

Clean Out

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Abstract—Clean out is web-application where user can provide and book cleaning services, shopkeeper can sell cleaning products. In this document whole process of developing the app is given. Starting with features and functions, UML diagrams, implementation and testing, at the end the paper there is discussion about future plan/works and conclusion.

Keywords - Cleaning service, E-commerce, MVC design pattern, MERN stack

I. INTRODUCTION

Almost everyone needs cleaning services for office, shop, house, garden, marriage/party hall, etc. There are many workers who provides these services. So, clean out is connecting these two groups on one platform. For cleaning services many products like brooms, soap, hand gloves, washing liquid/powder, etc. Clean out also provides features where shopkeeper can sell cleaning products. So, user can book service and order cleaning items needed for service from same platform. Here shopkeeper can also have workers providing services under them.

Basically there are five type of users:

- 1) Customer
- 2) Worker
- 3) Shopkeeper
- 4) Admin
- 5) Coadmin

User can register themselves into clean out and order service. Each user must have unique contact number as all the notifications would be sent to that number. Worker and Shopkeeper are service providers. They can add services of their own, but only workers can go to customer and provide service. To achieve this goal shopkeeper must have to add some workers under his/her shop. For registration service providers needs to upload their ID proof for verification and worker has to upload profile picture. Also there is OTP verification feature so that only booked worker is allowed to provide the service. User or service provider can cancel ordered service. After service user can give feedback to the worker.

II. FEATURES AND USER STORIES

A. Customer

- 1) Registration : As a customer I want registration form so that I can register myself.
- 2) Update : As a customer I want an update profile feature so that I can update details.
- 3) Delete : As a customer I want an delete profile feature so that I can delete my profile.
- 4) Login : As a customer I want login so that I can login to the website.
- 5) Logout : As a customer I want logout feature so that I can logout from the website.
- 6) Get services : As a customer I want a page where I can see all services in pagination form.
- 7) Get items : As a customer I want a page where I can see all items in pagination form.
- 8) Search service by category : As a customer I want a selection bar so that I can search services by service category.
- 9) Search service by subcategory : As a customer I want a selection bar so that I can search services by service subcategory.
- 10) Sort services/items by price : As a customer I would like to have a sort option so that I can sort services/items by price.
- 11) Sort services/items by rating : As a customer I would like to have a sort option so that I can sort services/items by rating value.
- 12) Sort services/items by popularity : As a customer I would like to have a sort option so that I can sort services popularity.
- 13) View service : As a customer I want profile of service so that I can get description and rating.
- 14) View price : As a customer I want to add my requirement into profile of service so that I can get the price.
- 15) Book service : As a customer I want features so that I can book service.
- 16) Cancel service : As a customer I want features so that I can cancel booked service.
- 17) Search item by name : As a customer I want a search bar so that I can search items by name.
- 18) View item : As a customer I want profile of cleaning item so that I can get description and rating.

- 19) Add item to cart : As a customer I want a cart in which I can store cleaning items.
- 20) Remove item from cart : As a customer I want a cart from which I can remove cleaning items.
- 21) Place order : As a customer I want features so that I can place order.
- 22) Cancel order : As a customer I want features so that I can cancel order.
- 23) Give feedback : As a customer I want a review (written) panel so that I can write review for both cleaning item and services.
- 24) Get notifications : As a customer I would like to get notifications about service order and cleaning item order after exactly one month of placing order.
- 25) Buy again : As a customer I want to have the buy again option so that I can buy again previous ordered cleaning items and services.

B. Worker

- 1) Update profile : As a worker I should be able to update profile and when I update profile I should become non verified.
- 2) Add service : As a worker I should be able to add service.
- 3) Update service : As a worker I should be able to update service.
- 4) Delete service : As a worker I should be able to delete service.
- 5) Get service order : As a worker I want a feature so that I can get service details and customer's address.
- 6) Get/Verify OTP : As a worker I want get OTP and verify OTP feature so that I can verify myself.
- 7) Cancel service order : As a worker I should be able to cancel placed service.
- 8) See ratings : As a worker I should be able to see the ratings/review given to me by customers so that I can improve my services.
- 9) Accept shopkeeper request : As a worker I should be able to accept request from shopkeeper to become the shopkeeper's worker (shopkeeper based worker).
- 10) Shopkeeper based worker : As a worker when I become shopkeeper's worker, I should not be able to edit any service details of shopkeeper and I should not have any services.
- 11) Work done : As a worker I want a feature so that I can notify the system that I have completed service.
- 12) Camera : As a worker I want camera feature so that I can take pictures of myself and ID proofs to register myself.
- 13) Preferred locations : As a worker I want preferred location field so that I can go to only my preferred locations to provide service.
- 14) Requested orders : As a worker I want a page where I can see all the item orders and service orders sorted by date in pagination format.

C. Shopkeeper

- 1) Update profile : As a shopkeeper I should be able to update profile and when I update profile I should become non verified.
- 2) Add service : As a shopkeeper I should be able to add service.
- 3) Update service : As a shopkeeper I should be able to update service.
- 4) Delete service : As a shopkeeper I should be able to delete service.
- 5) Add item : As a shopkeeper I should be able to add item.
- 6) Update item : As a shopkeeper I should be able to update item.
- 7) Delete item : As a shopkeeper I should be able to delete item.
- 8) Add worker : As a shopkeeper I should be able to send request to worker to work under me.
- 9) Delete worker : As a shopkeeper I should be able to delete worker.
- 10) Get service order/item order
- 11) Cancel service order : As a shopkeeper I should be able to cancel placed service if worker is not available.
- 12) Cancel item order : As a shopkeeper I should be able to cancel item order.
- 13) Requested orders : As a shopkeeper I want a page where I can see all the item orders and service orders sorted by date in pagination format.

D. Admin

- 1) Add Coadmin : As an admin I want a feature so that I can make a user Co-admin.
- 2) Remove Coadmin : As an admin I want a feature so that I can make a Co-admin user.

E. Admin/Coadmin

- 1) Any user registration : As a admin/coadmin I should be able to add any type of user.
- 2) Any user update : As a admin/coadmin I should be able to update any type of user.
- 3) Any user delete : As a admin/coadmin I should be able to delete any type of user.
- 4) Add service/item for worker/shopkeeper : As a admin/coadmin I should be able to add service or item for shopkeeper or worker.
- 5) Update service/item for worker/shopkeeper : As a admin/coadmin I should be able to update service or item.
- 6) Delete service/item for worker/shopkeeper : As a admin/coadmin I should be able to delete service or item.
- 7) See statistics : As a admin/coadmin I should be able to see statistics of the website.
- 8) Verify worker/shopkeeper : As a admin/coadmin I should be able to verify worker and shopkeeper based on the proofs they provided.

- 9) Search user : As an admin/coadmin I want a search bar so that I can search users by name, contact number and pincode.

V. DESIGN (UML DIAGRAMS)

A. Activity Diagrams

III. MVC PATTERN

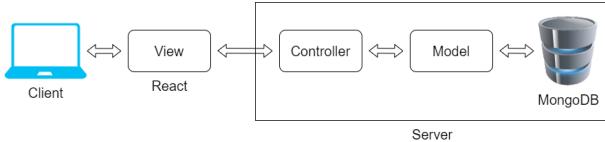


Fig. 1. MVC design pattern

In this project we have used MVC design pattern. M stands for Model which interacts with database and save/update/delete data. V stands for View which is UI and C stands for controller which takes request and generate output according to request. As you can see from figure 1 client is interacting with react directly and react sends request to backend according to user input. In the figure 2 we have shown the folder structure of the application. We have mapped Model to our models folder. Each file in the models folder act as mongodb model which directly interacts with mongodb. View is mapped to client folder, which contains react js code, which is rendered at the client browser. And Controller is mapped to controllers folder, where each file in controller act as endpoint for a specific resource.

```

> client
> config
> controllers
> database
> middlewares
> models
> node_modules
> public
> routes
> utilities
  .env
  .gitignore
  package-lock.json
  package.json
  README.md
  server.js
  
```

Fig. 2. Folder Structure

which is rendered at the client browser. And Controller is mapped to controllers folder, where each file in controller act as endpoint for a specific resource.

IV. TOOLS AND TECHNOLOGIES

- 1) MongoDB : The database we have used in the application
- 2) Express : A web server allowing us to host application online
- 3) React JS : Library to implement frontend
- 4) Node JS : Javascript engine to run javascript application locally and to implement backend
- 5) Visual Studio Code : IDE to write code
- 6) MongoDB CLI : To interact with mongodb
- 7) MongoDB Compass : For testing purpose, it shows all data available in mongodb
- 8) Postman : For backend API testing
- 9) Figma : To make UI design
- 10) Google Chrome
- 11) Mozilla Firefox
- 12) Opera

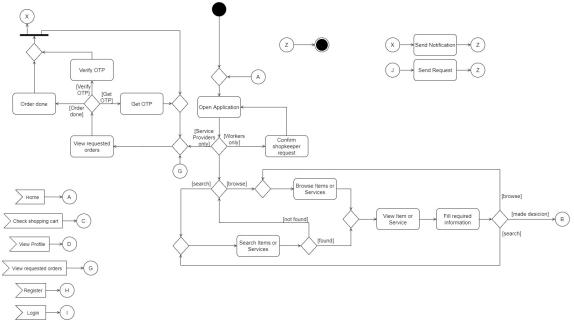


Fig. 3. Search, book service and OTP verification

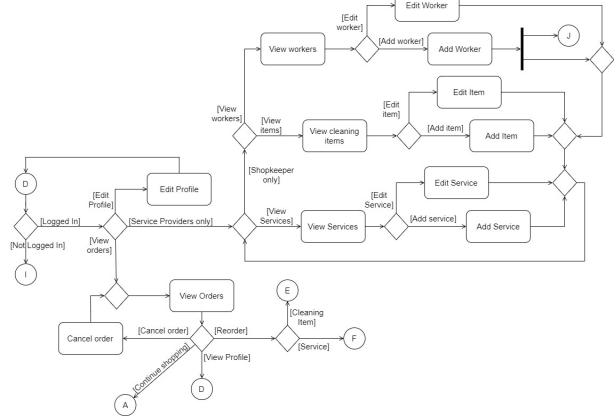


Fig. 4. View/Update Profile

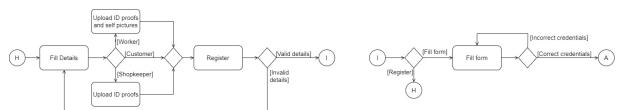


Fig. 5. Login and Registration

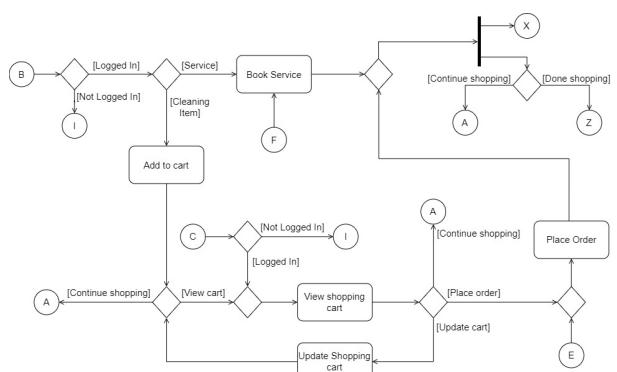


Fig. 6. Shopping cleaning items

B. Sequence Diagram

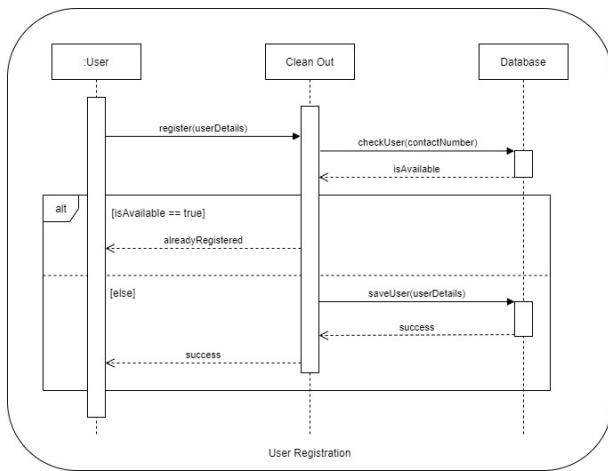


Fig. 7. User registration

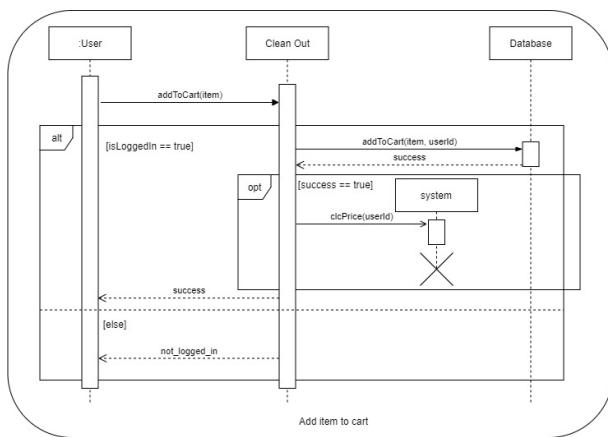


Fig. 8. Add item to cart

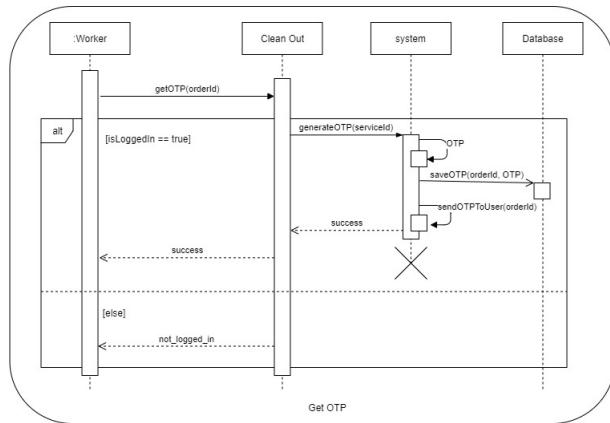


Fig. 10. Get OTP

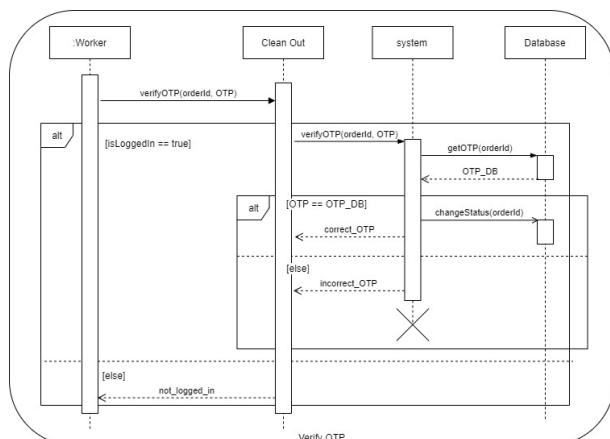


Fig. 11. Verify OTP

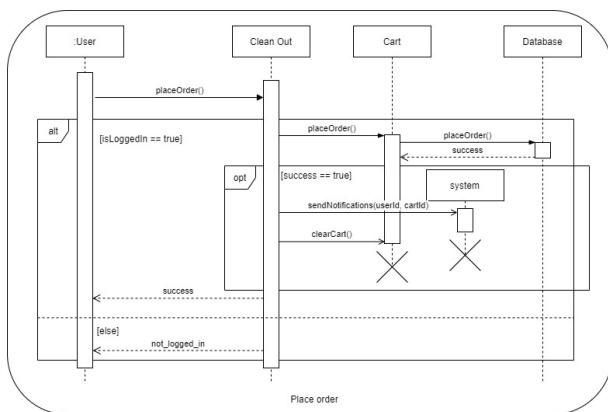


Fig. 9. Place Order

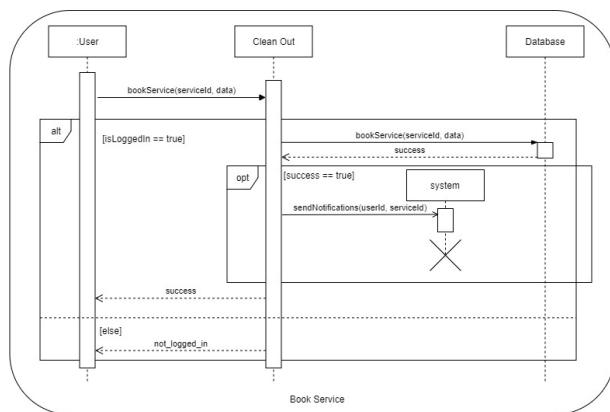


Fig. 12. Book service

C. Use Case Diagram

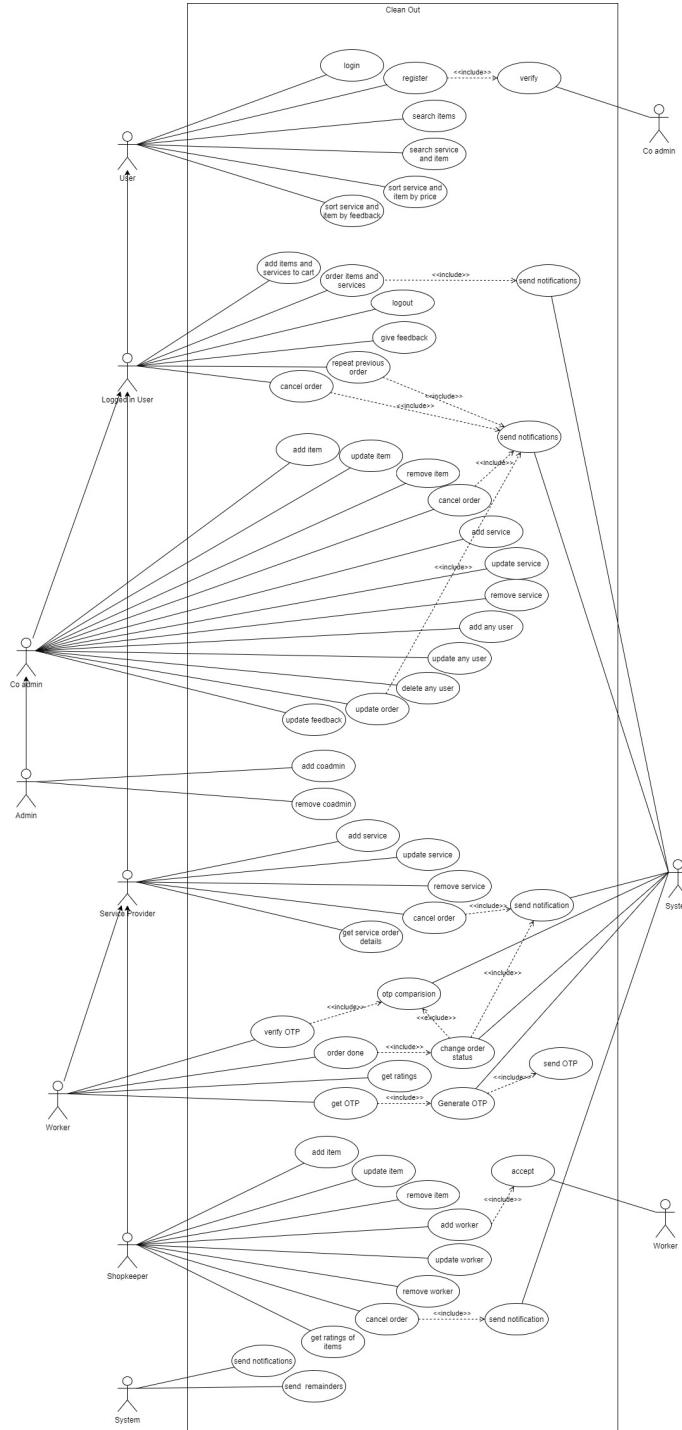


Fig. 13. Use Case Diagram

D. Class Diagram

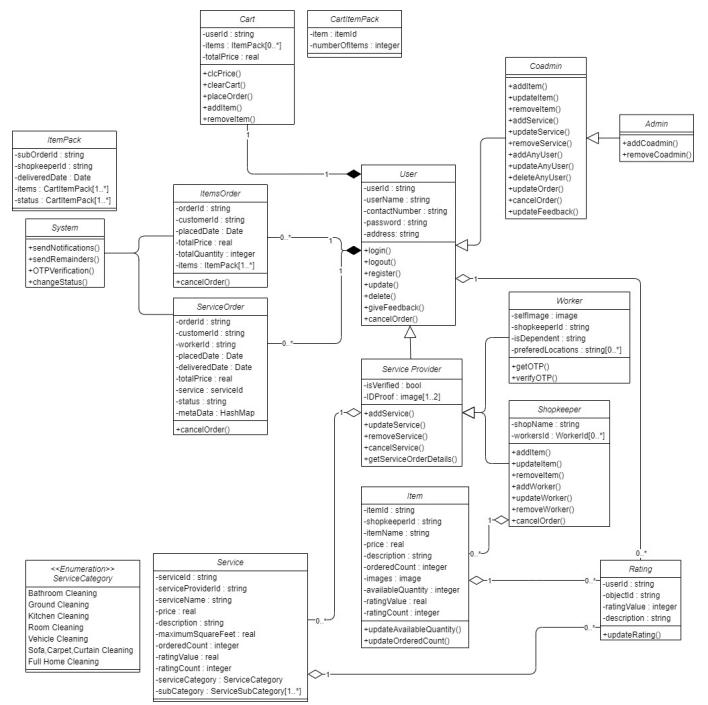


Fig. 14. Class Diagram

E. UI Design

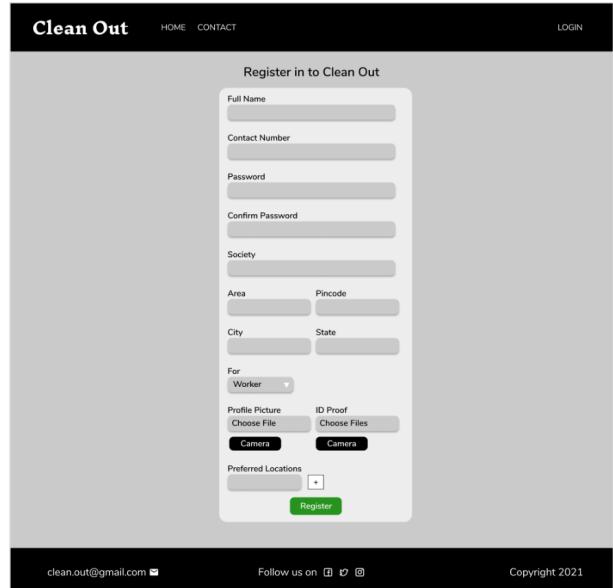


Fig. 15. Register worker

Clean Out [HOME](#) [CONTACT](#) [LOGIN](#)

Clean Out

You know what would make house cleaning more fun? A servant

Cleaning

- Bathroom Cleaning
- Kitchen Cleaning
- Room Cleaning
- Garden Cleaning
- Vehicle Cleaning
- Sofa and Carpet Cleaning
- Full Home Cleaning

Shopping

- Soap
- Broom
- Detergent
- Home sanitizer

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Fig. 16. Home page

Clean Out [HOME](#) [CONTACT](#) [REQUESTED ORDERS](#) [LOGOUT](#) [Cart](#) [User icon](#)

Items [Sort by Price Rating Popularity](#)

	A	B	C	D	E
	Price : 500 In stock 3.5★		Price : 500 Out of stock 3.5★		Price : 500 Available : 5 3.5★
		Price : 500 Available : 5 3.5★			
		Price : 500 Available : 5 3.5★			
		Price : 500 Available : 5 3.5★			
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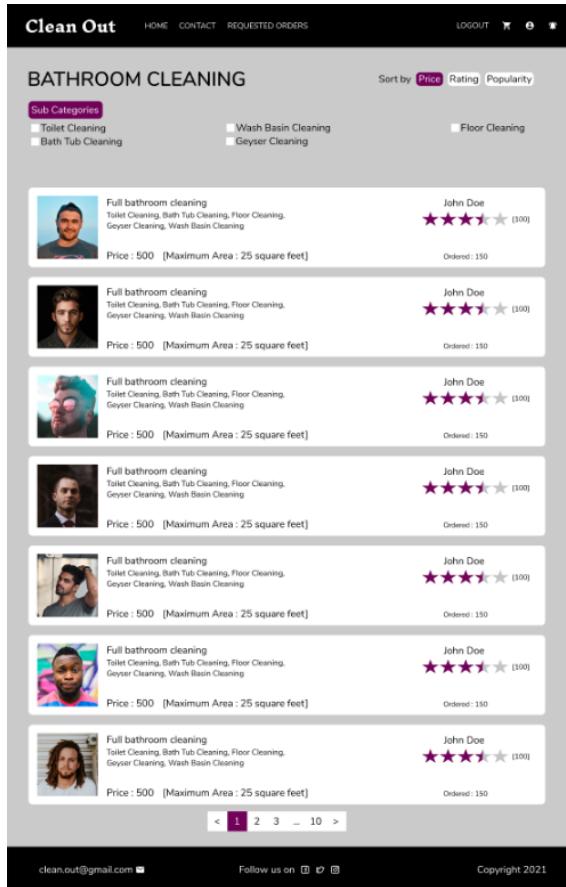


Fig. 19. Service store

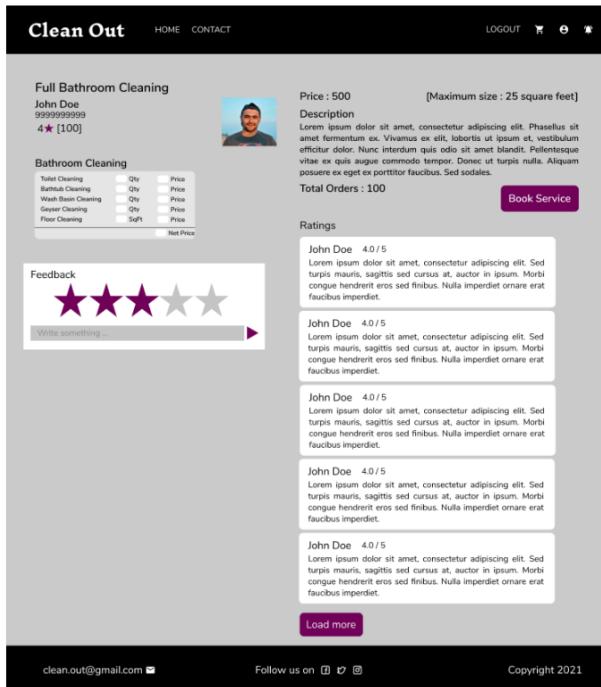


Fig. 20. View worker service

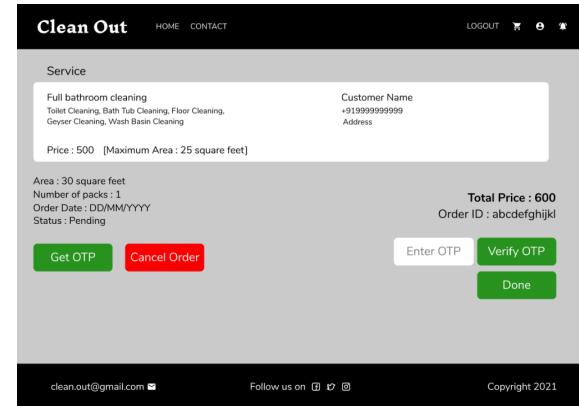


Fig. 21. Worker service orderer

VI. TESTING

Testing is a crucial part of any application. So to begin with we first tried unit testing. We performed unit testing on small scale components like buttons, links and forms when and where they should be enabled and functionalities of the same with validations.

- Given below is register form which successfully passed all the test cases and similarly other forms.

Register in to Clean Out

Full Name

Required

Contact Number

Must be only digits

Password

•••

Confirm Password

••••

Passwords must match

Society

Required

Area

Required

Pincode

Required

City

Required

State

Required

For:

Customer

Register

Fig. 22. Testing register form

In each form if field is contact number then input must have all digits and length must be exact 10. If field is pincode then all digits and length of 6. If confirm password field then it must match with password field. All forms have passed in this test.

- In register form when user try to register with contact number which is already registered then application will not allow that.

Fig. 23. Testing register with same contact number

- The other main unit test was to check whether selection of subcategories in service store are working properly or not and below are the results.

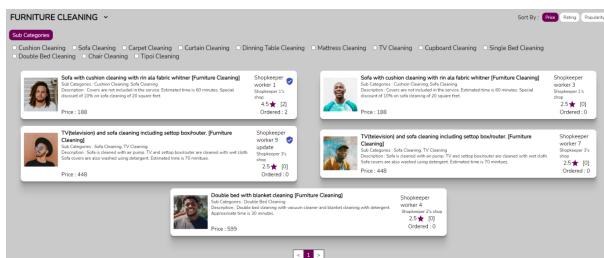


Fig. 24. Testing service category before any input

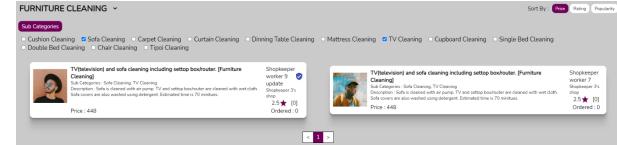


Fig. 25. Testing service category after selecting some fields

- Another thing we tested is when shopkeeper sent request to worker it shows in the notification bar. Here we also tested that if the request is already sent once then shopkeeper cannot send request again and if worker is already under some other shopkeeper then shopkeeper cannot send request.



Fig. 26. Testing shopkeeper request sent to worker

- Then we tested the notification part also. When the user book service or place order or cancel order appropriate user/worker/shopkeeper gets notification regarding the same. Also we have used cron jobs in application to send remainders after one month of placing any type of order. So all those were also running successfully. Right now we do not have any external service for sending notification via SMS, so for simplicity we just logging message in the console. Below is the result when customer book service of a shopkeeper. In that case notification is sent to customer itself then shopkeeper and the worker of the shopkeeper that selected by customer.

```
message Order placed with total price : 299
targets [ '0000000001', '4444444411', '3333333334' ]
purpose PLACED_ORDER
```

Fig. 27. Testing notification on booking service

- With above we tested if the application is allowing further operation whether OTP entered is correct or not. There are two cases where we need actions based on OTP. First one is forgot password use case and second is verify correct worker has come to provide service. In both scenario our application passed test case. Below is figures for reset password use case.

```
message 584780
targets [ '1111111111' ]
purpose RESET_PASSWORD
```

Fig. 28. Testing sending reset password OTP to user

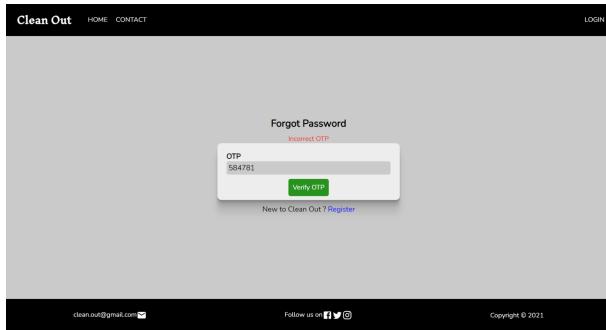


Fig. 29. Testing validating reset password OTP

- In the application we filter services and show to customer based on the address pincode of the logged in user. But if customer is not logged in then we manually ask pincode of their area and based on that pincode we show the services.

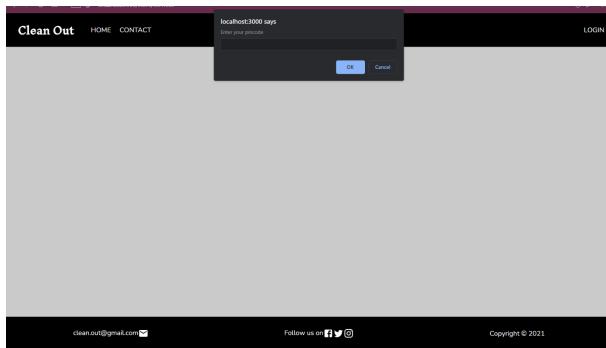


Fig. 30. Testing pincode prompt if user is not logged in

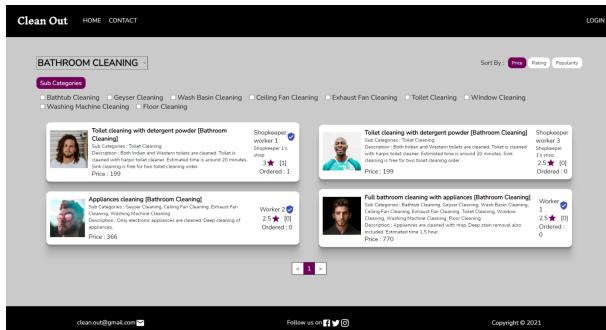


Fig. 31. Testing services based on pincode entered by customer

- Each item and worker service has feedbacks. Feedback can be added and updated. We have tested addition and update in both of item and worker service. Below we have shown for worker service.

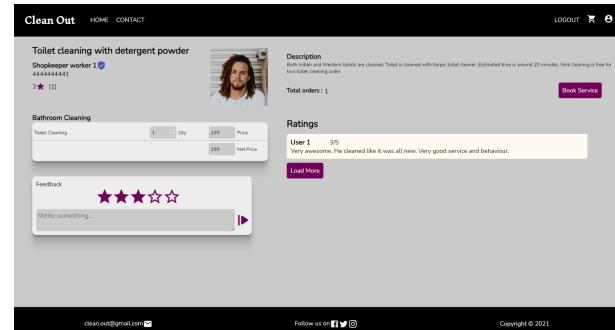


Fig. 32. Testing user 3's view before user 2 add feedback

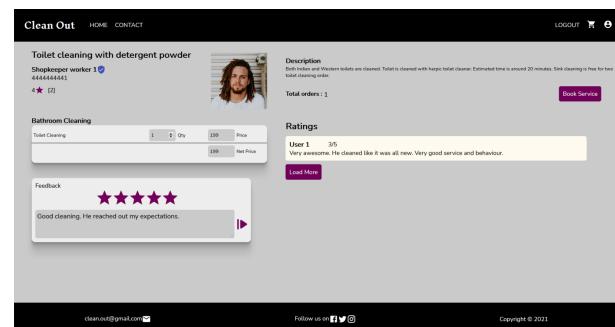


Fig. 33. Testing user 2 has added feedback

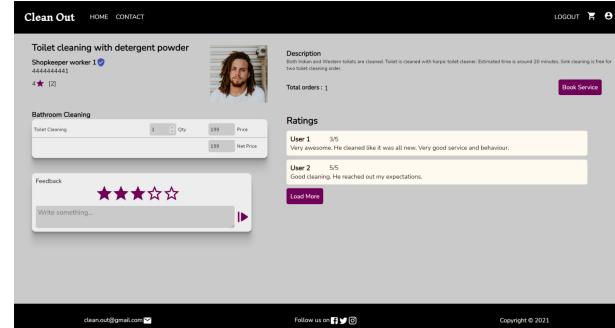


Fig. 34. Testing user 3's view after user 2 added feedback

In figure 32 we have shown the page when "user 3" is visiting the worker service. At this point "user 2" has not added feedback but "user 1" has already added feedback. In figure 33 we have shown the page of "user 2" after "user 2" add feedback. Now in figure 34 we have shown the view of "user 3" after the "user 2" add his feedback. We have tested this for cleaning item also and it is also giving correct results.

- Then we have tested item order and service order feature. When customer place item order, customer himself and related all shopkeeper keeper should get service order notification and also they should be able to see the order in requested order field sort by latest date. Also when customer book service then customer

and worker should get notification. If worker is not individual worker and serving under some shopkeeper then that shopkeeper should also get the notification. Both worker and shopkeeper should be able to see the latest placed order at the top of list of requested orders.

Below we have shown requested orders page for both shopkeeper and its worker before customer book service.

Order Details	User ID	Status	Action Buttons
Sofa with cushion cleaning with rm ala fabric whitener [Furniture Cleaning] Price : 199 Placed Date : 2021-04-25	User 1 00000001 A-000, Society, Area, City, State - 123456	Delivered	View Order Delivered Order Cancel Order
RIN Detergent Bar - 250 g (Pack of 4) [1] Status : Cancelled	User 1 00000001 A-000, Society, Area, City, State - 123456	Pending	View Order Cancel Order
Vin Dishwash Liquid Gel Lemon, With Lemon Fragrance, Leaves No Residue, [1] Graze Cleaner For All Utensils, 750 ml Bottle Status : Delivered	User 1 00000001 A-000, Society, Area, City, State - 123456	Delivered	View Order Delivered Order Cancel Order
Vin Dishwash Liquid Gel Lemon, With Lemon Fragrance, Leaves No Residue, [1] Graze Cleaner For All Utensils, 750 ml Bottle Status : Delivered	User 1 00000001 A-000, Society, Area, City, State - 123456	Delivered	View Order Delivered Order Cancel Order
Sofa with cushion cleaning with rm ala fabric whitener [Furniture Cleaning] Price : 199 Placed Date : 2021-04-24	User 1 00000001 A-000, Society, Area, City, State - 123456	Delivered	View Order Delivered Order Cancel Order
RIN Detergent Bar - 250 g (Pack of 4) [2] Status : Delivered	User 1 00000001 A-000, Society, Area, City, State - 123456	Delivered	View Order Delivered Order Cancel Order
Vin Dishwash Liquid Gel Lemon, With Lemon Fragrance, Leaves No Residue, [1] Graze Cleaner For All Utensils, 750 ml Bottle Status : Delivered	User 1 00000001 A-000, Society, Area, City, State - 123456	Delivered	View Order Delivered Order Cancel Order
Sofa with cushion cleaning with rm ala fabric whitener [Furniture Cleaning] Price : 199 Placed Date : 2021-04-25	User 1 00000001 A-000, Society, Area, City, State - 123456	Delivered	View Order Delivered Order Cancel Order
RIN Detergent Bar - 250 g (Pack of 4) [2] Status : Delivered	User 1 00000001 A-000, Society, Area, City, State - 123456	Delivered	View Order Delivered Order Cancel Order

Fig. 35. Testing requested orders page of shopkeeper before customer book service

Order Details	User ID	Status	Action Buttons
Sofa with cushion cleaning with rm ala fabric whitener [Furniture Cleaning] Price : 199 Placed Date : 2021-04-25	User 1 00000001 A-000, Society, Area, City, State - 123456	Delivered	View Order Delivered Order Cancel Order
Sofa with cushion cleaning with rm ala fabric whitener [Furniture Cleaning] Price : 199 Placed Date : 2021-04-24	User 1 00000001 A-000, Society, Area, City, State - 123456	Delivered	View Order Delivered Order Cancel Order
Toilet cleaning with detergent powder [Bathroom Cleaning] Price : 398 Placed Date : 2021-04-21	User 1 00000001 A-000, Society, Area, City, State - 123456	Cancelled	View Order Cancel Order
Toilet cleaning with detergent powder [Bathroom Cleaning] Price : 398 Placed Date : 2021-04-21	User 1 00000001 A-000, Society, Area, City, State - 123456	Cancelled	View Order Cancel Order
Toilet cleaning with detergent powder [Bathroom Cleaning] Price : 398 Placed Date : 2021-04-21	User 1 00000001 A-000, Society, Area, City, State - 123456	Delivered	View Order Delivered Order Cancel Order

Fig. 36. Testing requested orders page of worker before customer book service

Now after customer booked the service that service order should be displayed at the top of the requested orders for both worker and shopkeeper. And customer also should be able to see their own order which is indeed the case which we have shown below. Here the customer name is "user 2".

Service Order		Shopkeeper worker 1	
		3 ★ [1]	
Toilet cleaning with detergent powder [Bathroom Cleaning] Sub Categories : Toilet Cleaning Description : Western toilets are cleaned. Toilet is cleaned with basic toilet cleaner. Estimated time is around 20 minutes. Sink cleaning is free for two toilet cleaning order.		Status : Pending	
Price : 199		Ordered : 2	
Total Price : 199			
Order ID : 60993202020807434476 Order Date : 2021-04-28		Status : Pending	
Replace Order		Cancel Order	

Fig. 37. Testing show service order to customer

Service Order		Shopkeeper worker 1	
		3 ★ [1]	
Toilet cleaning with detergent powder [Bathroom Cleaning] Sub Categories : Toilet Cleaning Description : Western toilets are cleaned. Toilet is cleaned with basic toilet cleaner. Estimated time is around 20 minutes. Sink cleaning is free for two toilet cleaning order.		Status : Pending	
User 2 00000002 A-000, Society, Area, City, State - 123456		User 1 00000001 A-000, Society, Area, City, State - 123456	
Price : 199 Placed Date : 2021-04-28		Price : 155 Placed Date : 2021-04-25	
Net Price : 209		Net Price : 209	
Replace Order		Cancel Order	

Fig. 38. Testing show service order to shopkeeper

Service Order		Shopkeeper worker 1	
		3 ★ [1]	
Toilet cleaning with detergent powder [Bathroom Cleaning] Sub Categories : Toilet Cleaning Description : Western toilets are cleaned. Toilet is cleaned with basic toilet cleaner. Estimated time is around 20 minutes. Sink cleaning is free for two toilet cleaning order.		Status : Pending	
User 2 00000002 A-000, Society, Area, City, State - 123456		User 1 00000001 A-000, Society, Area, City, State - 123456	
Price : 199 Placed Date : 2021-04-28		Price : 155 Placed Date : 2021-04-25	
Net Price : 209		Net Price : 209	
Replace Order		Cancel Order	

Fig. 39. Testing show service order to worker

When the worker provides service completely then he goes to requested order and then open order and then click on done order. This will send notification to all the related parties. And also update the database which can be seen from blow figures. In between if due to any reason either worker or shopkeeper or customer cancel the order then also it changes database and sends notification to related parties. This is very similar to done order case so we have not shown result here but those test cases also passed. Similarly test cases for item order are also passed.

Service Order		Shopkeeper worker 1	
		3 ★ [1]	
Toilet cleaning with detergent powder [Bathroom Cleaning] Sub Categories : Toilet Cleaning Description : Western toilets are cleaned. Toilet is cleaned with basic toilet cleaner. Estimated time is around 20 minutes. Sink cleaning is free for two toilet cleaning order.		Status : Delivered	
User 2 00000002 A-000, Society, Area, City, State - 123456		User 1 00000001 A-000, Society, Area, City, State - 123456	
Price : 199 Order ID : 60993202020807434476 Order Date : 2021-04-28		Status : Delivered	
Replace Order		Cancel Order	

Fig. 40. Testing show service order to customer after order completion

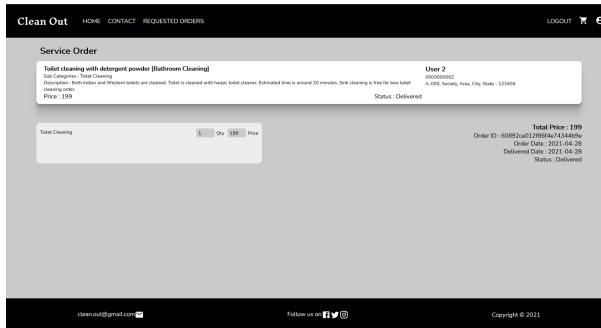


Fig. 41. Testing show service order to worker and shopkeeper after order completion

- For admin there are many use cases but we focus mainly on find user, verify user and add/remove coadmin features. Admin/Coadmin can find user, worker or shopkeeper by phone number, pincode or user name. Which is giving correct result as shown below.

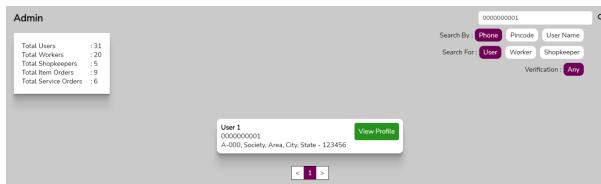


Fig. 42. Testing show users search by phone

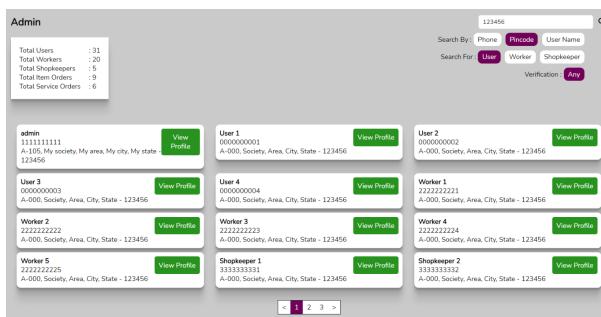


Fig. 43. Testing show users search by pincode

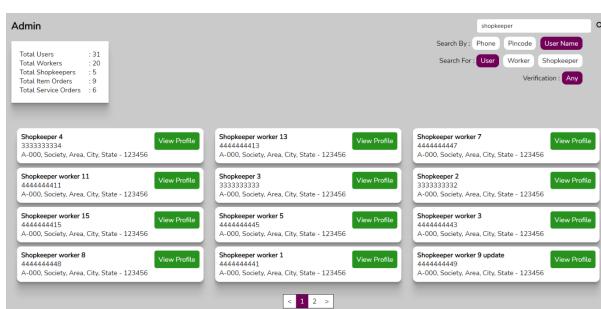


Fig. 44. Testing show users search by username

Then another thing is that admin/coadmin can verify worker or shopkeeper after viewing their proofs which is shown below.

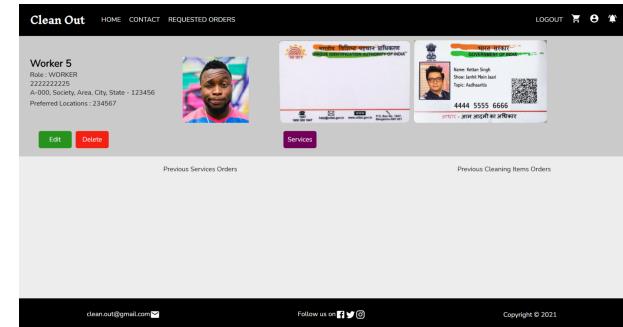


Fig. 45. Testing worker 5's profile before verification

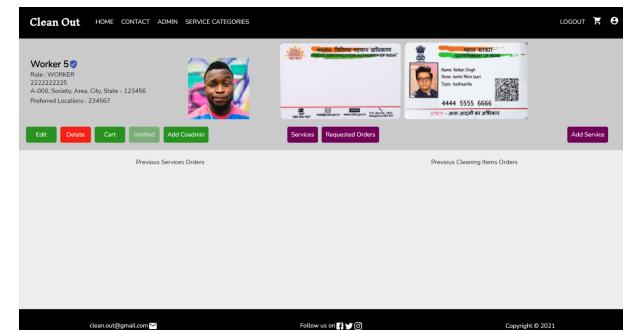


Fig. 46. Testing worker 5's profile in admin mode after admin clicked on verify button

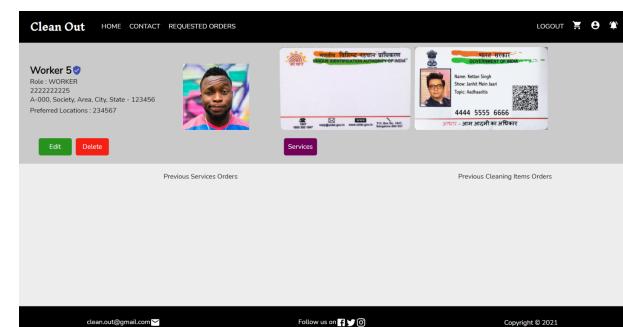


Fig. 47. Testing worker 5's profile after verification

The next thing is to make a user coadmin. Removing coadmin is also same procedure so we have tested that but not shown here. Also a point to note is that the verify button shown in figure 46 is shown only for admin user. It is hidden for user other than admin. So making coadmin and removing coadmin can only be done by admin. Which also we have tested but not shown here.

User 1
Role: USER
000000000001
A-000, Society, Area, City, State - 123456

Previous Services Orders

Toilet cleaning with detergent powder [Bathroom Cleaning]	Shopkeeper worker 1	Status : Delivered
Sub Category : Toilet Cleaning		
Price : 398		
Toilet cleaning with detergent powder [Bathroom Cleaning]	Shopkeeper worker 2	Status : Cancelled
Sub Category : Toilet Cleaning		
Price : 398		
Toilet cleaning with detergent powder [Bathroom Cleaning]	Shopkeeper worker 3	Status : Cancelled
Sub Category : Toilet Cleaning		
Price : 398		
Sofa with cushion cleaning with mla fabric whitner [Furniture Cleaning]	Shopkeeper worker 1	Status : Delivered
Sub Category : Furniture Cleaning, Sofa Cleaning		
Price : 188		
Sofa with cushion cleaning with mla fabric whitner [Furniture Cleaning]	Shopkeeper worker 2	Status : Delivered
Sub Category : Furniture Cleaning, Sofa Cleaning		
Price : 188		

Previous Cleaning Items Orders

Pvt Kraft Dish Washing Liquid - 750 ml [1]	Price : 170
Delivered	
Harpic Disinfectant Bathroom Cleaner Liquid, Lemon - 1 L With Sodium Hypochlorite 0.5% w/w Min. [5]	Price : 860
Cancelled	
Kraft Dish Washing Liquid - 750 ml [1]	Price : 170
Delivered	
RN Detergent Bar - 250 g (Pack of 4) [1]	Price : 54
Cancelled	
Vim Dishwash Liquid Gel Lemon, With Lemon Fragrance, Leaves No Residue, Grease Cleaner For All Utensils, 750 ml Bottle [5]	Price : 775
Cancelled	
Pvt Kraft Dish Washing Liquid - 750 ml [1]	Price : 170
Cancelled	
RN Detergent Bar - 250 g (Pack of 4) [1]	Price : 54
Cancelled	

Fig. 48. Testing user 1's profile before making coadmin for admin

User 1
Role : COADMIN
000000000001
A-000, Society, Area, City, State - 123456

Previous Services Orders

Toilet Cleaning with detergent powder [Bathroom Cleaning]	Shopkeeper worker 1	Status : Delivered
Sub Category : Toilet Cleaning		
Price : 398		
Toilet Cleaning with detergent powder [Bathroom Cleaning]	Shopkeeper worker 1	Status : Cancelled
Sub Category : Toilet Cleaning		
Price : 398		
Toilet Cleaning with detergent powder [Bathroom Cleaning]	Shopkeeper worker 1	Status : Cancelled
Sub Category : Toilet Cleaning		
Price : 398		
Sofa with cushion cleaning with mla fabric whitner [Furniture Cleaning]	Shopkeeper worker 1	Status : Delivered
Sub Category : Furniture Cleaning, Sofa Cleaning		
Price : 188		
Sofa with cushion cleaning with mla fabric whitner [Furniture Cleaning]	Shopkeeper worker 1	Status : Delivered
Sub Category : Furniture Cleaning, Sofa Cleaning		
Price : 188		

Previous Cleaning Items Orders

Pvt Kraft Dish Washing Liquid - 750 ml [1]	Price : 170
Delivered	
Harpic Disinfectant Bathroom Cleaner Liquid, Lemon - 1 L With Sodium Hypochlorite 0.5% w/w Min. [5]	Price : 860
Cancelled	
Pvt Kraft Dish Washing Liquid - 750 ml [1]	Price : 170
Cancelled	
RN Detergent Bar - 250 g (Pack of 4) [1]	Price : 54
Cancelled	
Vim Dishwash Liquid Gel Lemon, With Lemon Fragrance, Leaves No Residue, Grease Cleaner For All Utensils, 750 ml Bottle [5]	Price : 775
Cancelled	
Pvt Kraft Dish Washing Liquid - 750 ml [1]	Price : 170
Cancelled	

Fig. 49. Testing user 1's profile after making coadmin for user 1

VIII. ACKNOWLEDGEMENT

We would like to thanks Prof. Jayprakash Lalchandani from DAIICT, Gandhinagar, Gujarat, INDIA for giving us this opportunity and proper guidelines where possible.

VII. CONCLUSION AND FUTURE WORK

At this point the application is already robust and is quite efficient in terms of monitoring from Admin side. There is always a scope in improving the user interface. One can also add chat box feature in order to chat directly between service provider and customer. Time scheduling feature can also be added where customer is asked to add preferred time slots at the time of booking service. Using AI user can be shown services based on previous data and also sent notification about it. Currently when user is not logged we ask manually to enter pincode of their area but it can be improved by automatically accessing location of user. Also in current application we have not used any external service which sends sms to registered phone numbers. Temporarily we have used nodemailer in the application which sends via email id but that just for testing purpose (you can see that in notification file of backend). The other thing is that right now we are sending notifications after exact one month of placed order to remind for the same order but it can be made more efficient and could be sent multiple notifications.