

Internship Report

Mayuresh Chodankar

Roll No. 2266

Internship done at Gytworkz Technologies

An Internship Report for Course code and Course Title:
CSA-652 Industry Internship Credits: 16 Submitted in
partial fulfilment of Master's Degree

Master of Computer Applications

by

MAYURESH ANAND CHODANKAR

Seat Number: 2266

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PRN: 201804304

Under the Mentorship of

Mr. Gandhar Sanzagiry

Goa Business School

Master of Computer Applications



GOA UNIVERSITY

Date: June 2024

Examined by: Seal of the School/Dept

DECLARATION BY STUDENT

I declare that the data presented in this Internship report entitled, "Internship done at

Gytworkz Technologies" is based on the results of investigations I carried out in the

Master of Computer Applications at Gytworkz Technologies under the mentorship of Mr.

Gandhar Sanzagiry. The same has not been submitted elsewhere for the award of a degree

or diploma by me. Further, I understand that Goa University or its authorities/College will

not be responsible for the correctness of observations / experimental or other findings

given the internship report/work.

I hereby authorize the University/college authorities to upload this dissertation on the

dissertation repository or anywhere else as the UGC regulations demand and make it

available to any one as needed.

Mayuresh Chodankar

Seat no: 22P0320012

Date: 12 June 2024

Place: Goa University

COMPLETION CERTIFICATE

This is to certify that the internship report "Internship done at Gytworkz Technologies" is a bonafide work carried out by Mr. Mayuresh Chodankar, under my mentorship in partial fulfilment of the requirements for the award of the degree of Master of Computer Applications in the Discipline of Computer Science and Technology at the Goa Business School, Goa University.

Date:	Signature and Name of Mentor
Date.	Signature arrantame or memor

Signature of Dean of School School Stamp

Date:

Place: Goa University

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GYTWORKZ TECHNOLOGIES PVT LTD

4^tFloor,Raghuma Towers,Madhapur Hyderabad-500081,Telangana Email:info@gytworkz.com CIN No.U72900TG2019PTC134403



Letter of Offer

2nd January 2023

Mayuresh Anand Chodankar

392, Grand Coimma Waddo, Aldona, Bardez, North Goa Goa - 403508

GYTWorkz is engaged in the design, development and sales of software products and services.

Mayuresh Anand Chodankar is offering SDE-Consultant service as per the project requirement to GYTWorkz.

This letter defines the terms and conditions agreed between both the parties

TERMS & CONDITIONS

- 1) This offer is effective from 2nd January 2023
- 2) Recipient agrees to help GYTWorkz Technologies Private Limited. in project whenever required
- 3) Recipient agrees to work for minimum of 8 hours per day for project deliverables.
- 4) Recipient agrees that he/she will be available for the Management/Customer calls which are related to specific assigned work/related to project.
- 5) All the hours spent on the assigned work must be promptly reported and get it approved by the Reporting Manager on a weekly basis. (Bhasker Reddy Kottapally Email: bhasker@gytworkz.com)
- 6) Recipient agrees to take the responsibility of the quality deliverables of the assigned projects and meet the customer expectations.
- 7) GYTWorkz agrees to pay **INR 22222** per month, for the approved hours spent on the project.
- 8) Payment terms & conditions: Monthly payments will be processed as per the Approved Hours based on the invoice submitted. 10% of TDS is deducted.

For GYTWorkz Technologies Private Limited

Rachana Kothapally

HR Business Partner

Human Resource Department

I have read and understood the terms and conditions, and hereby signify my acceptance of the same.

Signature:

Name: M ayuresh Chodankar

Title: SDE-Consultant Date: 20/10/2023



May 31, 2024

CERTIFICATE

This is to certify that Mr. Mayuresh Anand Chodankar, a student of Goa Business School enrolled in the MCA program, successfully completed an internship focusing on "Full-Stack Development" at GYTWorkz Technologies Pvt. Ltd from January 2, 2024, to July 1, 2024.

During his internship, Mayuresh demonstrated a strong curiosity to learn and a high level of dedication. We wish him a successful career ahead!

Yours sincerely

GYTWorkz Technologies Pvt. Ltd

ACKNOLEDGEMENT

I want to express my deepest gratitude to team members working at Gytworkz alongside me for their invaluable support, guidance, and encouragement throughout my internship at Gytworkz Technologies.

I am very grateful to Mr. Bhaskar Reddy Kottapally who gave me the opportunity to showcase my skills at Gytworkz Technologies. His vision and leadership create a productive and effective work environment that encourages growth and learning. Also, thanking Gandhar Sanzagiry for his great advice and guidance. His wisdom and insight on overall development

was instrumental in improving my skills and knowledge during my internship.

I would like to express my appreciation to the HR at Gytworkz Technologies for their assistance throughout the internship. Their support in administrative matters and ensuring a smooth internship experience is highly valued.

EXECUTIVE SUMMARY

This document of my experience at GYTWorkz Technologies Pvt. Ltd and the skills gained during my internship. I worked as a full-stack developer and invested much time in technologies such as Angular Node.js and Strapi. The primary driving force was learning as many new technologies as possible. During the internship, I implemented UI/UX and integrated APIs for Angular and Next.js as well as the creation of a new In-house Component Library. One of my huge responsibilities was to create and maintain the full backend using Strapi also the deployment to the cloud and production were fully handled by me. Working in GYTWorkz Technologies provided me with a platform of honing my technical knowledge and recognizing the practical working approaches about software development. Thus, the environment we were experiencing while working in the company and the initial guidance by Mr. Bhaskar Reddy Kottapally and Mr. Gandhar Sanzagiry were the two factors that shaped me as a professional. This internship not only allowed me to apply the theories I learned in university but also equipped myself for dealing with the difficulties that might embrace in the field of tech in the future while providing me with the core value of company.

"GYTWorkz works to "Get You There" – to the zenith of your capabilities. "

We are your partners in your journey to growth and success.

1. ORGANIZATION

1.1 BIRDS EYE VIEW

A dynamic company in IT services and solutions, GYTWorkz Technologies has core values developed for and by a versatile set of engineers, designers, and thinkers in problem-solving. The cardinal essence and mission of the company were put into action and always pivoted on the delivery of class-A solutions and services through value rather than headcount. GYTWorkz puts more emphasis on comprehensive training and understanding the problems of their engineers; thereby quality becomes an integral part of their work. Build robust and cohesive teams that have fun at work, develop professionally, and want to contribute to creating more customer success. GYTWorkz collaborates with other businesses that demand growth while in pursuit of excellence.

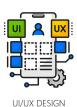
GYTWorkz Technologies brings an authentic startup culture meshed with large-firm capabilities. The whole structure and working of the company are meant for innovation and agility, making them accept the change in technology and market trends quickly. With their heavy investment in R&D on emerging technologies such as AI and blockchain, GYT Workz will offer cutting-edge solutions. Besides, it adopts the best social and eco-friendly practices and community initiatives about technological sustainability. Hence, they have an inclusive culture to imbibe diversity and cross-functional interactions, making them the best employer in the tech industry.

1.2 PRODUCTS / SERVICES



Product Development

Currently, GYTWorkz focuses on developing custom-built superior quality products for niche markets to meet certain requirements of clients. This way they focus on the provision of workable and creative solutions, rooted in the genuine comprehension of the problems.



UI/UX Design

Our UI/UX design services are all encompassing; we design effective and visually appealing interfaces at GYTWorkz. Their conceptualization involves the improvement of the general usability of products so that interacting with them becomes a pleasant process.



Data Engineering

They provide reliable data engineering services through which they assist firms in processing and utilizing data. Their services help to make sure that data is used in a proper way and provide insights for further decision-making.

Machine Learning



At GYTWorkz, we employ the best machine-learning techniques to facilitate the processing of tasks and enhance the quality of the outcomes. These solutions shape innovation and result in efficiency within a wide range of sectors.

Chatbot Technology

Chatbot technology expertise of GYTWorkz can help to improve organizational customer interaction by automating the process. They are a competent source of customer support solutions that are efficient and functional.

Amazon Web Services Cloud Native and Containers



Focusing on Cloud Native solutions on AWS and containerization, GYTWorkz provides a reliable and cost-intuitive approach to cloud infrastructure. It assists businesses in reaping the maximum benefits of cloud technologies through their experience.

DevOps & Serverless Consulting

As a DevOps and serverless consultancy, GYTWorkz specializes in implementing efficient processes and reducing time to deployment. It is useful to note that their solutions enhance operational efficiency as well as time to market.



SEO Services



In the aspect of SEO services, GYTWorkz ensures that it offers its clients an opportunity to have their web based businesses easily located via search engines. Their strategy leads to increased visibility and circulation of people and potential customers to various businesses.

Team Augmentation



GYTWorkz offers talented staff to support local teams, which is crucial for companies that need to grow without adding a huge number of new employees. It has the added advantage of ensuring that companies are able to complete customer projects in the right quality and within the required time frame.

1.3 SECTIONS WITHIN ORGANIZATION

1. Management Team

- Admin
- Accounts
- HR Team.

2. Project Management and Coordination Team

- QA and Testing Team
- DevOps Team
- Digital Marketing

3. Development Team

- Front-end Developer
- Back-end Developer
- UI/UX and Design Team
- ML engineer.

2. TASKS HANDLED

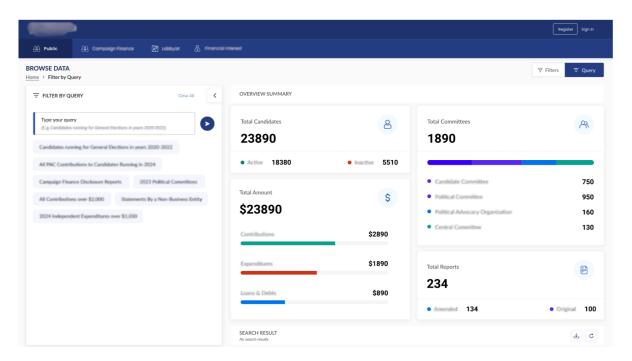
Some of the tasks handled after learning angular, Figma and storybook for one month were:

2.1 Implementation of UI/UX and integration of APIs.

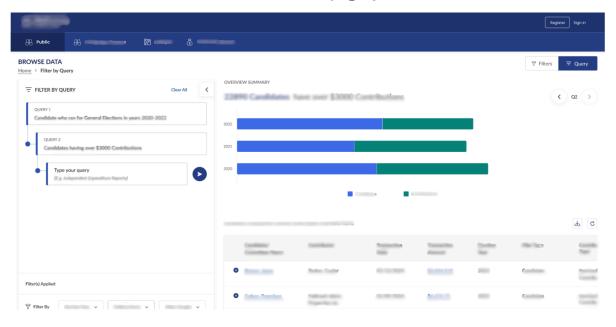
- Creating UI based on designs given by UI/UX designer using angular framework.
- Integration of APIs given by the Backend-Developer.
- Integration of Chart.js Library in these web pages.
- Complex UI integration using css.

Following are some of the implemented pages.

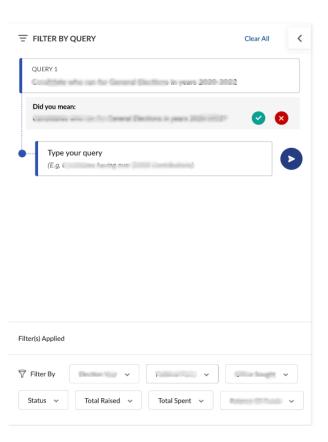
Dashboard UI with Widgets and Chat screen



Dashboard UI with chart.js graphs and table



Filtering of table by Query and Tags



2.2 Creation of Component Library in Angular/React.

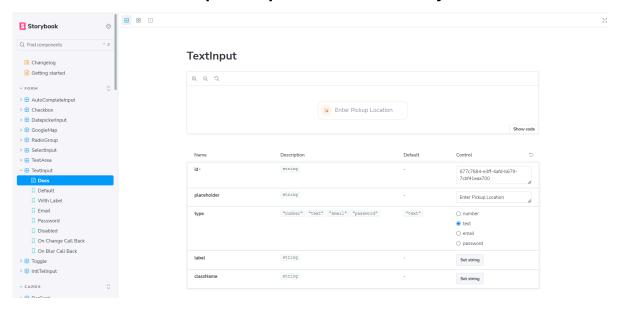
- Designing component in Figma.
- Creating a design document.
- Handle all the cases from user side.
- Creating components in storybook.
- Testing created components.

Following are some figma design:

Below Shown examples are just for Reference Purpose

A Text Input Component created in Figma

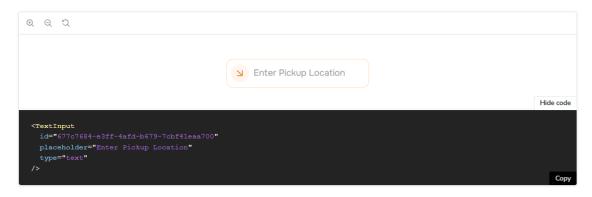
Input Input field without error message Input field on focus with placeholder Label example enter your name Input field with a error Input field with Required input abc@gmailcom Enter* some error details Input field with a hint Disabled Input field don't disclose personal information Large Medium Label Label Small Label



A Text Input Component created in StoryBook

Text Input Component and how to use it

TextInput



2.3 Project Refactoring.

- Step by Step refactoring of Backend and Frontend.
- Starting with Backend, we refactored all the Models, DTO, Controllers, Routes.
- Change of Frontend Technology from Vue.js to React.js/Angular.js.
- Change of Backend Technology from Koa and javascript to Node.js and typescript.

During the refactoring of the backend for our in-house project at Gytworkz, a lot of problems with the old codebase were identified.

Some of the problems we encountered with the old code include:

- Lack of consistency: In coding standards. The old code base was without consistent coding standards. It has an inconsistent style and structure of code, making it a little tricky to read and maintain. This also created confusion and made the code less intuitive.
- **Bad Design:** The back end's design/structure was monolithic, which made incrementing it with updates or enhancements troublesome. Where all the functions were executing multiple functions within.
- Lack of Type Safety in JavaScript Usage: The old backend was written in JavaScript. There is no strict type checking in JavaScript; most of the time, runtime errors cause confusion, which adds complexity during debugging. No Type Definitions There was no explicit type definition, which led to obscure data structures and also made the problem of bugs more likely.
- Outdated Technology: Stack Koa Framework Koa is an excellent, robust framework, but its lack of some advanced features compared to other alternatives usually makes us need custom implementations quite often. Vue for Frontend: While Vue is great to work with, we needed something more scalable and with more community support, like React or Angular.
- Inefficient error handling and error management: There was inconsistency in handling errors, which resulted in unhandled exceptions and poor error reporting. Lack of logging: There was insufficient logging, so it wasn't easy to trace and diagnose runtime problems.

Conclusion: The complete refactoring would help uplift the quality of the project. Modernizing with new and more scalable frontend frameworks like React.js or Angular.js will improve performance and development efficiency. Also changing from javascript to typescript will help the problem of type safety. This whole refactoring has been essential in setting a good foundation for future growth and scalability of the in-house project.

Some of the tasks handled after learning Strapi-Strapi is the leading opensource Headless CMS(Content Management System):

2.4 Handling Full Backend Process using Strapi.

- Creation of Data models for website pages.
- Data modelling using the concept of component modelling.
- Integration of multiple Components for making one web page(Total pages:20+).
- Deployment to Strapi cloud.
- Inserting data in respective components.
- Writing APIs for getting the data.

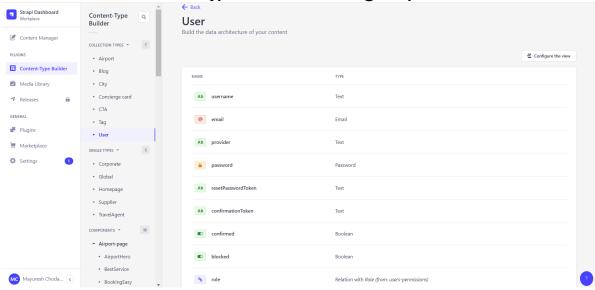
Following are some of the implemented pages.

This is the Strapi cloud Dashboard Strapi Community Docs of Strapi Luxyride-strapi OVERVIEW DEPLOYS REAVINE LOGS SETTINGS OVErview REPOSITION BRANCH OVERVIEW DATABASE BITTIES S1 /100,000 T6.1 MB DEPLOYS ASSETS BANGWIDTH S93.7 MB ASSETS BANGWIDTH S93.7 MB Pushed 1 hr. ago Deployed in 4 min and 1ts Deployed in 4 min and 1ts

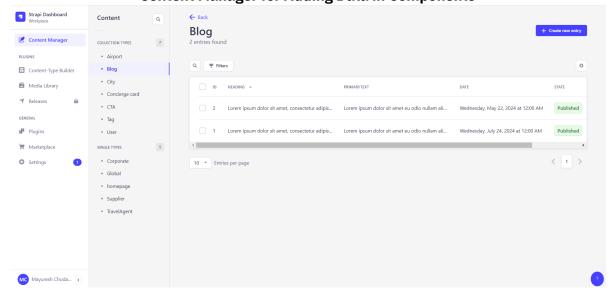
Instance Running on Strapi cloud server Strapi Dashboard Welcome 🤏 Content Manager We hope you are making progress on your project! Feel free to read the latest news about Strapi. We are giving our best to improve the product based on your feedback. ☐ Content-Type Builder See more on the blog Releases Discuss with team members, contributors and developers on different channels. Plugins See our roadmap Marketplace Settings Github Reddit Forum Learn by testing real projects developed the community. We are hiring! Get help MC Mayuresh Choda... < Follow step-by-step instructions to use and customize Strapi.

More examples:

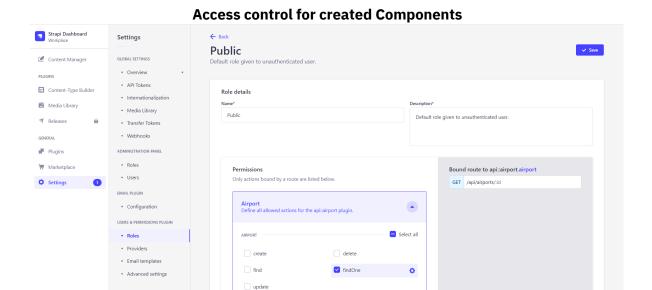


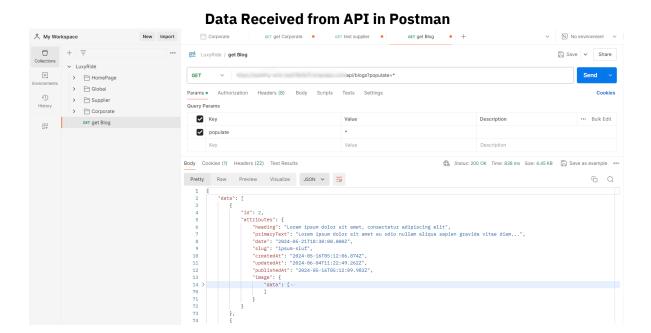


Content Manager for Adding Data in Components



More examples:





3. LEARNINGS

3.1 Tools and Technology Learned:



Angular Framework: Angular is a TypeScript-based free and open-source single-page web application framework run on Node.js.



TypeScript: TypeScript is a strongly typed programming language that builds on JavaScript, giving you better tooling at any scale.



Node.js: Node.js is a cross-platform, open-source JavaScript runtime environment.Node.js runs on the V8 JavaScript engine, and executes JavaScript code outside a web browser. Node.js lets developers use JavaScript to write command line tools and for server-side scripting.



Storybook: Storybook is a frontend workshop for building UI components and pages in isolation. Thousands of teams use it for UI development, testing, and documentation. It's open source and free.



Postman: Postman is a software application that allows developers to test, document, and share APIs. Developers widely use it to simplify the process of testing APIs by providing a user-friendly interface for making requests, viewing responses, and debugging issues.



MongoDB: MongoDB is a source-available, cross-platform, document-oriented database program. Classified as a NoSQL database product, MongoDB utilizes JSON-like documents with optional schemas.



Figma: Figma design is for people to create, share, and test designs for websites, mobile apps, and other digital products and experiences.



BitBucket: Bitbucket Cloud is a Git based code hosting and collaboration tool, built for teams. Bitbucket's best-in-class Jira and Trello integrations are designed to bring the entire software team together to execute on a project.



Jira: Jira is a proprietary product developed by Atlassian that allows bug tracking, issue tracking and agile project management. Jira is used by a large number of clients and users globally for project, time, requirements, task, bug, change, code, test, release, sprint management.



Next.js: Next.js is a React framework that gives you building blocks to create web applications. By framework, we mean Next.js handles the tooling and configuration needed for React, and provides additional structure, features, and optimizations for your application.



Strapi: Strapi is a headless CMS used to develop websites, mobile applications, eCommerce sites, and APIs. It allows you to create an API without knowing anything about the backend or databases. The system builds APIs based on content models automatically, making it easy to view data in the CMS with Strapi examples.



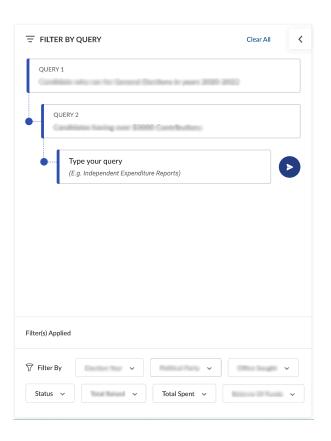
Swagger: Simplify your API development with our opensource and professional tools, built to help you and your team efficiently design and document APIs at scale.

3.2 Learning Curve Throughout:

Starting at Gytworkz Technologies, We were given task of learning TypeScript as most of the product at the company were using Typescript for type safety. So for a 1 week, I started learning Type safety along with advanced Javascript. Since Typescript is just an advanced version of Javascript.

After learning TypeScript I started learning Angular as most projects at the time were Angular and Node.js using Typescript. So for three weeks, I learned Angular using our access to Udemy courses which was provided by the company at the time of joining. At fourth week I was put on a project which was nearing its deadline. Where the task was to design some web page components which included search box, graphs, tables, paginations, tabs, chat screen, etc.

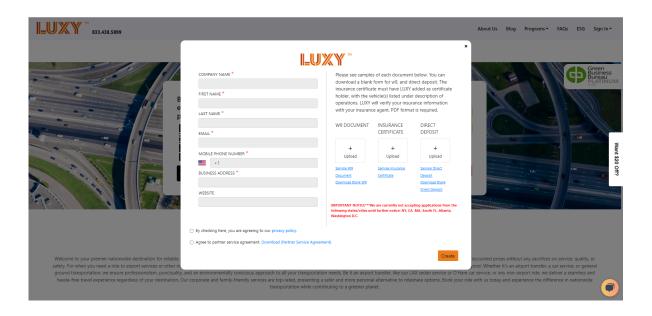
So i worked on developing chat screen and chats/graphs using chart.js in angular framework. Also integration of data which was coming from APIs in frontend components and chat screens.



Starting After these I also learned Strapi on weekends, for a upcoming project. Until that we were also designing our components library using angular in Figma and documentation in MS word for approval from mentor. After which I started developing these component in storybook along with other co-workers.

Next, I was put on a project that needed to be refactored as there were some bugs and many dependency errors Since it was created and maintained by some junior dev who wrote all the Business logic and code in one place which made the code unmaintainable, and hard for adding features and improvements. So I along with the other two members under the mentorship of Gandhar Sanzagiry stared refactoring the code in Typescript and Node.js.

We started with the backend first creating a scalable project directory which is easy to maintain and creates a separation between Database, code and Business logic. Next, we implemented the SOLID principle and created Models, Routes, Controllers, and Dao(data access objects). It was halted in the midst as the big project came for which I was learning Strapi. So the project which I learned started and i had to collaborate with our client from the US every day at 7 pm IST. So after getting UI from Aarts team which were also collaborating with us for UI deliveries. I started first by Data modelling and structuring so that there is no redundant space in the data base as Strapi cloud uses Postgress under the hood. Since I was the only one handling the backend I was responsible for all the Data structure and API creation and deployment on cloud. So that it can be consumed by the frontend which was being built using Next.js. As the full project was divided in multiple phases at end of the phase one while i am writing this report i also created some form that were to be created in frontend using Next.js.



4. CHALLENGES

Challenges Faced During Internship:

There were Challenges that tested my problem-solving skills, adaptability, and perseverance. Here are some of the key challenges I faced and how I addressed them:

1. Adapting To The Company's Technology Stack:

Since many projects at Gytworkz were in Angular and typescript it some time created difficulty in understanding the flow of code and also created type errors

Solution: Due to the constraints of time, I dedicated my time outside office work and also from time to time guidance of mentors and seniors helped with these technologies to pull and learn faster.

2. Difficulty In Understanding Legacy Code:

The legacy code was complex and unfortunately, was not documented at all, so it was a great challenge to comprehend the app's functionality and the flow.

Solution: I deduced lots of time into analyzing the code structure of the code doing research and understanding the flow and also used to ask my mentor for an explanation of the code to clear my confusion about what it was intended to do. Juggling Multiple Responsibilities

3. Orchestrating Multiple Tasks

On one hand, creating Data models for the UI data and creation of APIs. As well as on request of the client to teach him Strapi i started taking everyday sessions at 7:30 PM IST

Solution: I created and maintained my projects on the Jira application with to-do list of various things required. This assisted in being able to handle the work effectively and to zoom into a focus by extending larger tasks to a size that is more achievable. Also dedication to office work for clients.

4. Working With Different Teams And Communications:

Alternatively, by working with the cross-geographical team for the first time, the process sometimes experiences some communication issues and slow feedback timing.

Solution: I started using Slack and Microsoft Teams for collaboration. I also attempted to greet them, introduce myself, and try to mimic the seniors along side the stand-up meetings.

5. Challenges While Refactoring:

Backend refactoring needs to be done without impacting the established features. Refactoring from JavaScript to TypeScript also introduced issues related to types we had to handle wisely.

Solution: We had to first understand the working of the code and its use before refactoring it using typescript. But we made use of the Vs code Debug terminal, Chrome developer tools for early catching of bugs.

Photos while Working







GYT - T WORKZ

THANK YOU