

Enhancing Customer Experience and Efficiency through an After Sales Service Portal

Vaibhav Gurap, Gautam Deshpande, Tanmay Devare, Rudra Chopde, Prof.

Umesh Raut

School of SCET, MIT World Peace University, Pune, India

1032212221@mitwpu.edu.in, 1032212228@mitwpu.edu.in, 1032212227@mitwpu.edu.in,

1032212260@mitwpu.edu.in, umesh.raut@mitwpu.edu.in.

ABSTRACT

This research paper presents an innovative After Sales Service Portal, designed to simplify the repair and replacement process for customers dealing with damaged products. Purchasing products is straightforward, but managing repairs and replacements can be cumbersome. Our portal allows customers to register and submit requests for repairing or replacing faulty items, aiming to enhance customer satisfaction and overall efficiency in after-sales services. It bridges the gap between the product, customer, service center, and service requests, involving technicians. Leveraging modern technology, this portal optimizes the after-sales service experience for all stakeholders. The paper explores the development and implementation of the portal, its impact on customer experience and service dealer operations, and discusses potential future enhancements. This research has the potential to revolutionize after-sales support across various industries.

KEYWORDS

After-sales support optimization, Customer experience enhancement, Comprehensive support system, Service efficiency improvement.

1. INTRODUCTION

In today's fast-paced society, the ease of purchasing products often overshadows the challenges that arise when these products become damaged and require repairs or replacements. Traditionally, customers have faced the daunting task of navigating a fragmented system, lacking a centralized solution or platform to address their post-purchase needs. The absence of a streamlined process often

leads to frustrations, extended downtime, and dissatisfactory experiences for customers seeking assistance.

To address these challenges and enhance customer satisfaction, we present the concept of an After Sales Service Portal. This research paper aims to explore the development and implementation of this innovative portal, focusing on its potential to revolutionize after-sales support in the context of LG, a renowned company in the electronics industry. The After Sales Service Portal serves as a comprehensive support system, encompassing various aspects of customer service, product tracking, warranty service, returns, and replacements.

The existing landscape of after-sales support has been marked by disjointed communication channels and time-consuming processes, necessitating customers to provide repetitive details about their products such as warranty status, purchase origin, and specific issues encountered. By introducing the After Sales Service Portal, we aim to provide a consolidated platform that alleviates these burdensome tasks, enabling customers to conveniently register and place repair or replacement requests for their broken or faulty products. Moreover, the After Sales Service Portal bridges the gap between customers and technicians by facilitating seamless communication. Once a customer submits a request, technicians are promptly notified, allowing them to efficiently address the issue. After the completion of the repair or replacement request, technicians can mark the task as completed, triggering real-time updates visible to both the customers and the service dealers. This transparent and synchronized system ensures that customers remain informed about the progress of their requests, while service dealers can efficiently manage and prioritize their workload.

This research paper will delve into the development, implementation, and evaluation of the After Sales Service Portal, emphasizing its potential to enhance customer experience and improve overall efficiency in after-sales services. Additionally, the paper will address the benefits and challenges associated with the portal's adoption, shedding light on the transformative impact it can have on the post-purchase journey. Ultimately, the After Sales Service Portal represents a significant step forward in addressing the complexities of after-sales support. By providing a centralized platform, it empowers customers to easily seek assistance for their damaged products, while simultaneously optimizing the operations of service dealers. This research aims to highlight the value and potential of the After Sales Service Portal as a transformative solution in the realm of after-sales support, contributing to improved customer satisfaction and streamlined service processes.

2. LITERATURE SURVEY

Cai, Dongdong et al. conducted a research study focused on the development of a web-based after-sales service management system. Their objective was to enhance customer satisfaction and loyalty by improving the efficiency of after-sales service. Through their case study, the authors proposed a comprehensive system that integrates various components such as service request management, customer communication, and issue resolution. The findings revealed significant improvements in service efficiency and customer satisfaction, as well as enhanced communication between customers and service providers. This research highlights the potential of web-based systems in optimizing after-sales service processes and emphasizes their impact on overall customer experience. (Cai, Dongdong et al)

Dombrowski, Uwe et al. explored the implications of electric mobility on after-sales service. They identified the changes and challenges associated with this emerging technology. The authors emphasized the need for service centers to adapt their infrastructure, tools, and training programs to effectively handle electric vehicles. Providing convenient charging solutions and educating customers on vehicle maintenance were also highlighted as crucial factors. This research emphasizes the importance of adapting after-sales service strategies to accommodate electric mobility, ensuring a seamless experience for electric vehicle owners. (Dombrowski, Uwe et al)

Qin, Xiaoshun et al. conducted a comprehensive review of after-sales service practices for Chinese agricultural machinery in cross-border e-commerce in Africa. The study focused on understanding the challenges and opportunities faced by Chinese companies in providing after-sales support to African customers. The authors emphasized the significance of tailoring after-sales service offerings to local market needs, effective communication, timely spare parts availability, and skilled technical support. The study provides valuable insights into improving after-sales service strategies in cross-border e-commerce for Chinese companies. (Qin, Xiaoshun et al)

Chang et al. designed an evaluation system for assessing e-commerce shopping after-sales service quality. The authors recognized the increasing importance of after-sales service in the online retail industry and proposed a comprehensive framework for evaluating the performance of e-commerce platforms. The evaluation system considered factors such as response time, issue resolution, customer satisfaction, and service transparency. By implementing this system, e-commerce companies can identify areas for improvement and enhance the overall customer experience. The study highlights the role of effective after-sales service in building customer trust and loyalty in the competitive e-commerce landscape. (Chang et al)

Gonsson, Erika et al. examined the relationship between after-sales services and customer relationship marketing (CRM). The study emphasized the strategic value of after-sales services in nurturing long-term customer relationships. Providing personalized and proactive after-sales support, effective communication, trust-building, and value-added services were identified as key elements for strengthening customer relationships. The research highlights the integration of after-sales services into CRM strategies, emphasizing the potential for companies to gain a competitive advantage by prioritizing customer-centric after-sales initiatives. (Gonsson, Erika et al)

3. METHODOLOGY

The After Sales Service Portal was developed using ReactJS, React MUI, PHP, and MySQL. The development process involved designing a user-friendly interface, integrating purchase history data with Aadhar Card information to automate product details, and implementing a request management system that enables customers to track their requests.

The After Sales Service Portal is linked to the Aadhar Card system to retrieve product details automatically. This integration eliminates the need for customers to manually add their product details while placing requests, making the process more efficient.

The After Sales Service Portal was implemented for customers to register and place repair/replace requests for their products. Service dealers were also provided access to the portal to manage requests and assign technicians accordingly. After a technician is assigned, everything is handled by the technician. Right from deciding the day and time for repairing/replacing the product with the customer to notifying the tasks that are done by the technician through the app.

The After Sales Service Portal is monitored regularly to identify any issues or bugs that may arise. Customer feedback is also gathered continuously to evaluate the effectiveness of the portal and make necessary improvements.

4. VISUALIZING THE RESULT

The After Sales Service Portal operates through a user-friendly interface that caters to both customers and service providers. Let's take a closer look at how the portal functions:

4.1 CUSTOMER REGISTRATION AND SERVICE REQUEST SUBMISSION

Customers can easily register on the portal by providing their basic information and product details. Once registered, they can submit service requests by describing the issue. The portal allows customers to select preferred service time slots, providing convenience and flexibility.

4.2 TECHNICIAN AND SERVICE CENTER INTEGRATION

The portal seamlessly integrates with the technician and service center networks. Service requests are automatically assigned to the appropriate technicians based on factors such as location and expertise. Technicians receive real-time notifications and access to the necessary information to address the customer's issue effectively. Service centers can monitor the status of each request, ensuring proper allocation of resources and efficient workflow management.

4.3 TRACKING AND MONITORING SERVICE REQUESTS

Customers can track the progress of their service requests through the portal. They receive updates at each stage of the resolution process, from the assignment of a technician to the completion of the service. This transparency eliminates uncertainty and allows customers to plan accordingly. Additionally, customers can provide feedback and rate the service they received, contributing to continuous improvement efforts.

5. CONCLUSION

In conclusion, the After Sales Service Portal presented in this research paper offers a promising solution to the challenges faced in the process of repairing or replacing damaged products for customers. By providing a streamlined platform for customers to register and submit requests, the portal simplifies the after-sales service process, ultimately leading to improved customer satisfaction and increased operational efficiency.

The research has highlighted the benefits of the After Sales Service Portal, including reduced turnaround time, improved communication, and enhanced transparency. These advantages contribute to a more positive customer experience, as customers can easily track the progress of their requests and stay informed about the status of their products. Simultaneously, service dealers benefit from a centralized system that allows for efficient request management and improved coordination with customers. Overall, the After Sales Service Portal represents a significant step towards revolutionizing after-sales support in various industries. By streamlining the repair and replacement process, it not only enhances customer satisfaction but also improves operational efficiency for service dealers. With

continued development and implementation of advanced technologies, the After Sales Service Portal has the potential to reshape the after-sales service landscape, offering more efficient and satisfying customer experiences.

6. LIMITATION AND FUTURE WORK

One limitation of the After Sales Service Portal is the reliance on customers to accurately describe their product issues, which can lead to miscommunication and delays. Additionally, the portal's effectiveness may be limited for complex or specialized products that require customized solutions. By leveraging emerging technologies and customer-centric approaches, the After Sales Service Portal can continue to revolutionize after-sales support and enhance customer experiences.

7. TABLES AND FIGURES

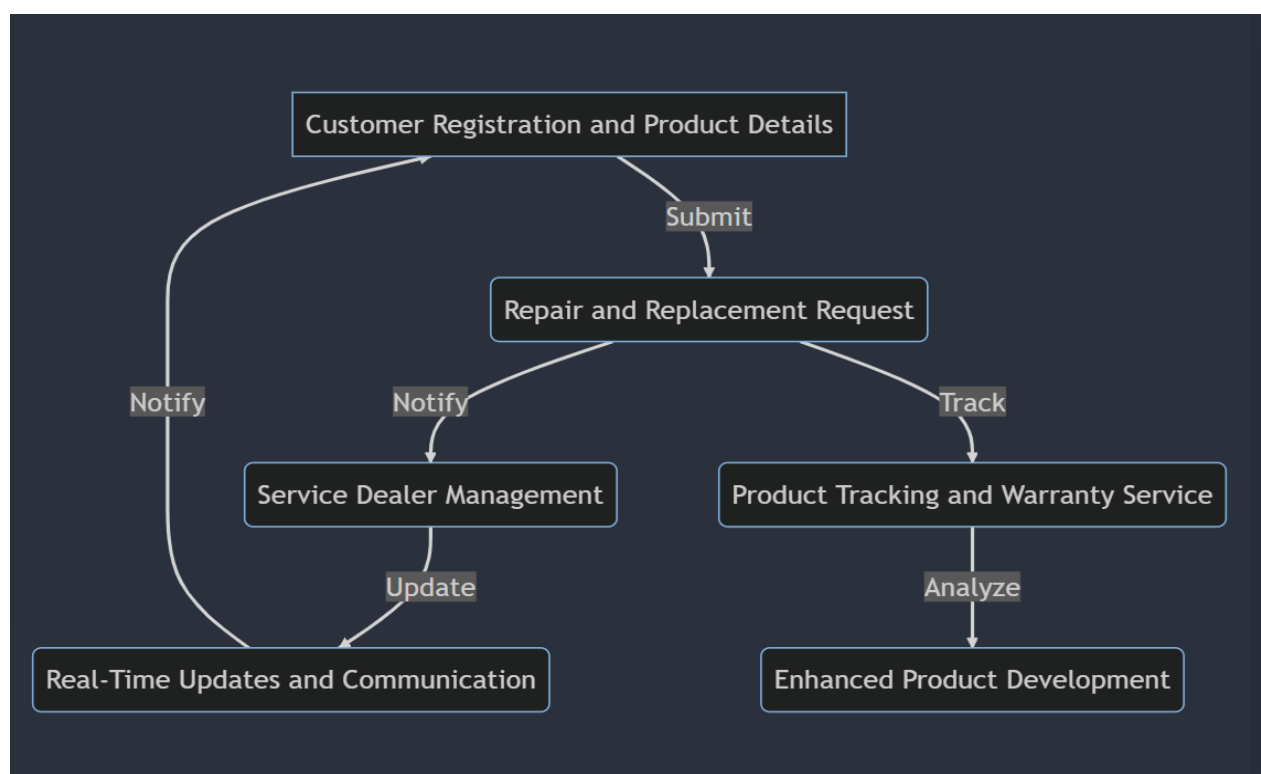


Figure 1. Block Diagram of After Sales Service Portal

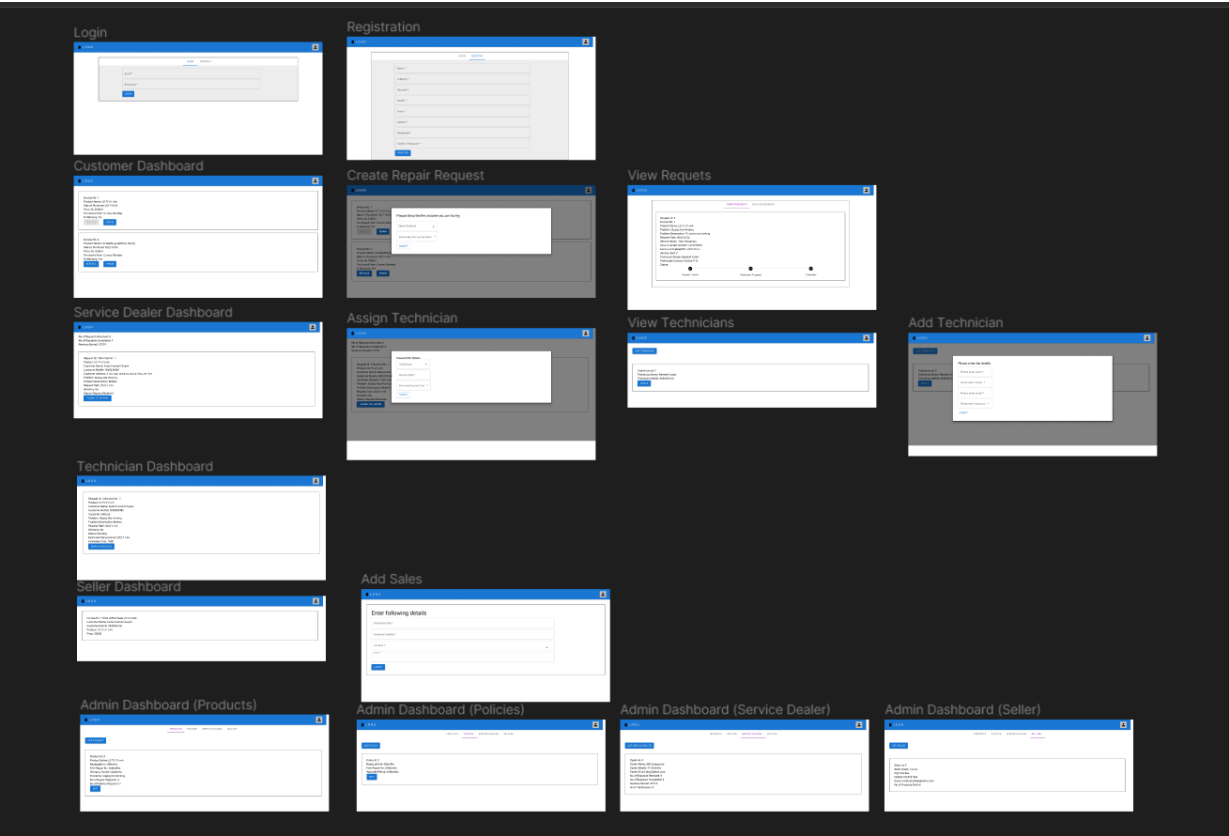


Figure 2. Complete Design

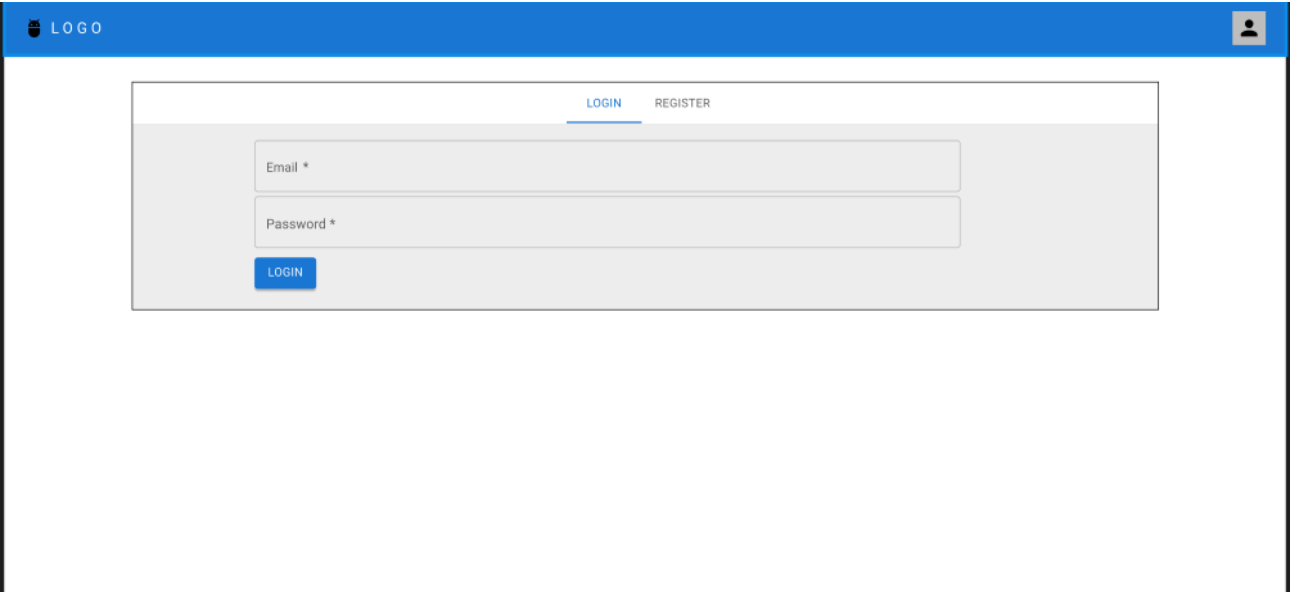
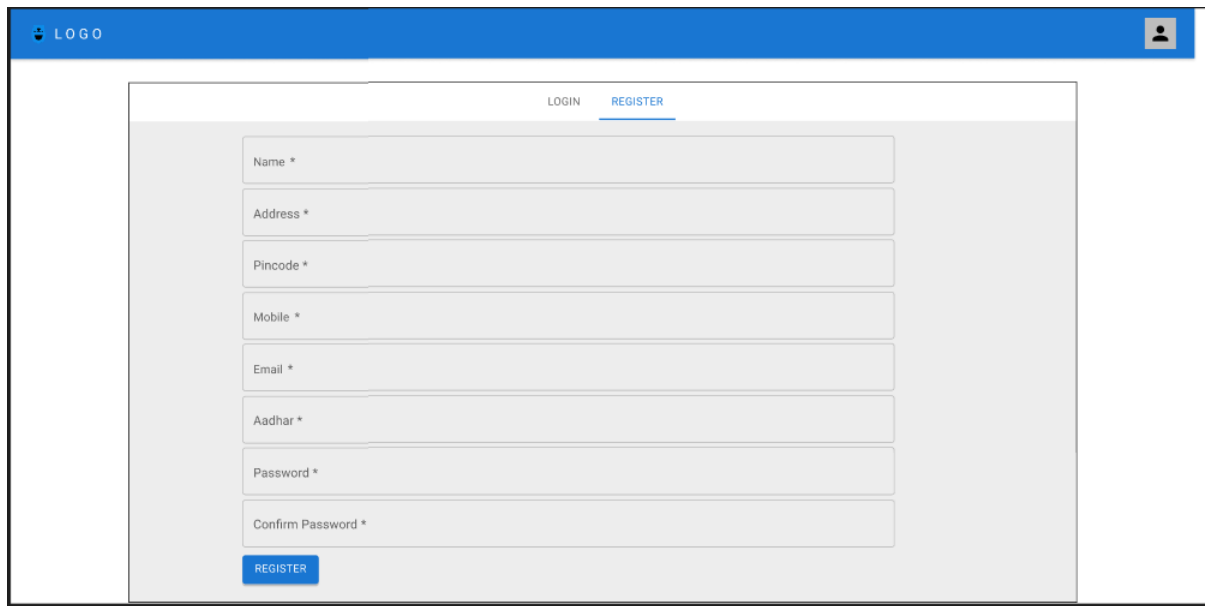
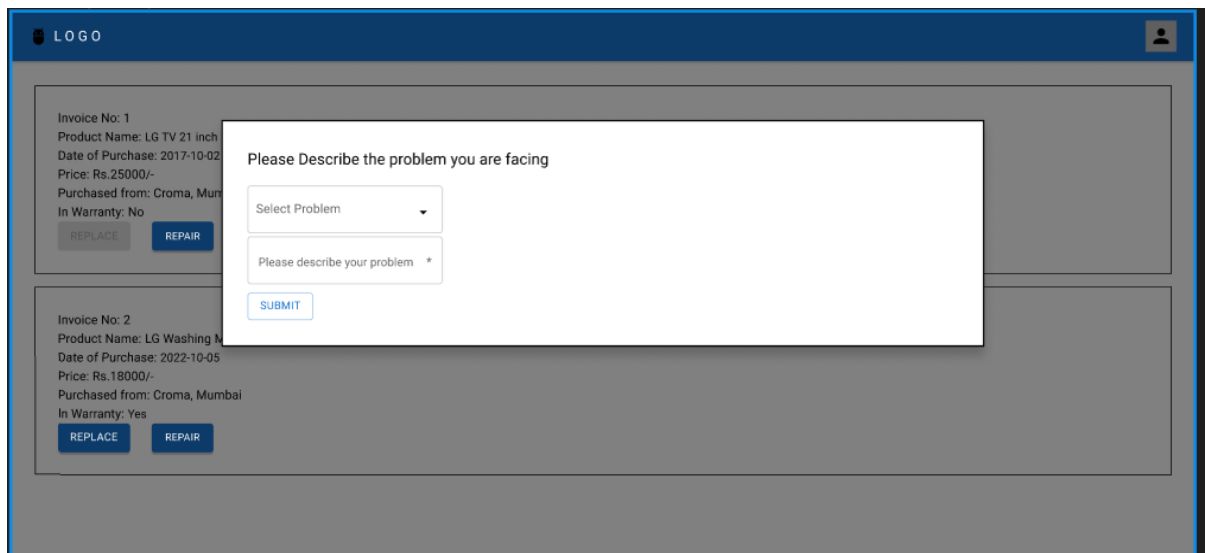


Figure 3. Login Page



The screenshot shows a web application interface with a blue header bar containing a 'LOGO' and a user profile icon. Below the header, there are two tabs: 'LOGIN' and 'REGISTER', with 'REGISTER' being the active tab. The registration form consists of several input fields, each with an asterisk indicating it is required: Name, Address, Pincode, Mobile, Email, Aadhar, Password, and Confirm Password. A blue 'REGISTER' button is located at the bottom of the form.

Figure 4. Registration Page



The screenshot displays a web application interface for creating a repair request. The background shows two invoice details: Invoice No: 1 for a LG TV 21 inch and Invoice No: 2 for a LG Washing Machine. A modal dialog box is open in the center, titled 'Please Describe the problem you are facing'. It contains a 'Select Problem' dropdown menu, a text input field labeled 'Please describe your problem *', and a blue 'SUBMIT' button.

Figure 5. Creating Repair Request

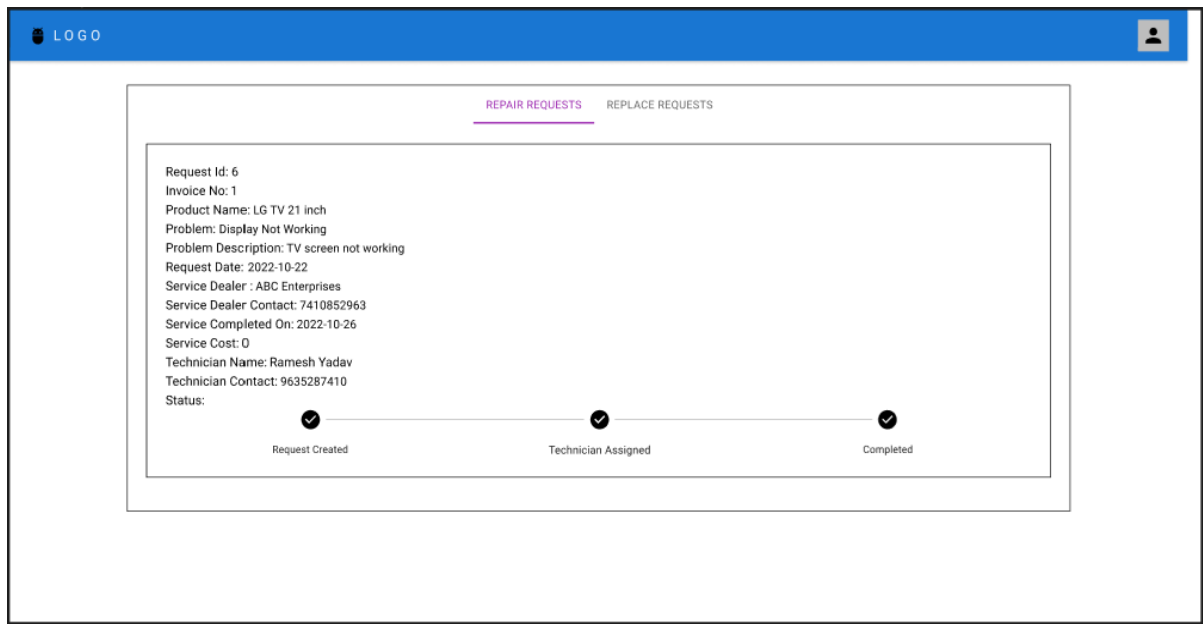


Figure 6. Viewing the Customer's Requests

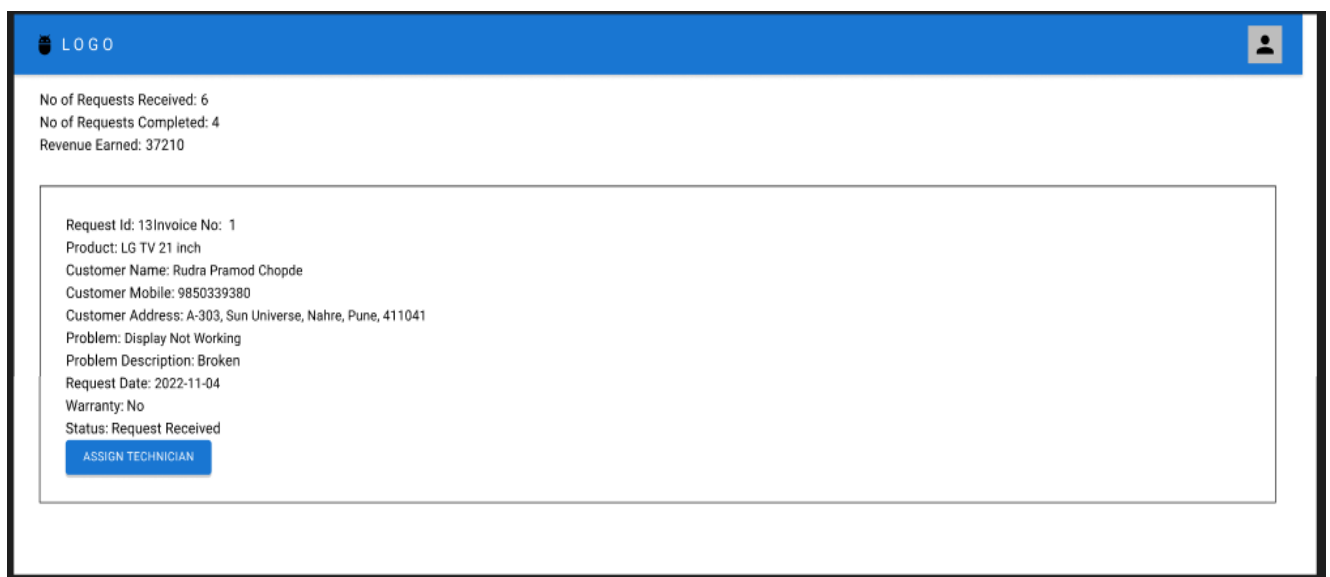
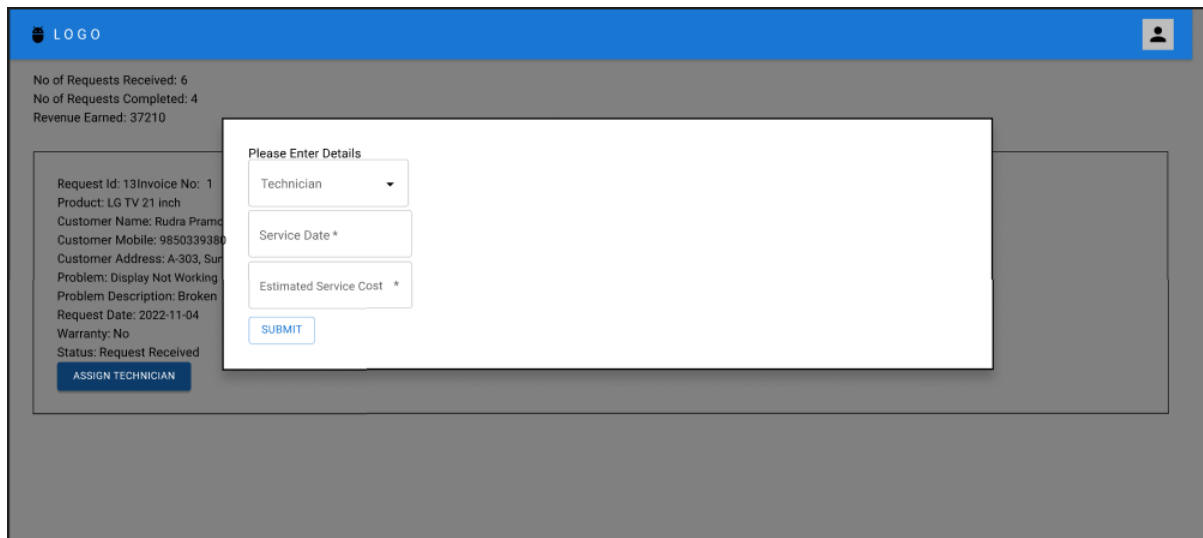


Figure 7. Service Dealer's Dashboard



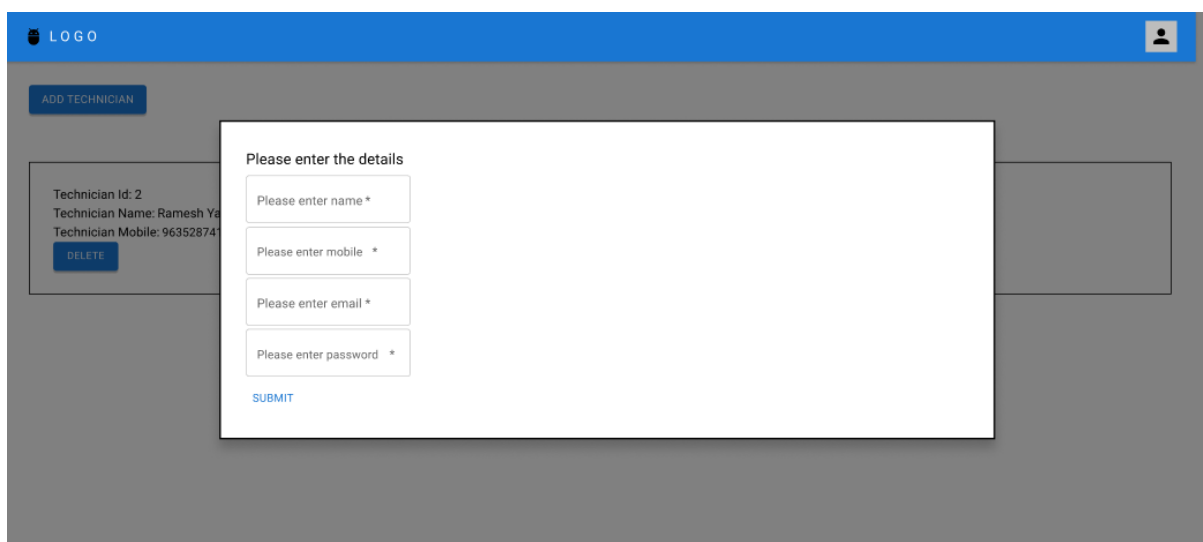
The screenshot shows a web application interface for assigning a technician. At the top, there is a blue header with a logo and a user profile icon. Below the header, a summary box displays statistics: 'No of Requests Received: 6', 'No of Requests Completed: 4', and 'Revenue Earned: 37210'. To the left, a request details box lists information for Request ID 13, including invoice number, product (LG TV 21 inch), customer name (Rudra Prasad), mobile number (9850339380), address (A-303, Sur), problem (Display Not Working), problem description (Broken), request date (2022-11-04), warranty status (No), and current status (Request Received). An 'ASSIGN TECHNICIAN' button is located below this box. A modal form titled 'Please Enter Details' is open in the center, featuring a 'Technician' dropdown menu, 'Service Date *' and 'Estimated Service Cost *' text input fields, and a 'SUBMIT' button.

Figure 8. Assigning Technician Page



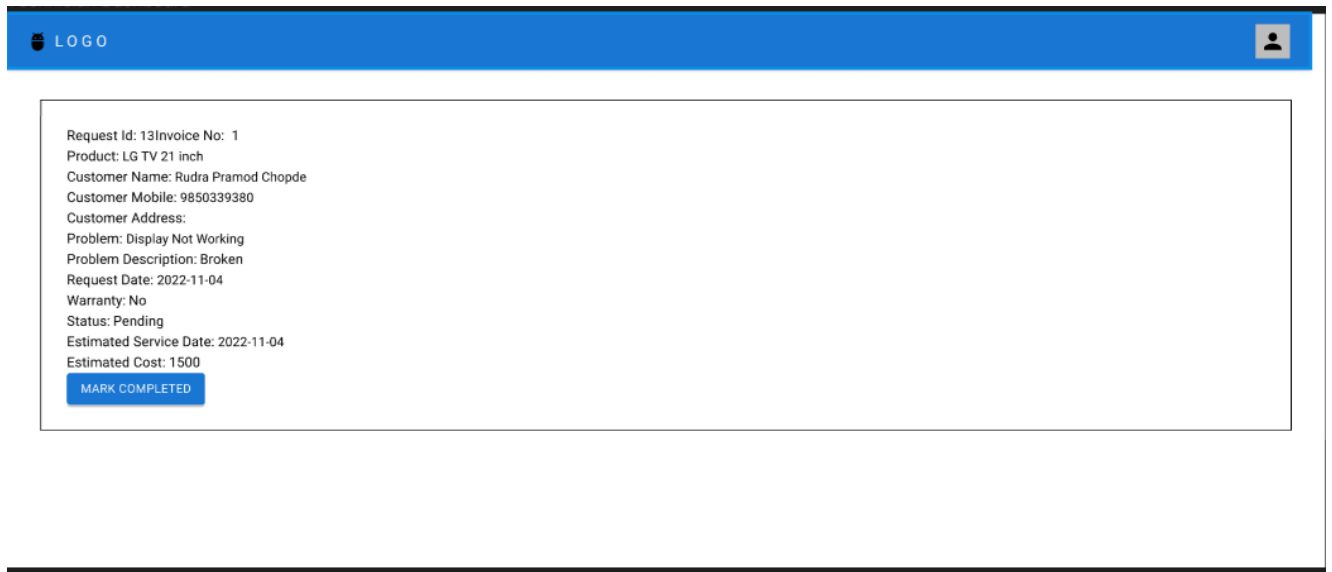
The screenshot displays the 'Viewing Technician' page. It features a blue header with a logo and a user profile icon. On the left, there is an 'ADD TECHNICIAN' button. The main content area contains a box with technician details for Technician Id: 2, including the name 'Ramesh Yadav' and mobile number '9635287410'. A 'DELETE' button is positioned below this information.

Figure 9. Viewing Technician



The screenshot shows the 'Add Technician' page. It has a blue header with a logo and a user profile icon. On the left, there is an 'ADD TECHNICIAN' button. Below it, a box displays the details of a technician with Id: 2, Name: Ramesh Yadav, and Mobile: 9635287410, along with a 'DELETE' button. A modal form titled 'Please enter the details' is open in the center, containing four text input fields labeled 'Please enter name *', 'Please enter mobile *', 'Please enter email *', and 'Please enter password *', followed by a 'SUBMIT' button.

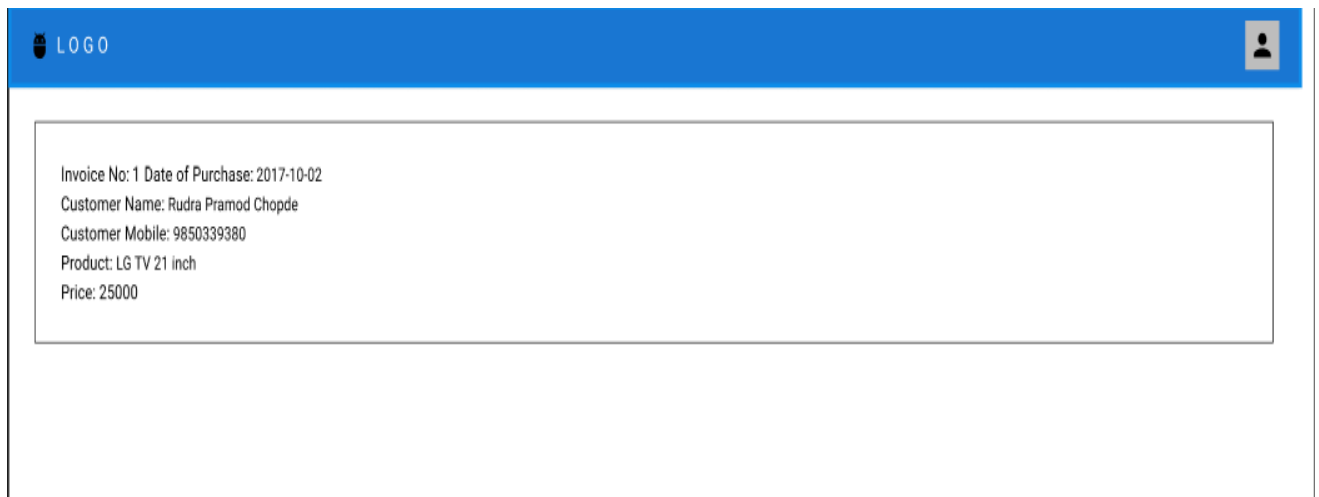
Figure 10. Adding a new Technician



Request Id: 13 Invoice No: 1
Product: LG TV 21 inch
Customer Name: Rudra Pramod Chopde
Customer Mobile: 9850339380
Customer Address:
Problem: Display Not Working
Problem Description: Broken
Request Date: 2022-11-04
Warranty: No
Status: Pending
Estimated Service Date: 2022-11-04
Estimated Cost: 1500

MARK COMPLETED

Figure 11. Technician's Dashboard



Invoice No: 1 Date of Purchase: 2017-10-02
Customer Name: Rudra Pramod Chopde
Customer Mobile: 9850339380
Product: LG TV 21 inch
Price: 25000

Figure 12. Seller's Dashboard



LOGO

Enter following details

Purchase Date *

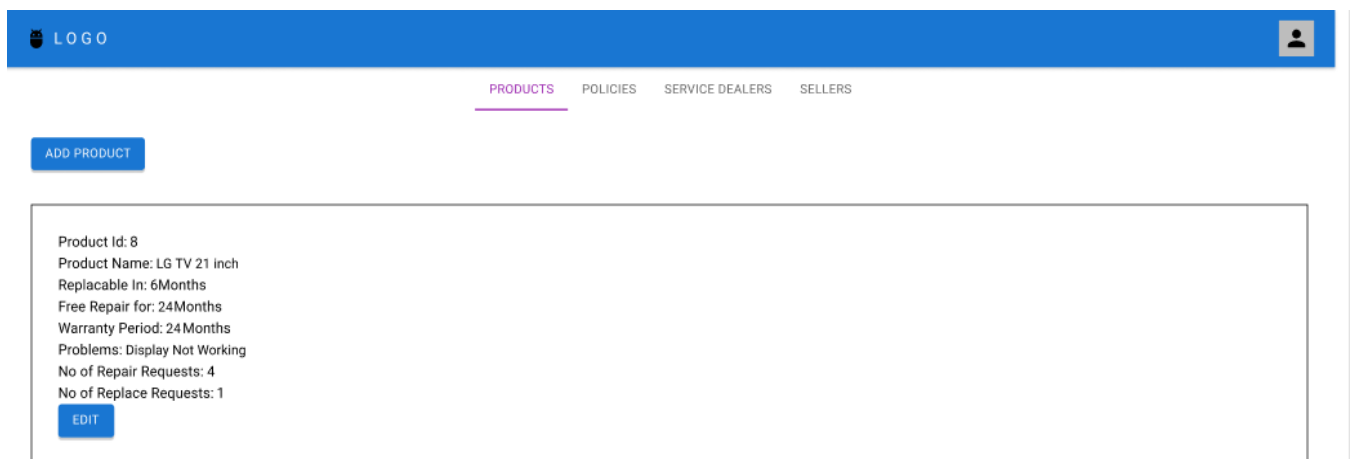
Customer Aadhar *

Product *

Price *

SUBMIT

Figure 13. Adding new products page



LOGO

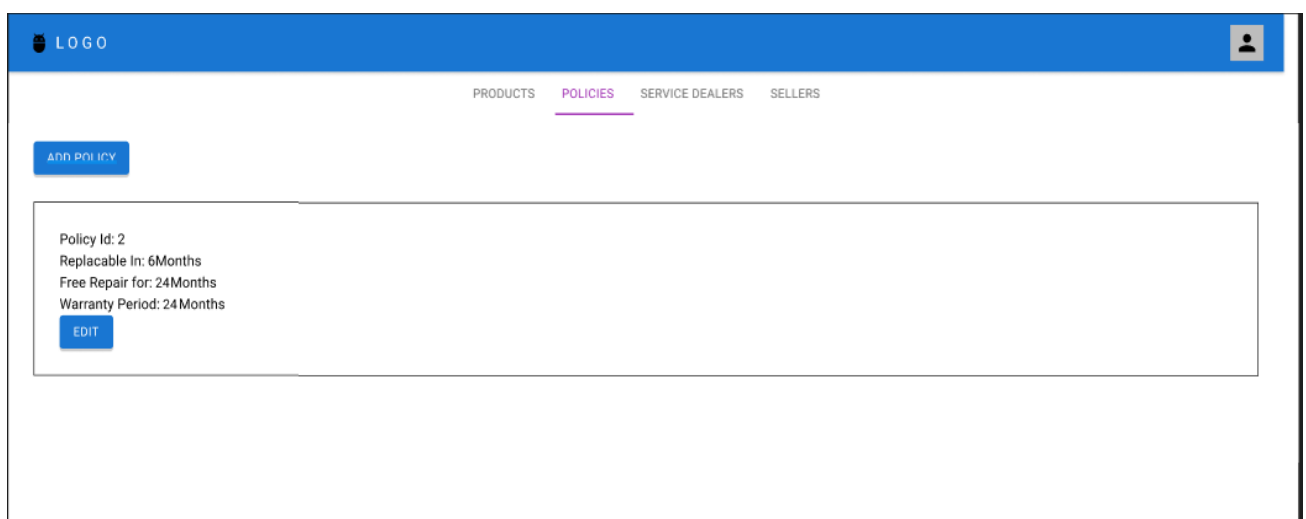
PRODUCTS POLICIES SERVICE DEALERS SELLERS

ADD PRODUCT

Product Id: 8
Product Name: LG TV 21 inch
Replacable In: 6Months
Free Repair for: 24Months
Warranty Period: 24Months
Problems: Display Not Working
No of Repair Requests: 4
No of Replace Requests: 1

EDIT

Figure 14. Admin Dashboard (Products)



LOGO

PRODUCTS POLICIES SERVICE DEALERS SELLERS

ADD POLICY

Policy Id: 2
Replacable In: 6Months
Free Repair for: 24Months
Warranty Period: 24Months

EDIT

Figure 15. Admin Dashboard (Policies)

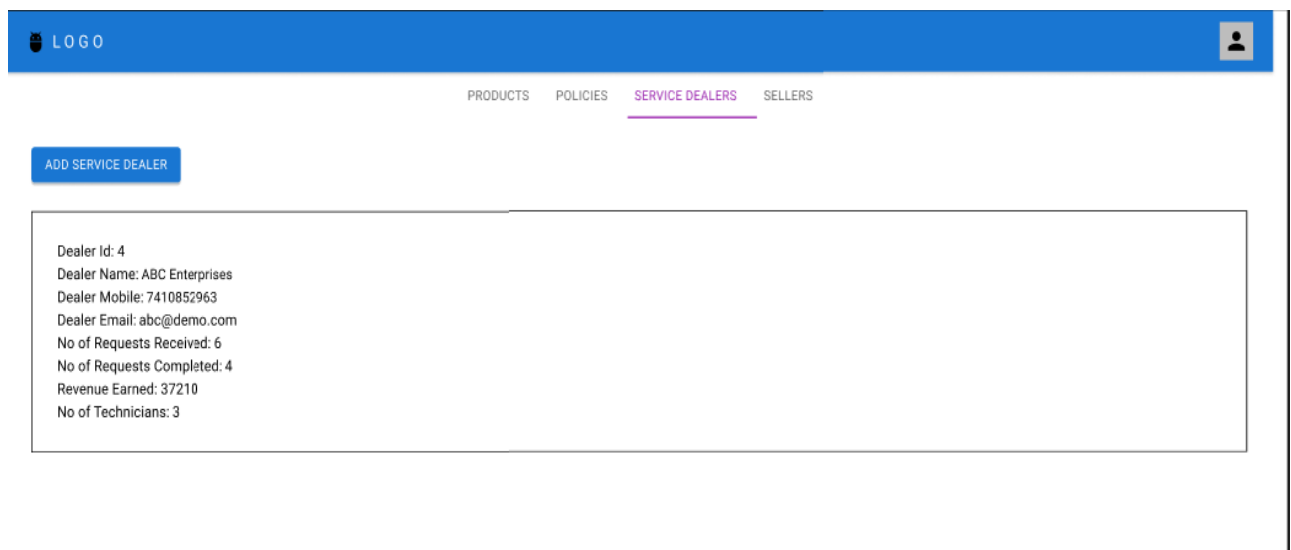


Figure 16. Admin Dashboard (Service Dealer)

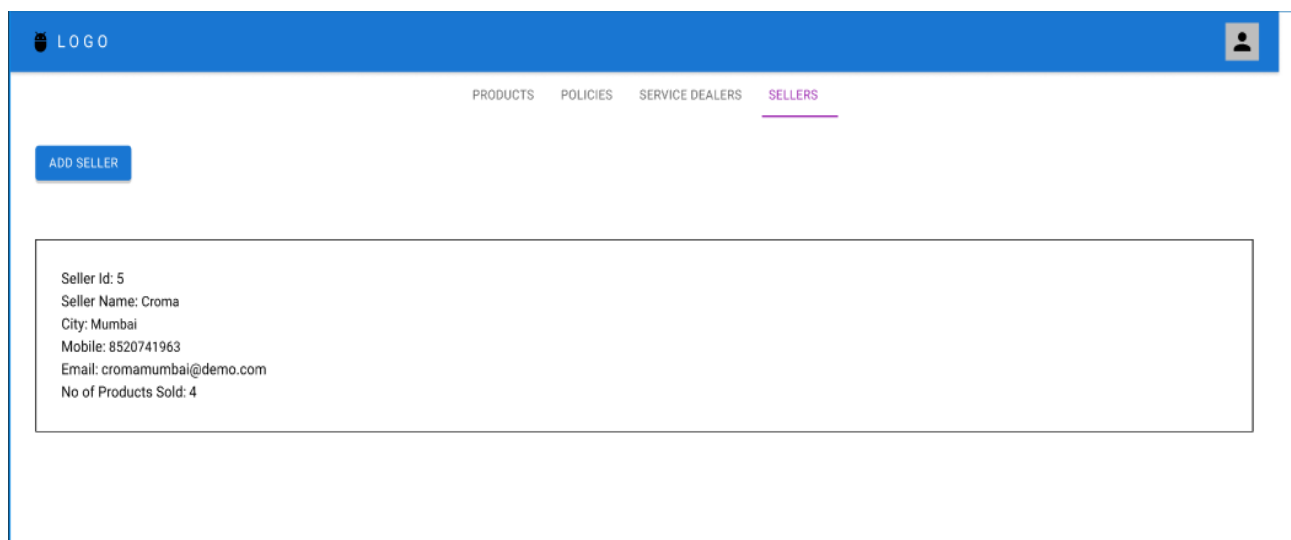


Figure 17. Admin Dashboard (Seller)

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