

1. Made changes in On-Site Inquiry Module and Follow-up. Previously, in onsite\_inquiry table, if a customer was interested in multiple products, the entries were stored in distinct tuples. This caused several issues, like it was tough to find the unique inquires from the table. Also, the autogenerated inquiry\_reg\_num got compromised because a unique customer can have a unique Inquiry registration number. To overcome this, all the products, customer interested in, are stored in a single tuple separated by commas (,).

Add new inquiry was also altered. a new "Need Follow Up?" toggle field is kept at the end. If it is on, then and then only then the fields related to scheduling follow up will pop up. Similar change was made in Inquiry Follow-up page.

Inquiry Description page was also changed. Previously it only showed 1 follow up of a customer. But now it can keep track of all the follow-ups taken by a unique customer and a counter next to it are shown to recognize the number of follow up taken. (16IT013)

Inquiry Description

[Home](#) / [Display Inquiries](#) / [Inquiry Description](#)

Customer Details		
Name	:	Dhaval Aryan
Email	:	dhavalaryan90@gmail.com
Contact Number	:	9898985585

Inquiry Summary		
Inquiry Number	:	INQ00002
Interested Products	:	30D Croker Loader 901 Loading Dumping Low Height
Inquiry Date	:	04 Apr, 2020
Inquiry Taken By	:	Rahul Tiwari - USR00001
Inquiry Discussion (Summary)	:	Went well
Applied for a follow up?	:	No

Fig. 17.1 Inquiry Description showing multiple products separated by commas (,)

>>

30D Coker Loader  
789Q LoadHaul Dumper  
890 CoalApp Dumper  
900 Side Dumper  
901 Loading Dumping Low Height

<<

190 Holder Loader  
70E Coker Loader  
901 Loading Dumper

**Inquiry Date**  

04/11/2020

**Comments on Inquiry**  

Person is interested more in Croker Loader.

☒ **Need Follow Up?**

**Follow Up Details**  

**Follow Up Date**  

04/16/2020

**Follow Up Reason**  

test

Fig. 17.2 Add Inquiry displaying Need Follow Up? with a functioning toggle field.

Follow Up Details (1)		
Date	:	04 Apr, 2020
Follow Up Taken By	:	Rahul Tiwari - USR00001
Follow Up Discussion (Summary)	:	Almost Convinced to purchase.
Applied for another follow up?	:	No

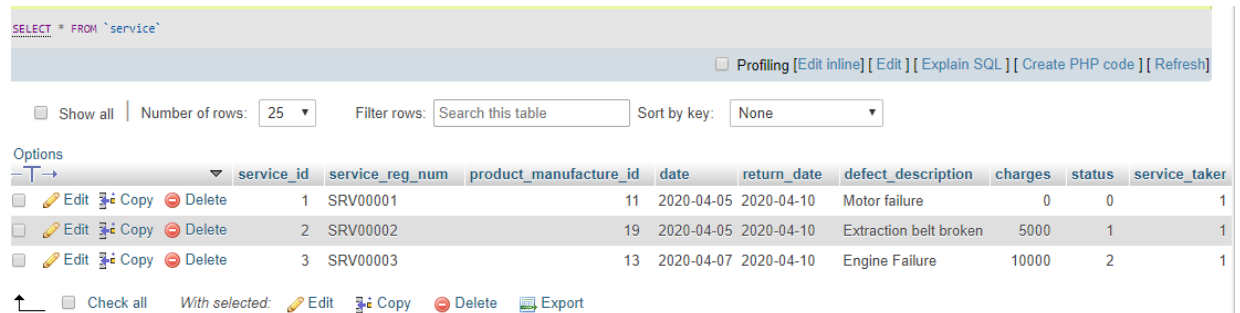
Follow Up Details (2)		
Date	:	15 Apr, 2020
Follow Up Taken By	:	Rahul Tiwari - USR00001
Follow Up Discussion (Summary)	:	Promised to buy next week.
Applied for another follow up?	:	No

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Fig. 17.3 Inquiry Description showing multiple follow ups for an inquiry.

2. Service module was created which provides the customers service for the products that they bought from the organization. Firstly, a service table was designed, which kept information like service registration number, product manufacture id (to uniquely identify the product), date when product was submitted, date when it is meant to be returned, charges, state (0 - in service, 1 - done, 2 - returned) and the one who took service.

A page called 'Add New Service' was designed where new upcoming services are added from. The Service engineer has to select the batch number of the product from a list of sold products, to identify the product uniquely. Then, on clicking Go button, descriptive details regarding the sale of the product will pop up. Those details are cross verified with customer before accepting the product for service. Then entities of defect in product, date of submission, date of return and charges (if any) are done. On clicking submit, the entry will be added to the database table. Also, it will be stored in the Service manager's to-do list to service and return the product with a deadline. (16IT013)



SELECT \* FROM `service`

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Options	service_id	service_reg_num	product_manufacture_id	date	return_date	defect_description	charges	status	service_taker
<input type="checkbox"/> Edit Copy Delete	1	SRV00001	11	2020-04-05	2020-04-10	Motor failure	0	0	1
<input type="checkbox"/> Edit Copy Delete	2	SRV00002	19	2020-04-05	2020-04-10	Extraction belt broken	5000	1	1
<input type="checkbox"/> Edit Copy Delete	3	SRV00003	13	2020-04-07	2020-04-10	Engine Failure	10000	2	1

Check all | With selected: Edit Copy Delete Export

Fig. 17.4 Service table in database.

localhost says  
Service Done?

OK Cancel

Home / Serviced Products

### Serviced Products

List of Serviced Products

Service Reg. Num.	Product Name	Product Batch Num.	Submission Date	Service Taken By	View More	Status	Action
SRV00003	Cooling Gearbox	0000000003	07 Apr, 2020	USR00001		RETURNED	
SRV00002	Extractor	0000000009	05 Apr, 2020	USR00001		DONE	
SRV00001	Bridge Mixing	0000000001	05 Apr, 2020	USR00001		IN SERVICE	

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Fig. 17.5 Serviced Products page displaying entries of products and the confirmation message on clicking the action of service done for a product in service.

### Add New Service

Home / Serviced Products / Add New Service

Find Product

Select Product Batch Number

0000000003

Go

New Service

Service Registration Number

SRV00004

Batch Number

0000000003

Product Name

Cooling Gearbox

**Customer Name**  
Rahul Tiwari

**Customer Email**  
rahulbt2016@gmail.com

**Customer Phone Number**  
9924483264

**Service Reason (Defect in Product)**  
Defect in product.

**Date of Product Submission**  
04/11/2020

**Date of Returning Product (Expected)**  
04/14/2020

**Service Charges(₹)**  
3500

**Submit**

Fig. 17.6 Add New Service Page

3. For descriptive information, a view more icon is provided, clicking which, will result into popping of a modal. Status of the products are shown in distinct colored batches. Action column is provided for marking the product, came for service, as done (serviced) or returned (sent back to customer after repair). (16IT013)

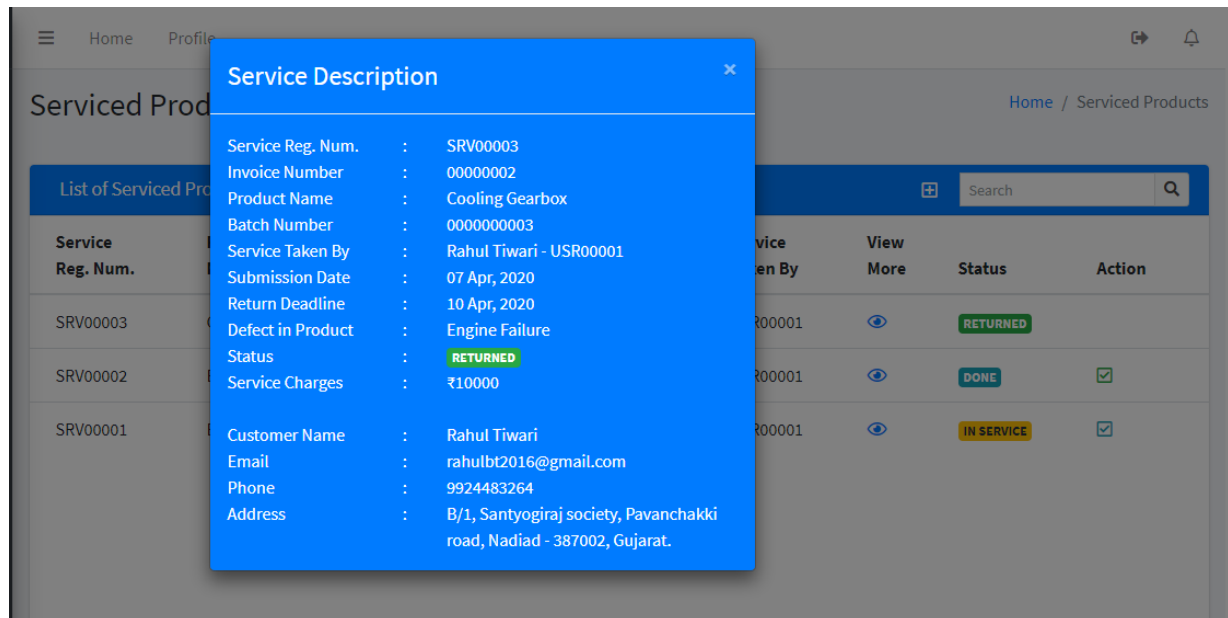
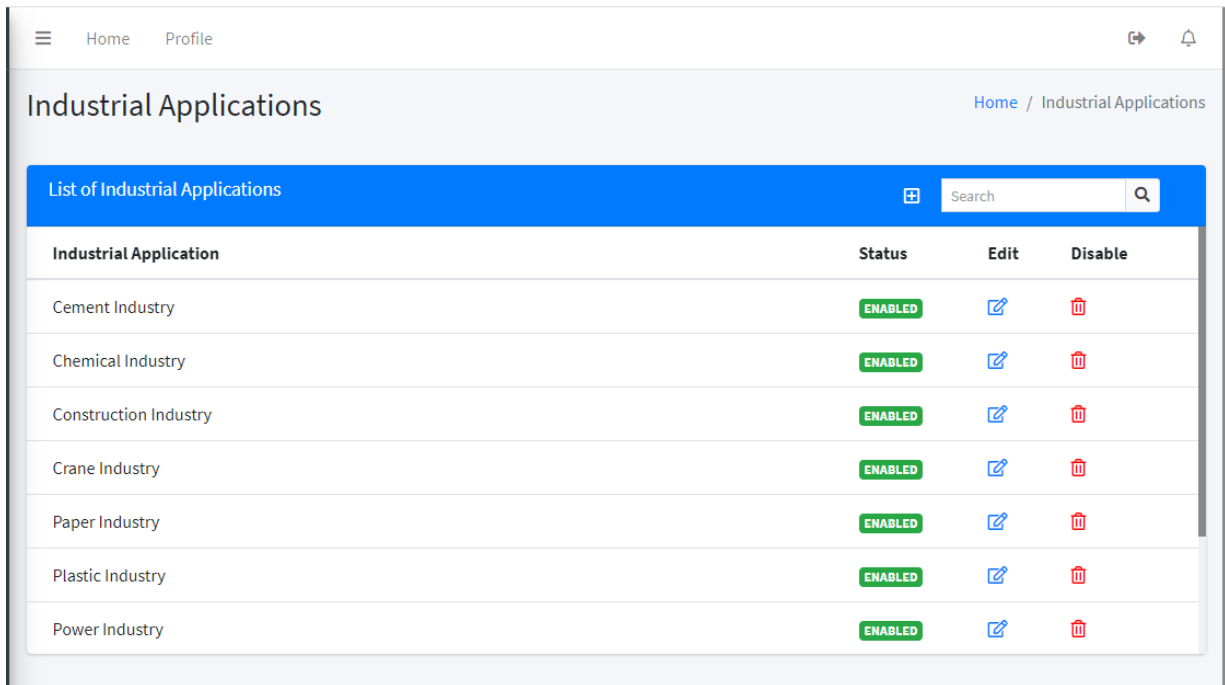


Fig. 17.7 Service Description.

- Industrial Applications module was modified. While adding a new industry application, the user also has to select the products having applications in this category, from the list of active products.

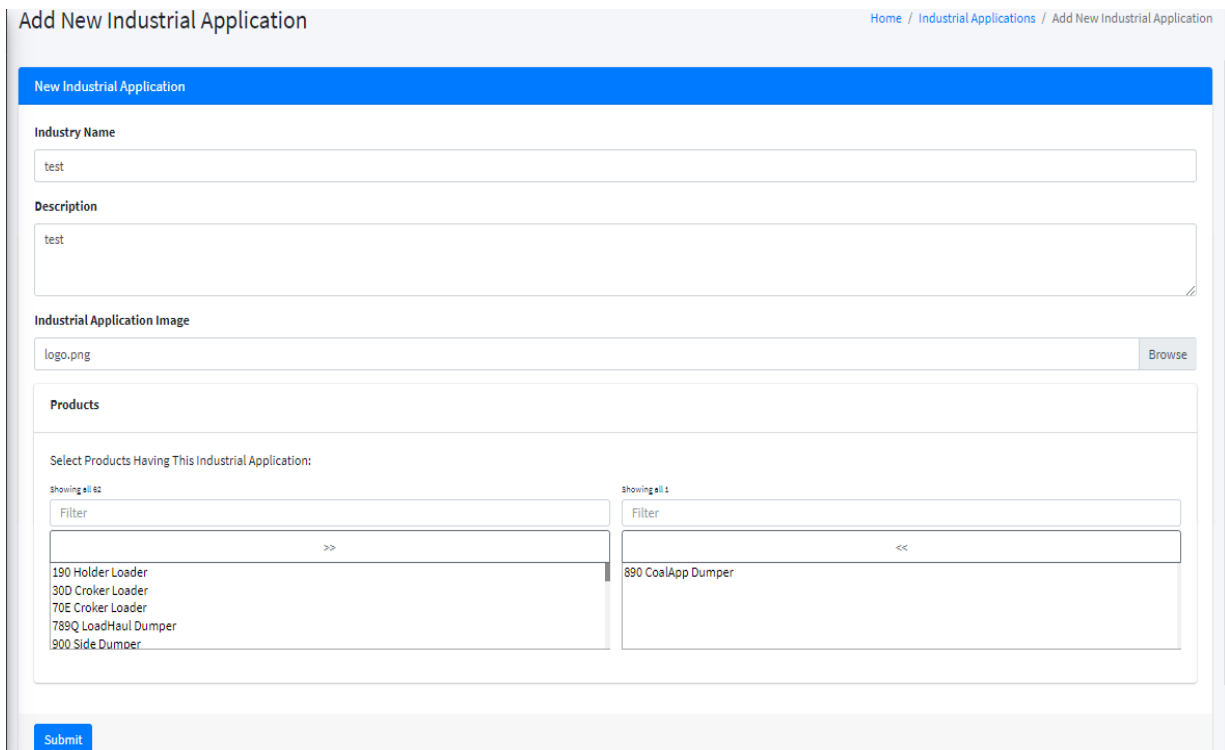
Also, editing of the same was provided, where user can alter the image representing industrial application (to be shown on website). Preview of image feature is provided before making it permanent to the database. Also, the description and list of products can be altered here. (16IT073)



The screenshot shows the 'Industrial Applications' page. At the top, there are navigation links for 'Home' and 'Profile'. The page title is 'Industrial Applications'. Below the title, there is a search bar and a 'List of Industrial Applications' section. The table lists various industries, all with a status of 'ENABLED'. Each row has an 'Edit' icon (pencil) and a 'Disable' icon (trash).

Industrial Application	Status	Edit	Disable
Cement Industry	ENABLED		
Chemical Industry	ENABLED		
Construction Industry	ENABLED		
Crane Industry	ENABLED		
Paper Industry	ENABLED		
Plastic Industry	ENABLED		
Power Industry	ENABLED		

Fig. 17.8 Industrial Applications page showing current list of Industrial Applications.



The screenshot shows the 'Add New Industrial Application' page. It has a form with the following fields: 'Industry Name' (text input), 'Description' (text area), 'Industrial Application Image' (text input with a 'Browse' button), and 'Products' (a list of products). The 'Products' section is titled 'Select Products Having This Industrial Application:' and shows two columns of products. The left column is titled 'Showing all 62' and the right column is titled 'Showing all 1'. The left column has a 'Filter' input and a list of products: 190 Holder Loader, 30D Crockier Loader, 70E Crockier Loader, 789Q LoadHaul Dumper, and 800 Side Dumper. The right column has a 'Filter' input and a list of products: 890 CoalApp Dumper. At the bottom, there is a 'Submit' button.

**New Industrial Application**

**Industry Name**

test

**Description**

test

**Industrial Application Image**

logo.png Browse

**Products**

Select Products Having This Industrial Application:

Showing all 62

Filter

190 Holder Loader  
30D Crockier Loader  
70E Crockier Loader  
789Q LoadHaul Dumper  
800 Side Dumper

Showing all 1

Filter

890 CoalApp Dumper

Submit

Fig. 17.9 Add New Industrial Applications page.

5. Industrial Applications module was added in the informational website. 'Industries' was added in the navigation bar with a drop-down available. Drop-down will dynamically show all the industries that are kept enabled. Clicking Industries will lead to industries.php page where the overview is listed and all the industries, along with their image are shown below it, which are fetched dynamically.

Clicking on any of this industry from the list or from the drop-down in the navigation bar, will lead to industryCategory.php page where description about that industry is kept at first, along with its picture. And below it is the products list which are applicable in that industry. Clicking that product will lead to a page with product description and the customer can initiate inquiry for that product there. (16IT073)

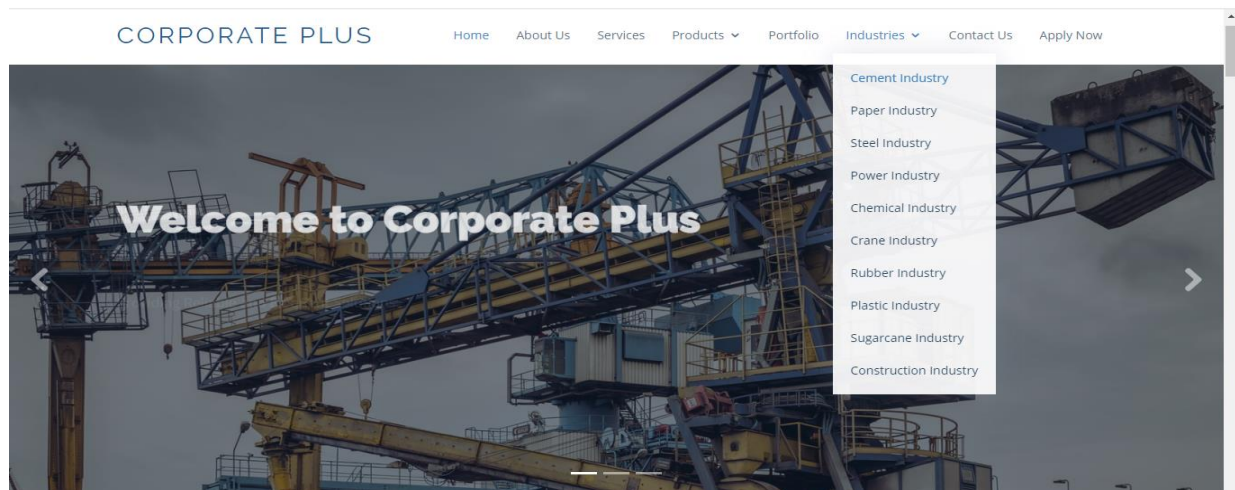


Fig. 17.10 Industries drop down with list of various industries.

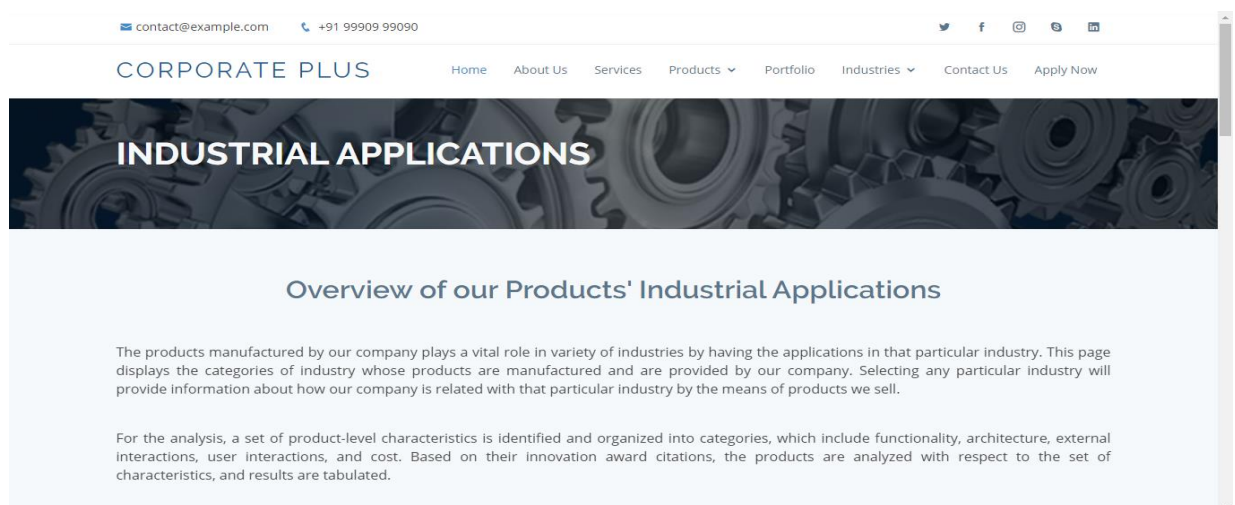


Fig. 17.11 Industries page.



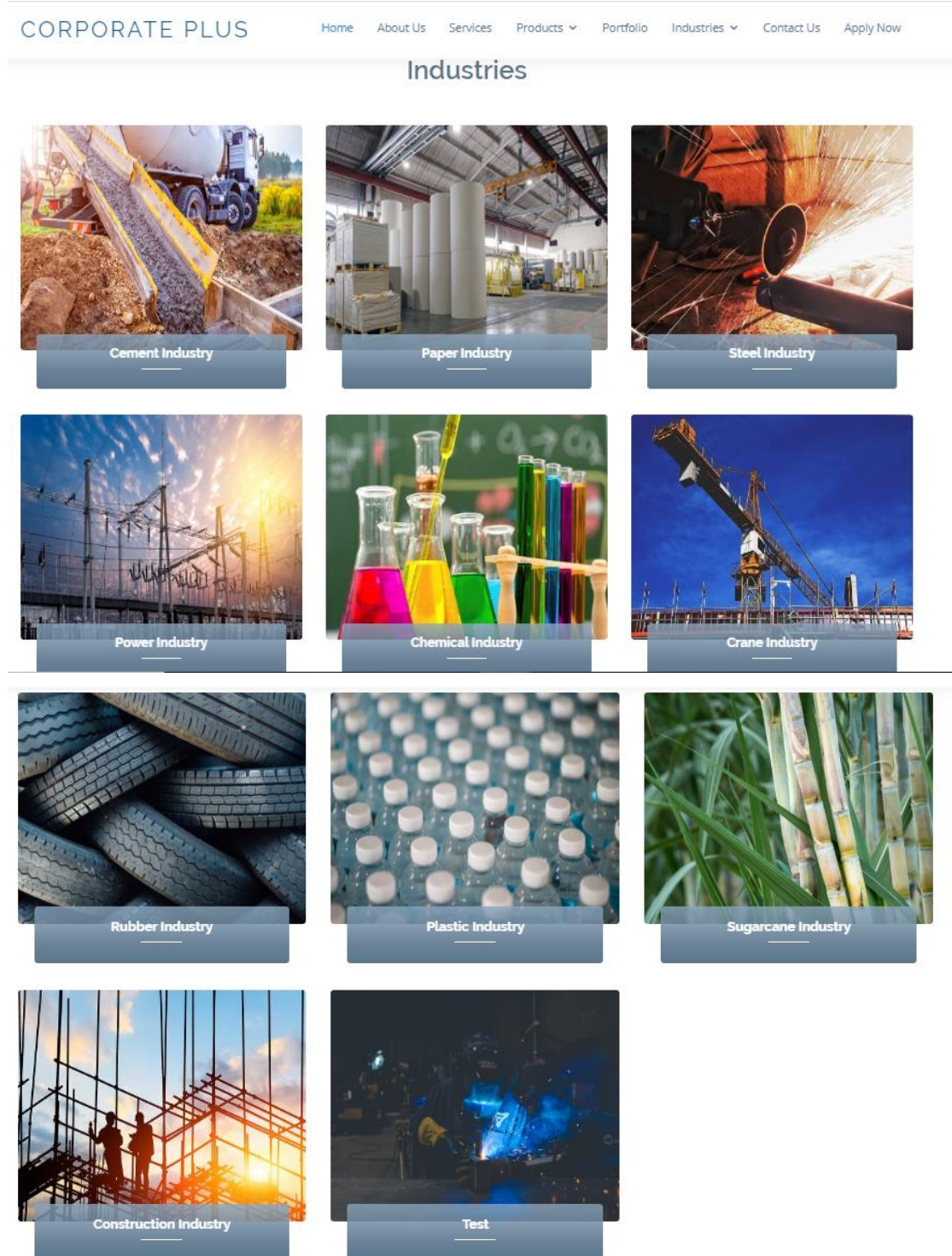


Fig. 17.12 Industries categories.

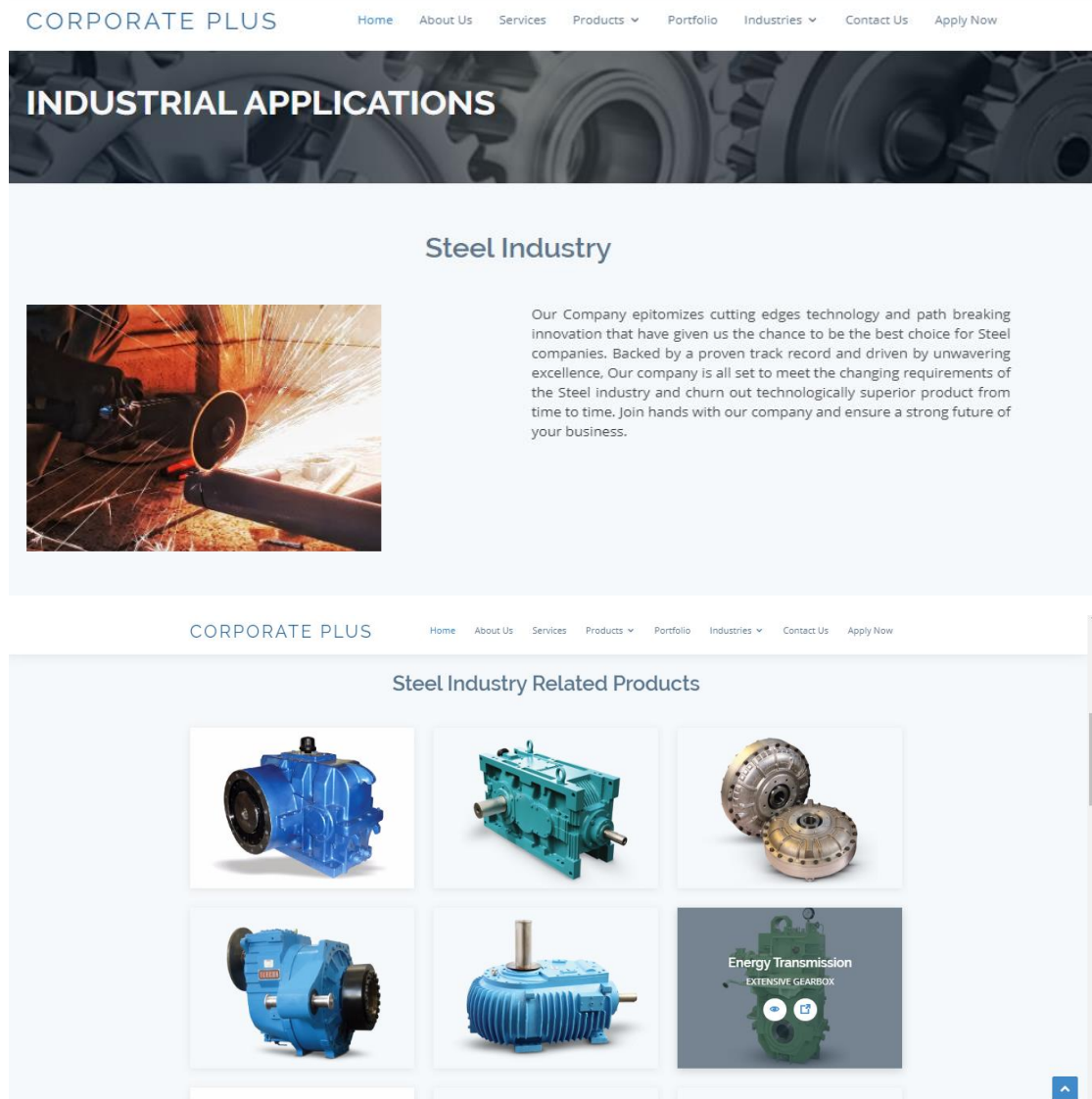


Fig 17.13 Steel Industry information and products related to it

6. Finishing touch to the entire website, before marking it as done. Static cards previously showing basic details like clients, products and hard workers were made dynamic and the values were auto fetched from the database. Icons were updated in Services section adding more relevant icon corresponding to a service.

Our portfolio section was also changed. Previously, static, fixed products' and industries' image was shown here. But now, these images are randomly

fetches from the database on every time refreshing of page. This was done using an SQL function RAND().

All the links were made sure of having an appropriate hyperlink associated to it. Dynamic links to all products and industries were provided in navigation bar, as well as footer. (16IT073)

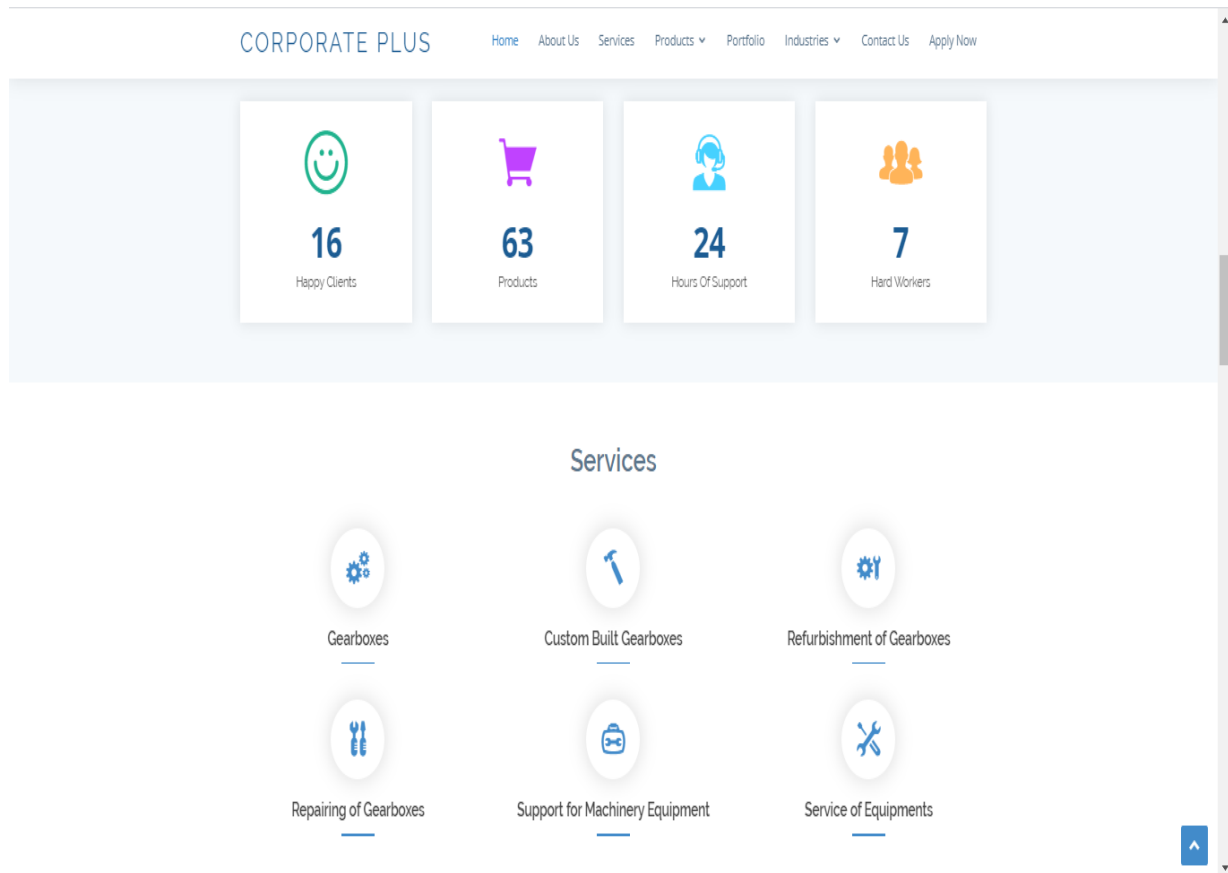


Fig. 17.14 Changed static cards to dynamic and changes in service icons.

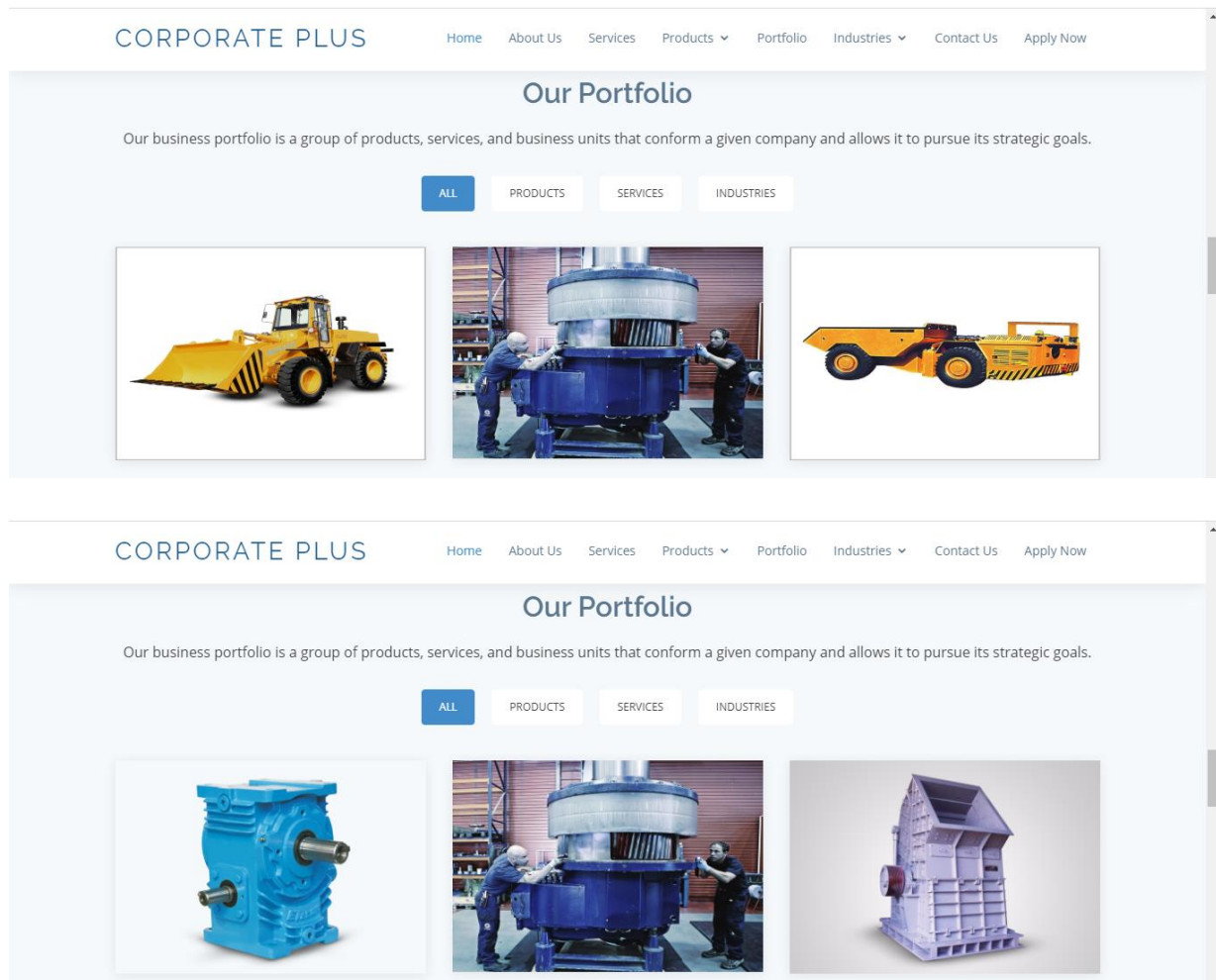


Fig. 17.15 Changing products under Portfolio dynamically.

7. 'Sale (Capital)' component was designed to get the accurate sales in terms of money. It shows sales or current as well as last year, with monthly data. For this, it was necessary to add a column, 'total\_cost' in the sale table to get the exact amount customer paid deducting discount given and adding taxes. Actually this column was not necessary before, as all the calculations were done when needed, during invoice generation using php code. But this column was necessary to plot this graph. Now data-points were generated by grouping entries month-wise and summing the sale capital of all the entries of the month.

Also, total capital earned by sales, in the current year is provided by adding sales of each month. Lastly, two more features are provided showing profit or loss percentage in the sales as compared to last month and year. (16IT139)



Fig 17.16 Sales (Capital) comparative bar-graph

8. A colorful pie-chart is designed showing the top 9 products leading in sale, quantity-wise. To achieve this, products names and their total sale quantities were fetched from the database table with limit of 9 entries, using SQL query with function like COUNT() and operations like GROUP BY and LIMIT. An extra entry called 'Other' was added as the 10th entry, which would show the sales of all other remaining products. This data was then provided to plot the pie-chart. (16IT139)



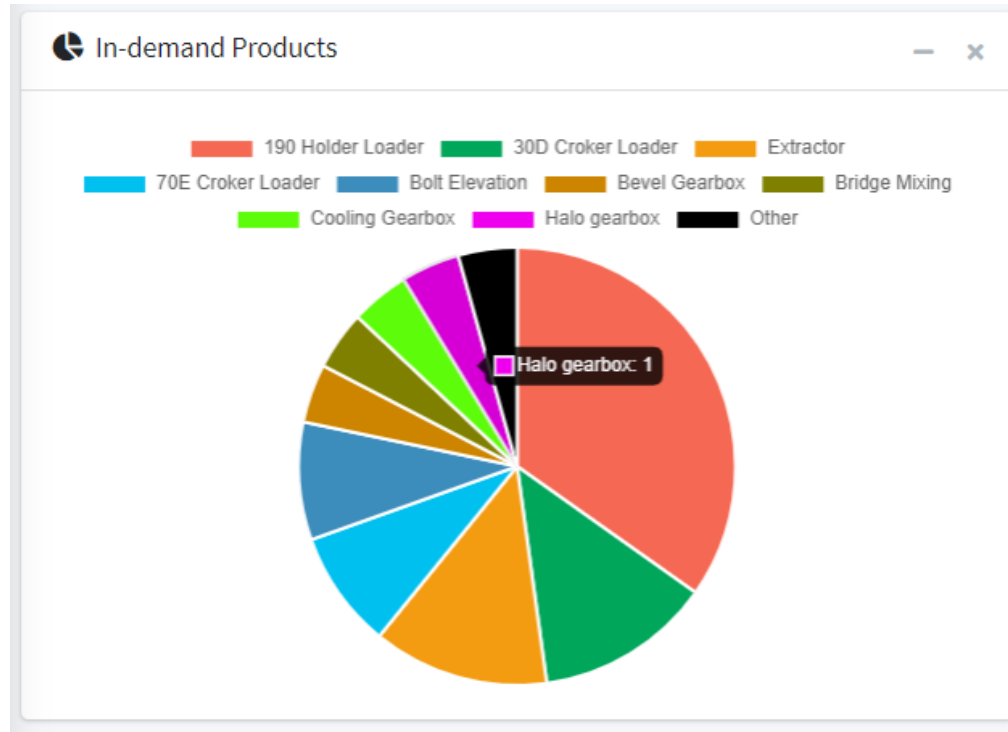


Fig 17.17 In-demand Products (top 10) pie-chart

Also, a donut-chart was constructed to show product-category-wise sale. Firstly, an array of all the product categories was formed using SQL query. Then, this array was iterated and corresponding sale counts were fetched from the database table, providing data-points to plot the chart. (16IT139)

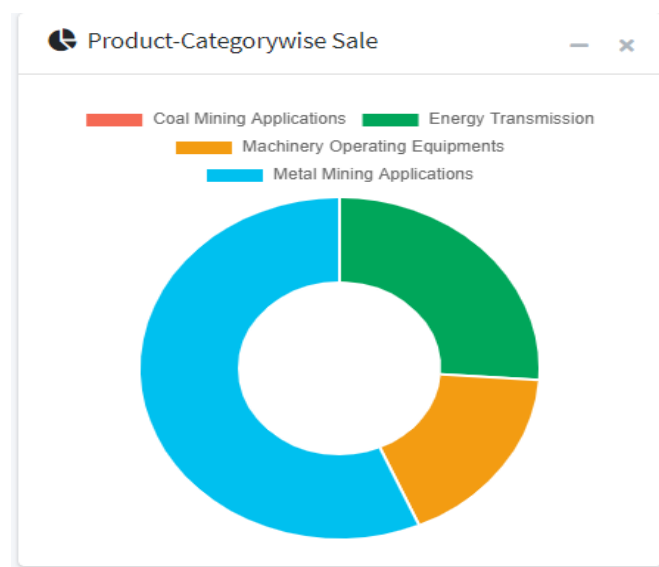


Fig 17.18 Product-category-wise Sale donut-chart

9. All the elements in the dashboard are made completely convenient, customizable and user-friendly. They can be temporarily be repositioned by just dragging them to different position and arranging them in a convenient and satisfactory manner. Even the entries in the to-do list can be internally rearrange by dragging and repositioning them. (16IT139)

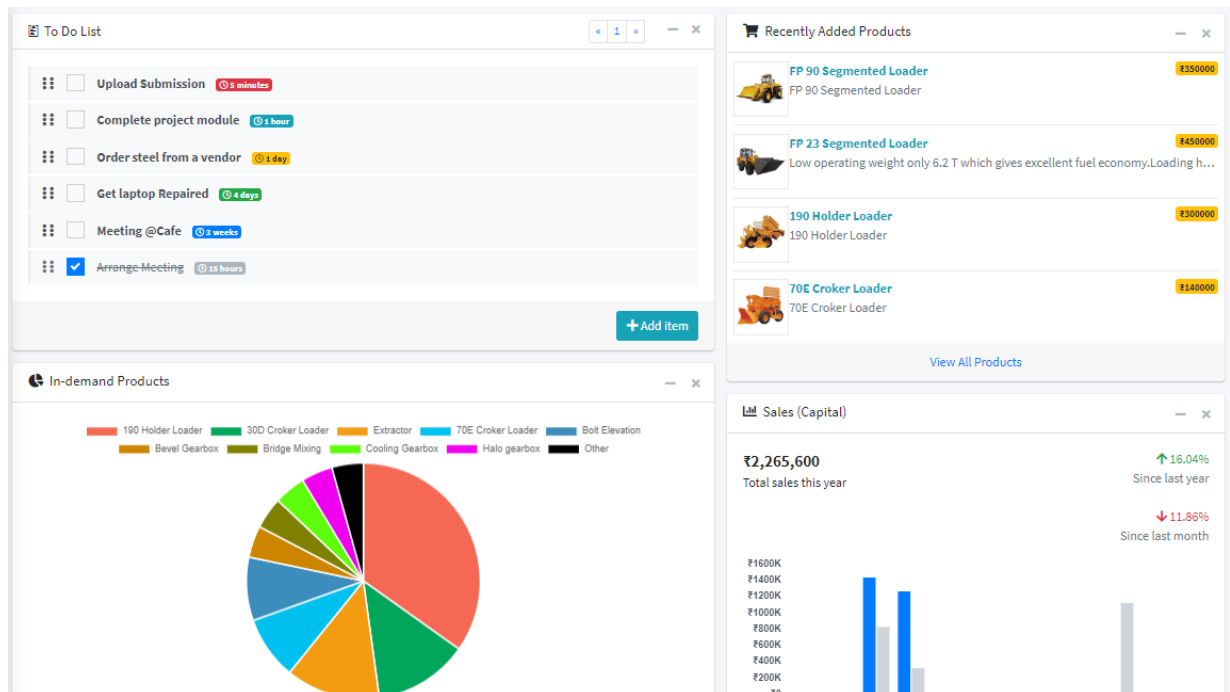


Fig 17.19 Rearranged components of dashboard by repositioning (by dragging)

Removal/Addition of any label data in the chart/graph can be done by clicking their label. (16IT139)

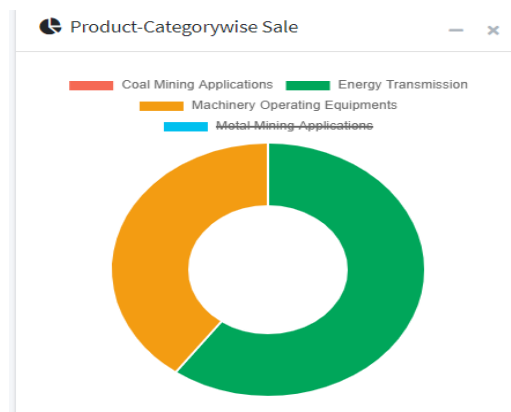


Fig 17.20 Removed 'Metal Mining Applications' label

Also minimize and close buttons are provided to each element to minimize or completely close that element. These changes will be undone, soon the page is refreshed. (16IT139)

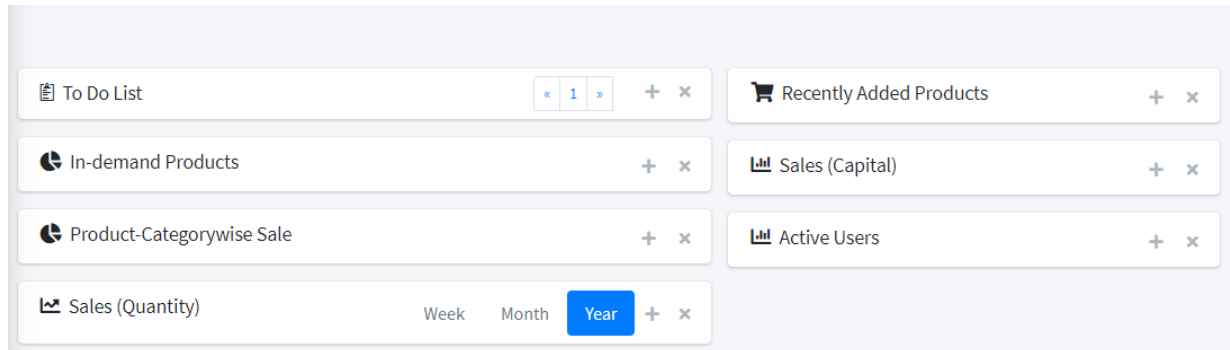


Fig 17.21 All components of dashboard minimized

10. Module for managing web inquiries, coming from website was developed. When a customer inquires on the website, he gets a mail for the confirmation and a notification gets to the user having access to this Web Inquires page. This page was developed which shows the details of the customer who inquired and the product they are interested in. Only admin must have access to this page (access can be given to others too if necessary). Hence, admin will decide whom to allocate to handle that customer inquiry. Hence Admin will have an allocate button, clicking which he gets to select a user (Sales Engineer or having access to sales, add sales and manage request pages). After selecting the user, a notification will be popped to that user. Also, the allocate button will turn into the user's name and registration number to whom inquiry got allocated.

Another page, Assigned Web Inquiries, was created where users (most likely sales engineers) can view the inquires allocated to them by the admin. Here they have all the information regarding the customer and their interested product. They can schedule an appointment for customer form on-site visit from here.

On clicking Schedule Appointment from Action column, a modal will pop up, allowing user to enter meeting date and time. On saving the appointment, a mail will be forwarded to the customer regarding the appointment and same will be added in user's to-do list, as a reminder.



Once the appointment is scheduled, schedule button turns to next button, clicking which, will lead to add on-site inquiry page with pre-filled customer details there. Same changes were done in On-Site inquiry list page. A button to confirm sale was added and clicking it led to add sale page with pre-added customer information. (16IT139)

Inquiry Reg. Num.	Inquiry Date	Person Name	Person Email	Interested Product	View More	Allocated To
WINQ00009	09 Apr, 2020	Gautam Cara	rahulbt2016@gmail.com	Bevel Helical (SOE Series)	<b>ALLOCATE</b>	
WINQ00006	06 Apr, 2020	Haresh Garg	rahulbt2016@gmail.com	Fair Conveyor	<b>ALLOCATE</b>	
WINQ00001	06 Apr, 2020	Jay Panchal	rahulbt2016@gmail.com	Stacker Excavators	<b>ALLOCATE</b>	
WINQ00008	06 Apr, 2020	Rahim Khan	rahulbt2016@gmail.com	890 CoalApp Dumper		USR00006 - Justin Bieber
WINQ00007	06 Apr, 2020	Karan Kumar	rahulbt2016@gmail.com	Ronon Feeder		USR00001 - Rahul Tiwari
WINQ00005	06 Apr, 2020	Viraj Chitnis	rahulbt2016@gmail.com	Transferable Conveyors		USR00006 - Justin Bieber
WINQ00004	06 Apr, 2020	Thakur Datta	rahulbt2016@gmail.com	Transferable Conveyors		USR00001 - Rahul Tiwari

Fig 17.22 List of Web Inquires

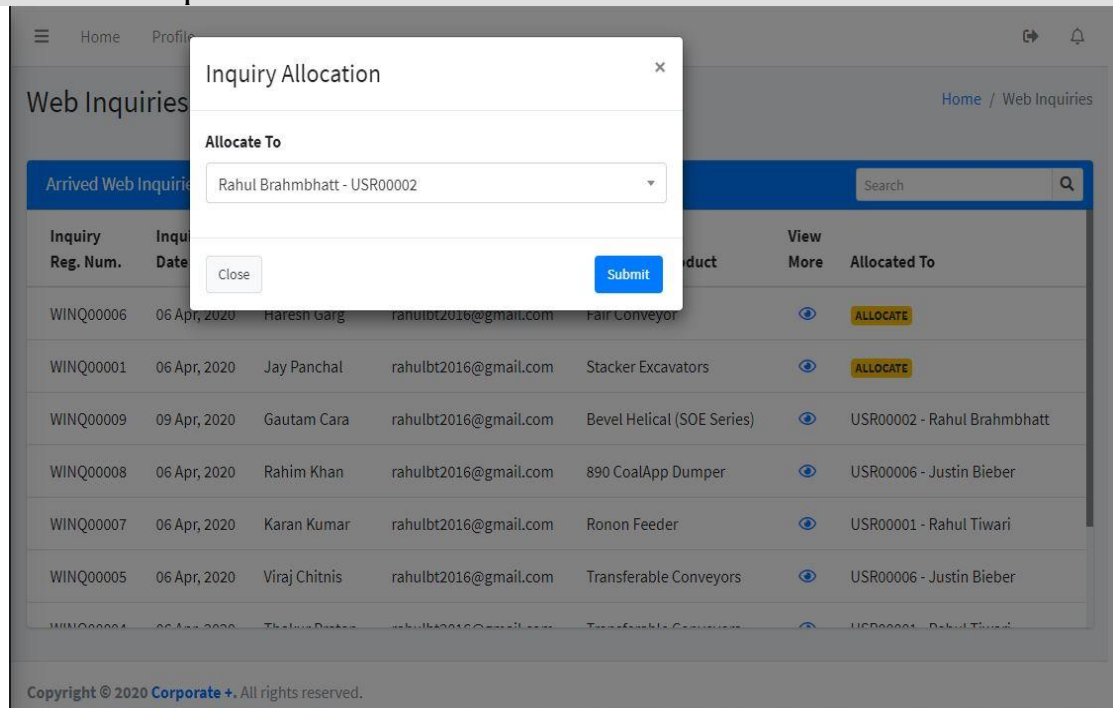


Fig 17.23 Allocation of unallocated web inquiry

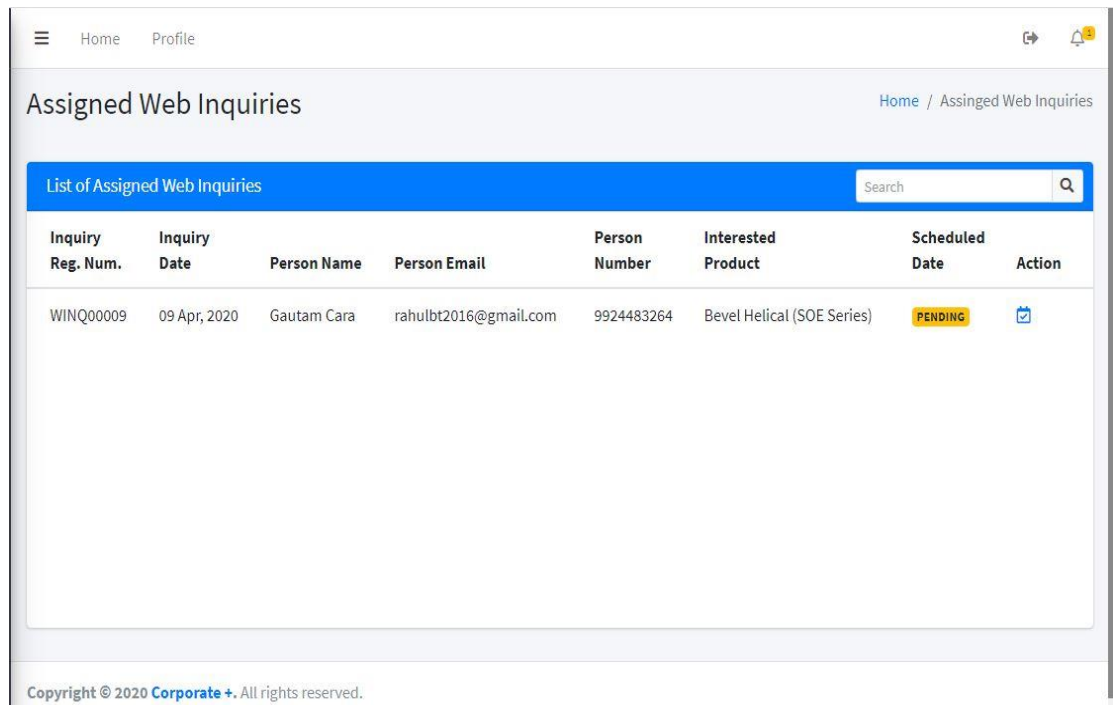


Fig 17.24 Information about assigned web inquiries to any user

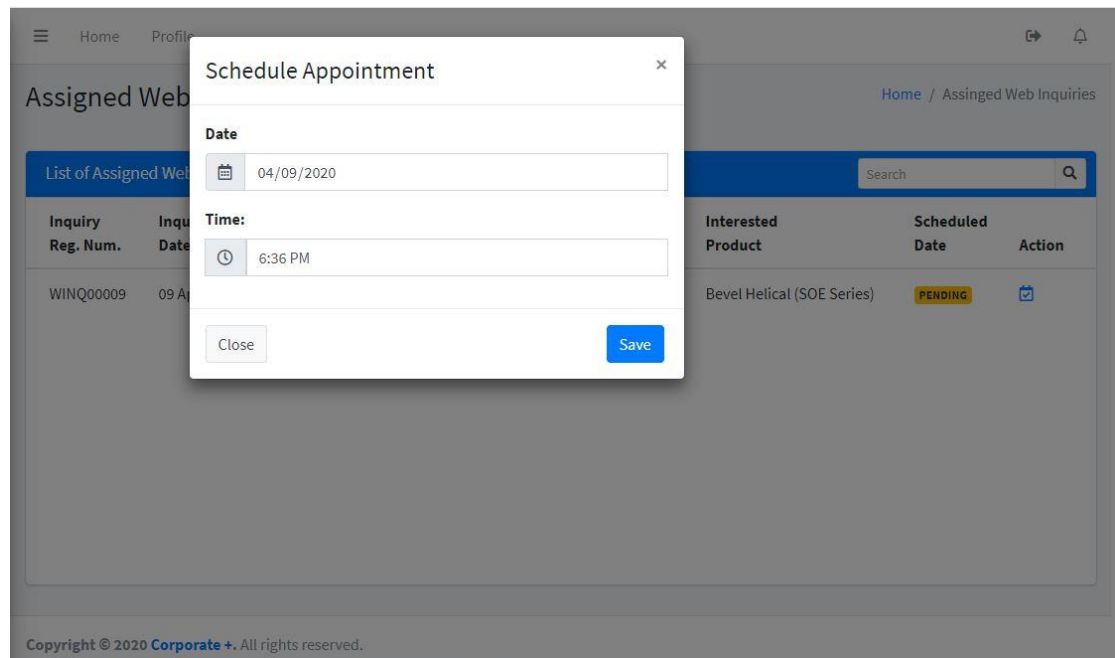


Fig 17.25 Scheduling the appointment for inquiry

11. Request Fund module was extended and generalized to Requests (for products, raw materials as well as funds). Knowing the fact, that if a customer approaches to sales manager for a product and that product is out of stock, then sales manager needs to request manufacturing engineer to manufacture same. Also, in case even manufacturing engineering has shortage of raw materials, he would need to request to the inventory manager to buy it from the vendor. Hence, this page was divided into 2 parts: for showing all the requests made till date and make new request. Make new request module is a smart page, which will alter its content as per the logged in user or as per their access to the system. A sales engineer will only be allowed to make product and fund request; manufacturing engineer can only make raw material and fund request; and rest all the users can make fund requests. User are allowed to select from the dropdown, which request they want to make, from the requests permitted to them. According other fields pop-up like product selection, raw material selection, quantity, amount and reason for funds. Clicking submit button will send the request to the authorized person along with a notification.

To manage these incoming requests, a page called Manage requests was designed. This page was divided into 3 section, each section for a kind of request (product, raw material or fund). Only user must have access to all three sections. Finance manager will have access to manage fund requests, Manufacturing Engineer to product requests and Inventory Manager to raw material requests. Requests coming from user can be accepted or rejected here, and accordingly user will be notified regarding same. (16IT139)

Request Date	Request Type	Requested Item/Reason to Request	Requested Quantity/Amount	Status
11 Apr, 2020	Raw Material	Brass	50	PENDING
11 Apr, 2020	Fund	to buy raw materials	₹ 50000	APPROVED
11 Apr, 2020	Product	190 Holder Loader	1	PENDING

Fig 17.26 Make Request Page

Name	Designation	Email	Contact Number	Quantity	Product	Approved/Rejected By	Approve/Reject
Rahul Tiwari	Admin	rahulbt2016@gmail.com	9924483264	1	190 Holder Loader	PENDING	

Name	Designation	Email	Contact Number	Quantity	Raw Material	Approved/Rejected By	Approve/Reject
Rahul Tiwari	Admin	rahulbt2016@gmail.com	9924483264	50	Brass	PENDING	

Fund Requests							Search	Q
Name	Designation	Email	Contact Number	Amount	Reason	Approved/ Rejected By	Approve/ Reject	
Rahul Tiwari	Admin	rahulbt2016@gmail.com	9924483264	₹ 50000	to buy raw materials	USR00004	APPROVED	

Fig 17.27 Manage Requests Page

12. Final touch-up was given to the entire ERP system before labelling it to be done. Search bars in each page had varying width were made right. Scrollbars were customized giving them attractive and thinner look. Search feature (from tables) was added in each page making various functions consisting of complex database queries. (16IT139/16IT013)

Users								Home / Users
List of all Users							rah	Q
Reg. Number	Name	Email	Phone	Status	View More	Edit	Deactivate	
USR00001	Rahul Tiwari	rahulbt2016@gmail.com	9924483264	ACTIVE				
USR00002	Rahul Brahmabhatt	rahulbrahmabhatt1811@gmail.com	9033969150	ACTIVE				
USR00005	Dhaval Vaghela	rahulbt20@gmail.com	9898888577	ACTIVE				

Vendors								Home / Vendors
List of all Vendors							bab	Q
Registration Number	Name	GST Number	Email	Phone	Added/ Edited By	Status	Edit	Deactivate
VEN00001	Babloo Kapoor	24AAAAA0000A1Z0	babloo.kapoor@gmail.com	9955883322	USR00001	ACTIVE		

Available Applicants [Home](#) / [Show Applicants](#)

Available Applicant's List						<input type="text" value="Comp"/> <input type="button" value="Q"/>	
Name	Email	Contact Number	Highest Qualification	Specialization	View Details	Delete	
Rahul Brahmhatt	rahulbrahmhatt13@gmail.com	9033969150	M.Tech	Computer Engineering			
Harsh	harshp1898@gmail.com	9033969150	M.Tech	Computer Engineering			
Dhananjay Rajpoot	rahulbt2016@gmail.com	9924483264	B.Tech	Computer Engineering			

Fig 17.28 Search functionality in various pages.