FSM CONFIGURATION MODULE

AND TOOL FOR INVOICE MANAGEMENT

An Internship Report for

CSA 652 Industry Internship/Software Project

16 Credits

Submitted in partial fulfilment of Masters Degree

Master of Computer Application (MCA)

by

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Under the Mentorship of

MR. KEERTHI BHATT

Goa Business School
Computer Science Discipline

GOA UNIVERSITY

DATE: MAY 2024

Examined By:

Seal of the School/Dept

DECLARATION BY STUDENT

I hereby declare that the data presented in this Internship Report entitled, "FSM CONFIGURATION MODULE AND TOOL FOR INVOICE MANAGEMENT" is based on the results of the investigation carried out by me in the Masters of computer Application(MCA) at the Goa Business School, Goa University , under the mentorship of Mr. Keerthi Bhatt and the same has not been submitted elsewhere for the award of degree or diploma by me. Further I understand that Goa University or its authorities/Goa University will be not be responsible for the correctness of the observations or other findings given in the internship report.

I hereby authorize the Goa University 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.

Gautami Girish Samant

Seat No: 2254

Date:

Place: Goa University

COMPLETION CERTIFICATE

This is to certify that the internship report "FSM CONFIGURATION MODULE AND TOOL FOR INVOICE MANAGEMENT" is a bonafied work carried out by Ms. Gautami Girish Samant under my mentorship in partial fulfilment of the requirements for the award of the degree of Masters in Computers Application in the Discipline of Computer Science at the Goa Business School, Goa University.

Mr. Keerthi Bhatt

Date:

Signature of Dean of Goa Business School
School/Department Stamp

Date:

Place: Goa University

CONTENT

OFFER LETTER

neighborly

September 21, 2023

Ms.Gautami Girish Samant
H No.329 Amshewada Cuncoliem Ponda Cuncoliem Mardol Ponda North Goa - 403404.
samantgautami07@gmail.com
9168218747

Dear Ms. Gautami Girish Samant,

Neighborly Global Capability Center LLP is pleased to have you on board as an Intern. The duration of this internship is **6 months** starting from January 08, 2024 to July 05, 2024.

You are eligible for a monthly stipend of **INR 30,000** subject to withholdings/deduction of tax at source under prevailing regulations.

Neighborly Global Capability Center LLP subjects you to be bound by all employment rules, regulations, policies, code of ethics issued by the Organization from time to time. Furthermore, upon the successful completion of your internship and in alignment with meeting the organization's expectations, an offer letter for a full-time position will be extended to you.

Congratulations on your internship!

Best wishes,

Shekhar Manjargi
VP Engineering, India Site Lead

Acknowledgement:
I have read and understood the provisions of this letter, and I accept the internship opportunity.

Intern Signature: _____

Date: 25/09/2023

INTERNSHIP COMPLETION CERTIFICATE

neighborly

INTERNSHIP CERTIFICATE

This letter is to certify that **Ms. Gautami Girish Samant** , student at **Goa Business School,** undergoing **Master of Computer Application** has successfully completed internship between **January 08, 2024, and July 05, 2024**. at **Neighborly Global Capability Center LLP**. She actively participated in several activities during the period of internship and learned skills such as React, C#, various automated testing frameworks, databases, and the Agile/Scrum processes and practices.

Thank you.

Sincerely,

Shekhar Manjargi
VP Engineering, India Site Lead
Date: June 05, 2024
Bangalore

NEIGHBORLY GLOBAL CAPABILITY CENTER LLP
(Entity registered with Limited Liability)
Registered Office: GRA-108, WeWork Roshani Arcade, Marathahalli Main Road, Lakshminarayana pura, EPIP Zone, Chinnappan Halli Marathahalli Colony, Bangalore, Bangalore North, Karnataka, India, 560037
LLPIN: ABZ-4259 | Email: neighborlyGCC@nbly.com ,Phone no: 080-37012626

ACKNOWLEDGEMENT

I am emensely grateful towards Neighborly for providing me with the internship opportunity for the duration of 6 months. I would like to thank Shekhar Manjargi for giving me the opportunity and guiding me throughout my internship with his experience.

I would like to express my gratitude towards Mr. Pankaj Jain. Your expertise, patience, and willingness to share knowledge have greatly enhanced my learning and professional development.

I extend my sincere thanks to Mr. Manoj Panicker and Mr. Keerthi Bhat for your continous support and providing me with opportunity to work on such big project. Your guidance and constant help made my journey fruitful.

A special thanks goes to Miss Bridget Udwadia, whose mentorship and encouragement have been a constant source of motivation. Your constant support and guidance in all possible ways have significantly contributed to my learning and growth. Your hands-on approach and problem-solving skills have been truly inspiring and invaluable throughout this internship.

Finally, I would like to acknowledge everyone who has supported me directly or indirectly during this internship. Your contributions have been invaluable and are deeply appreciated.

EXECUTIVE SUMMARY

Neighborly® is the world's largest home services company, valued at $4.1 billion, with over 30 brands and 5500 franchises serving more than 12 million customers across six countries. Neighborly focuses on repairing, maintaining, and enhancing homes and businesses through a comprehensive digital platform and mobile app. In July 2023, Neighborly established the Global Capabilities Center (GCC) in Bangalore, India, to support its technology transformation and tap into India's digital talent. The GCC advances Neighborly's core business by developing enterprise-grade E-Commerce and Data Analytics solutions.

During my internship at Neighborly, I worked primarily on developing an Invoice Audit System to automate the verification process of vendor invoices. This system replaced the manual process of cross-referencing vendor invoices with internal data, thus enhancing accuracy and reducing time and effort for Scrum masters. I was responsible for developing a module to manage team member details, including functionalities to add, delete, and update records. Additionally, I conducted manual testing to ensure the reliability of the module before deployment.

This internship provided me with substantial practical experience in software development and project management. I enhanced my technical skills, particularly in handling data types and optimizing storage. The internship also improved my problem-solving abilities, as I overcame challenges related to managing date data types and ensuring system accuracy through rigorous testing. Moreover, I learned the importance of reusability in software development, which can significantly streamline integration and future development efforts.

One of the main challenges was balancing theoretical knowledge with practical application. Developing a robust Invoice Audit System required not only technical skills but also an understanding of the business processes and requirements. Additionally, managing data accuracy and consistency across

different platforms posed significant hurdles, which I addressed through meticulous data entry and validation processes. These challenges helped me grow professionally, preparing me for future projects that require a blend of technical expertise and practical application.

CHAPTER 1: COMPANY

1.1 BIRD-EYE-VIEW

Neighborly® is the world's largest home services company, valued at $4.1 billion, with over 30+ brands and 5,500 franchises serving more than 12 million customers across six countries. The company focuses on repairing, maintaining, and enhancing homes and businesses. Through Neighborly.com and the Neighborly mobile app, consumers connect with local service providers that meet rigorous franchisor standards across 18 service categories.

On July 24, 2023, Neighborly established the Global Capabilities Center (GCC) in Bangalore, India, to support the company's technology transformation. The GCC will act as a key hub to tap into India's digital talent, propelling future expansion and functioning as an integral extension of the U.S. team. The GCC aims to advance Neighborly's core business by developing cutting-edge enterprise-grade E-Commerce and Data Analytics solutions, accelerating the company's digital transformation.

Guided by a RICH code of values—Respect, Integrity, Customer Focus, and Enjoying the Process—the GCC will provide excellent opportunities for talent in areas such as product management, product engineering, data analytics, data science, cloud computing, IT operations, and security. Neighborly partnered with ANSR, a U.S.-headquartered firm, to set up the GCC in Bangalore.

Neighborly's Global Capabilities Center (GCC) in Bangalore is structured into three main verticals. The Digital vertical focuses on creating a unified platform for all Neighborly brands to display their services, enhancing customer experience and accessibility. The Brand Integration team at Neighborly is responsible for orchestrating the critical layer of data transformation required to integrate and pass data across platforms. This integration ensures that disparate systems used by various brands can seamlessly communicate and share information, creating a cohesive and unified operational framework. By managing the intricate processes involved in data transformation, the Brand

Integration team enables smooth interoperability between different platforms. This harmonization is essential for leveraging cross-brand synergies, optimizing marketing efforts, and enhancing customer insights, ultimately contributing to a streamlined and efficient Neighborly ecosystem. Lastly, the Onverity vertical is dedicated to developing a unified Field Service Management (FSM) system for all brands acquired by Neighborly, streamlining operations and improving efficiency.

1.2 PRODUCTS

1.2.1. Onverity

Onverity stands as Neighborly's cornerstone Field Service Management (FSM) platform, meticulously crafted to orchestrate the intricate management of concepts, brands, services, and service professionals within the Neighborly network. Guided by its namesake principle of "Always on with true principle," Onverity serves as the backbone for ensuring seamless operations in the repair, maintenance, and enhancement of properties. Its comprehensive capabilities are tailored to cater to the diverse array of service-based franchise businesses that comprise the Neighborly ecosystem, offering a unified solution to streamline operations and elevate service standards.

The genesis of Onverity is rooted in the recognition that each Neighborly brand currently operates using its distinct FSM/POS system, resulting in a fragmented landscape. This realization underscores the critical need for Neighborly to consolidate all its brands onto a single, cohesive FSM platform. By centralizing operations through Onverity, Neighborly aims to eliminate silos and establish a unified experience across all brands. This strategic alignment is not merely about operational efficiency; it represents a transformative step towards enhancing customer satisfaction and fostering stronger brand cohesion across the Neighborly network.

As Neighborly embraces the vision of a unified FSM platform, the implementation of Onverity heralds a new era of efficiency and collaboration. By harmonizing processes and data across brands, Onverity empowers Neighborly to unlock synergies, drive cross-selling opportunities, and

optimize resource allocation. Moreover, the consolidation onto a singular platform enables Neighborly to leverage insights and analytics more effectively, facilitating data-driven decision-making and positioning the company for sustained growth and innovation in the dynamic home services market.

1.2.2. Field App

The Field App is an essential tool used by service professionals on-site within the Neighborly network. This app is designed to facilitate a wide range of tasks critical to field operations. Service professionals use the Field App to create work orders, manage ongoing services, and track job progress in real-time. It provides a user-friendly interface that allows technicians to access customer information, update service details, and capture important data directly from the job site. By streamlining these processes, the Field App enhances efficiency, reduces paperwork, and ensures that service professionals can deliver high-quality service consistently. This tool is integral to maintaining the seamless operations and high standards expected across all Neighborly brands.

1.3 SECTIONS WITH ORGANISATION

1.3.1 Four Verticals

1.3.1.a. Digital

Digital serves as a B2C portal primarily focused on lead generation, acting as a unified platform for all brands onboarded. The digital website, neighborly.com, is managed by the dedicated digital team. The platform has two versions: OPUS 1.0 and OPUS 2.0, with OPUS 2.0 being the latest iteration intended for onboarding new brands, while brands currently on OPUS 1.0 will soon migrate to OPUS 2.0. In addition to the digital website, the digital team manages two other key products: the franchise portal, used by franchisees, and the customer portal.

The digital team is organized into five specialized groups. Four of these teams focus on different aspects of the digital website: Chargers handle OPUS 1.0 and the customer portal; Striker

is dedicated to OPUS 2.0; Quarterback is responsible for website maintenance; and Explorers manage the franchise portal. The fifth team, Thunderbolt, is dedicated to managing the mobile app.

Neighborly's digital strategy aims to envision, plan, and implement an enterprise-scale solution to migrate all brand websites onto a unified platform. This initiative involves building a comprehensive digital infrastructure that caters to Neighborly's web and mobile needs, providing users with a consistent and personalized experience. The implementation of a unified Field Service Management (FSM) platform within the digital realm will yield numerous benefits for Neighborly and its franchisees. It will standardize user experiences across all brands, simplifying data acquisition and utilization. This cohesive approach will facilitate cross-selling and marketing efforts, bolstering customer engagement and satisfaction. Ultimately, the goal is to develop an integrated digital ecosystem that caters to the operational requirements of all franchises, fostering growth and enhancing the Neighborly network's overall digital presence.

1.3.1.b. Integration

The Brand Integration team plays a crucial role in handling the data of every brand associated with Neighborly. Their responsibilities span acquisition, integration, and delivery, encompassing the entire lifecycle of a brand's data within Neighborly's infrastructure. Amey Poyekar, the TPM of BIT, along with Senior Manager Rohit Kothawade, lead this dynamic team.

The Brand Integration team uses FranConnect for contract management and handles RAN (Refer a Neighbor) for adding new brands, as well as CAN (Call A Neighbor) for similar integrations. They are instrumental in obtaining current POS data for brands on ONverity, ensuring seamless data integration with Neighborly's data warehouse. This team also manages data mapping, which is essential for maintaining data accuracy and consistency across platforms.

To date, the Brand Integration team has successfully migrated four brands and is actively working on innovative approaches for Onverity migrations and other exciting projects. Their efforts are vital in maintaining the integrity and functionality of Neighborly's data ecosystem, underscoring the importance of robust data management in supporting the company's operations and growth.

1.3.1.c. Onverity

Onverity is Neighborly's field service management (FSM) system, offering a feature-rich and highly configurable solution tailored for a diverse range of service-based franchise businesses. It primarily focuses on the repair, maintenance, and enhancement of properties. Neighborly, as an organization, acquires multiple brands, each with its own POS and FSM systems. To streamline operations, it is essential to onboard all brands onto a single FSM platform, which Onverity facilitates. Currently, three brands have been successfully integrated into Onverity, which interacts with most of Neighborly's applications.

Manoj Panickar leads the Onverity team, which is structured into various specialized scrum teams. Starfleet manages work orders, Galaxy operates at the enterprise level, Artemis handles invoice-related functions, and Supernova oversees the Field App used by service professionals. Each of these teams comprises both frontend and backend developers, making Onverity a robust FSM capable of onboarding future brands. This structured approach ensures that Onverity remains a powerful and scalable solution to meet the evolving needs of Neighborly's expanding brand portfolio.

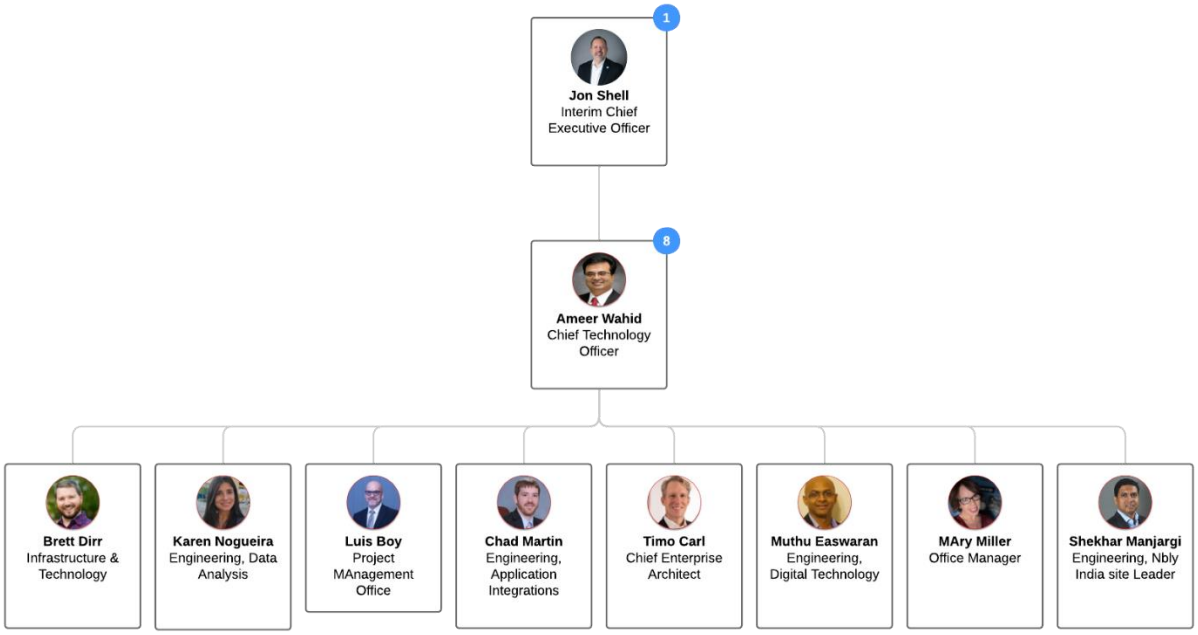
1.3.1.d. Data Analytics

The Data Analytics section of Neighborly plays a pivotal role in driving business growth by meticulously analyzing data to uncover valuable insights and identify potential leads and work

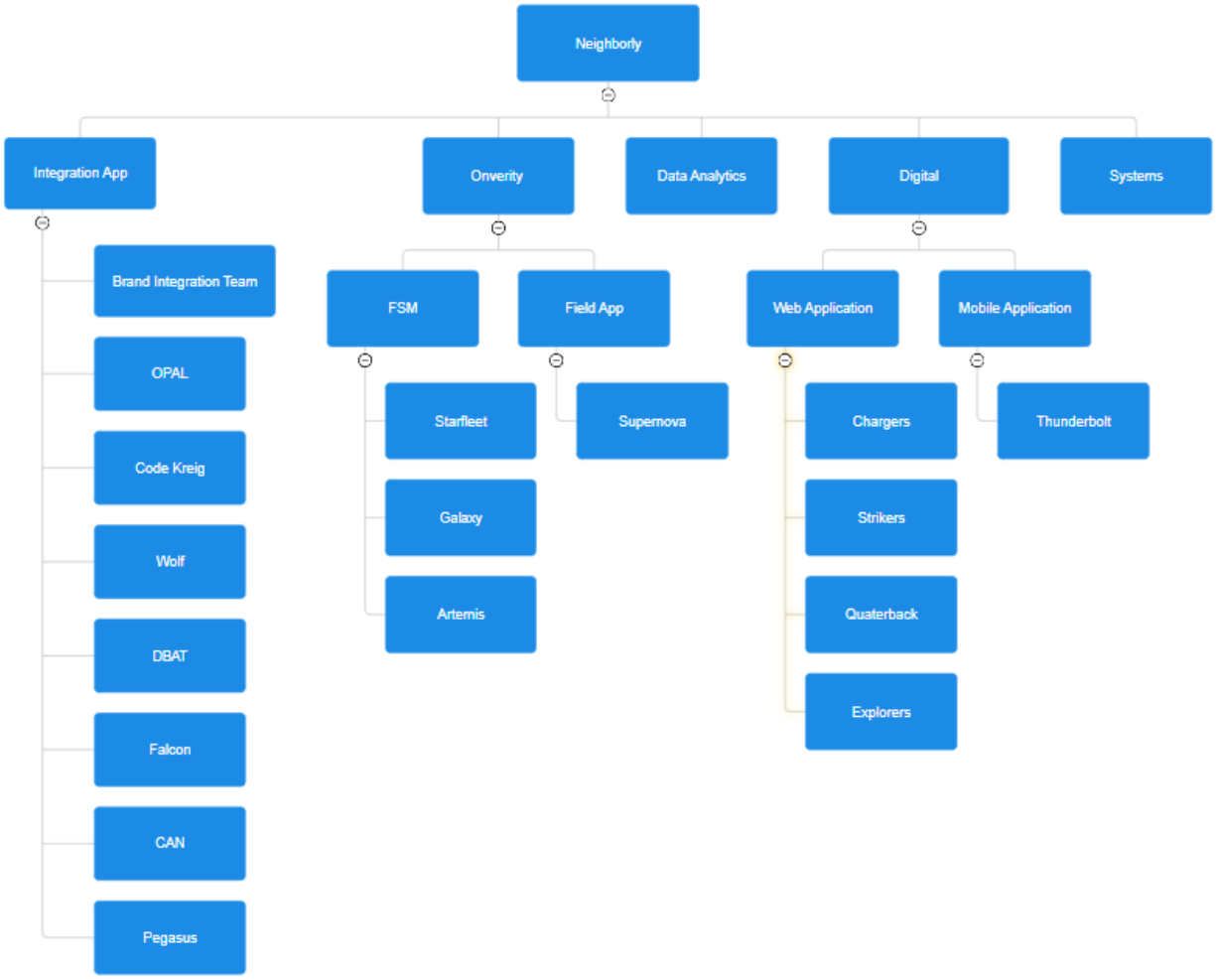
orders. This section employs advanced analytical techniques to sift through vast amounts of data, transforming it into actionable intelligence that informs strategic decision-making. By leveraging data analytics, Neighborly can enhance customer engagement, optimize marketing efforts, and streamline operations. Furthermore, this vertical is responsible for generating comprehensive reports based on the collected data, providing a clear and concise overview of business performance and trends. These reports are crucial for continuous improvement, enabling Neighborly to maintain its competitive edge and deliver superior service to its customers.

1.3.3 Oninogram

1.3.3.a CTO organization



1.3.3.b Team Structure



CHAPTER 2 : TASK(S) HANDLED

2.1 INVOICE AUDIT SYSTEM

2.1.1 Existing system and need for new system

Every month, vendor teams submit an invoice to Neighborly that details the hours worked by each of their employees along with the total billable amount. Scrum masters are tasked with manually reviewing each project's unique vendor invoice, ensuring accuracy by cross-referencing the details with internal data. This meticulous process requires verifying each entry individually, which can be quite time-consuming and labor-intensive. Additionally, the manual nature of this task introduces the potential for errors, further complicating the workflow and potentially leading to discrepancies.

To address these challenges, implementing an automated process to calculate the hours for each vendor and compare them with the invoices provided would be highly beneficial. Such a system would streamline the verification process, quickly identifying any discrepancies between the internal data and the vendor invoices. This automation would not only save significant time and effort for the Scrum masters but also enhance accuracy, reducing the likelihood of errors and ensuring that all billing is correct and transparent.

2.1.2 What is the new system

In the revamped system, the role of the Scrum Master is evolving into a pivotal one where they act as the gatekeeper of vendor and employee data. Initially, they're tasked with meticulously entering the details of each vendor along with their respective employees into the system, laying the foundation for accurate calculations later on. Additionally, the Scrum Master is responsible for logging all holidays and leaves taken by each employee, ensuring that these factors are accounted

for in subsequent processes. This meticulous setup process streamlines operations and minimizes errors by centralizing data management, setting the stage for efficient workflow management.

Once the groundwork is laid, the system seamlessly handles internal calculations, leveraging the entered data to compute billable hours. By automating these calculations, the system not only saves time but also enhances accuracy, freeing up the Scrum Master and other team members to focus on more strategic tasks. Moreover, at a later stage, the Scrum Master plays a critical role in ensuring financial integrity by uploading Excel files of invoices received from vendors. The system then compares these invoices with the data generated internally, promptly flagging any discrepancies. This proactive approach not only saves time but also mitigates potential financial risks by promptly identifying and rectifying errors, thereby ensuring smoother operations and fostering trust among stakeholders.

2.1.3 My Contribution

The team members module I developed encompassed a range of essential functionalities, including the ability to add, delete, and update team member details. These features were crucial for ensuring the module's effectiveness in managing the team's information dynamically. One notable challenge I encountered during development was related to handling Date data types, which initially posed storage issues. However, I successfully addressed this challenge through thorough troubleshooting and optimization, turning it into a valuable learning experience. This problem-solving process not only enhanced my technical skills but also reinforced my ability to adapt and overcome obstacles in software development.

In addition to development work, I took on the responsibility of manual testing for the module, meticulously examining its functionalities to identify and rectify any bugs or inconsistencies. This hands-on testing approach allowed me to ensure the module's reliability and

performance before deployment, contributing to a smoother user experience. Moreover, I emphasized the importance of reusability in my development approach, designing all components to be modular and easily integrated into other modules within the system. By promoting code reusability, I aimed to enhance efficiency and maintainability across the application, fostering a more streamlined development process for future enhancements and expansions. Overall, my contributions to the team members module not only addressed key functionality requirements but also emphasized the importance of problem-solving, testing, and reusability in software development.

2.2 ONVERITY PROJECT

2.2.1 Functionality to get materials and services using Category Type

During my internship with the Galaxy team on the Onverity project, I delved into optimizing a real-world enterprise-level system. Initially tasked with enhancing material and pricebook functionalities, I discovered that the database structure was burdened by bloated data, leading to performance challenges. To address this, the team decided on denormalization, streamlining data retrieval by consolidating materials and pricebook entries into a single table. This shift simplified management and introduced category type as the key factor for fetching data, offering a clearer distinction between materials and pricebook entries. As an intern, I embraced this opportunity to implement denormalization strategies, eager to comprehend its performance implications.

In addition to database enhancements, I furthered my contributions by developing a GET API using .NET Core and C#, complemented by thorough unit testing. Furthermore, I adeptly managed version control using Git, ensuring a cohesive and organized development workflow throughout the project lifecycle.

2.2.2 Functionality to get materials and price book using SubcategoryId

In my next task, I was given the responsibility to write an API that fetches materials and pricebook entries based on a specific subcategory ID. This API plays a vital role in the system as it allows users to filter materials according to their subcategories, making it easier for them to find what they're looking for. While working on this task, I encountered a new challenge: handling data stored in JSONB columns. These columns store data in a more complex way compared to traditional formats, which required me to learn how to navigate and compare data within them. Despite the initial complexity, mastering this aspect proved invaluable as it enabled me to effectively retrieve the necessary information and ensure the API's functionality met the project's requirements. This task was a significant learning opportunity, allowing me to expand my skills and gain valuable experience in working with diverse data structures within real-world applications.

2.2.3 Functionality to get materials based on the skillset

In preparation for the upcoming brand launch, it was crucial to ensure that every material was handled with precision. I was fortunate to be tasked with developing a GET API tailored to retrieve materials and pricebook entries based on a given list of skill set IDs. However, I encountered a significant challenge during this process: the skill set model was undefined, making it difficult to query data for something that lacked a clear structure. This posed a unique obstacle as I had to navigate through JSONB, a data format that doesn't have a predefined model, and deserialize the JSON objects to access their properties. Despite the complexities involved, this experience allowed me to enhance my skills in handling unstructured data and provided valuable insights into efficiently querying and extracting information from JSONB columns. This challenge

reinforced the importance of adaptability and problem-solving skills in overcoming obstacles encountered during software development tasks.

2.2.4 Functionality to fetch SkillSet in different features

For my next task, I was assigned to create an API for fetching skill sets, which would be displayed in various locations such as dropdown menus and other interfaces, including a field app. This task required careful consideration as it involved catering to two different views tailored for distinct user roles. Balancing the requirements for these varied perspectives demanded logical thinking and meticulous planning to ensure that the API could effectively serve the needs of each user group. Developing this API presented an opportunity to apply nuanced logic and design considerations, further enhancing my understanding of user-centric development practices.

2.2.5 Functionality to link and unlink materials to different skillsets

The ongoing task I'm currently working on involves linking and unlinking different skill sets with materials during both creation and updates. This task is super important for the upcoming brand launch because skill sets are a big part of their high-quality service. Making sure that materials are connected to the right skill sets, whether when they're first made or later updated, is crucial for maintaining the brand's service excellence. It requires careful attention to detail and a good understanding of how skill sets and materials work together. By getting this job done well, I'm helping the brand keep up its commitment to offering top-tier services that meet their standards.

CHAPTER 3 : LEARNING(S)

3.1 CQRS (COMMAND QUERY RESPONSIBILTY SEPARATION)

CQRS is a smart way to organize code by separating how data is written (commands) from how it's read (queries). This helps in scaling up systems and making them perform better, as it allows each operation type to be optimized independently. It's like having two different paths for getting and setting data, which makes the code cleaner and easier to understand.

3.2 SERVICE-REPOSITORY PATTERN

The repository-service pattern is like having a clear division of labor in code. Repositories handle all the data-related tasks, like saving and fetching data, while services handle the business logic, like processing orders or managing user accounts. By keeping these responsibilities separate, it becomes easier to maintain and test the codebase.

3.3 EF CORE

EF Core is like magic for .NET developers who work with databases. It lets you interact with databases using simple C# objects, instead of writing complex SQL queries. With EF Core, you can focus on writing code that makes sense to you, while it takes care of translating that code into SQL and fetching data from the database.

3.4 REDIS CACHE

Redis cache is like having a super-fast memory bank for frequently used data. Instead of fetching data from the database every time, Redis stores it in memory, making it lightning-fast to access. This not only speeds up your application but also reduces the load on your database servers, making them happier and more efficient.

3.5 ABAC (ATTRIBUTE BASED ACCESS CONTROL)

ABAC is like having a smart bouncer at the door of your application, checking various attributes before letting users in. Instead of just relying on user roles, ABAC considers things like user attributes, resource properties, and even the environment before granting access. This adds an extra layer of security and control to your application.

3.6 CYPRESS

Cypress is a superhero for web developers who hate manual testing. It's like having a robot that can click through your website and report back any bugs it finds. With Cypress, you can write automated tests that simulate user interactions, making it easy to catch bugs before they reach your users.

3.7 KARATE

Karate is like having a magic wand for testing APIs. It lets you write tests in plain English using Gherkin syntax, making them easy to read and understand. With Karate, you can quickly create comprehensive test suites that cover all your API endpoints, ensuring they work as expected.

3.8 X_UNIT TESTING

XUnit is like having a personal assistant for writing tests. It provides a simple and clean way to write and execute unit tests, ensuring your code works as intended. With XUnit, you can catch bugs early in the development process, saving you time and headaches down the road.

3.9 CLEAN ARCHITECTURE

Clean architecture is like having a blueprint for building a sturdy house. It helps you organize your code in a way that's easy to understand and maintain. By separating concerns and dependencies, clean architecture makes it easier to add new features and fix bugs without breaking existing code.

3.10 REACT WITH TYPESCRIPT

React with TypeScript is like having a safety net for building web applications. TypeScript adds static typing to React, catching errors before they reach your users. With React and TypeScript, you can write cleaner and more reliable code, leading to fewer bugs and happier users.

3.11 DESIGN PATTERNS

Design patterns are standard solutions to common software design problems, enhancing code reusability and maintainability. They provide templates for addressing recurring issues, such as object creation and behavior management. Using design patterns, like Singleton or Factory, helps developers write efficient, scalable, and robust code, ensuring best practices are followed in software architecture.

CHAPTER 4 : CHALLENGES

Every challenge encountered is a valuable learning experience that helps us grow, improve our skills, and become more adept at tackling future obstacles. Following were my initial breakpoints.

4.1 BALANCING THEORY AND PRACTICAL

Balancing theory and practice have been an exciting opportunity for me to bridge the gap between what I learned in the classroom and real-world application. It has deepened my understanding of concepts by seeing them in action and has refined my problem-solving skills.

4.2 INTEGRATION INTO A TEAM

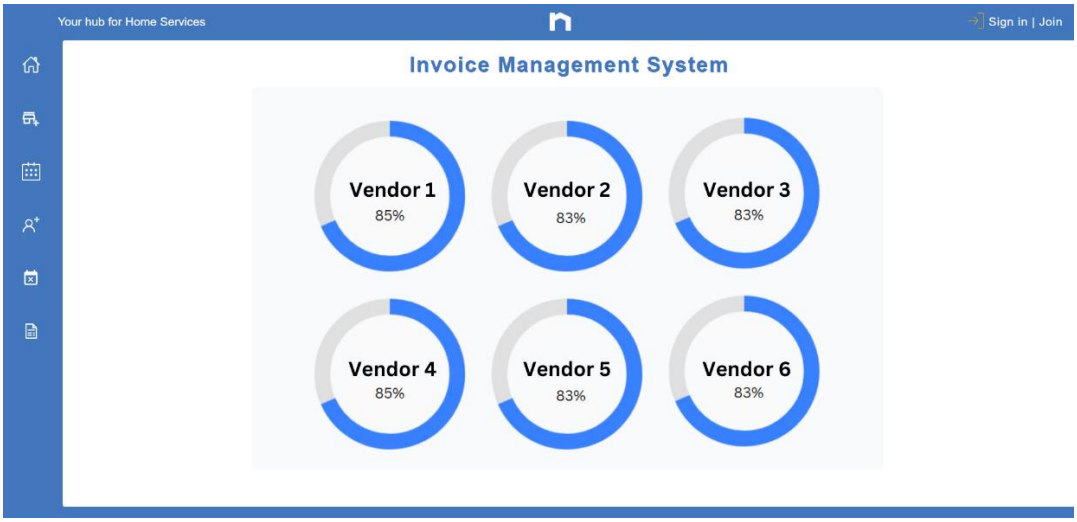
Adapting to new workflows and team dynamics to integrate into a new team has given me the chance to develop my interpersonal skills, learn diverse working styles, and contribute to a collaborative environment.

4.3 UNDERSTANDING THE CODEBASE STRUCTURE

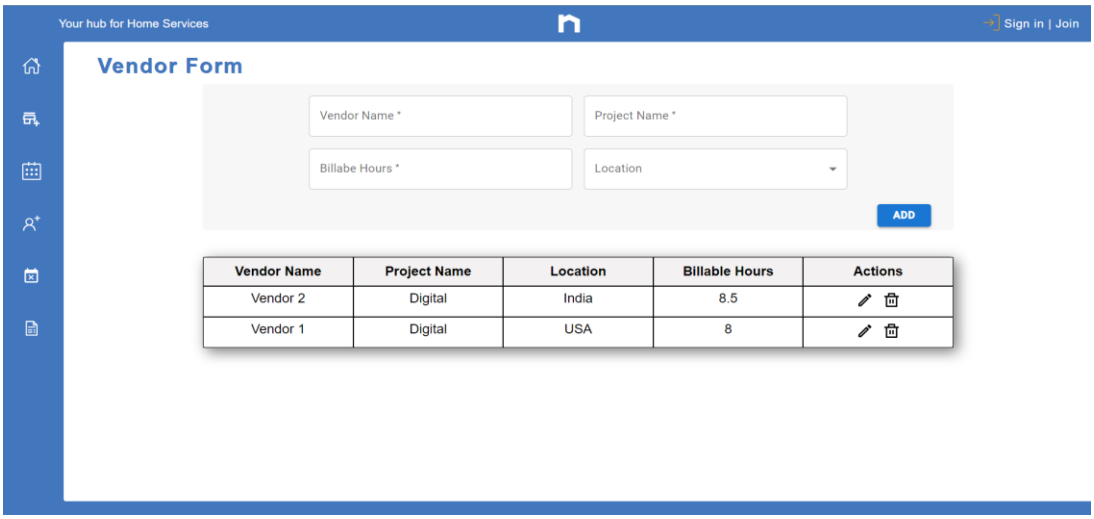
Understanding a complex codebase has been a rewarding endeavor that has significantly enhanced my technical acumen and attention to detail. It has provided me with insights into advanced coding practices, design patterns, and architectural decisions, broadening my knowledge base.

APPENDIX I : SAMPLES OF WORK DONE

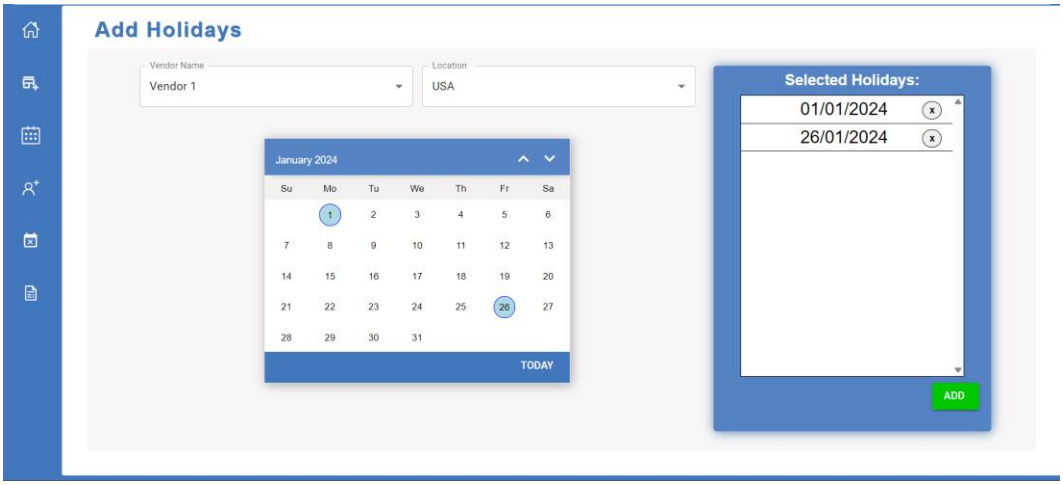
1. INVOICE AUDIT MANAGEMENT TOOL



Above is the landing page of the application.

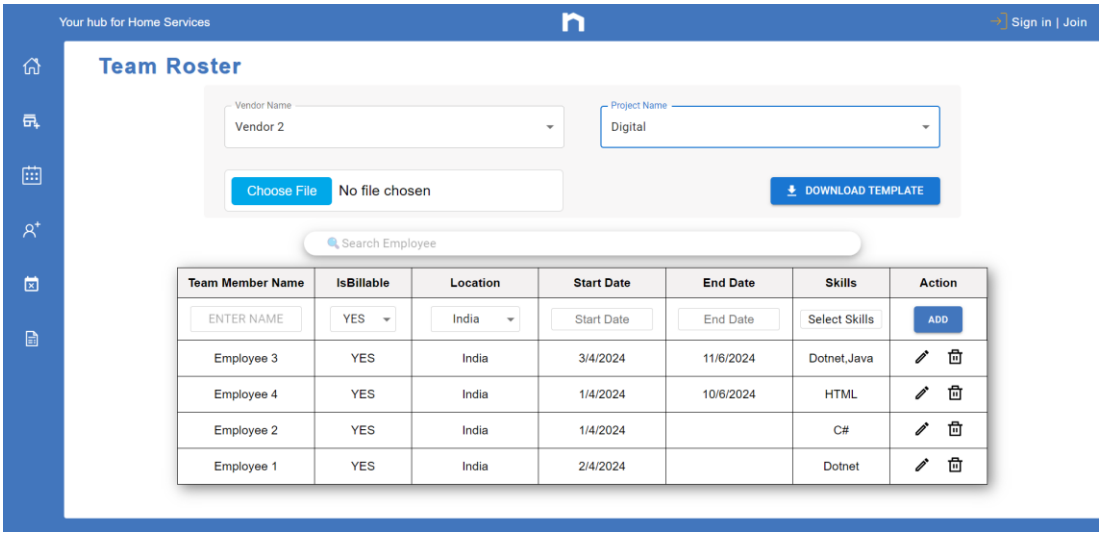


Above page facilitates adding new vendor to the system. Here you add information such as Vendor name, project name on which they are working, billable hours are hours for which they Bill every day and Location from which they are working.

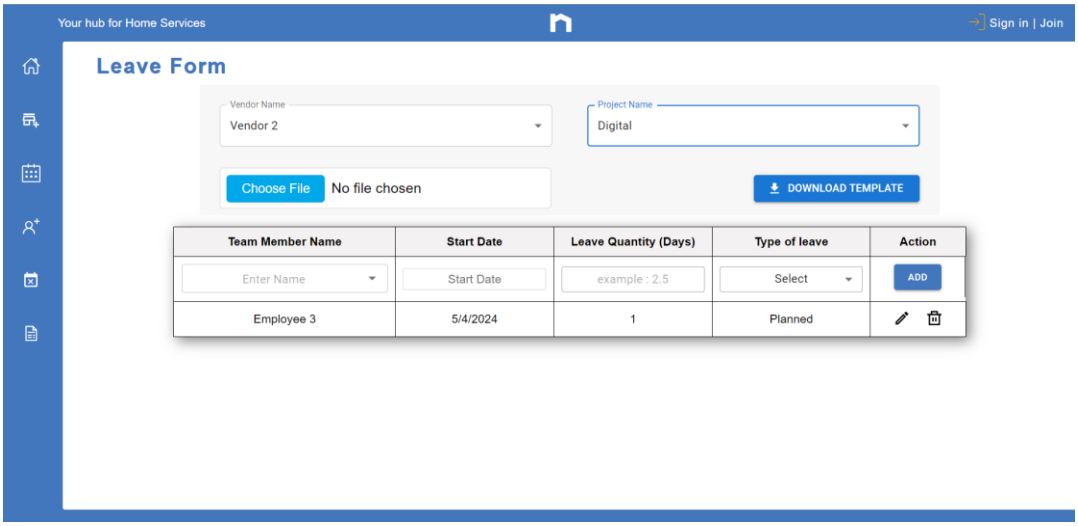


Holidays page is used to note holidays given by each vendor. Which later will be used for Calculating number of working days each vendor had.

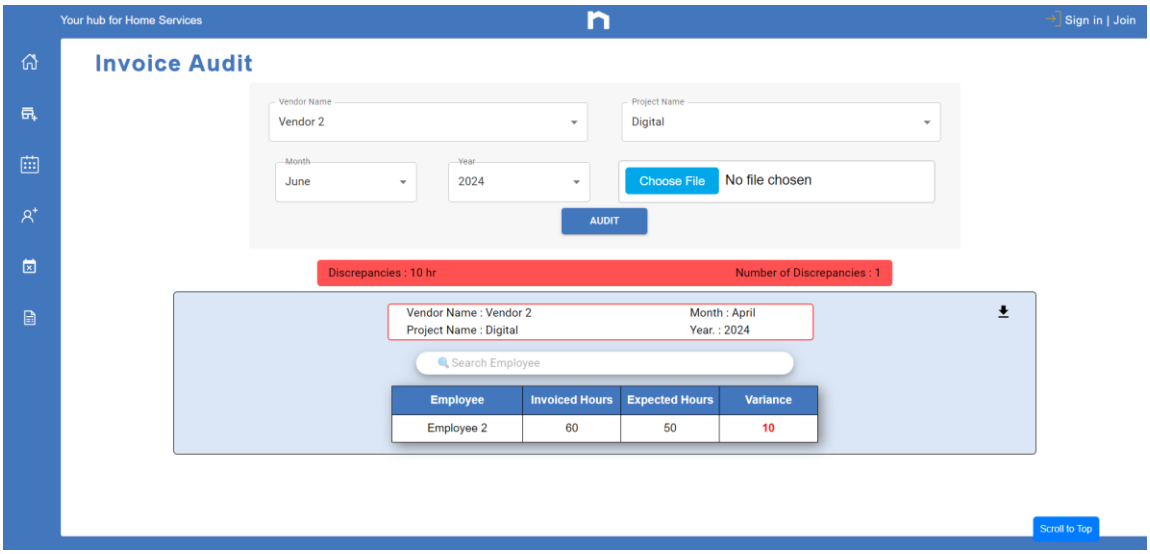
Next important section is team roster, where you add details of each employee a vendor has. This should match with the invoice excel that is sent by each vendor. To reduce manual efforts And considering previous excel data present in the company, upload a file option was provided.



Along with holiday, you also need to consider leaves when calculating number of working days for each employee. To handle this, we have leaves modules which captures every employees leave details.



And finally, the module for which all these was done, that is calculating the discrepancies. Which is calculated considering number of billable hours, holidays given by that vendor, leaves taken by that employee.



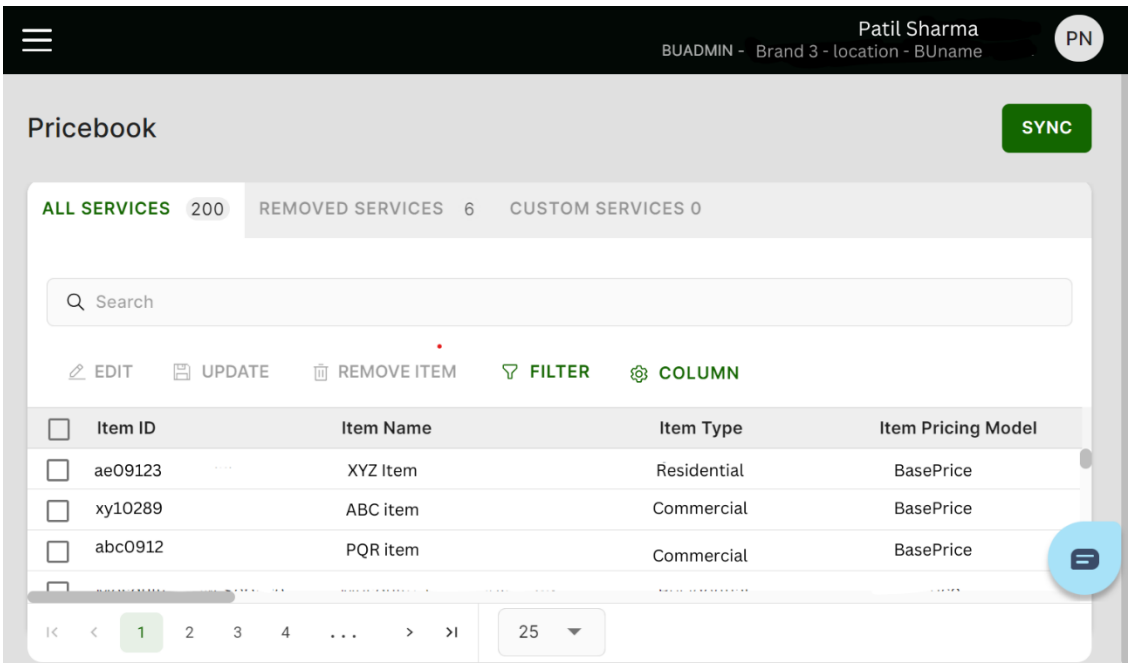
This tool decreased the human efforts required to calculate the discrepancies and Identify the issue as when you click on download button there, you get a detailed report which pinpoints which day or what caused the particular discrepancy.

2. ONVERITY PROJECTS

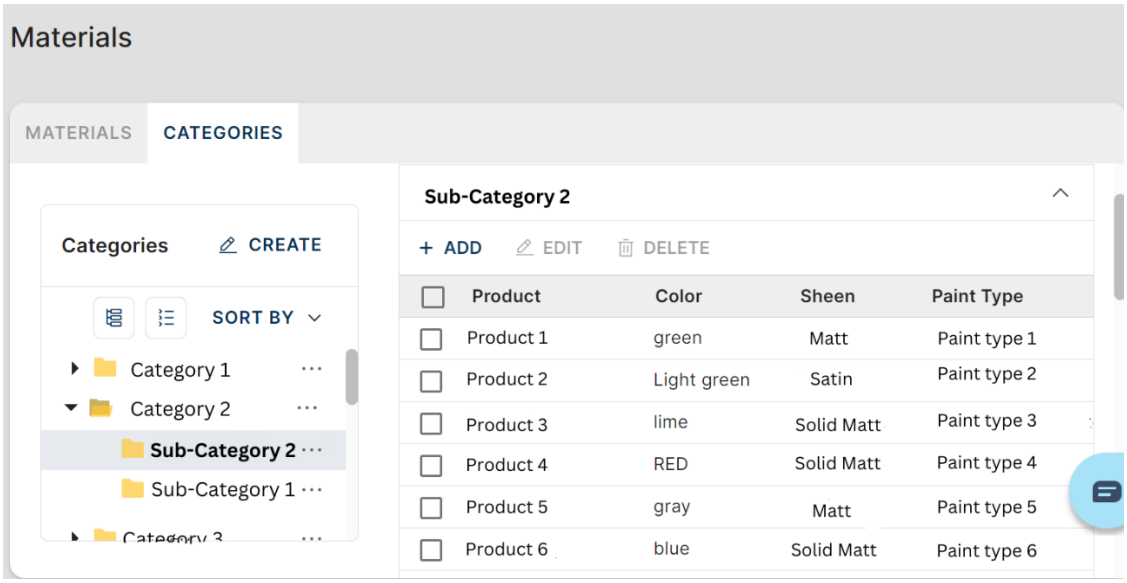
As this is Company information and is confidential, cannot put all the snapshots. Also, some endpoints are not currently being consumed by Frontend and is in their future task.

Including snapshots of the endpoint available on UI.

a. Get pricebook and materials using categorytype



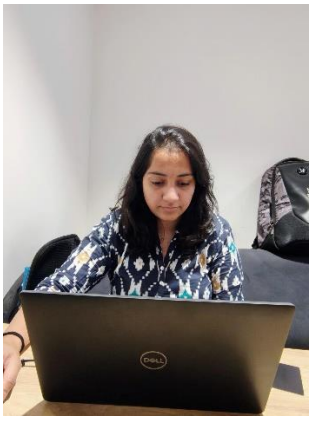
b. Get materials using subcategoryID



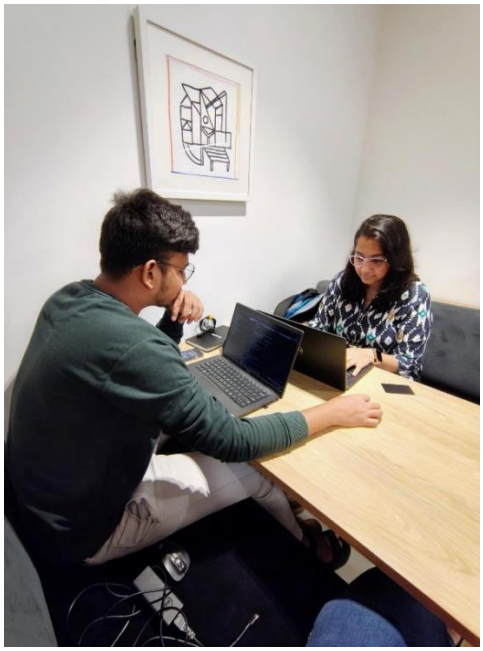
APPENDIX II : PHOTOS WHILE YOU ARE AT WORK

Discussing important Task with Team Member

Problem Solving



Working



Interaction with other team members

Women's Day Celebration

Interns Enjoying Internship Process

Giving Demo of our work to leadership team of Neighborly