Larsen & Toubro Construction

Internship Report

Submitted by

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ACKNOWLEDGMENT

First and foremost, we wish to express our gratitude to **Larsen & Toubro construction** for Providing us an opportunity to explore simple engineering problems and implement solutions in our internship

I express My sincere thanks to our honorable **Mr. Hemanth Kumar Reddy,** HR, for providing us an opportunity for the internship program.

I wish to express My hearty thanks to Mr. **Jayadeep Reddy,** Our Incharge, for his constant motivation and continual encouragement regarding our internship program.

I am grateful to **Mr. Dhinesh Kumar,** Our Mentor, for his constant guidance, patience, and support and for his motivation which helped us in completion of this project.

ABSTRACT

As a highly motivated and detail-oriented recent graduate with a strong interest in data analytics and web designing, I aim to leverage my technical skills and creative abilities to contribute effectively to a dynamic team. I am seeking a position where I can apply my knowledge in data analysis, web development, and user experience design to drive innovative solutions and add value to projects. My goal is to continuously learn and grow within a collaborative environment, while contributing to the organization's success..

TABLE OF CONTENTS

I.INTRODUCTION:

INFORMATION ABOUT THE COMPANY

L&T Construction is a division of Larsen & Toubro a major Indian technology, engineering, construction, manufacturing, and financial services conglomerate, with global operations. L&T addresses critical needs in key sectors - Hydrocarbon, Infrastructure, Power, Process Industries and Defense - for customers in over 30 countries around the world. L&T is engaged in core high impact sectors of the economy and our integrated capabilities span the entire spectrum of 'design to deliver'. With over 8 decades of a strong, customer focused approach and a continuous quest for world-class quality, we have unmatched expertise across Technology, Engineering, Construction, Infrastructure Projects, and Manufacturing.

Larsen & Toubro was founded in 1938 in Bombay (now Mumbai) by two Danish engineers, Henning Holck-Larsen (1907 – 2003) and Soren Kristian Toubro (1906 – 1982) who landed on Indian shores representing FL Smidth & Co A/S, Copenhagen, Denmark. The respect, trust and confidence in each other was so great that initially the business was founded merely on an oral understanding; no written document was filed, and it was only in end-1940 that they finally inked their partnership.

Constructed to commemorate the 60th anniversary of L&T Construction, the uniquely shaped corporate museum – the Henning Holck-Larsen (HHL) Centre – is dedicated to the memory of one of L&T's founding fathers and Chairman Emeritus, the late Henning Holck-Larsen. Recently re-designed and re-appointed, the HHL Centre is perhaps the best example of the digital transformation witnessed across the organization.

In an entirely digital, touch-enabled environment, visitors from across the board can experience the organization's 8-decade-long history, its width of capabilities, the mega, iconic infrastructure projects executed, the smartness of its systems & processes, the people behind this success, the multiple awards won and the sterling role that L&T Construction plays as a responsible corporate citizen. The HHL Centre has been awarded the Public Relations Society of India (PRSI) Golden Jubilee Award by PRSI New Delhi for live interactive and innovative PR initiative.

INFORMATION ABOUT INTERNSHIP

As an intern with L&T Ltd. I was part of the **digital** team. For 15 days' time period from (14.07.2022 to 28.07.2022). I gained more knowledge about Digitalization, Data Analytics, Importance of Data and Information, Data storing, Data Handling and about KPIs and metrics.

Data:

- Data exists in raw format which helps to develop ideas and information.
- We cannot make a decision based on the data.
- It is low level knowledge.

Information:

- When Data is structured and contextual meaning, it is called as information.
- Information is the idea and inference.
- It depends on data.
- Information can be used for decision.
- It is the second level of knowledge.
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DIGITAL AND INFORMATION SYSTEMS

Information systems:

In technology terms, an information system is a set of components that collect, store, and process data, and deliver digital products and information. Information systems form the basis of many major companies.

Digital:

Digital describes electronic technology that generates, stores, and processes data. in terms of two states: positive and non-positive. Positive is expressed or represented by the number 1 and non-positive by the number 0. Thus, data transmitted or stored with digital technology is expressed as a string of 0's and 1's.

Digitalization involves Cloud technology, IOT platform, Analysis, Data and Information and monitoring.

We Research about some specific **IT** involved technology in different divisions in construction sector. I researched about Material management in construction sector and gained some basic Knowledge about it.

We go through some **Articles** about the utilization of **Information technology** in construction sector and about Modern technology used in construction sector. We gained some basic knowledge about few specific technologies such as: Building Information Modelling (BIM), Virtual Reality, Data Collection Apps, Drones, 3D Printing, Artificial Intelligence.

Benefits of digitalization in construction:

- Improved Communication and Regulatory Compliance
- Increased Productivity at All Stages
- Improved Budget Management
- Better Risk Management
- Shorter Project Completion Time

III. CONSTRUCTION SITE VISIT

On Construction site visit, I have seen many machineries and their usage lively and inferred the importance of the IT and IOT in the construction field and gained some knowledge about the involvement of IT and Internet of Things in construction field. Many Data collection apps are used for various purposes some of them are Materials planning and purchasing, Scheduling and transportation, Receiving and quality control, Storage and inventory management, On-site transport, Waste management.

We have inferred a lot in the construction site, and we have recognized some purpose of internet of things in constructions.

Some of our inference in the site:
- IOT are used for many of the purposes in the site, some of the IOT uses in the site are:
- It is used for monitoring the work of the machines,
- It is used for Analysis the work done in the field by the workers.
- And it is used to safety purpose also in the site.
- Everything in the field is monitored virtually by some application.
- These are some of our inferences in the Construction field.

I have researched more about the involvement of IT in Materials Management system in the construction sector and gained more knowledge about it.

Construction material management encompasses a wide range of activities throughout the project lifecycle, including:
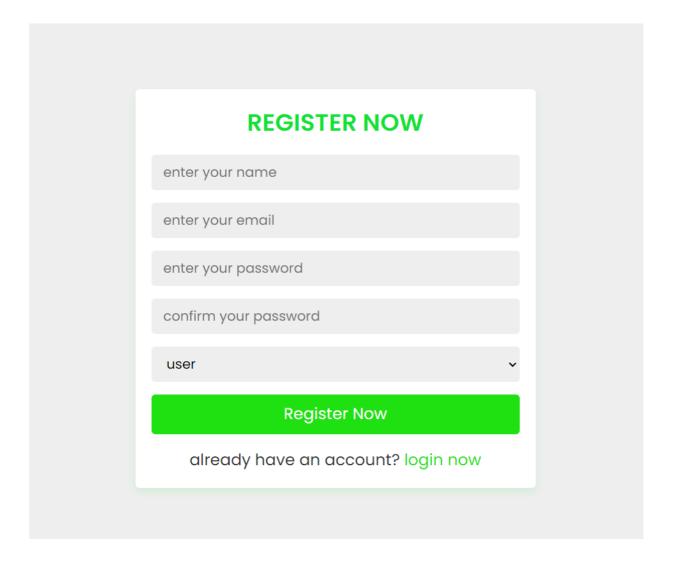
Materials planning and purchasing, Scheduling and transportation, Receiving and quality control, Storage and inventory management, On-site transport, Waste management.

A good material management system includes proper communication, scheduling, and tracking tools. With these, sites are prepared for materials, and they can be deposited and stored in the most ideal location. This level of management ensures workers aren't wasting time moving materials and equipment when they're needed.
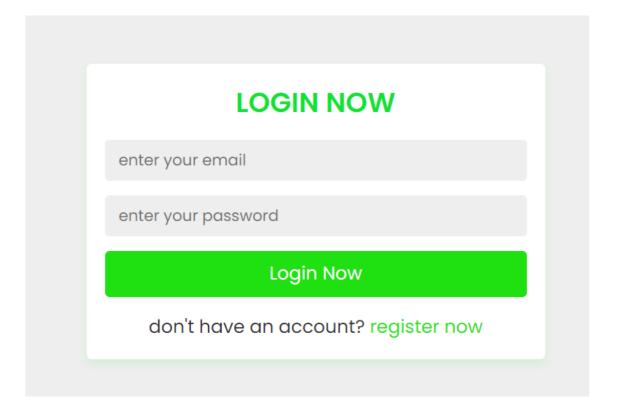
IV. WEBSITE

We done a sample website for registration individually, I used HTML, CSS, PHP and SQL languages for the development of the website. My registration form contains some basic information's. If we registered the form, the required details will be stored directly in database So, admin can easy view it. I have used HTML for Creating the webpages and CSS for Designing the webpages by linking HTML and CSS together. Sub Query Language (SQL) for creating database which is for storing the Users registration details and PHP for linking HTML pages and database. Finally, the registration details of the user in the website is stored in a separate database by which admin can easily access the data.
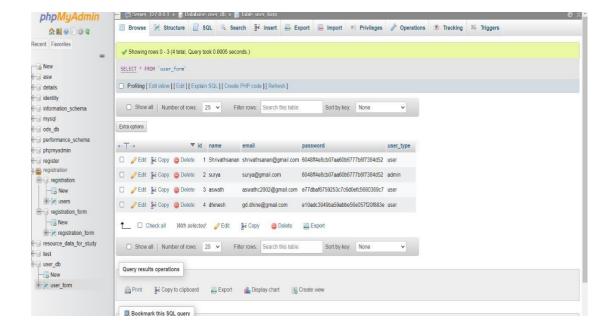
REGISTERATION PAGE

LOGIN NOW

enter your email

enter your password

Login Now

don't have an account? register now

AFTER LOGIN

hi, user

welcome Shrivathsanan

this is an user page

Login   Register   Logout

USER REGISTERATION DATABASE

V. KPI

KPI - **(Key Performance Indicators)**

PROBLEM STATEMENT

 TO FIND THE KPI AND METRICS FROM THE RESOURCE DATA AND GIVE A RELAVENT SQL QUERIES FOR THE KPI LISTED

A reference resource data file is shared. I have analyzed the given resource data deeply. As I have to find KPIs from the resource data. I have researched the KPI and metrics. After getting some knowledge about the KPI and metrics. I have sorted some KPIs from the resource file.
Before creating the database, I did some corrections in the resource file. I have changed the formats of the dates and cleared the blank space in the given.
resource data file then I have created a database with the help of the resource file and stored each data in the resource data with the name of **"resource_data_for_study"**. After creating the database, I have created relevant SQL queries for the KPIs I have sorted. And sorted results with the help of the queries. I have maintained a separate documents for the KPIs and the SQL queries with required descriptions and relevant data.

few KPIs I have sorted:
- Total number of employees
- count of employee working in office and site
- blood group of the employee
- working period
- grade
- Percentage of employee's marital status
- Percentage of employee's gender
- count of different appointment type
- nationality
- promotion statistics
- employee status
- statistics of hiring
- Average salary

I have researched about KPI and its purpose. I have got some knowledge about metric and KPI (Key Performance Indicators) of data analytics. And I have gone through the given resource data and further we undergo case study of the given resource data. And we found some KPI and metrics. And we have listed it. And by graphical representation we can classify KPI and sorted listed with the respective graphical representation. I have created a database. From the given data, I have listed KPI and SQL queries with respect to the KPI's and sorted listed with the relevant graphical representation.

THE TASKS I UNDERTOOK INCLUDED:

- Analyzing, storing, handling data

- Converting complex data into understandable formatting

- Finding understandable tables graphs and reports.

- Undertaking demographic research

- Importance of Digitalization

- Importance of Deep learning

LEARNINGS:

I have learned a lot of things about importance of data, data analysis and about storing and handling data. I have learned to Undertake demographic research. I learned concepts of the KPIs and Metrics I learned the importance and inferred the development digitalization in construction field.

VI. CONCLUSION:

From my internship at **LARSEN & TOUBRO CONSTRUCTION**, I was able to get a better understanding of how the construction industry works and how effective it is. Involvement of **Computer technology** in construction sector. I learned a lot of new things at this internship

Overall, I found my internship at **LARSEN & TOUBRO CONSTRUCTION** experience to be positive, and I'm sure I will be able to use the skills I learned in my career later.