Tribhuvan University

Orchid International College

A Final Year Internship Report

On

"Web Application Development"

At

Ambarkaar Software Pvt. Ltd.

Under the Supervision of

Ms. Shikha Sharma

Project Coordinator

Orchid International College

Submitted By

Nikhil Dahal

TU Exam Roll No: 15711/074

Submitted To

Department of Computer Science and Information Technology

Orchid International College

In partial fulfillment of the requirement for the Bachelor Degree in Computer Science and Information Technology

July 2022

AmbarKaar™

Date: 08 August 2022

TO WHOM IT MAY CONCERN

This is to certify that Mr. Nikhil Dahal has completed three months of Internship in Engineering Department with our company, Ambarkaar Software Pvt. Ltd (a.k.a ComplianceQuest Asia P. Ltd) on 29 July 2022.

We wish him success in his future efforts and endeavors.

Sincerely,

AmbarKaar Software Pvt. Ltd.

Prashan Vaidya

Director of Operations

Bakhundol, Lalitpur-1
GPO Box: 8975 EPC 2567, Kathmandu, Nepal.
Phone: 977-1-5441965 | www.ambarkaar.com

ORCHID INTERNATIONAL College

SUPERVISOR'S RECOMMENDATION LETTER

I hereby recommend that the report prepared under my supervision by Nikhil Dahal (TU Exam Roll No. 15711/074) entitled **"Web Application Development" at Ambarkaar Pvt. Ltd."** in partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Information Technology be processed for evaluation.

……..…….

Ms. Shikha Sharma

Fulltime Faculty

Orchid International College

Bijayachowk, Gaushala

ORCHID INTERNATIONAL College

CERTIFICATE OF APPROVAL

The undersigned certify that they have read and recommended to the Department of Computer Science and Information Technology for acceptance, an internship report submitted by Mr. Nikhil Dahal in partial fulfillment for the degree of Bachelor of Science in Computer Science & Information Technology (BSc.CSIT).

---------- **Ms. Shikha Sharma** Fulltime Faculty Orchid International College Bijayachowk, Gaushala	---------- **Er. Nipun Thapa** Program Coordinator Orchid International College Bijayachowk, Gaushala
---------- **External Examiner** CDCSIT Tribhuvan University Kirtipur, Nepal	

ACKNOWLEDGEMENT

This internship term has been fantastic and rewarding for me from the beginning, giving me the opportunity to study and get real-world experience. In the actual world, I have obtained extensive expertise and comprehension of project execution abilities. I'd want to express my gratitude and admiration to a variety of individuals and organizations for offering this chance and helping to make this period a success.

It is a great pleasure to have the opportunity to extend my heartfelt gratitude to everyone who helped me throughout the course of this project. I would like to express my profound gratitude to my supervisor **Ms. Shikha Sharma** for his guidance and support in each step for the progress of this project. His continuous inspiration and valuable suggestions have made me complete this project and achieve its target.

I'd want to express my gratitude to Ambarkaar Software Pvt. Ltd. for allowing me to participate in their internship program. Mr. Samir Pradhan Sir has been a great help to me during my internship. Mr. Ashish Khanal, who mentored me and provided constant advice and support throughout the internship, deserves special mention. I'd also want to express my gratitude to Ms. Sanju Rana and the whole Ambarkaar team for their unwavering support, assistance, and encouragement throughout my internship. I'd also want to express my gratitude to my fellow interns for their assistance and support.

Sincerely.

Nikhil Dahal

TU Exam Roll No: 15711/074

ABSTRACT

The internship in specialized field provides us in-depth understanding about the field, market exposure and help to identify the potential career opportunities. During my internship period, completed the task successfully of developing patient management system under the guidance of organization's mentor. It was very exciting experience of working in the real time platform with the implementation of knowledge that I have gained in the college. It was really challenging.

Patient management System is a web application that includes registration of patients, storing their details into the system and also computerized billing. It includes a search facility to know the current status of each room. User can search availability of a doctor and the details of a patient using the id. This report includes description of organization, industry and all the activities performed on the project during the entire period of internship.

***Keywords: Real time platform**, **Depth understanding, Market Exposure**,*

TABLE OF CONTENT

Chapter-1: Introduction

1.1 Introduction 2

1.2 Problem Statement 2

1.3 Objectives 3

1.4 Scope and Limitation 3

1.5 Report Organization 3

Chapter-2: Organization Details and Literature Review

2.1 Introduction to Organization 5

2.1.1 Organization Background……..……...……..5

2.1.2 Company's Mission……...5

2.1.3 Company's Value……..5

2.1.4 Services Provided by Organization…..…….6

2.2 Organizational Hierarchy……7

2.3 Working Domain of Organization 8

2.4 Description of Intern Development…….…...8

2.5 Literature Review……9

2.5.1.1 Salesforce Platform…….……9

2.5.1.2 Salesforce Trailhead……9

2.5.1.3 Salesforce Trailhead Playground……9

2.5.1.4 Apex……..10

2.5.1.5 LWC……..10

Chapter-3: Internship Activities

3.1 Roles and Responsibilities……11

3.2 Description of project involved during internship…..……..11

3.2.1 Placement…….……11

3.2.2 Internship Duration…….…….……11

3.2.3 Working Environment…….……12

3.2.4 Modules of project……...……12

3.3 Weekly Log……...13

3.4 Task/Activities Performed……15

3.4.1 My Contributions……17

Chapter-4: Conclusion and Learning Outcomes

4.1 Conclusion……18

4.2 Learning Outcomes……..18

4.3 Challenges……19

REFERENCES…….……20

APPENDIX……..……20

LIST OF FIGURES

Figure 2.1 Organizational Chart 7
Figure 4.1 Homepage..... 20
Figure 4.2 Patient Detail Page 20
Figure 4.3 Payment Detail Page…….20
Figure 4.4 Lab Test Detail Page 21
Figure 4.5 Follow up Detail Page 21

LIST OF TABLE

Figure 3.1 Internship Duration..... 11
Figure 3.3 Weekly Log 13

LIST OF ABBREVIATIONS

CLI	Command Line Interface
CRM	Customer Relationship Management
LWC	Lightening Web Component
QC	Quality Control

CHAPTER-1: INTRODUCTION

1.1 Introduction

This system includes registration of patients, storing their details into the system. It has the facility to give a unique id for every patient and stores the details of every patient and the staff automatically. It includes a search facility to know the current status of each room. User can search availability of a doctor and the details of a patient using the id.

This system can be accessible either by an administrator or receptionist. Only they can add data into the System. The data can be retrieved easily. The interface is very user-friendly. The data are well protected for personal use and makes the data processing very fast.

It is a software product suite designed to improve the quality and management of patient management in the areas and activity-based costing. It enables you to develop your organization and improve its effectiveness and quality of work. Managing the key processes efficiently is critical to the success of the hospital helps you manage your processes.

1.2 Problem Statement

Customer data is now a company's most important asset, and companies are increasingly looking to technology to help them extract more value from it. It can raise customer satisfaction at all points of the sales funnel and improve long-term brand loyalty by allowing users to connect with their customers and provide better, faster service. Business can run more efficiently by reaching more customers while saving time and money by automating certain aspects of the sales and marketing process. Using this platform for so many users create the problem.

1.3 Objectives

The main objectives of participating in the internship program are listed below:

- To be able to create a web application that acts as CRM.
- To be able to test, remove bugs and deploy web application.

1.4 Scope and Limitation

The main purpose of this project is to create a responsive application where the hospital can manage their database properly in an organization.

Some of the scopes of this project are:

1. Create an application that process managing tasks.

2. To provide CRM services.

3. To provide online learning tutorial for beginning and advanced salesforce developers.

Some of the limitations of this project are:

1. One needs to have an internet connection to access this system.

2. This system is developed focusing the needs of a single organization only.

1.5 Report Organization

The contents of the report are organized into the following sections

Chapter 1 Discussed the introduction to the project with the objectives to be met. Also, the scope and limitations of the project are discussed.

Chapter 2 Discussed the background study of the organization and literature review. Organization introduction, hierarchical structure, working domains and department units are discussed.

Chapter 3, All the internship activities are described here. It includes roles and responsibilities during internship, description of the project involved during internship and activities performed in it.

In Chapter 4, The conclusion of the report and learning outcomes of the internship are discussed here.

Chapter-2: Organization Details and Literature Review

2.1 Introduction to Organization

2.1.1 Organizational Background

Compliance Quest has a subsidiary called Ambarkaar Software Pvt. Ltd. Using Salesforce's world-class business cloud platform, the organization optimizes quality, compliance, content, and collaboration management procedures as well as worldwide supply chain networks. They help manufacturers and distributors meet their most difficult quality, compliance, and supplier management objectives faster. Through the digital transformation of quality and compliance offered via the contemporary cloud, significantly increase an organization's culture, cooperation, competency, efficiency, performance, and creativity.

2.1.2 Company's Mission:

1. Continually focusing on increasing productivity and reducing costs for our customers.
2. Dedicated to being the industry leader in "cloud" Enterprise Quality Management Software (EQMS) solutions by creating a superior, 100% cloud-based EQMS solution driven by Salesforce cloud technology.
3. Working as part of a fun, high-energy, enthusiastic, and socially involved team that consistently exceeds customer, partner, and corporate expectations.

2.1.3 Company's Values:

The fundamental values of Ambarkaar serve as guiding principles for all the company's behaviors, rationalizations, and activities. The following are the company's key values:

1. Attitude: We don't just provide good solutions; we make sure they're the correct one's for you.
2. Approach: We make it simple to use and collaborate from anywhere at any time.
3. Adaptability: Flexible setups for your company's size and kind - we'll grow with you.

4. Pledge: We work hard to surpass our clients' and partners' expectations because we're in it for the long haul.
5. Support: Your success is our success; thus, we look after you.
6. People: A staff with unrivaled expertise in quality and compliance gained over many years. We've done it previously and can share our knowledge with you.
7. Trust: We seek to build a relationship built on trust, serving as consultants for your most crucial quality and compliance requirements.
8. Strategy: Our commitment in innovation allows us to develop for the present while also planning.
9. Platform: Salesforce is a proven, trustworthy, scalable platform that is utilized by over 4 million organizations across the world.

2.1.4 Services Provided by the Organization:

Ambarkaar Software Pvt. Ltd. Provides cloud-based services to client. The areas of expertise of the organization are:

1. Workforce Digitalization
2. Quality Management System
3. Market Surveillance
4. Risk and Compliance
5. Supplier Management
6. Health and Safety
7. Environment and Sustainability

2.2 Organizational Hierarchy:

`

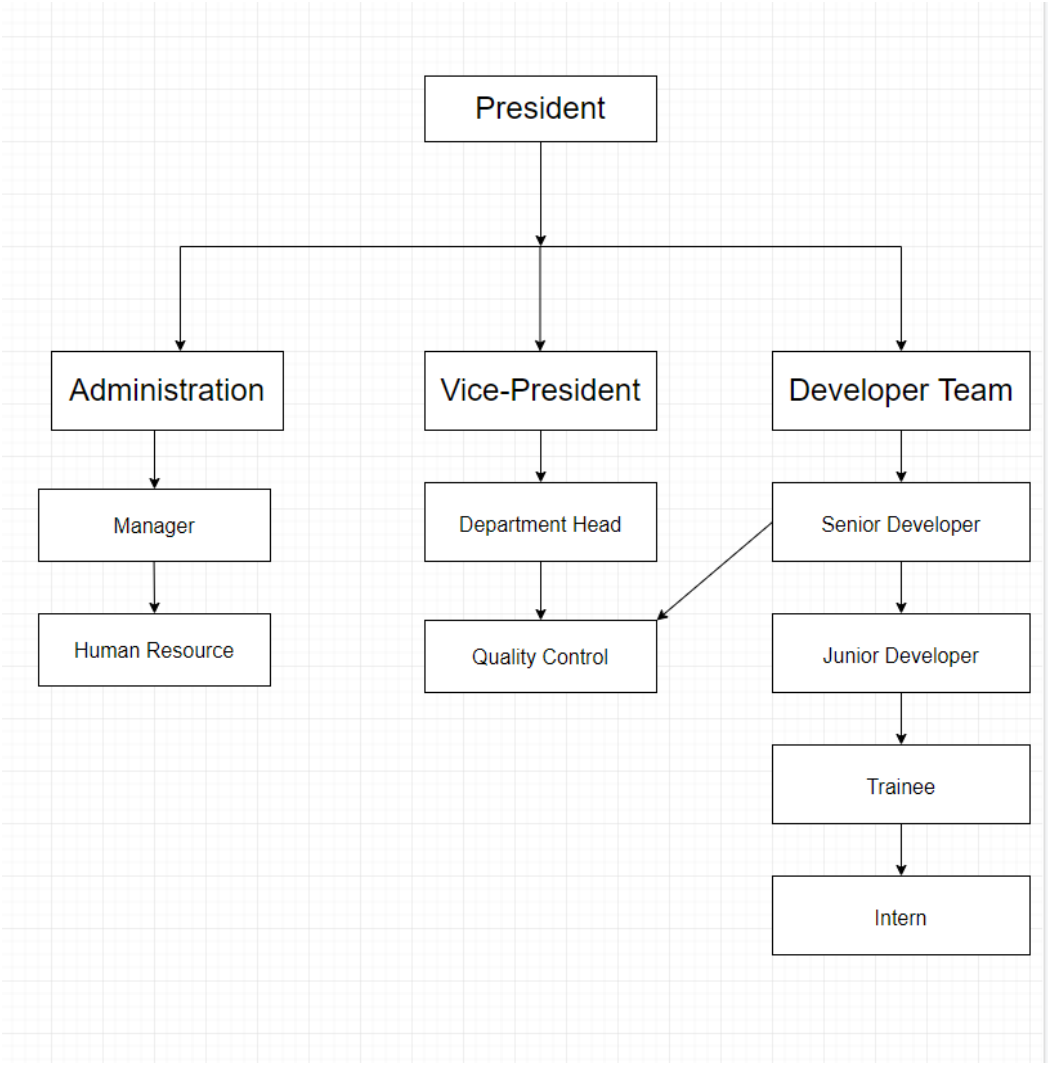

Figure 2.1: Organizational Chart

The diagram above represents the organization hierarchy of Ambarkaar Software Pvt. Ltd. The head of the company is the President, who is responsible for taking all major decisions. The Administration manages the finance of the company, the HR department manages the human resource and the software development department deals with the clients. The Vice-President defines the tasks for the developers while the QC unit performs various tests on the errors and check the org is working properly or not. In developer team we can see senior developer, junior developer, trainee and intern.

2.3 Working Domain of Organization

Ambarkaar Software Pvt. Ltd. was established as cloud-based firm. It provides complete IT management and consulting services to business organizations around the globe, help speed the adoption of new technologies, resolve complicated difficulties that constantly arise throughout digital evolution. The company uses Salesforce's world-class business cloud platform, the organization optimizes quality, compliance, content, and collaboration management procedures as well as worldwide supply chain networks. They help manufacturers and distributors meet their most difficult quality, compliance, and supplier management objectives faster.

2.4 Description of Intern Department

Ambarkaar Software Pvt. Ltd has its own organizational hierarchy, for the efficient management and working of the overall organizations. Development team also comprises of interns who develop the system. There are many interns working for the department. The intern field of the work is defined with the interest of the intern and the requirement of the organization. The interns are assigned with the respective supervisor according to their field of work. As an intern at Ambarkaar, I and other interns got training on a variety of topics for which I am appreciative. Our internship was conducted entirely online, and we were fortunate to be able to work from home from the beginning to the end. For the first month, we were given online learning materials, Trailhead, and both the development and QC teams were given online learning resources. The training taught us how to utilize Salesforce, the company's cloud-based platform. A badge is obtained at the conclusion of each module in trailhead, which helps us track our progress.

2.5 Literature Review

2.5.1 Background and Contextual Research

2.5.1.1 Salesforce Platform

Salesforce is a solution for customer relationship management that puts consumers and enterprises together. It is an interconnected CRM network that offers a single shared view of any enterprise to any consumer. Salesforce is a Platform as a Service (PaaS), meaning enterprises can design, deliver and maintain all web and smartphone applications without the hardware and other resources necessary to install and operate an internal platform for development. (Developer Beginner of Salesforce,2022).

2.5.1.2 Salesforce Trailhead

For anyone who would like to learn to code and use the Salesforce app, Salesforce Trailhead is a collection of learning units and modules. Trailhead education, introduced in 2014, is accessible at three levels: trails, modules, and units. Lessons are delivered in a particular order, because according to Salesforce, clients have a predefined path to follow and a "guided, curated" experience.

2.5.1.3 Salesforce Trailhead Playground

Trailhead is an online learning platform containing a series of online tutorials for beginning and advanced Salesforce developers. The module, which was first released in 2014, is divided into three categories: trails, modules, and units. According to Salesforce, lessons are given in a certain order so that clients can follow a predetermined path and have a "guided, curated" experience. The interns were given two trail-mixes (Developer Beginner and Developer Intermediate). The modules were assigned a particular number of points based on their weight, and we could only get those points after finishing the unit. At the end of the module, we were given a badge to show that we had completed it**.**

2.5.1.4 Apex

Apex is a strongly typed, object-oriented programming language that allows developers to execute flow and transaction control statements on Salesforce servers in conjunction with calls to the API. Using syntax that looks like Java and acts like database stored procedures, Apex enables developers to add business logic to most system events, including button clicks, related record updates, and Visualforce pages. Apex code can be initiated by Web service requests and from triggers on objects. (Apex basics,2022).

Apex supports:

1 Data manipulation language (DML) calls, such as INSERT, UPDATE, and DELETE, that include built-in DML Exception handling.
2 Inline Salesforce Object Query Language (SOQL) and Salesforce Object Search Language (SOSL) queries that return lists of sObject records.
3 Looping that allows for bulk processing of multiple records at a time.
4 Locking syntax that prevents record update conflicts.
5 Custom public API calls that can be built from stored Apex methods.
6 Warnings and errors issued when a user tries to edit or delete a custom object or field that is referenced by Apex.

2.5.1.5 LWC (Lightening Web Component)

Lightning components using two programming models: Lightning Web Components, and the original model, Aura Components. Lightning web components are custom HTML elements built using HTML and modern JavaScript. Lightning web components and Aura components can coexist and interoperate on a page. To admins and end users, they both appear as Lightning components. Lightning Web Components uses core Web Components standards and provides only what's necessary to perform well in browsers supported by Salesforce. Because it's built on code that runs natively in browsers, Lightning Web Components is lightweight and delivers exceptional performance. Most of the code you write is standard JavaScript and HTML. (LWC basics,2022).

Chapter-3: Internship Activities

3.1 Roles and Responsibilities

The main role as intern was to read and understand how the platform works and used through documentation provided by salesforce. Research on platform and try to implement it. Give, a presentation after completion of documentation. Create a simple project. Understand the organizational behaviors. Involve and engage in team-building activities.

3.2 Description of the project involved during internship

3.2.1 Placement

The internship period was three months where we gained experience in developer Intern. After the completion of the internship program there will be a technical review held between the intern and the supervisor. In this review period the supervisor will review the performance based on coding skills, skill development during intern period and communication between intern and workspace colleagues. After a successful review it will be decide if the intern will continue to work at Ambarkaar or not.

3.2.2 Internship Duration

Table 3.1: Internship Duration

Time Period	18th April 2022 – 18th July 2022
Days Per Week	5 days
Hours Per Day	8.5 hours (10:00 A.M – 6:30 P.M)
Holiday	Saturday, Sunday
Internship Period	3 months
Mentor	Mr. Ashish Khanal

3.2.3 Working Environment

Frontend: **Apex** was used as a frontend for our product.

Backend: **LWC** was used as a backend for our product.

QC: Manual testing and automation testing was taught during the project.

Communication: Workbench was used for communication for tips and some sort of help.

3.2.4 Modules of Project

The different modules used are listed below:

1. Salesforce CRM
2. Salesforce Lightening
3. Salesforce Appexchange.

Salesforce CRM:

CRM stands for Customer Relationship Management. This technology allows to manage relationships with customers and prospects and track data related to all interactions. It also helps teams collaborate, both internally and externally, gather insights from social media, track important metrics, and communicate via email, phone, social, and other channels. In, Salesforce, all of this information is stored securely in the cloud. Let's take a closer look at how that works, using an example you might be familiar with a spreadsheet.

Salesforce Lightening:

Build apps on the Salesforce Platform with no-code tools and take your CRM to the next level. Lightning is the foundation of everything you do to extend and get more value from CRM. And now myLightning tools help everyone do even more to personalize apps and brand your employee experience. All with built-in trust and security from the world’s enterprise cloud platform.

Salesforce Appexchange:

AppExchange is a marketplace offering solutions, such as apps, components, and consulting services. To make your own solution publicly available to potential customers, you must be a Salesforce partner. The creative power behind each AppExchange solution is a Salesforce partner. AppExchange gives partners a place to create and publish extensions to Salesforce. AppExchange is also the place for Salesforce admins to choose and install solutions that fit their org's needs.

3.3 Weekly Log

The weekly log of internship includes the following:

Table 3.3 Details of Weekly Log

Week	Task	Outcome
Week 1 - 2	Understand Salesforce's developer beginner module trailhead.	Basic knowledge of inner workings of the Salesforce platform were gained.
Week 3	Learn about Salesforce's developer intermediate module trailhead.	Deeper understandings of the Salesforce platform were gained.
Week 4 - 5	Learn about Aura components and LWC (Lightning Web Components) Framework.	The concepts of LWC and Aura component framework were understood.
Week 6	Learn about Apex language, Apex Triggers, DML, SOQL and SOSL.	The concepts of these programming/query languages were understood.
Week 7 - 8	Build a mini app as a part of final evaluation project and present it to the team leads.	A mini custom app was developed on the Salesforce platform using all the acquired knowledge.
Week 9 - 10	Implement LWC and Aura components on the Grid Form module of the ComplianceQuest Software.	Few features were added to the Grid Form module of the ComplianceQuest Software using LWC and Aura components.

Week 11 - 12	Worked on the record form modules of the software using LWC, Apex and Apex Triggers.	Implemented combo-box selection modules and zip download features to the record form module using LWC, Apex and Apex Triggers.

3.4 Tasks/ Activities Performed

In the period of intern task provided was to understand the work done in salesforce from the documentation. The main task was to understand the use different tools in this platform:

Salesforce CLI:

The Salesforce CLI is a powerful command line interface that simplifies development and build automation when working with your Salesforce organization.

Scratch Orgs:

The scratch org is a source-driven and disposable deployment of Salesforce code and metadata. A scratch org is fully configurable, allowing developers to emulate different Salesforce editions with different features and preferences. And you can share the scratch org configuration file with other team members, so you all have the same basic org in which to do your development. Scratch orgs drive developer productivity and collaboration during the development process, and facilitate automated testing and continuous integration. You can use the CLI or IDE to open your scratch org in a browser without logging in. You might spin up a new scratch org when you want to:

- Start a new project.
- Start a new feature branch.
- Test a new feature.
- Start automated testing.
- Perform development tasks directly in an org.
- Start from" scratch" with a fresh new org.

Salesforce Extensions for VS Code:

The Salesforce extensions for Visual Studio Code are a set of enhancements for custom development on the Salesforce Platform. Together, these extensions enable you and your team to use the VS Code IDE with Salesforce to deliver continuously.

Developer Console:

The Developer Console is accessible from within your Salesforce organization, and provides a collection of tools you can use to create, edit, debug and test applications. Debug, and test applications in your Salesforce org.

Developer Console Functionality:

The Developer Console can help with many of development tasks.

Developer Console Query Editor:

The Query Editor in the Developer Console was used to execute SOQL query or SOSL search on the data in your organization. The History pane displays your last 10 queries for quick reuse. Results are displayed in a Query Results grid, in which you can open, create, update, and delete records. For SOSL search results with multiple objects, each object is displayed on a separate tab.

Developer Console User Interface:

The Developer Console includes a collection of useful tools for coding, debugging, and testing applications.

Workbench:

This powerful, web-based suite of tools designed for administrators and developers to interact with Salesforce organizations via the Salesforce APIs. Workbench includes robust support for the Force.com Partner, Bulk, Rest, Streaming, Metadata, and Apex APIs that allows users to describe, query, manipulate, and migrate both data and metadata in Salesforce.com organizations directly in their web browser with a simple and intuitive user interface. (Workbench developer force,2022).

3.4.1 My Contributions

1. Leave Management

During the intern session the author worked in different module. Among them leave module is one of them. In leave module, the author made a design for admin view of leave history of employees in the company.

2. Log Management

During the intern session the author worked in different module. Among them log module is of them. In log module, the author made an API for adding the logs as well the API for searching and filtering logs according to name and date.

3. Attendance Management

During the intern session, the author also worked on attendance module. Where the author made an API for adding attendance of each employee for admin. Then the author made an API to view attendance and also ability to update attendance for admin. the author also worked on ability to view attendance for employee.

4. Knowledge Sharing Session

During the intern session, the author also worked on Team Building Session. Where the author made an API for ability to upload files and ability to view files and ability to view rules of the session.

Finally, due to some protocol of company certain period of time was allocated for completing Trailhead portion tried my best to complete reading the trailhead part as soon as possible. After, completion of trailhead, I appeared for the presentation about the trailhead. At last, I was asked to do a sample project on Patient Management System.

Chapter-4: Conclusion and Learning Outcomes

4.1 Conclusion

The internship at Ambarkaar was a fantastic experience for me. I concluded that the internship is the finest phase for learning and developing potential during the bachelor's year. Ambarkaar has provided me with numerous opportunities to study and grow. I've gained a lot of experience, particularly in the areas of quality assurance and quality control. It aided me in transforming from a learner to a specialist during the changeover.

Its fantastic study environment has aided me in honing my talents. It has aided me in brushing up on my programming skills while also improving my communication skills in a welcoming environment. To motivate and improve myself further, I plan to pitch using the knowledge gathered throughout my internship.

To conclude, author found that the internship was very beneficial as a part of development of career and the experience gained through this would be helpful and beneficial for the future opportunities. Besides developing project other lessons are also learnt. The importance of communication to coordinate the tasks. How important it is to work in team and the way to work in team. How to bring ideas into the implementation. How to work within the time constraints.

4.2 Learning Outcomes

Working as an intern in Ambarkaar Software Pvt. Ltd, I learned lots of things. Some of learning Outcomes of me after completion of this intern session. To, increase our abilities, we must stay current with the latest technology and continue to learn.IT businesses work on a variety of projects at a rapid pace; thus, an IT worker must be able to complete tasks on time. In addition to the required technical skills, collaboration and excellent communication skills are also required.

4.3 Challenges

It was interesting to discuss during training sessions, work on various programs every day and consult with the seniors if I had any problems regarding tasks. So, I did not face as many challenges as I thought I would have. I did find few things listed below challenging:

1. The various validation scripts (VS) were outdated and had to be updated for execution.

2. The frequent update to the Salesforce platform made it difficult to follow and adjust to the changes.

3. Some bugs were very difficult to identify.

REFERENCES

Developer Beginner of Salesforce. Retrieved 15th June 2022, from https://trailhead.salesforce.com/en/content/learn/trails/force_com_dev_beginner

Intermediate developer of Salesforce. Retrieved 15th June 2022, from https://trailhead.salesforce.com/en/content/learn/trails/build-lightning-web-components

Workbench developer force. Retrieved 15th June 2022, from https://workbench.developerforce.com/login.php?startUrl=%2FmetadataDescribeAndList.php%3Ftype%3DCustomObject

Apex basics. Retrieved 15th June 2022, from https://trailhead.salesforce.com/en/content/learn/modules/apex_database?trail_id=force_com_dev_beginner

LWC basics. Retrieved 15th June 2022, from https://trailhead.salesforce.com/en/content/learn/projects/quick-start-lightning-web-components?trail_id=force_com_dev_intermediate

Aura component basics. Retrieved 15th June 2022, from https://trailhead.salesforce.com/en/content/learn/modules/lex_dev_lc_basics/lex_dev_lc_basics_intro?trail_id=force_com_dev_intermediate

APPENDIX

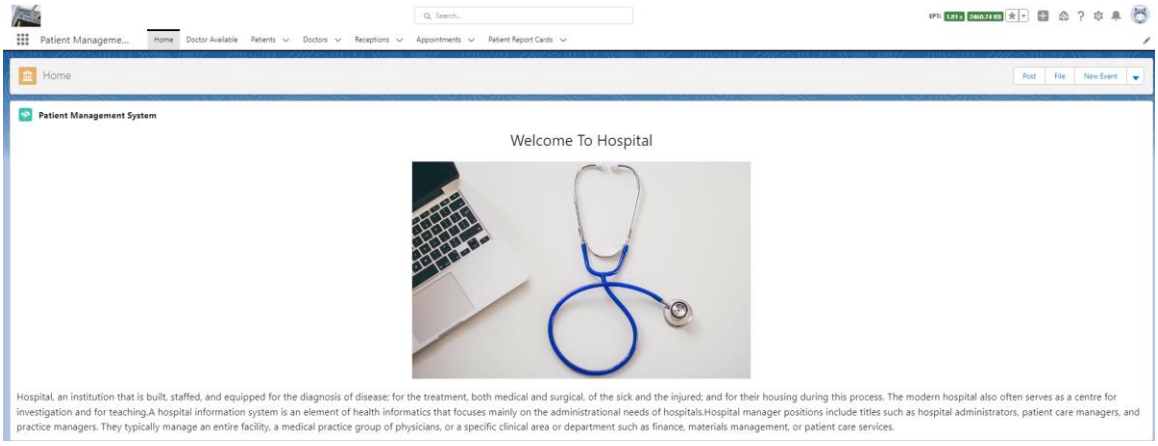

Figure 4.2: Homepage

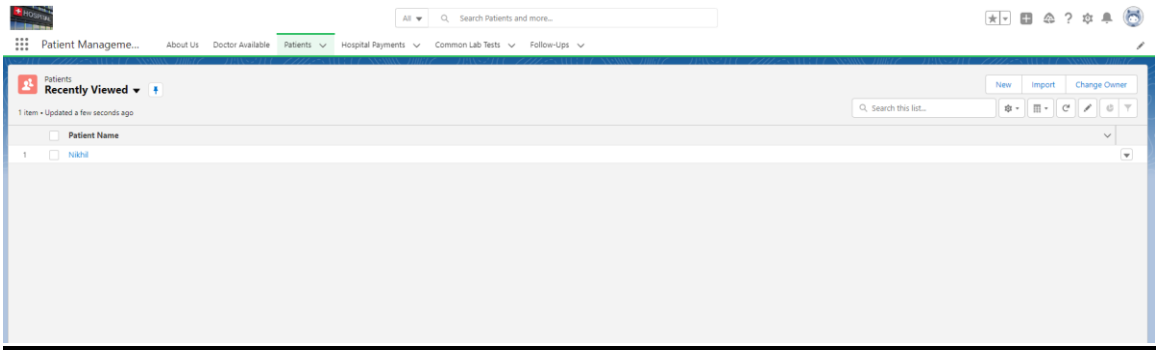

Figure 4.3: Patient Registration Detail Page

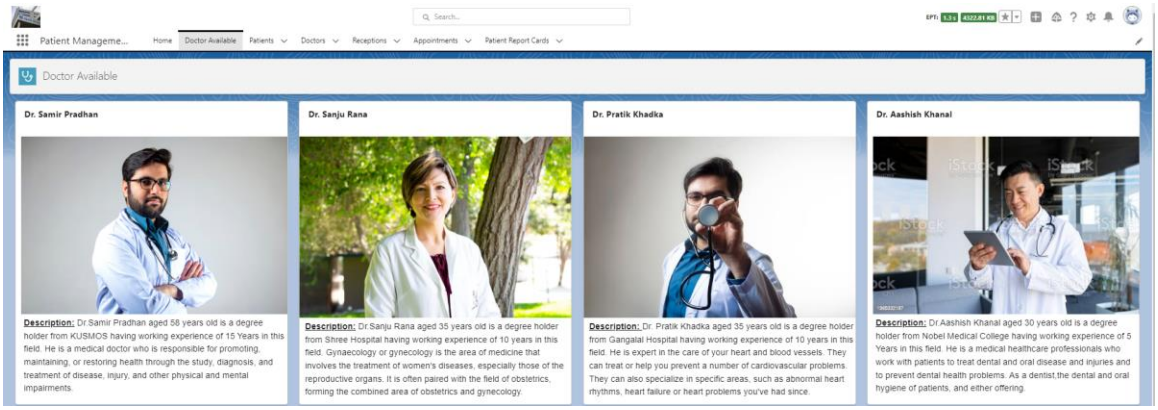

Figure 4.4: More About Doctor Detail Page

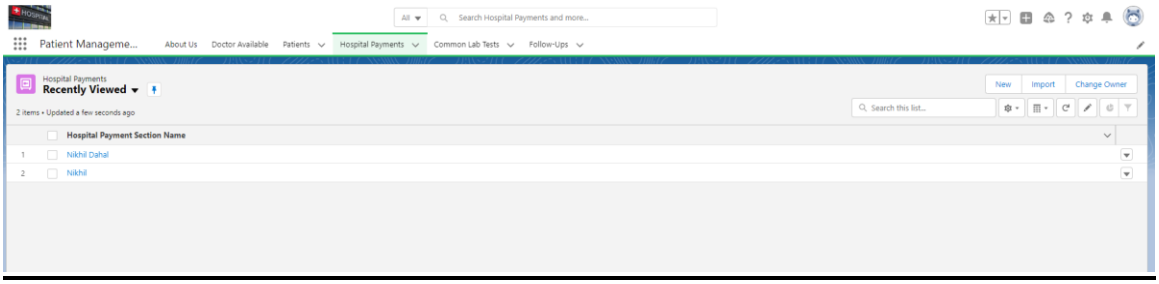

Figure 4.5: Payment Detail Page

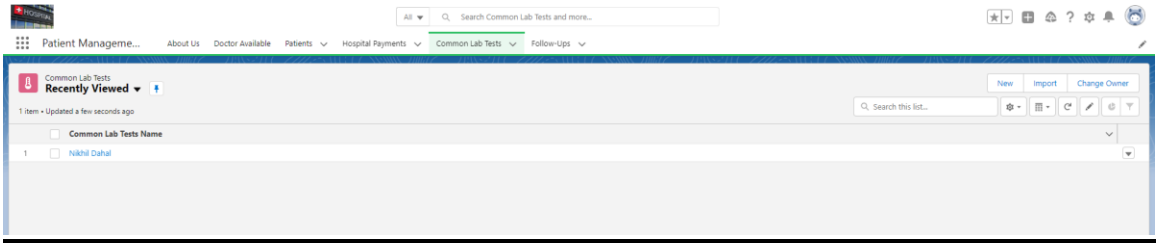

Figure 4.6: Lab Test Details Page

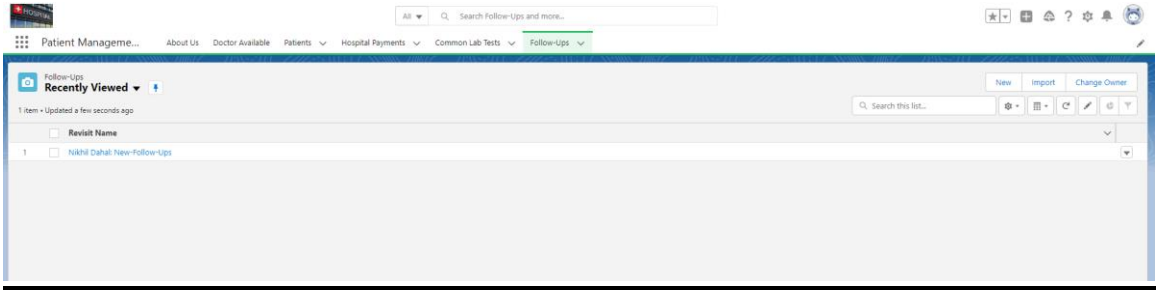

Figure 4.7: Follow up Details Page