

INTERNSHIP REPORT 2022

Duration June-July 2022
By Ishaan Bajaj

ACKNOWLEDGEMENT

It gives great pleasure in presenting the internship report on "**Project - HR Dashboard**" which is used for better data visualization. It was a golden opportunity for me and it will remain a great learning and personal development experience in my career. The level of professionalism, discipline, and cooperation being practiced here has been the most important learning for me. I wish to extend sincere gratitude to **Respected Rajinder Gupta** (Chairperson of Trident Ltd.), **Ms. Pooja Luthra** (Group Chief Human Resources Officer), **Ms. Rechal Parche** (HR), and **Ms. Poorva Bajaj** (HR) for giving me an opportunity to undergo this internship.

I would also like to extend my sincere gratitude to my Supervisor **Mr. Rajesh Srivastava** for providing me with ample guidance, and support throughout the duration of my internship. Encouragement extended by him helped me in completing the project work and training program. Then I would also like to thank **Mr. Gaurav Jain**, **Ms. Sonideep Sangwan**, and **Ms. Vasundhara Rawat** for their helpful guidance in improving the project.

Last but not least I am very much grateful to my team and all staff member and people of Trident Ltd. and TIET who helped me in the entire duration of this internship as well as my project. In the tenure I stayed there, apart from the technical aspects, I have learned the important aspects that make an organization successful. The work culture of Trident Group has taught me the need for discipline, dedication, and cooperation required to reach high standards. Finally, yet importantly I am thankful to my family and friends for supporting me and to the Training and Placement Cell Of TIET for a smooth and enriching internship experience

ABOUT ME



**ISHAAN
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Pursuing B.Tech In Computer Science and Engineering
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Intern in Projects – Information Technology – Budhni

Under Mr. Rajesh Kumar Srivastava

ABOUT TRIDENT GROUP

Established in 1990, Trident Limited (hereafter referred to as the Company) is the flagship company of the dynamic and growth-oriented USD 1 billion Trident Group. Founded by Mr Rajinder Gupta, Chairman and first-generation entrepreneur, the Company is one among the top five global terry towel giants of the world. Headquartered in Ludhiana, Punjab, it is the largest player in terms of terry towel capacity and one of the biggest players in home textiles in India.

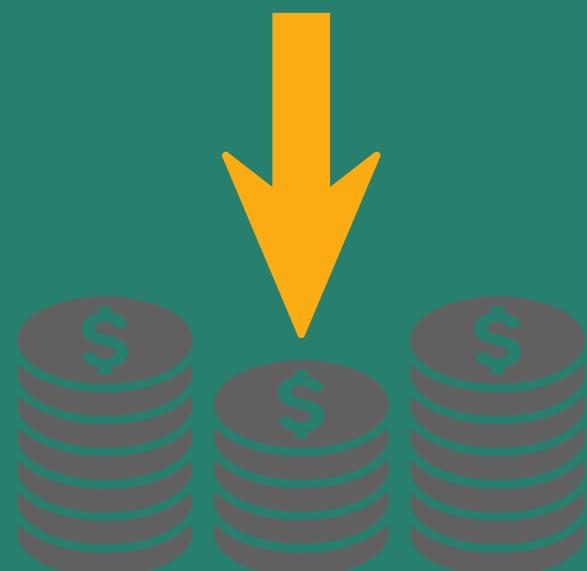
From being a solitary yarn manufacturer, the Company has transformed into one of the largest state-of-the-art integrated home textile and paper manufacturers globally. Trident is a leading manufacturer of yarn, bath linen, bed linen, wheat straw- based paper, chemicals, and captive power.

In 2016, the Company ventured into the bed linen space by commissioning a facility in Budni, a town in the state of Madhya Pradesh. The Company has three state-of-the-art manufacturing facilities, two in Barnala, Punjab and one in Budni. It has marketing offices spread across the country in Chandigarh, Bhopal, Gurgaon, Delhi and Surat and internationally in New York, USA and Warrington in Cheshire, United Kingdom. The Company has spread its footprint in over 150 countries worldwide.

INFLUENCE OF TRIDENT

It takes vision to grow into a billion-dollar company in just three decades. It takes persistence to make a mark on a global scale in a domain that embodies fierce competition. It takes creativity to design a range of products that are celebrated the world over. It takes foresight to build trailblazing infrastructure that can scale and support growth. It takes sensitivity to care for the community – its health, its education, and its empowerment. Trident offers a wide range of products in the categories of home textile, stationery, paper, yarn, and chemicals.

\$6800+
Crores



Revenue is generated by Trident
Ltd.

50



MEGAWATTS

Energy is produced by Trident
Ltd.

INFLUENCE OF TRIDENT

**“THE WORLD IS BIG AND SO IS
TRIDENT FAMILY”**

Our Service

25+
plants and stores

Customer Base

150+
Countries

Our Presence

15+
global offices

HEIRARCHY

The Trident 3- Band Excellence framework



KARMA YOGI

Engines of real
action



GURU

Source of endless
inspiration



BRAHMASEVAK

Selfless service for
overall good

INSIGHT ABOUT SHEETING PLANE

Trident's sheeting division takes distinction in it's singular composite sheeting plant with 1,90,000 dedicated compact spindles. With 500 high speed looms, continuous processing, cutting and fully automatic. Trident's sheeting division takes distinction in it's singular composite sheeting plant with 1,90,000 dedicated compact spindles. With 500 high speed looms, continuous processing, cutting and fully automatic cutting and stitching systems. The sheeting facility at Budhni promises quality along with delivering numbers



INSIGHT ABOUT TERRY TOWEL UNIT

Located in Budhni and covering a kilometer is the World's largest Terry Towel Plant with advanced manufacturing capabilities. Here the state-of-the-art production facilities include processes such as spinning, wide-width air jet, soft flow dyeing, and fully automated cutting and sewing for towels. There's more than just manufacturing excellence at Tridents' Budhni Facility.



INSIGHT ABOUT YARN UNIT

Trident Yarn started off in the year 1993, in Punjab, with a modest beginning of 17,280 spindles. With its state-of-the-art technology and then manufacturing units, the company constantly innovates to enhance its product portfolio.

Today, Trident has emerged as one of the eminent manufacturers and suppliers on high performance knitting and weaving yarn.



PRODUCTS

BED

The bed product category has a range of superior soft, comfortable, anti-pilling, moisture managed, thermally regulated, breathable, and anti-microbial Bed sheet sets. They are categorized into various collections and into 4 major categories- Luxury, Premium, Essentials, Exclusive, Gifting

CHEMICAL

The leading sulphuric Acid manufacturer in India, offering superior quality, more consistency, bigger scale, and improved efficiency. Laboratory reagent grade sulphuric acid and Battery and commercial grade sulphuric acid

PAPER

Trident is one of the nationally preferred suppliers of high-quality branded copier paper and high-quality paper for multi-color high-speed printing & publishing.

YARN

Trident has emerged as one of the eminent manufacturers and suppliers of high-performance knitting and weaving yarn. The 4 types of yarn are: Greige based yarn, Premia, Macaron, Delite

BATH

Bath Product Category is made from thoughtfully chosen natural raw materials which are super absorbent, amazingly plush, ultra soft and ultra sheen.

ENERGY

Trident generates captive power to meet our energy requirements in-house.

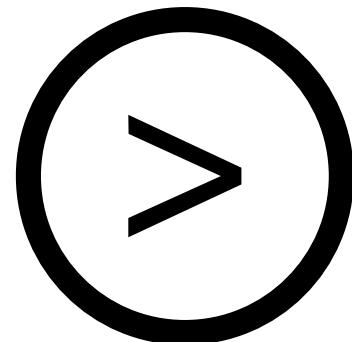


SUSTAINABILITY AT TRIDENT

Ushering in a sustainable era of eco-friendly industrial practices, we are making huge strides in establishing and promoting pollution-free and environment-friendly manufacturing systems. As an environmentally responsible massive manufacturing operation, we reuse waste to fuel our rapidly expanding operations with minimum ecological damage. We use the entirety of the black liquor effluent and other biomass generated as by-products along with coal to create high-pressure steam to power manufacturing.



1999



2022

INITIAL PRODUCTION
CAPACITY 9.4 MW

CURRENT PRODUCTION
CAPACITY 50 MW

SUSTAINABLE INITIATIVES

Water Balance



Focused Energy Conservation



Zero Liquid Discharge System



Solid and gaseous discharge system



5R Concept

RECYCLE

REDUCE

REUSE

REDESIGN

RE ENGINEER

INDUSTRY 4.0 AT TRIDENT



Yesterday's Science fiction is today's reality, to make sure we embrace this new reality with ease and flair, Trident has prepared itself long back. It was the vision of the Respected Chairman Shri Rajinder Gupta to make Trident a digitally driven organization - smart factories, smart people, and smart work. Today this is usual at Trident.

Living in the era of the fourth Industrial Revolution, the world is undergoing the biggest structural change of the past 250 years. With the automation of traditional manufacturing and industrial practices. Trident is witnessing dramatically improved productivity, growth, and customer satisfaction. With live dashboards and sales force analysis, decisions at trident are being made in real-time. Human errors are being minimized and effective monitoring takes place at every stage of the process.

CULTURE AT TRIDENT

A CULTURE OF OPENNESS AND TRUST

At Trident, one step into a life full of challenges and opportunities to evolve into a seasoned professional with strong values as part of the system. That's because Trident offers a fast-paced environment with varied opportunities to grow. Trident also helps one nurture long-term, enriching relationships with the work family.



**EVERY STORY IS UNIQUE
AND ALL OF THEM HAVE A
PLACE AT TRIDENT**

PROBLEM STATEMENT FOR INTERNSHIP

**TO CREATE A WEB APPLICATION
THAT WILL HELP FOR EXPEDITIOUS
AND FACILE DATA ANALYSIS OF
ONGOING HR PRACTICES**



SOLUTION

I, therefore, built a dashboard to aid the team in data analysis after considering the issues and challenges they are currently facing. After considering every requirement, I made the decision to choose Python as the foundation for my dashboard project.

Python

Python is a high-level, interpreted, general-purpose programming language. Its design philosophy emphasizes code readability with the use of significant indentation.

Python is dynamically-typed and garbage-collected. It supports multiple programming paradigms, including structured (particularly procedural), object-oriented and functional programming. It is often described as a "batteries included" language due to its comprehensive standard library.



I created the dashboard using a variety of **Python libraries**, including the following:

SOLUTION

Streamlit

Streamlit is an open-source Python library that makes it easy to create and share beautiful, custom web apps for machine learning and data science. The platform uses python scripting, APIs, widgets, instant deployment, team collaboration tools, and application management solutions to help data scientists and machine learning engineers create python-based applications. It is compatible with major Python libraries such as sci-kit-learn, Keras, PyTorch, SymPy(latex), NumPy, pandas, Matplotlib, etc.



Streamlit

SOLUTION

Pandas

Pandas is a fast, powerful, flexible, and easy-to-use open source data analysis and manipulation tool, built on top of the Python programming language. In particular, it offers data structures and operations for manipulating numerical tables and time series. The name is derived from the term "panel data", an econometrics term for data sets that include observations over multiple time periods for the same individuals. Its name is a play on the phrase "Python data analysis" itself. Pandas allow importing data from various file formats such as comma-separated values, JSON, Parquet, SQL database tables or queries, and Microsoft Excel. Pandas allow various data manipulation operations such as merging, reshaping, selecting, as well as data cleaning, and data wrangling features.



SOLUTION

Plotly

The **Plotly** Python library is an interactive, open-source plotting library that supports over 40 unique chart types covering a wide range of statistical, financial, geographic, scientific, and 3-dimensional use-cases. It enables Python users to create beautiful interactive web-based visualizations that can be displayed in Jupyter notebooks, saved to standalone HTML files, or served as part of pure Python-built web applications using Dash. The Plotly Python library is sometimes referred to as "plotly.py" to differentiate it from the JavaScript library.

No internet connection, account, or payment is required to use this library.



SOLUTION

So I created a dashboard with interactive **bar charts** and **pie charts** using the libraries described above. Additionally, Dashboard contains a **choropleth map** that will show the Indian states where our employees are from. For better, more precise, and more focused data analysis, I have also included a variety of filter choices. The user can also download multiple graphs from the platform for use in reports and presentations

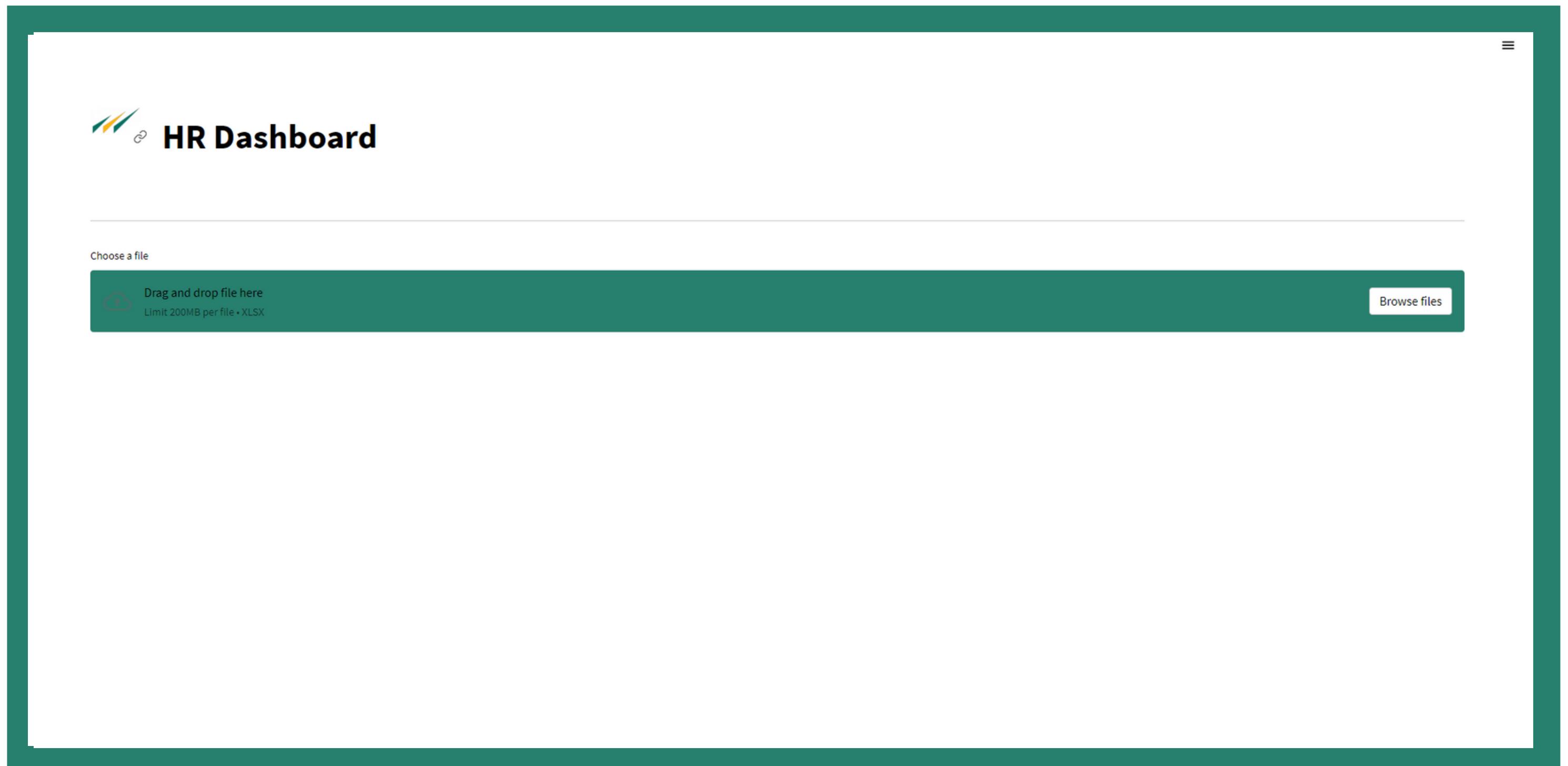
The dashboard contains the following **bar charts:**

- Company Name Wise and Count of Employee
- Business Area Name Wise and Count of Employee
- Employee Group Wise and Count of Employee
- Cadre Wise and Count of Employee
- Experience Wise and Count of Employee
- Age Wise and Count of Employee
- Exit Date Month Wise and Count of Employee

And the following **pie charts:**

- Gender Wise
- Marital Status Wise
- Exit Reason Wise

SCREENSHOTS OF DASHBOARD



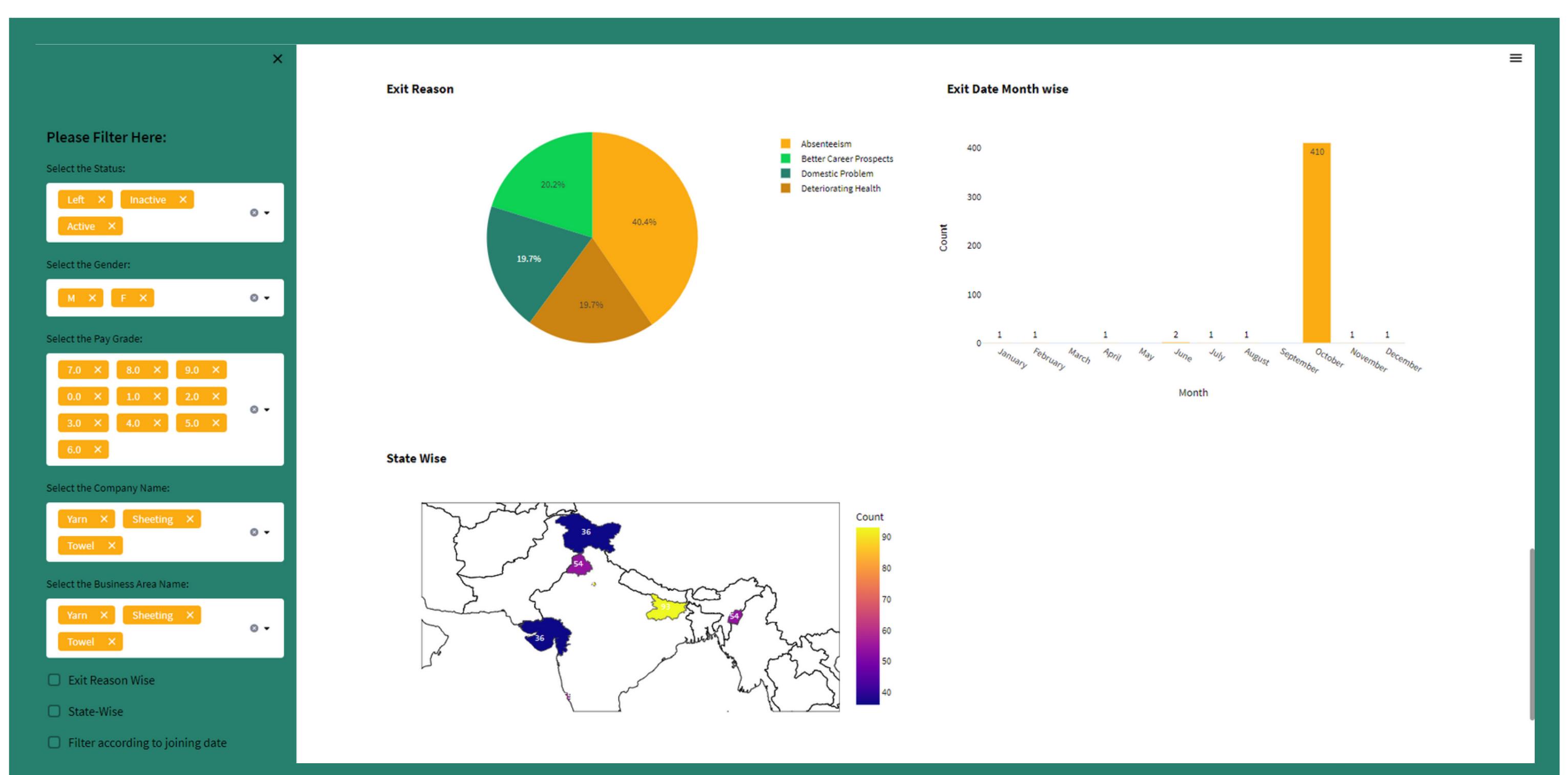
This screenshot shows the HR Dashboard after applying filters. On the left, there are four filter sections: 'Please Filter Here:', 'Select the Status:', 'Select the Gender:', and 'Select the Pay Grade:'. The 'Please Filter Here:' section contains a note 'Please Filter Here:'. The 'Select the Status:' section has three items: 'Left', 'Inactive', and 'Active'. The 'Select the Gender:' section has two items: 'M' and 'F'. The 'Select the Pay Grade:' section has six items: '7.0', '8.0', '9.0', '0.0', '1.0', '2.0', '3.0', '4.0', and '5.0'. The 'Select the Company Name:' section has three items: 'Yarn', 'Sheeting', and 'Towel'. The 'Select the Business Area Name:' section has three items: 'Yarn', 'Sheeting', and 'Towel'. At the bottom left are three checkboxes: 'Exit Reason Wise', 'State-Wise', and 'Filter according to joining date'. On the right, the main content area displays a table of employee data. The table header includes columns for Id, Full Name, Pay Grade, Gen, Marital Status, Experienc, Employee, Exit Date, Age, Exit Reason, State, Month, Expected, Actual, Employee Group, Business A, and Company Name. The data table contains 10 rows of employee information.

	Id	Full Name	Pay Grade	Gen	Marital Status	Experienc	Employee	Exit Date	Age	Exit Reason	State	Month	Expected	Actual	Employee Group	Business A	Company Name
0	1.0000	Ray Schneider	7.0000	M	Married	0.5000	Left	2000-07-12T00:00:00	18.0000	Absenteism	Delhi	Jan	1.0000	2.0000	Apprentice	Yarn	Yarn
1	2.0000	Kenyon House	7.0000	F	Married	0.5000	Inactive	2000-08-22T00:00:00	20.0000	<NA>	Bihar	Feb	2.0000	4.0000	Apprentice	Sheeting	Sheeting
2	3.0000	Izabella Woods	7.0000	M	Single	0.6000	Left	2000-06-27T00:00:00	24.0000	Absenteism	Goa	Mar	3.0000	6.0000	Apprentice	Towel	Towel
3	4.0000	Reagan Dixon	7.0000	M	Single	5.0000	Left	2000-10-08T00:00:00	25.0000	Better Career Prospects	Bihar	Apr	4.0000	8.0000	Apprentice	Sheeting	Sheeting
4	5.0000	Ahmed Greer	7.0000	M	Married	3.0000	Inactive	2000-11-16T00:00:00	55.0000	<NA>	Bihar	May	5.0000	10.0000	DC	Yarn	Yarn
5	6.0000	Maribel Benton	7.0000	F	Single	2.0000	Inactive	2000-04-03T00:00:00	30.0000	<NA>	Bihar	June	6.0000	12.0000	DC	Towel	Towel
6	7.0000	Drake Orozco	7.0000	F	Single	7.0000	Left	2000-10-11T00:00:00	35.0000	Domestic Problem	Punjab	July	7.0000	14.0000	Intern	Sheeting	Sheeting
7	8.0000	Raquel Rodriguez	7.0000	F	Single	8.0000	Active	2000-01-13T00:00:00	45.0000	<NA>	Punjab	Aug	8.0000	16.0000	Intern	Towel	Towel
8	9.0000	Cory Nelson	8.0000	M	Single	15.0000	Active	2000-10-05T00:00:00	55.0000	<NA>	Punjab	Sept	9.0000	18.0000	Intern	Yarn	Yarn
9	10.0000	Lincoln Hampton	9.0000	F	Single	22.0000	Left	2000-10-06T00:00:00	50.0000	Domestic Problem	Goa	Oct	10.0000	20.0000	Regular	Towel	Towel

SCREENSHOTS OF DASHBOARD



SCREENSHOTS OF DASHBOARD



CHALLENGES

Well, this project's development process didn't present any significant obstacles. Throughout this project, everyone was encouraging. But some of the difficulties I encountered were -

- The process of first creating precise goals and objectives, which I was able to complete once I sat down with the team and wrote down all the requirements.
- The privacy policy of Trident, presented another difficulty for me because I was unable to use real data throughout the development stage and was instead asked to use dummy data.

CONCLUSION AND FUTURE PROSPECTS

The project's goal was to minimize the time and efforts required for ongoing HR practices data analysis. This project meets all goals set by the team and may be utilized for quick data analysis. It can be accessed from anywhere on the Trident network and has been deployed at **URL <http://172.21.13.61:8501/>**.

In this two-month internship, I got to learn a lot. I got hands-on experience with a lot of technologies. Other than this, I got a great opportunity to inculcate many other interpersonal skills as well. By working with different teams, I learned to multi-task, work in a team, exercise flexibility, solve problems, and much more. The work I carried out there gave me much-required experience with working methodologies, time management, management of individuals, and much more.

As the company is rapidly growing worldwide, an enormous amount of data is been generated, and it can take a lot of time and effort by employees to analyze data from various departments, so we can pool our efforts and create a **universal dashboard** that can be used by all departments, making data analysis smoother. Furthermore, it will reduce the team's effort and time spent on data analysis, which can be used for other tasks.