Data Insight Studio

Support:

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Guidance:

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1. Aim and Objective:

The aim of the project is ***to develop a website which could keep track of the completion of sub-tasks of the given industry project***. Through this project we got to learn various technical as well as non-technical aspects.

Objective:

1. To learn and understand the work flow of an Industry projects.

2. To study technology to implement this concept.

3. To collect data / information from Industry.

4. To analyze and test the project successfully.

2. Proposed flowchart (Work Flow):

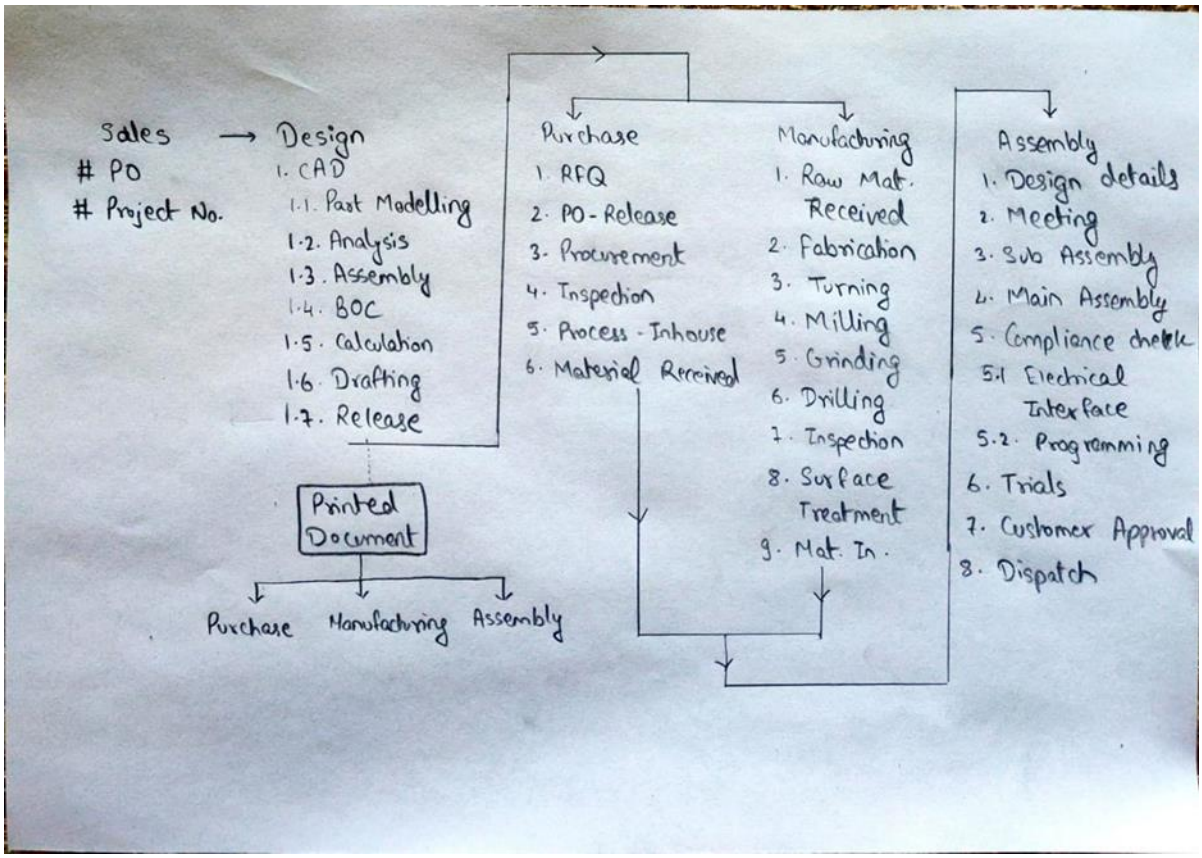

Fig. 1 Functional flowchart of proposed system

Fig. 1 shows the functional flowchart of the working of the website, i.e. tasks assigned when a project is received and is to be monitored.

3. Tech Stack :

In ***technical domain***, various concepts of web development like development using Html, CSS, Bootstrap for the Frontend and Django with SQLite3 DBMS for Backend. Some libraries like Pandas, NumPy were used to implement the project. File Handling in Python was executed. The website keeps a ***live track*** of data about ***Project Completion***.

4. Project Implementation:

In this project we are ***constructing*** a website which can monitor a project from beginning to the end. It ***monitors every task*** of an individual ***project*** received by the company i.e. whether the task of the given project (which is scheduled) is ***completed*** within the ***deadline***. As per the completion of the task, the respective authorized person will get to know the ***current status*** of the project. It also provides **information** about to ***whom*** a particular ***task*** is ***assigned*** and whether he/she is ***completing*** his/her task as per ***scheduled time*** or not.

The project is divided into ***five departments***, ***starting*** from ***sales*** where the sales manager ***initiates*** a project. After the sales manager, other four department ***managers*** will ***receive*** the project name in the ***assign page*** where they can ***assign*** their respective ***tasks*** to their department ***engineers***. After allotment of tasks, each ***engineer*** will be able to ***see*** the ***task*** with a ***deadline provided*** by the ***department manager***. For a Design Engineer, if the task is 'Release', he/she needs to upload the BOC and BOM of the project in CSV format. This CSV file is then read using Pandas and NumPy libraries in Python and displayed to purchase and manufacturing engineers where they can submit the respective sub-task individually.

The ***customer*** will also get to know their ***status*** of ***projects*** with their ***auto-generated login credentials*** (username: project name, password: customer name). The ***owner page*** will not only ***show*** the ***status*** of the ***project*** (consisting of four departments) but will also display ***live tracking*** of ***each sub activity*** going on for the ***project.***

5. Result and Discussion:

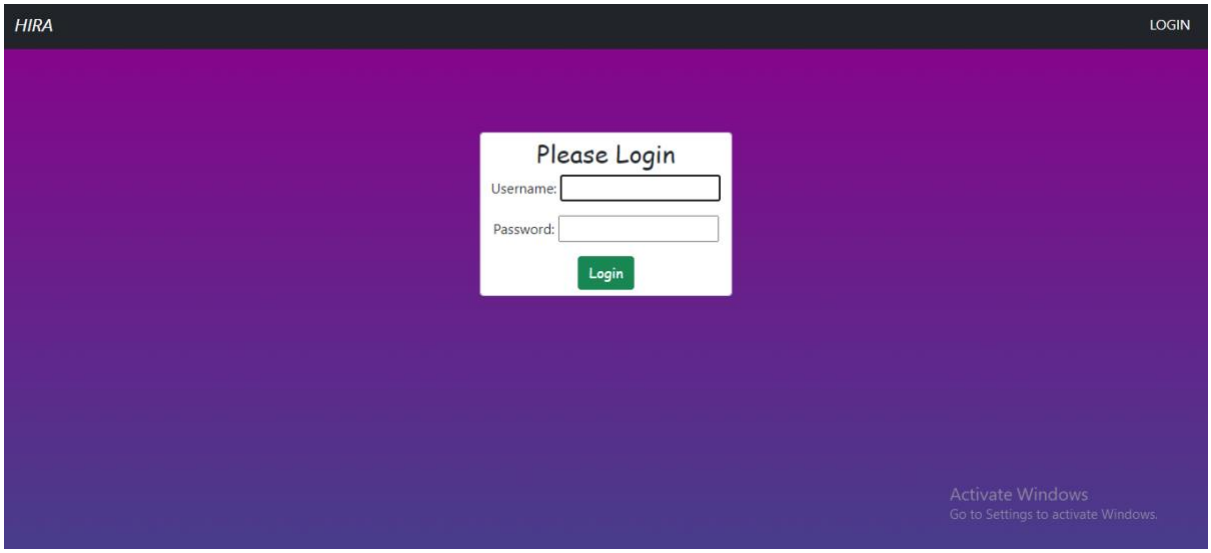

Fig. 2 Login Page

The login page is where the employee gets logged into his/her account by submitting Username, Password as shown in fig.2. It is ***mandatory for every person to login***.

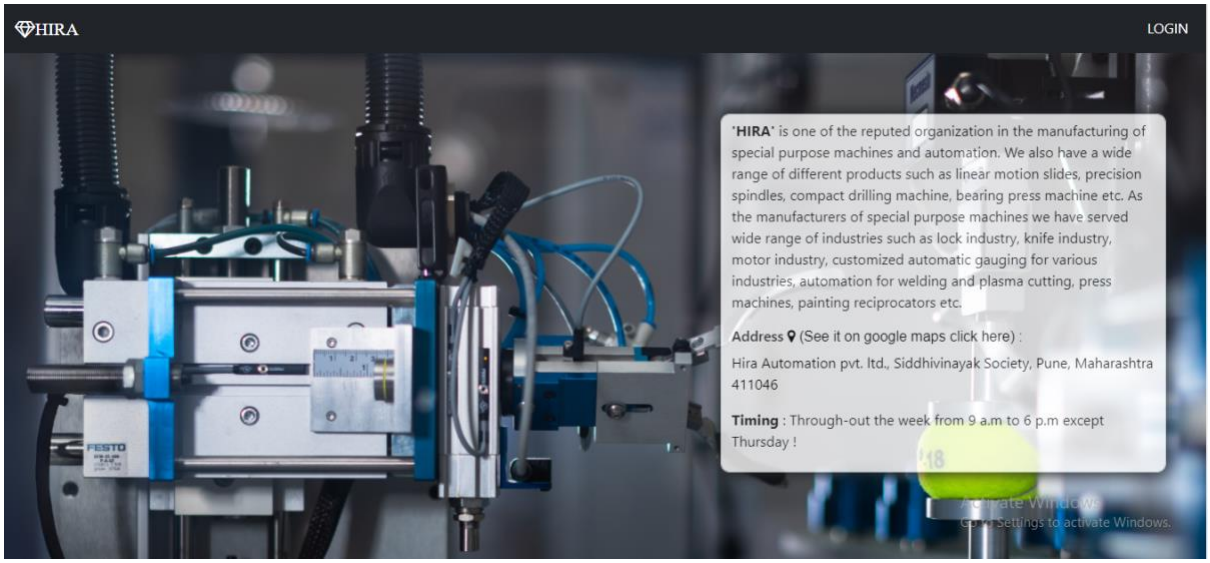

Fig. 3. 1 Home Page

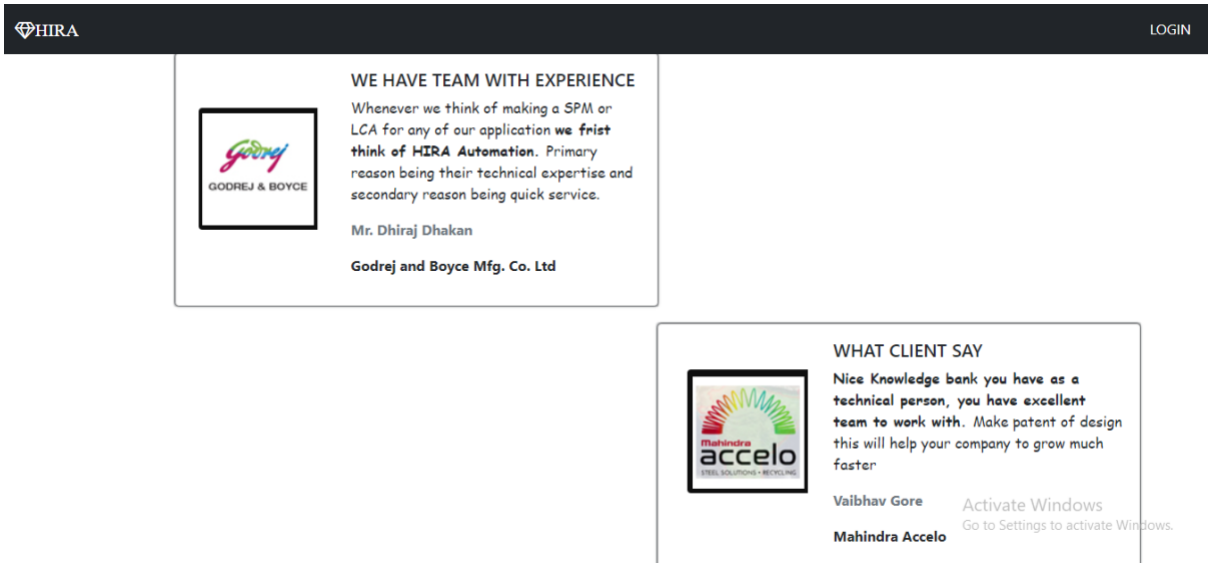

Fig. 3. 2 Home Page

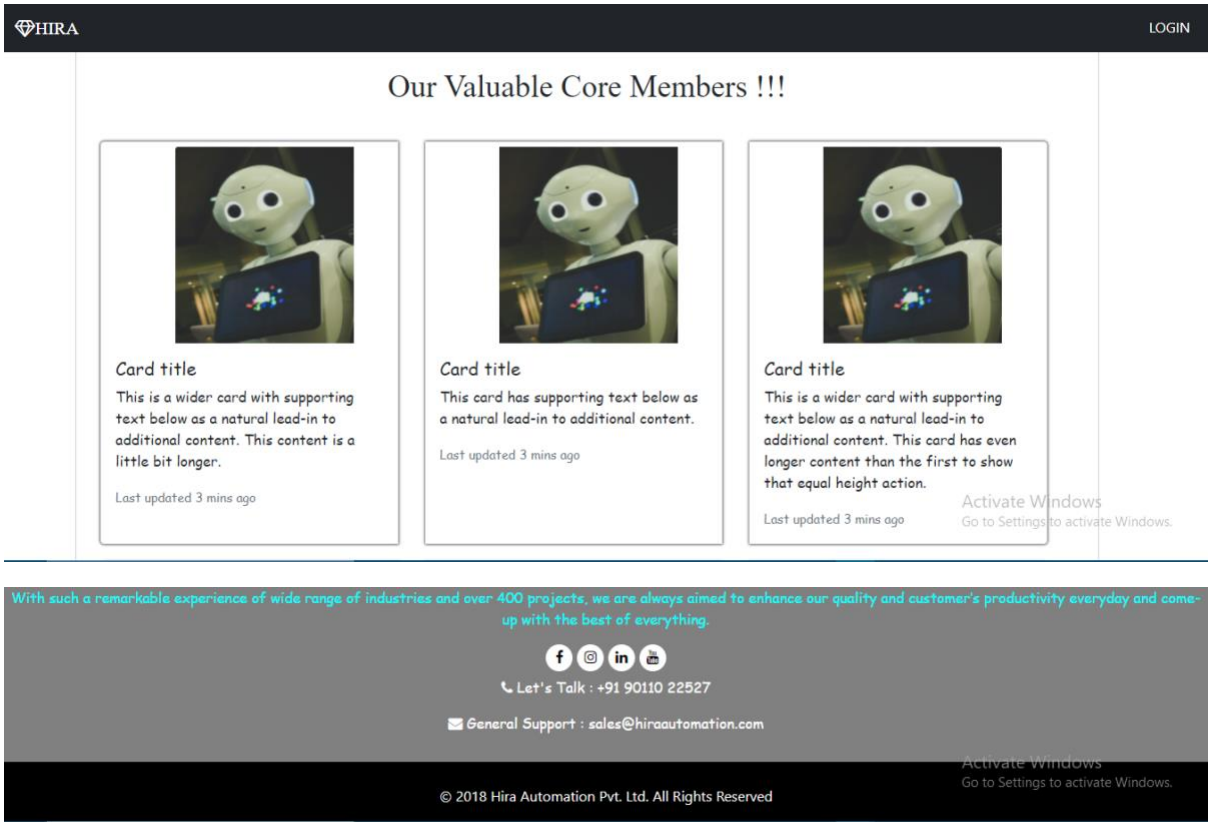

Fig. 3. 3 Home Page

This page is ***common*** for ***all*** the ***users*** whether it may be an engineer, manager or a customer. Whenever a person ***visits*** the ***site*** he / she will be ***redirected*** to the ***home page*** of the website. The home page will ***contain*** the ***information about the company*** and the ***board of directors*** of the company. All ***achievements*** and ***completion*** of ***big projects*** will be revealed on screen.

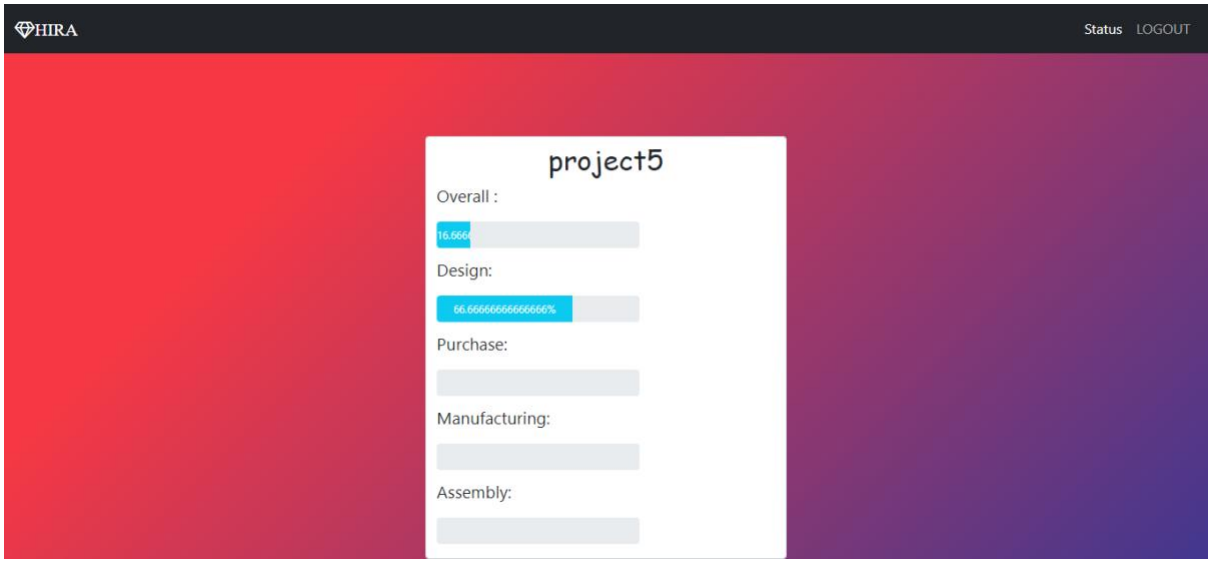

Fig. 4 Customer Page

The Customer Page displays the detailed progress of their project, which includes the total completion of the project, department wise completion of the project as a result the customer is able to keep a ***live track*** for their project.

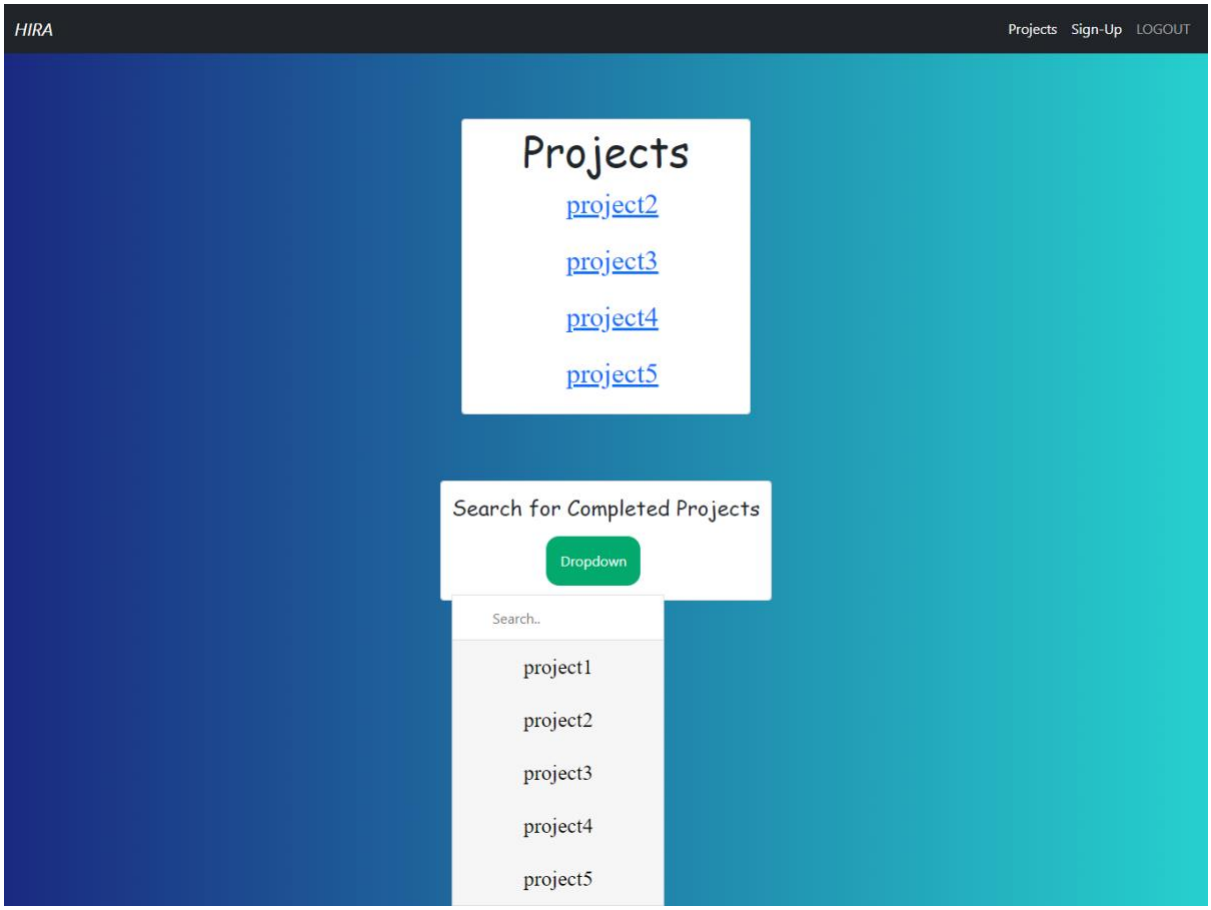

Fig. 5.1 Admin Page

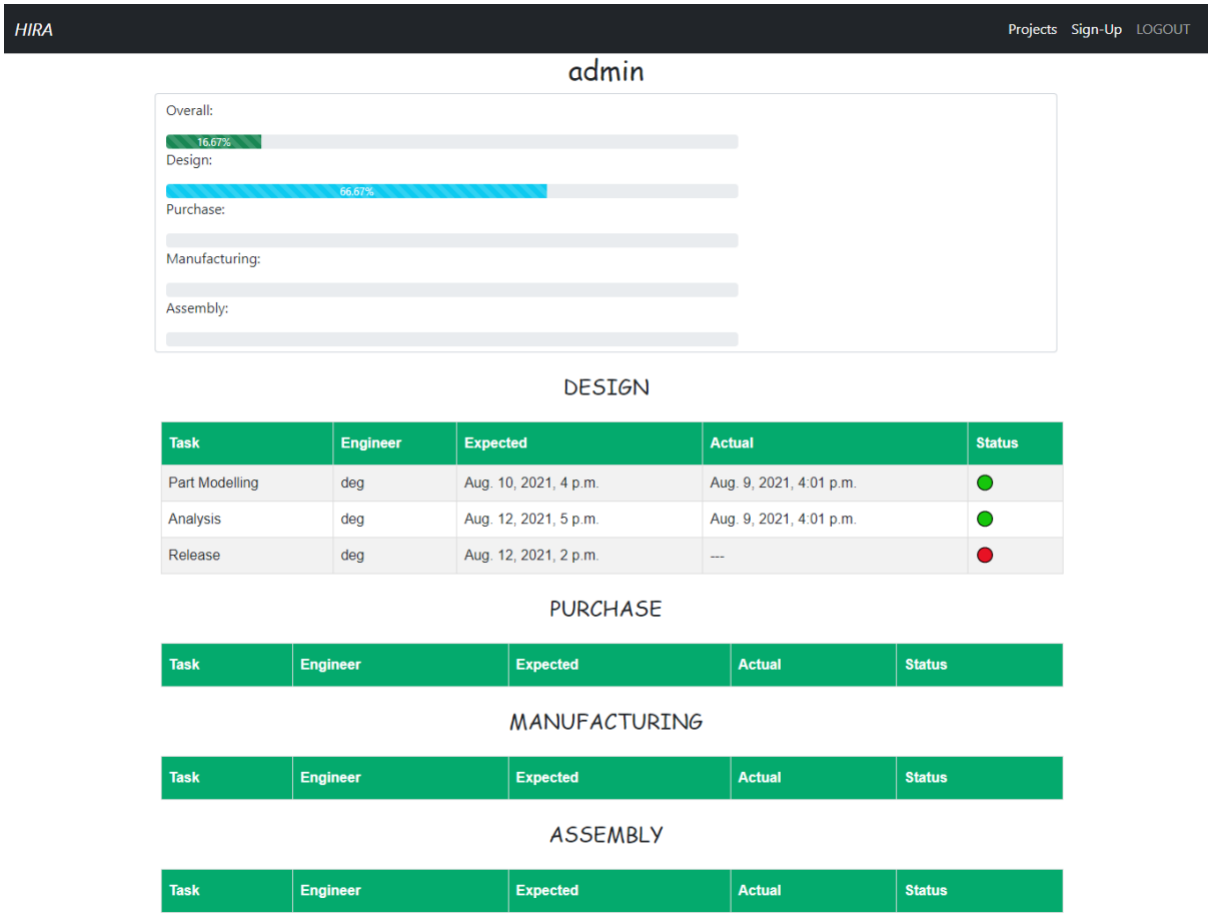

Fig. 5.2 Admin Page

Only the admin page will have the access to monitor each and every department progress which shows the detailed information for the ***on-going as well as the previous completed*** project. In the detailed information, the admin will be able to keep a track for projects where he / she will be able to ***maintain a record*** whether the task of a particular project is being completed on time or not. It will help the admin to decide which department is not completing the task on time and the ***overall progress*** of the department.

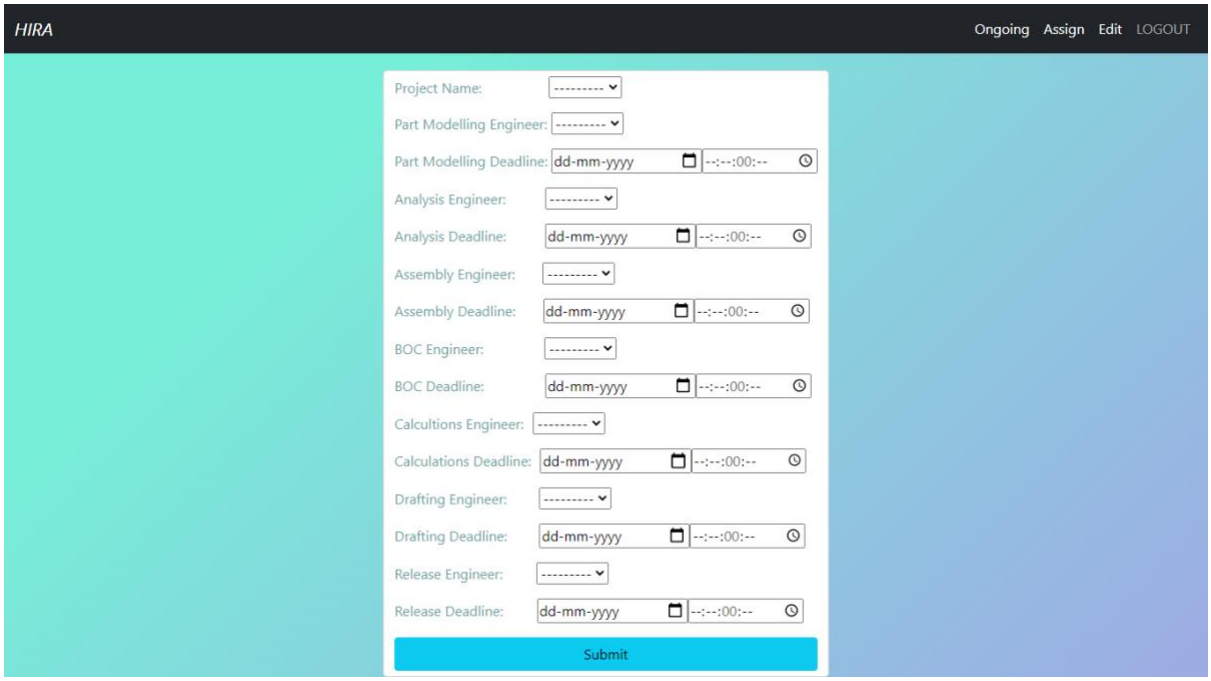

Fig. 6 Assign page

This is the assign page, as demonstrated in Fig. 6, where the manager ***assigns the task*** to his / her employees. The manager assigns a specific task to an employee and ***sets*** the ***deadline*** for each task.

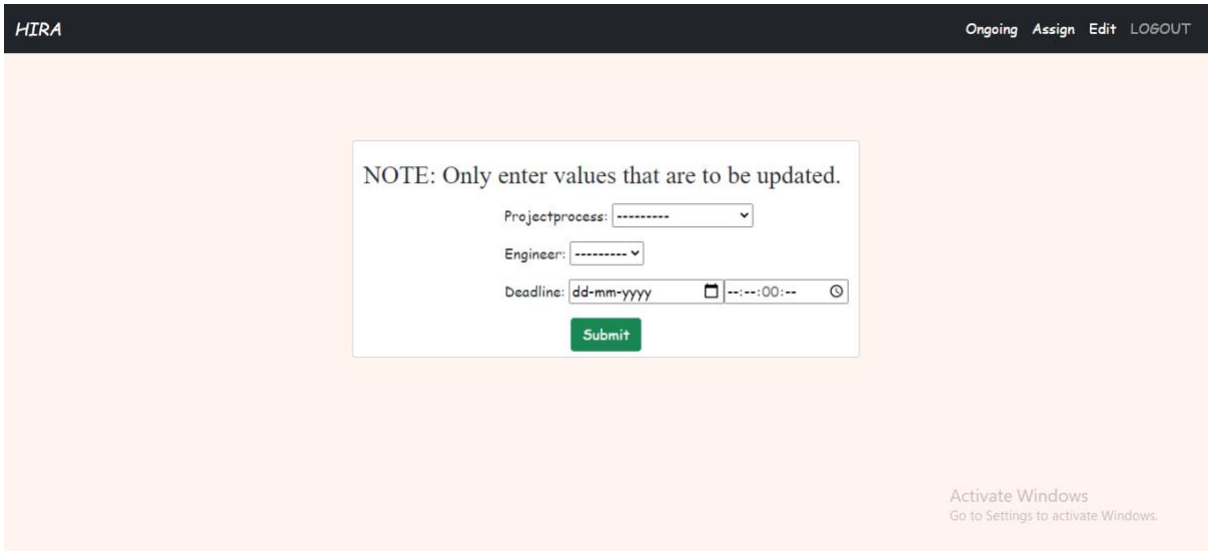

Fig. 7 Edit Task Page

As displayed in Fig. 7, if the manager wishes to ***change*** the task assigned to a certain employee he / she can do it by submitting the specific project process whose assigned person has to be changed, the engineer name to whom the task should be allocated and the deadline for the task before which the task should be completed.

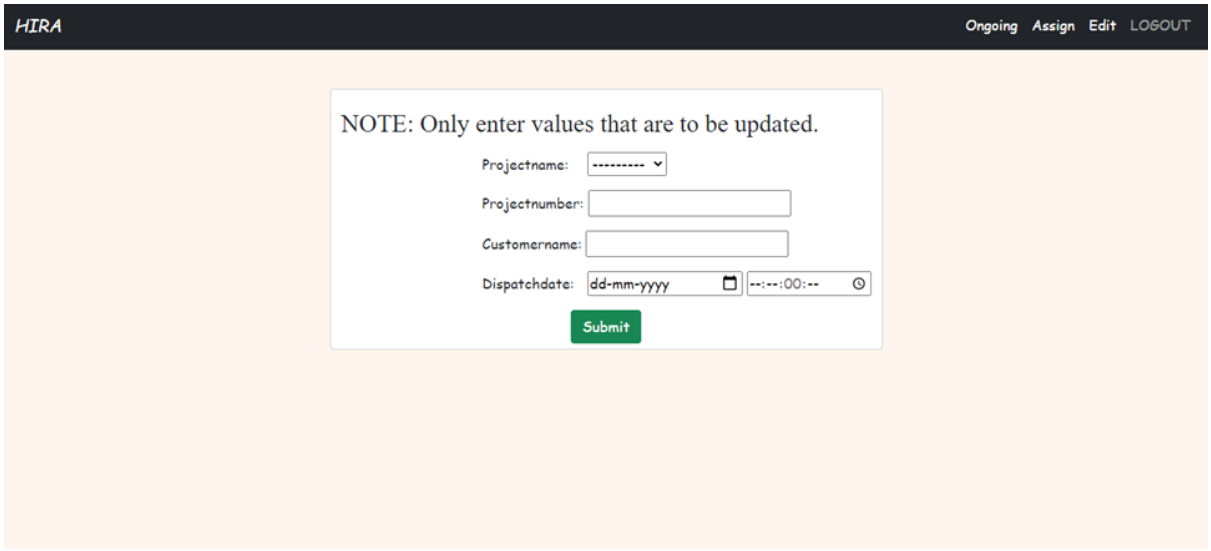

Fig. 8 New Project Assign Page (Sales Department)

As shown above the page is for Sale's Manager where the Manager assigns the deadline for a particular project and the start time for the project gets started.

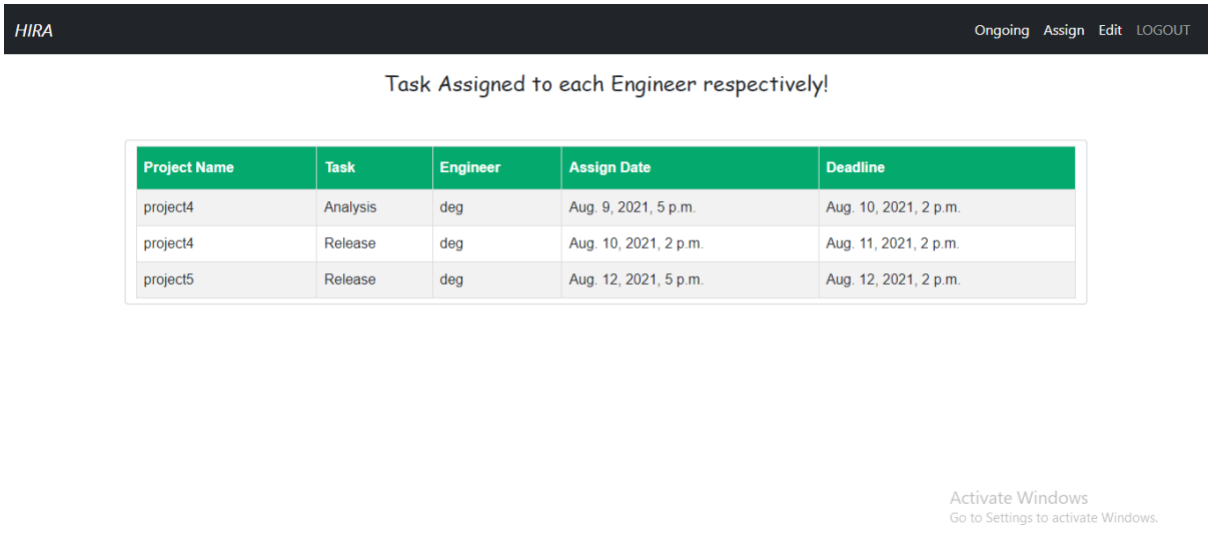

Fig. 9 Task list with Timeline

As exhibited in Fig.9 the ***table displays*** a ***list*** of tasks assigned to a particular Engineer which shows the ***Assign Date*** which means when the task was allocated to the Engineer and ***Deadline*** for a particular task or the date before which the ***task*** should be ***completed***. It gives a brief idea which project's ***deadline is approaching***, which ***task*** should be done on a ***priority*** basis.

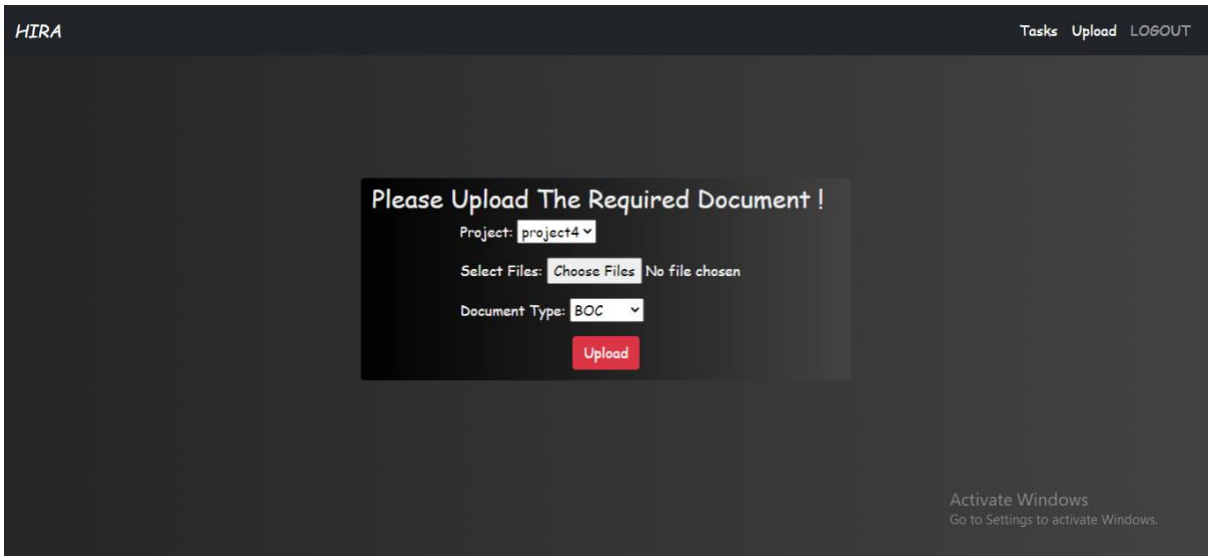

Fig. 10 Upload Page

The required document's which engineer needs to submit (Ex : BOC, BOM) he / she can do it by ***choosing*** the ***file***, selecting the ***appropriate file format*** and ***clicking*** on the ***upload button*** as shown in Fig. 10.

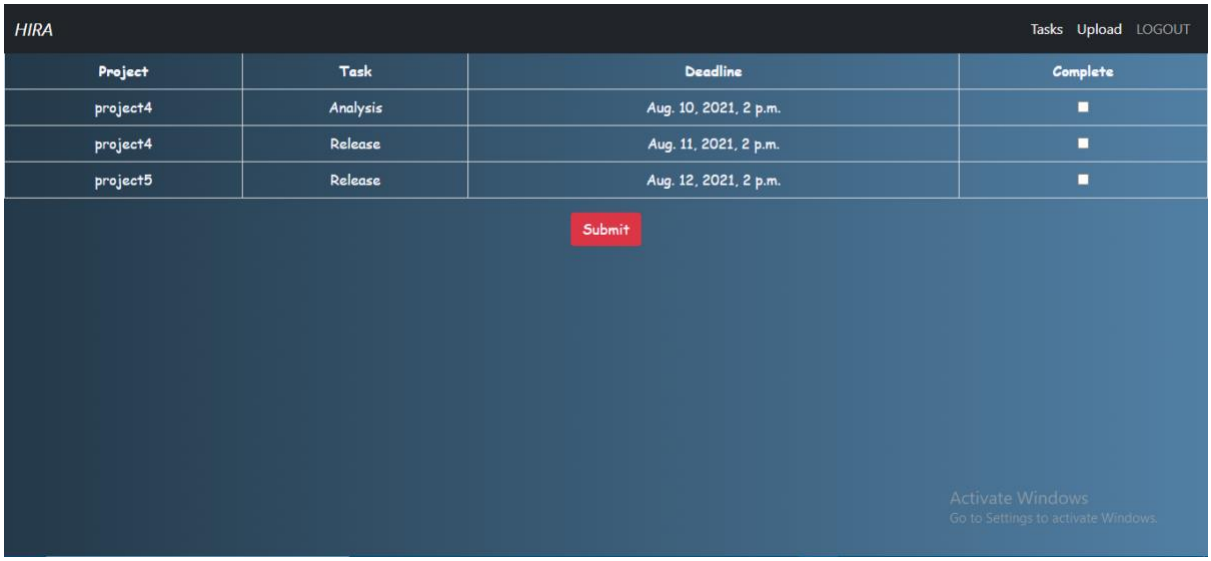

Fig. 11 Engineer Page

As demonstrated in Fig. 11, the table displays the tasks allocated to him/her with a timeline and he/she needs to ***click*** the ***checkbox in the complete column*** as soon as the ***task is completed*** and then hit the ***submit*** button. For the engineer an ***upload button*** is provided in the navigation bar to ***submit*** the ***required documents*** which include BOC, BOM and Drawing.

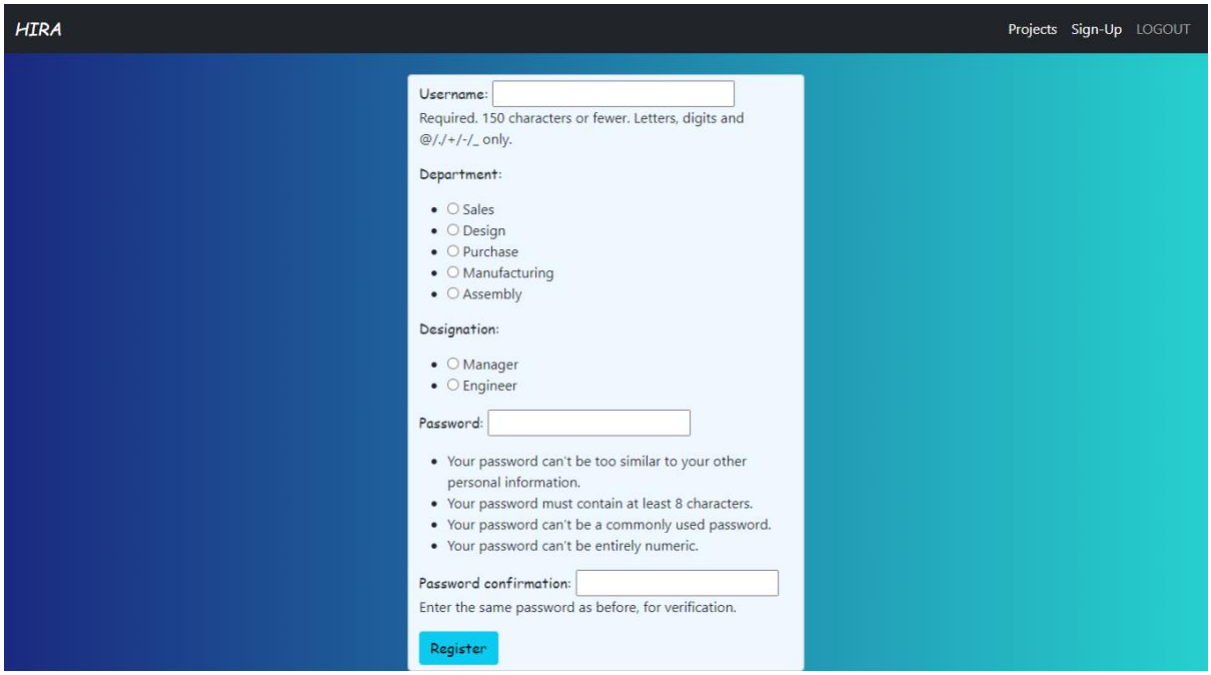

Fig. 12 Sign Up

If a ***new member*** has to be added to the team he / she should sign up by giving his / her username, password which should be remembered, his department and designation in the team as presented in Fig. 12.After a successful sign up his ***details*** are ***stored*** in the database so that in ***future*** he can use the required details to ***login*** on the website.

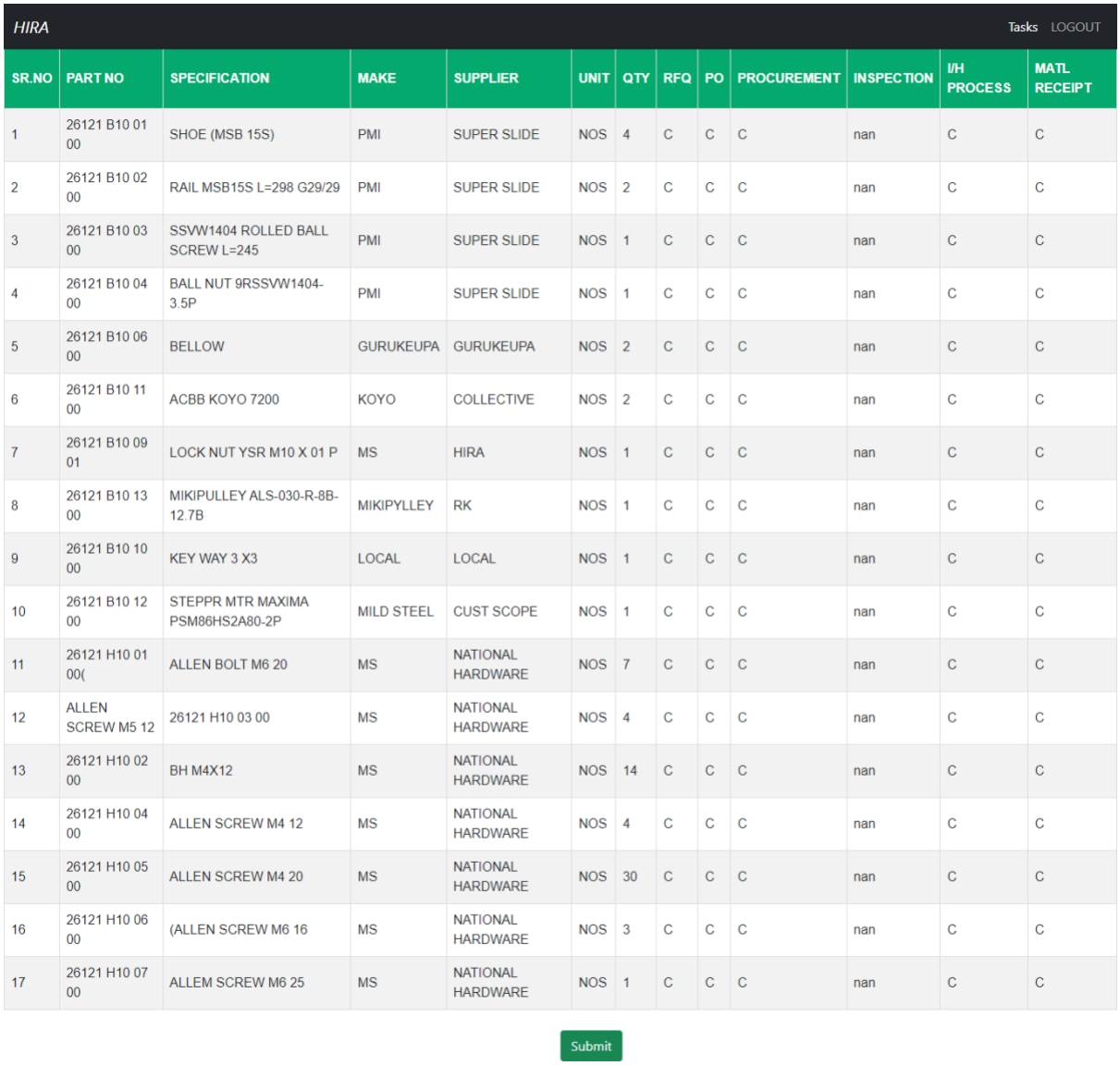

Fig. 13 Document Page

The Document Page displays mainly ***BOC or BOM*** visible only to the purchase and manufacturing team. If the ***purchasing team logins*** they are able to see the ***BOC sheet***, if the ***manufacturing team*** logins they will be able to see the ***BOM sheet***. Only the ***engineers*** from the purchase and manufacturing team are able to tick the ***checkbox*** given as ***ticking the checkbox*** will convey the message the particular ***task is completed.***

6. Future Scope:

We can ***update*** the model so that we are able to find the ***department efficiency,*** how effectively the department is ***completing*** the given task. We can improve the model further ahead so that ***each individual engineer's efficiency*** can be predicted based on his / her ***previous*** working ***information***.

Further we can make a ***one step model*** which will only include the ***scanning*** of a ***bar code*** and all the required ***information*** is ***passed*** on to the ***database*** which ***helps*** in ***making*** the required ***calculations*** and giving the required ***result***.

In the ***current model*** when the task is completed the respective ***engineer needs*** to ***click*** on the ***check box*** and then ***hit*** the ***submit*** button so that further data processing will take place which is a ***bit of a time*** consuming process for the engineer. Instead we can put in a ***Barcode*** where the ***engineer simply*** needs to ***scan*** the ***barcode*** with his already ***existing smartphone*** and the ***data*** is ***transferred*** to the ***database***.

7. Problem faced during project execution:

At ***first,*** we implemented this ***project*** using ***PHP*** technology. Using PHP we implemented the ***first phase*** of the project and ***hosted*** it to ***gather data.*** During this we were ***new*** to ***PHP***, hence we needed to learn the language and it's usage. During the ***second phase*** of the project, due to ***dynamic file handling*** we ***shifted*** the project from ***PHP to the Django framework in Python***.

While ***working*** in ***Django***, as the ***raw file was uploaded***, we were required to ***update*** its **content** as per the completion of respective tasks which required thorough knowledge about in-depth Django with Python libraries and HTML.

Also, during the month of May, due to a medical emergency, the project was interrupted for almost a month as the work was divided among two of us as backend and frontend.

8. References:

1. https://docs.djangoproject.com/en/3.1/
2. https://dev.mysql.com/doc/
3. https://stackoverflow.com/
4. https://getbootstrap.com/docs/5.0/getting-started/introduction/
5. https://www.w3schools.com/
6. Documents(BOC, BOM, Work Flow, Drawings) Provided by HAPL

9. Industrial / Technical visits:

S. No.	Discussed Topic	Date
1	Introduction to project	12 / 12 / 2020
2	Structure of website (Online)	03 / 01 / 2021
3	Presentation of basic structure of website	10 / 01 / 2021
4	Sales and design page discussion	17 / 01 / 2021
5	Database and Release task page	24 / 01 / 2021
6	Remaining department pages	07 / 02 / 2021
7	Implementation of task list	14 / 02 / 2021
8	Discussion on hosting the website(Phonic)	07 / 03 / 2021
9	Suggestions on final website	13 / 03 / 2021
10	Final project submitted for data collection	16 / 03 / 2021
11	Project Report Preparation (Meeting with Guide)	11 / 04 / 2021 4:30 pm to 5:30 pm
12	Project Report editing (Meeting with guide)	15 / 04 / 2021 5:00 pm to 6:35 pm
13	Meeting to discuss Phase-2 Project	06 / 06 / 2021 5:00 pm to 7:30pm
14	Project Shifting from PHP to Django	12 / 06 / 2021
15	Completed Django templates for Manager and Engineer	30 / 06 / 2021
16	Meet for Doubts discussion regarding CSV format	02 / 07 / 2021 9:40 pm to 10:00 pm
17	BOC and BOM page completed	28 / 07 / 2021
18	Owner view and customer view	05 / 08 / 2021

	discussion (Team members)	
19	Project Completion Discussion with Project Guide	24 / 08 / 2021 7:30 pm to 7:45 pm
20	Final Report Discussion with Project Guide	04 / 09 / 2021 10:00 am to 11:30 am

10. Project Exposure:

In the ***non-technical domain***, we learned a great deal about presentation, accepting feedback and suggestion, communication skills, and improved team skill. It gave a boost to creative thinking while deciding the appearance of the web page.

Also, we got to learn about various processes and departments in an Industry. Understanding about their workflow in Second Year itself was beneficial for us.