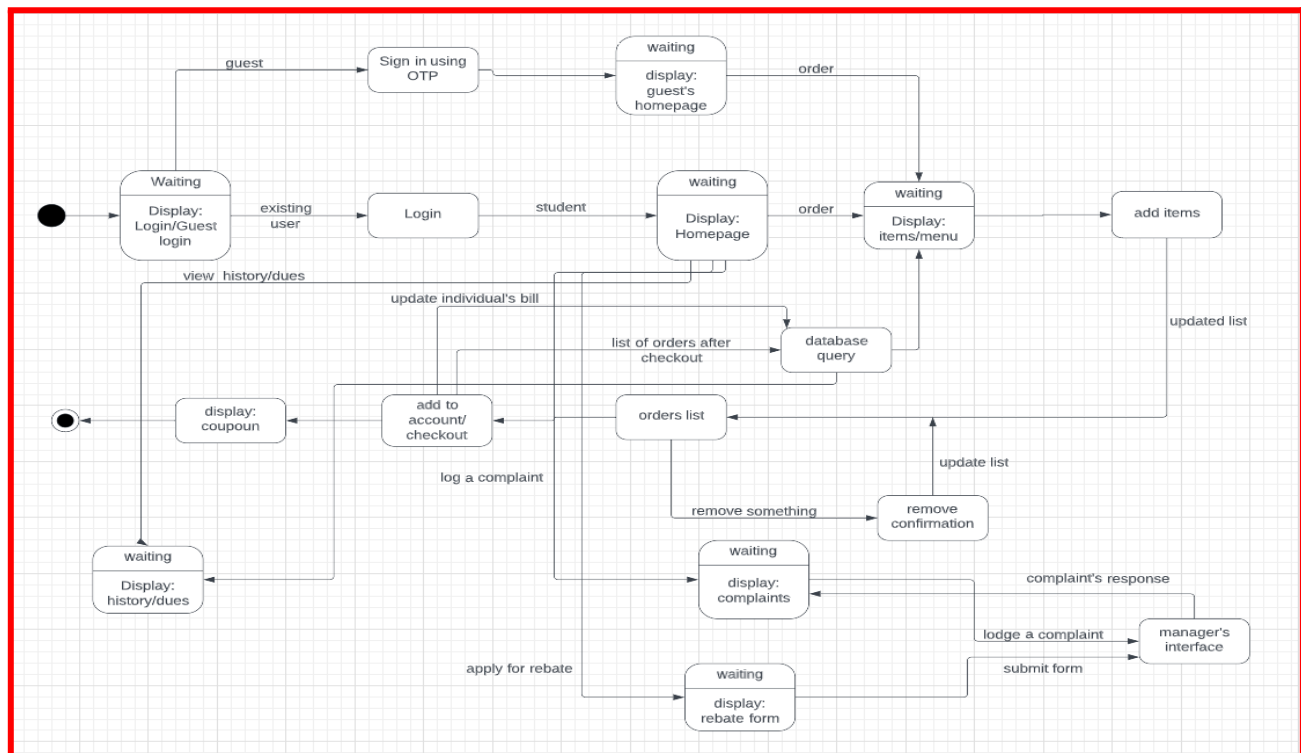
3.3 Sequence Diagrams

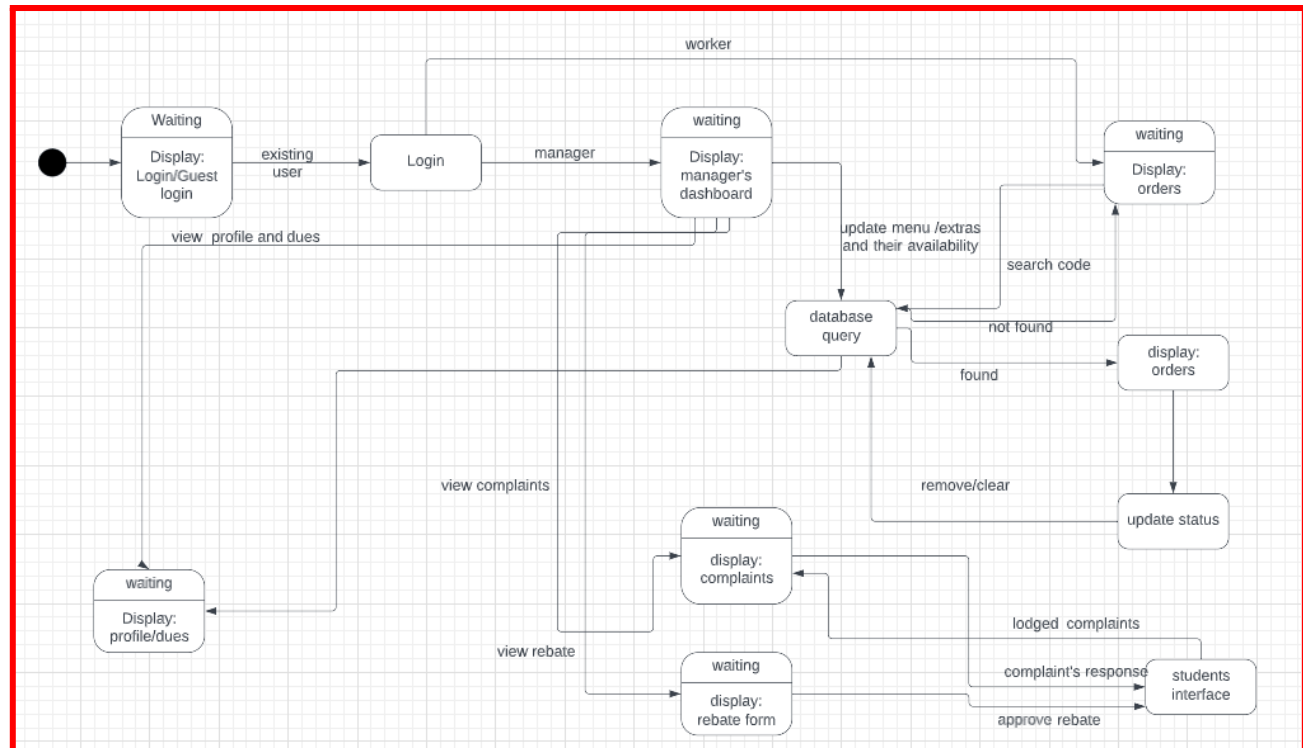






3.4 State Diagrams

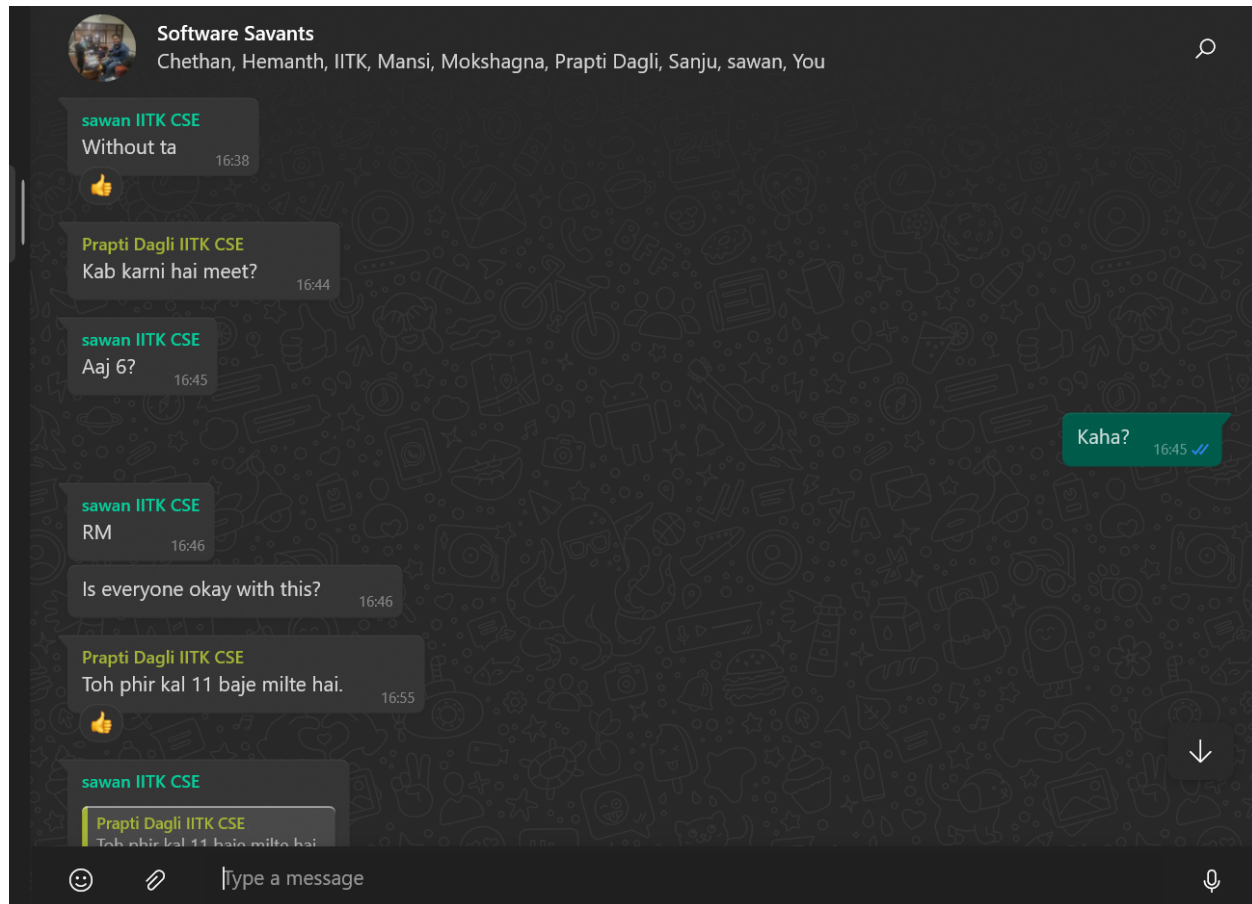




4 Project Plan

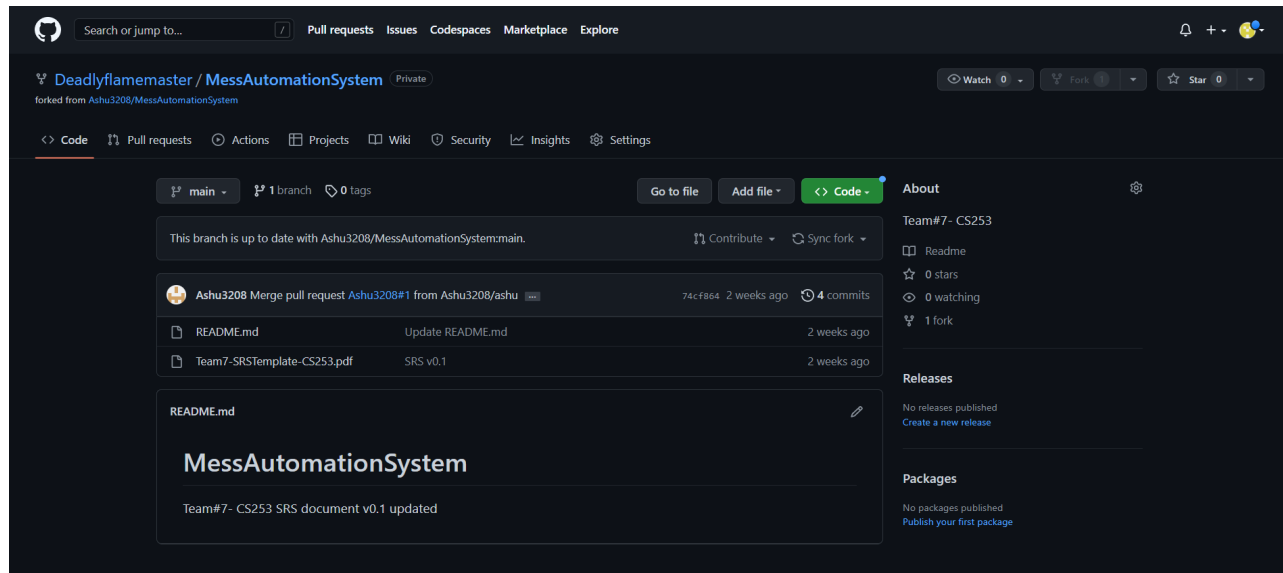
4.1 Communication

- The team communicates internally via a Whatsapp group both via messaging and voice calls.
- The team meets regularly to discuss the ongoing of the project and future plans.
- Smooth communication between the teammates is ensured and regular updates are provided on the work completed.



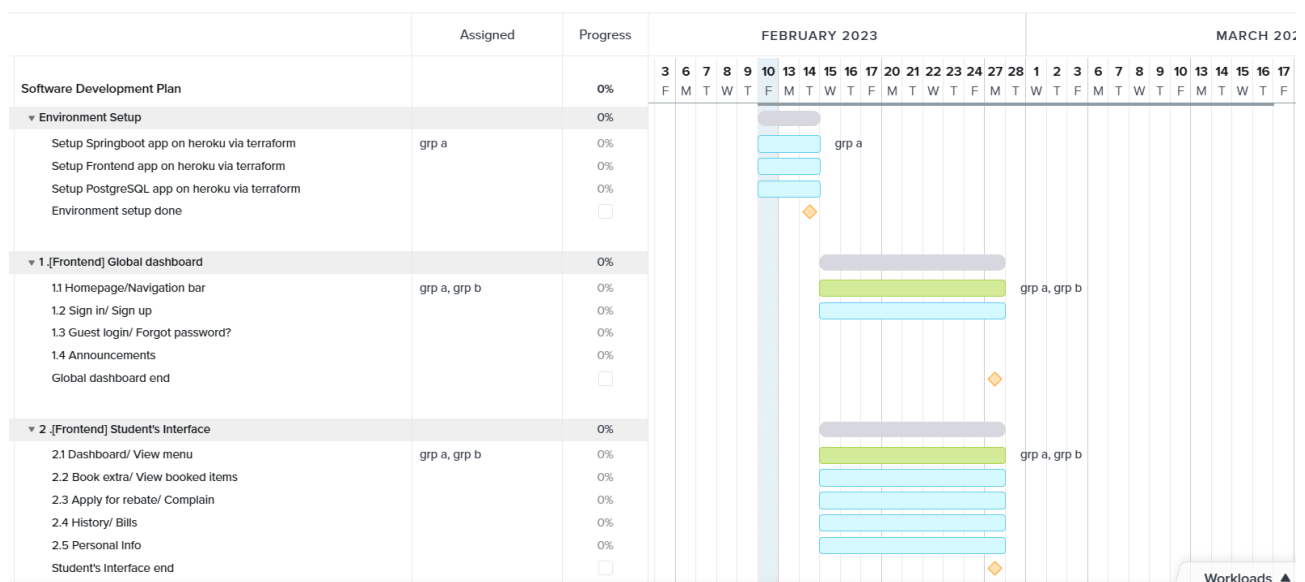
4.2 Code Collaboration

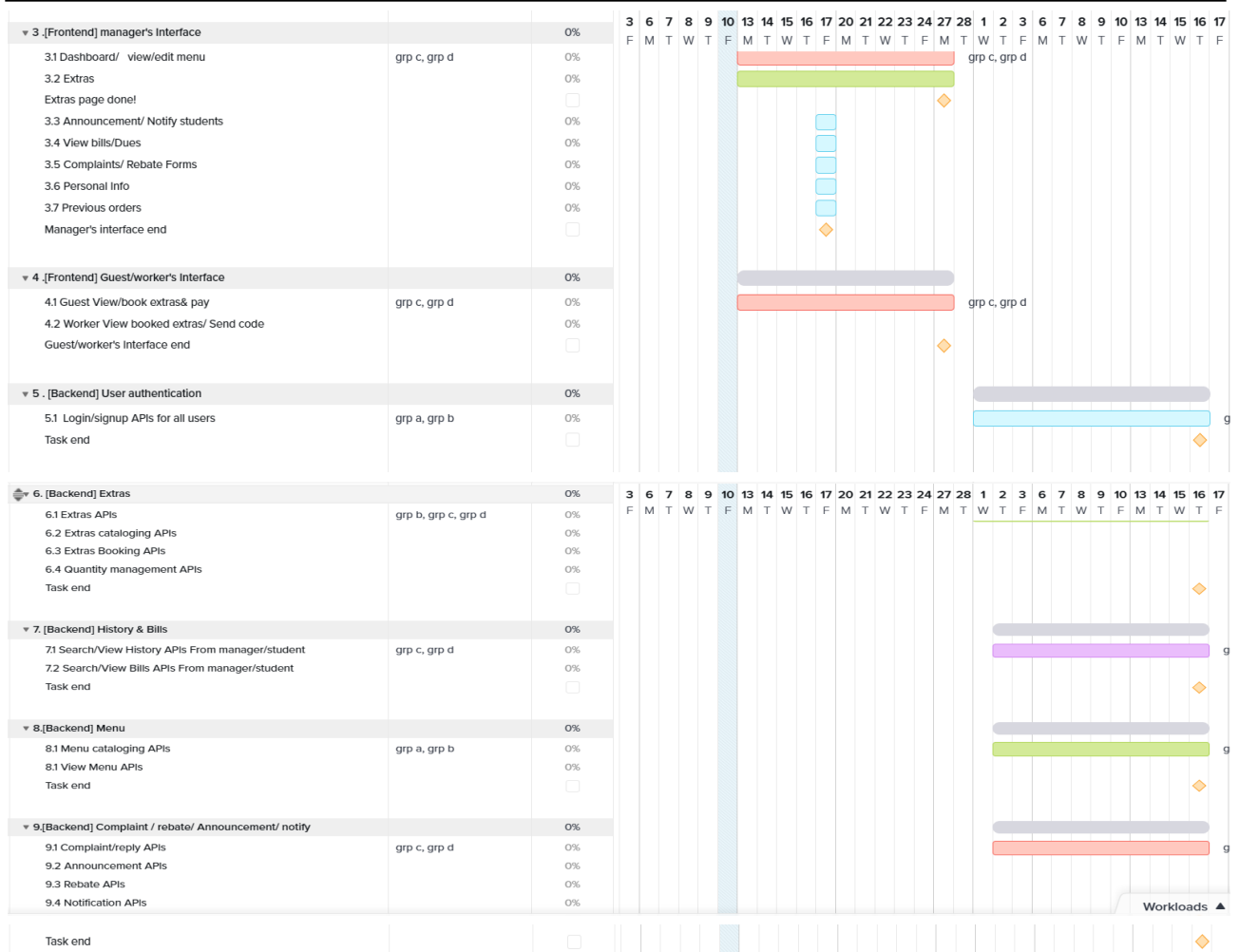
- A repository has been set up on GitHub with all the teammates as members for storing and collaborating on the source code of this project. .
- We aim to keep high code coverage of the codebase via unit tests.



4.3 Project Planning

- We have set up a JIRA board for the project planning and developing a Gantt Chart.
- Work has been divided into Epics, which is further divided into Stories.
- We will have weekly sprints where each team member will have clearly defined work.
- Every team member has internally taken the responsibility to focus majorly on either frontend or the backend.
- Our current Gantt chart looks like this:





Appendix A - Group Log

Since the beginning of the project, our entire team has been very enthusiastic. We have formed a Whatsapp group for effective communication. We have recently made a private repo on Github where we do collaboration.

Meeting minutes	Agenda
29 Jan 2023 7:00-8:00 pm	Discuss the initial ideas on the design document and various aspects of it. Brainstorm on the architecture and frontend and backend framework.
5 Feb 2023 11:00 am-12:30 pm	Done a significant portion of the design document and distributed the remaining work among all the teammates.
9 Feb 2023 6:00-7:00 pm	Updated the TA with the current progress and also gave a short presentation of SDS to the TA.
10 Feb 2023 7:00-9:00 pm	Completed all the sections of the SDS and carefully reviewed the SDS.