e-Sanad

An Internship Report

Submitted by

Meet Sojitra

200670107025

In fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

in

Computer Engineering

Sal Institute of Technology and Engineering Research

Ahmedabad-380060

Gujarat Technological University, Ahmedabad

April, 2024

SAL Institute of Technology and Engineering Research

Opposite Science City, Sola, Ahmedabad, Gujarat 380060.

CERTIFICATE

This is to certify that the Internship report submitted along with the project entitled **e-Sanad** has been carried out by **Meet Sojitra (200670107025)** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Computer Engineering, 8th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Prof. Komal Thummar	Prof. Neha Minocha
Assistant professor	Head of Department
CE Department	CE/CSE/ICT Department

GUJARAT TECHNOLOGICAL UNIVERSITY

CERTIFICATE FOR COMPLETION OF ALL ACTIVITIES AT ONLINE PROJECT PORTAL

B.E. SEMESTER VIII, ACADEMIC YEAR 2023-2024

Date of certificate generation : 25 April 2024 (21:29:49)

This is to certify that, ***Sojitra Meet Pareshbhai*** (Enrolment Number - 200670107025) working on project entitled with ***eSanad*** from ***Computer Engineering*** department of ***SAL INSTITUTE OF TECHNOLOGY & ENGINEERING RESEARCH, AHMEDABAD*** had submitted following details at online project portal.

Internship Project Report	**Completed**

Name of Student : Sojitra Meet Pareshbhai Name of Guide : Mrs. Komal Thummar

Signature of Student : _____ *Signature of Guide : _____

Disclaimer :
This is a computer generated copy and does not indicate that your data has been evaluated. This is the receipt that GTU has received a copy of the data that you have uploaded and submitted as your project work.

*Guide has to sign the certificate, Only if all above activities has been Completed.

OPASH
SOFTWARE

101, The Galleria Shopping Hub,
Beside Sanjeev Kumar Auditorium Road,
Pal Gam, Adajan, Surat, Gujarat 395009
Phone: 9537222266, 8160967399

Date: 20/12/2023

OFFER LETTER

To,
Mr. Meet Sojitra
Mobile no: 9726771777

Dear **Mr. Meet Sojitra**

Greetings from Opash Software. After a thorough review of your various interviews, we are happy to let you know that we want to offer you the position of **Trainee Software Engineer**. We would like you to join us from 8th January 2024.

We think that your knowledge, skills, and experience will be the same as we experienced during the interview process.
Congratulations, and welcome to Team Opash Software.
We have the pleasure in welcoming you and looking forward to a mutually meaningful association.

Yours truly,
Mr. Hiren Danecha
CEO,
Opash Software

101, The Galleria Shopping Hub,
Beside Sanjeev Kumar Auditorium Road,
Pal Gam, Surat, Gujarat 395009
Phone: 9537222266, 8160967399

Date: 05/04/2024

To Whom It May Concern

This is to certify that **Mr. Meet Sojitra**, a student of **SAL Institute of Technology & Engineering Research**, has successfully completed his Three-month Internship as a **Software Engineer Trainee** from **15th January 2024** to **5th April 2024** (Total number of Weeks: 12) under the guidance of **Opash Software.**

His internship activities include HTML, CSS, JavaScript, React JS, Next JS, Bootstrap, and Tailwind-CSS

During the period of his internship program with us, he had been exposed to different processes and was found diligent, hardworking and inquisitive.

We wish him every success in his life and career.

For **Opash Software**,
Authorized Signature with Industry Stamp

Hiren Danecha
CEO

SAL Institute of Technology and Engineering Research

Opposite Science City, Sola, Ahmedabad, Gujarat 380060.

DECLARATION

We hereby declare that the Internship report submitted along with the Internship entitled **e-Sanad** submitted in partial fulfillment for the degree of Bachelor of Engineering in Computer Engineering to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me at Opash Software under the supervision of Mr. Hiren Danecha and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student	Sign of Student
1. Meet Sojitra	_____

ACKNOWLEDGEMENT

I am extremely grateful to Mr. Hiren Danecha, a Software Engineer and CEO at Opash Software, for giving me the opportunity to intern at their esteemed organization. Him unwavering support and guidance throughout my internship period have been truly invaluable. Despite him busy schedule,he consistently provided me with mentorship and encouragement, motivating me to excel within the dynamic work environment of Opash Software. My deepest thanks to Mr. Hiren Danecha for him invaluable support and mentorship during my internship.

I would like to express my heartfelt appreciation to Prof. Komal Thummar (Computer Engineering), for providing me with continuous support and guidance during my final semester internship at " Opash Software". Their unwavering assistance has been instrumental in helping me gain practical work experience in the industry. I am also grateful to all the resources from our department who have created a conducive environment and provided essential guidance. Without their support, I would not have been able to achieve my goals. Their availability and constant inspiration have been truly motivating for me.

ABSTRACT

The internship has been a valuable opportunity for me to acquire skills highly sought after by employers, such as teamwork, communication, and technical proficiency. I have been fortunate to learn from experienced professionals who have served as role models and mentors, guiding me in navigating the corporate world and sharing their wealth of experience. The internship has also provided me with practical knowledge and skills that I have been able to apply to real- world problem-solving. Working on an actual project hasallowed me to gain hands-on experience in utilizing the software development life cycle, collaborating with a team, and applying diverse knowledge to solve intricate puzzles.

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ABBREVIATIONS

CEO: Chief Executive Officer

CTO: Chief Technical Officer

TL: Team Leader

IT: Information Technology

HTML: Hyper Text Markup Language

CSS: Cascading Style Sheet

JS: JavaScript

AWS: Amazon Web Services

HR: Human Resource

IDE: Integrated Development Environment

API: Application Programming Interface

UI: User Interface

DOM: Document Object Model

I/O: Input Output

SQL: Structured Query Language

ER: Entity Relationship

VS- Visual Studio

Team Id: 404303

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CHAPTER 1: OVERVIEW OF THE COMPANY

1.1 HISTORY

Opash Software is a software development company that specializes in providing custom software development, web and mobile application development, cloud computing solutions, and other IT services. The company is headquartered in Surat, India.

Opash Software has a team of highly skilled and experienced software engineers, designers, and project managers who work collaboratively to deliver innovative and cutting-edge solutions to clients across various industries, including healthcare, finance, e- commerce, and more. The company is known for its client-centric approach, focusing on understanding the unique requirements of each client and delivering tailored solutions tomeet their specific needs.

With a strong commitment to quality, Opash Software ions follows industry best practices and uses the latest technologies and tools to ensure the development of high-performing and scalable software solutions. The company has expertise in a wide range of technologies, including but not limited to, Java, Python, .NET, React, Angular, Node.js, AWS, Azure, and Google Cloud Platform.

Opash Software takes pride in its customer-centric approach, providing excellent communication, transparency, and responsiveness to its clients throughout the project lifecycle. The company follows agile methodologies for software development, allowing for flexibility and adaptability to changing project requirements.

Fig 1.1 Company Logo

1.2 DIFFERENT PRODUCTS

Opash Software offers a wide range of products and services that cater to the diverse needs of businesses across various industries. Some of the key products offered by Opash Software include:

- Custom Software Development
- Web and Mobile Application Development
- Cloud Computing Solutions
- Product Engineering
- DevOps Services
- API Development and Integration
- Quality Assurance and Testing
- UI/UX Design user-friendly experiences
- Talent Solution

1.3 ORGANIZATION CHART

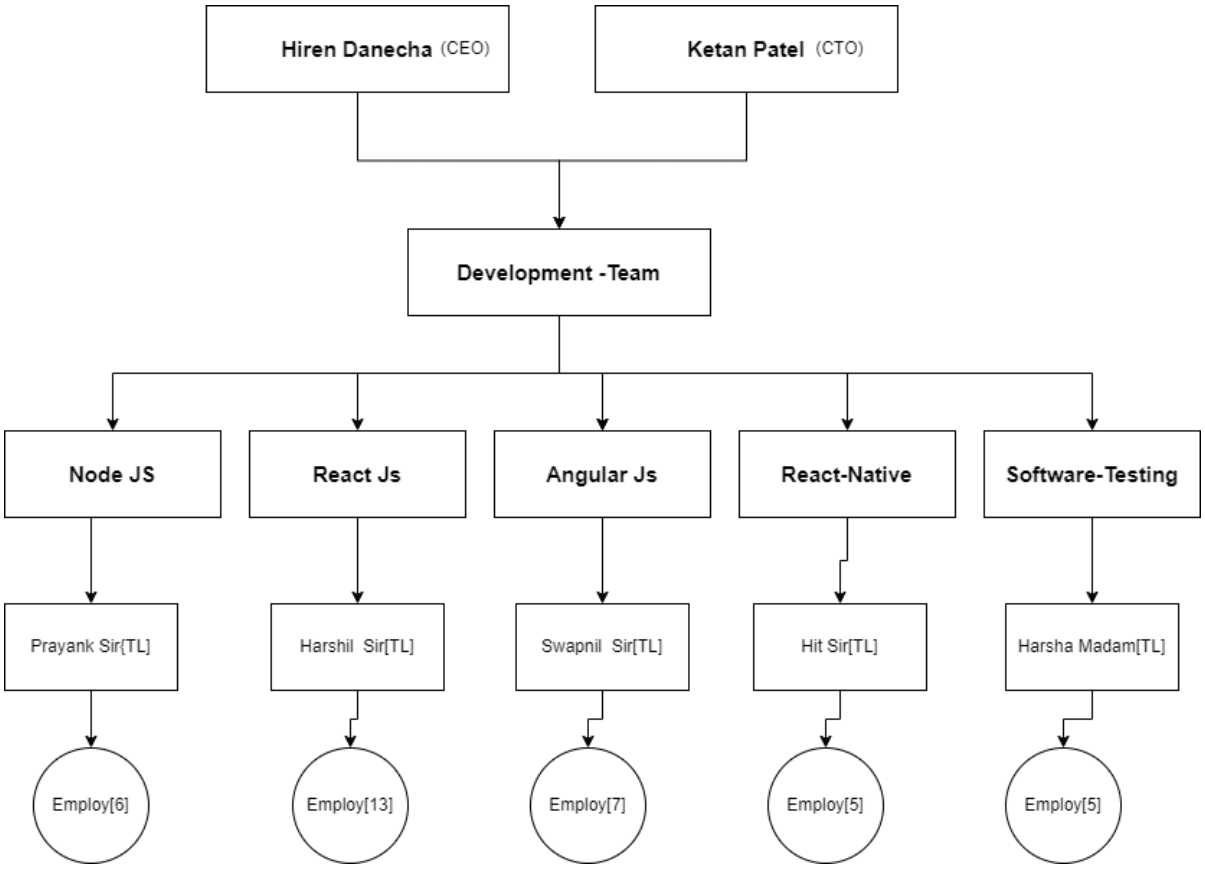

Fig 1.2 Organization chart

1.4 CAPACITY OF COMPANY

Currently our company holds over 30+ employees. However, as the company is growing rapidly its capacity is getting higher and higher.

CHAPTER 2: OVERVIEW OF DIFFERENT DEPARTMENT PROCESS IN THE COMPANY

2.1 DEPARTMENT

- HR
  - Human resources department is in-charge of arranging interviews, coordinating hiring efforts, Legal and Compliance, onboarding new employees and responsible for managing the employee life cycle and administering employee benefits.

- Marketing
  - Conducting campaign management for marketing initiatives, creating content providing search engine optimization for company website. Defining and managing company resources.

- IT Development
  - Building Projects as per client's requirements is the main agenda behind this department. This team includes Java, Python, Node, React, Data, .Net, Native Mobile etc. internal departments.

- Learning and Development
  - Plays a crucial role in facilitating the growth and development of employees within the organization. It includes Training and Development programs, career development, Professional certifications, Employee engagement, etc.

2.2 TECHNICAL SPECIFICATIONS OF MAJOR EQUIPMENT USED IN EACH DEPARTMENT

1. **Frontend Development Department:**

- Tools:
    a) Integrated Development Environments (IDEs) like Visual Studio Code, Sublime Text
    b) Version control systems (e.g., Git)
    c) Browser Developer Tools for debugging and optimization

2. **Backend Development Department:**

- Tools:
    a) Text editors/IDEs: Visual Studio Code, Atom
    b) Database management tools: MongoDB Compass, MySQL Workbench

3. **Testing Department:**

- Tools:
    a) Automation tools: Jenkins, Travis CI, GitLab CI/CD
    b) Browser testing tools: Browser Stack, Sauce Labs

4. **Business Department:**

- Tools:
    a) Project management tools: Jira, Trello, Asana
    b) Document collaboration tools: Microsoft Office Suite (Word, Excel, PowerPoint), Google Workspace
    c) Communication tools: Slack, Microsoft Teams, Zoom

CHAPTER 3: INTRODUCTION TO INTERNSHIP

3.1 INTERNSHIP SUMMARY

During my internship at Opash Software, which started in January 2024 and is based in the Surat. I was motivated by the positive work environment during my daily commutes. The employees at Opash were friendly, supportive, customer- service oriented, caring, and honest, which created a conducive atmosphere for me to prove myself as a reliable employee, coworker, and motivated student. This internship also provided me with the opportunity to gain critical office experience that I had not previously acquired in my past work experiences.

One of the most valuable skills I developed during my internship was versatility, as I had the opportunity to work on various technologies. As I successfully completed tasks, I earned increasing levels of responsibility and was always eager to take on new work. The support and feedback I received from my coworkers at Opash were instrumental in helping me feel comfortable and confident in my role. I am deeply grateful to all my coworkers at Opash Software for providing me with the opportunityto grow personally and professionally during my internship.

3.2 PURPOSE

The purpose of my internship was to gain practical experience and develop professional skills in my chosen field of study. Through this internship, I aimed to:

- Gain hands-on experience: I wanted to apply the theoretical knowledge gained from my academic studies in a real-world work environment and learn how concepts are implemented in practice.
- Develop professional skills: I aimed to enhance my communication, teamwork, problem-solving, and time management skills through real-world projects and interactions with colleagues and clients.

- Explore my career interests: I wanted to use the internship as an opportunity to explore different career paths, industries, and job roles to make informed decisions about my future career goals.
- Build a professional network: I aimed to establish professional connections and build a network of contacts in my field of interest, which could be valuable for future career opportunities.
- Enhance my resume: I wanted to add relevant work experience, skills, and accomplishments to my resume, making it more competitive and increasing mychances of securing future employment.
- Personal growth: I aimed to grow both professionally and personally by building confidence, improving self-awareness, and developing a strong work ethic during the internship.

3.3 OBJECTIVE

The main objectives of this internship were as follows:

- Learned professional communication skills, corporate behavior, and etiquettes.
- Improved my coding standards and critical thinking skills.
- Brushed up Fundaments of web programming including HTML, CSS, JavaScript, jQuery, Bootstrap, APIs, etc.
- Learned how to work in a team with help of collaborative version control tools such as Git and maintain remote repository in GitHub.
- Developed a comprehensive understanding of JavaScript to strengthen my foundational knowledge
- Acquired knowledge about how to create complex components such as Forms, Dialogs, Modal, Charts, Views along with developing Web Application.
- Also, I learned how to aggregate our all knowledge and use it in solving real- world problems, and how to work in collaboration as a team.

3.4 SCOPE

Sanad is your simple and fun platform to compare and choose from lots of options in a matter of minutes. All honest, transparent, and easy to understand (just like this sentence)

- User-Friendly Interface: We've designed e-Sanad to be intuitive for users. Whether you're comparing insurance options or selecting the best offer, our platform makes it easy to navigate.
- Comparison of Two Insurance Companies: With e-Sanad, you can compare insurance options from two companies' side by side. This ensures you get a comprehensive view of your choices, allowing you to make the best decision for your needs.
- Best Offer Suggestions: We analyze available insurance offers to recommend the best options for you. Our goal is to provide tailored suggestions that meet your requirements and preferences.
- Efficiency: Time is valuable, which is why e-Sanad streamlines the insurance comparison process. In just a matter of minutes, you can explore numerous options and find the perfect insurance plan.

3.5 TECHNOLOGY AND LITERATURE REVIEW

3.5.1 HTML / CSS:

HTML, which stands for Hyper Text Markup Language, is a language that web developers use to create web pages and other digital content that can be viewed in a web browser. HTML is responsible for defining the structure and content of the web page, which includes headings, paragraphs, links, images, and other elements. The language uses tags toidentify the start and end of each element and attributes to specify their properties.

CSS (Cascading Style Sheets) is a style sheet language used for describing the presentation and formatting of HTML and XML documents. CSS allows web designers to separate the presentation and layout of a document from its content, enabling them to control the appearance of multiple pages with a single style sheet. CSS provides a range of style properties, including font, color, background, layout, and animation, that can be applied to different elements of a web page.

3.5.2 JavaScript

JavaScript is a dynamic, high-level programming language that is mostly used for creating interactive front-end web applications. However, it is also used in back-end development with the help of technologies such as Node.js. One of the significant benefits of using JavaScript is that it enables web developers to create responsive and interactive web pages that can update their content and respond to user actions in real- time. It is a versatile language that can be used to build a wide range of web applications.

3.5.3 ReactJS

ReactJS, also known as React, is an open-source JavaScript library that is primarily used for building user interfaces (UIs) for web applications. React, which is an open-source JavaScript library developed by Facebook, provides web developers with the ability to create high-performance and responsive web applications. One of the key benefits of using React is its ability to update and render changes in real-time without requiring a page refresh

Here are some of the benefits that React offers:

- Reusable components: React is component-based architecture allows developers to create small, reusable UI components that can be combined to build complex UIs. This makes it easier to manage application complexity and maintain code consistency.
- Virtual DOM: React uses a virtual DOM to render changes to the UI. This approach makes the rendering process faster and more efficient, resulting in improved application performance.
- One-way data binding: React uses a one-way data binding model, which means that data flows in one direction, from parent components to child components. This simplifies the data flow and reduces the likelihood of bugs and errors.
- Declarative syntax: React uses a declarative syntax, which makes it easier to reason about the code and write cleaner, more maintainable code.
- Cross-platform development: React can be used to build web applications as well as mobile applications using React Native, which allows developers to build cross-

platform applications using a single codebase.

3.5.4 Next.JS

Next.js is a React-based open-source framework for building server-side rendered (SSR) or statically generated web applications. Developed by Vercel, it provides developers with features like:

- Server-side Rendering (SSR): Next.js enables server-side rendering out of the box, improving performance and SEO.
- Static Site Generation (SSG): It supports static site generation, generating HTML at build time for better performance and caching.
- Automatic Code Splitting: Next.js automatically splits code bundles to optimize page loading times.
- File-based Routing: Routing is based on the file system, making it intuitive and easy to manage.
- API Routes: It allows you to create API endpoints within your Next.js application.
- Image Optimization: Next.js optimizes images automatically for faster loading.
- TypeScript Support: It has built-in support for TypeScript, enhancing code quality and developer productivity.
- Developer Experience: Next.js offers a great developer experience with features like hot module replacement and error reporting.

3.6 INTERNSHIP PLANNING

My internship was primarily focused on two distinct components:

1. **Initial Training:** In this part I got the essential training which included learning about the different version control systems, web programming fundaments such as HTML, CSS, JavaScript, in addition to that explored core concepts of software development such as software development life cycle, git, etc. This part of the internship was intended to master the fundaments and to make us familiar with the technologies used by the company and will work in future. Meanwhile, learning these core topics we were given some tasks which is based on the topics learned so far that must be completed before desired deadline.

2. **Work on Live Project:** In this phase of the internship, I have been tasked with designing and developing a comprehensive full-stack project for e-Sanad, an insurance web application. The goal is to create a platform where users can purchase the best insurance policies available on our website.

3.7 INTERNSHIP SCHEDULING

Week-1	Learn Html CSS and design the web page help of Figma design
Week-2	Completed the 2 Figma design and start the JavaScript Study
Week-3	Learn the all-basic concept for the JavaScript
Week-4	Study of ES6 JavaScript.
Week-5	Completed the JavaScript with 53 Programming task given by my mentor.
Week-6	Start the React JS Study and learn some basic concept for the React JS

Week-7	Learn the Advance concept Of React JS like fetch API and database connectivity
Week-8	Create the CRUD app and Form Validation and store the data in firebase and local storage
Week-9	Design the About Page for e-Sanad Website.
Week-10	Create the contact page and functionality of contact page
Week-11	Create the Feed Back Page and integrate the functionality for the submit the feedback and response for the backend.
Week-12	Create the Pet Insurance Part I have create the form for the pet and pet owner detail and this detail is store in the admin portal

Table 3.1 Summary Table

CHAPTER 4: SYSTEM ANALYSIS

4.1 STUDY OF CURRENT SYSTEM

Insurance Company	feature1	feature2	feature3	feature4
Allstate	"Coverage Compass" tool for personalized coverage recommendations	Educational resources and articles on insurance	Mobile app for policy management, claims filing, and roadside assistance-	Online quotes and policy customization tools
State Farm	Personalized coverage recommendation	Educational resources and tools	Find an agent feature for local assistance	Claims tracking and management tools
GEICO	"Name Your Price" tool for customized policy options based on budget	Discounts for various factors such as good driving records, multiple policies, and vehicle safety features	"Virtual Assistant" for instant customer assistance	Online policy management and bill payment tools
LIC (Life Insurance Corporation of India)	Policy information and product details	Premium calculator and plan comparison tools	Branch locator for in-person assistance	Online policy renewal and premium payment facilities

Table 4.1 Table of Current System

4.2 PROBLEM AND WEAKNESSES OF CURRENT SYSTEM

Security Concerns:

- Authentication and authorization mechanisms need to be robust to prevent unauthorized access to sensitive user data and admin functionalities.
- Secure transmission of data, especially during the login process and payment transactions, should be ensured.
- Regular security audits and updates are necessary to address emerging threats.

Data Privacy and Compliance:

- Ensure compliance with data protection regulations such as GDPR or CCPA, especially concerning user data handling, storage, and processing.
- Implement mechanisms for user consent management and data anonymization where applicable.

Scalability and Performance:

- Evaluate the scalability of the chosen technical stack (Node.js, Express.js, MongoDB) to handle potential increases in user traffic and data volume.
- Optimize database queries and application code to improve performance, especially during peak usage times.

User Experience (UX):

- Conduct usability testing to ensure that the website interface is intuitive and easy to navigate for users of all levels of technical proficiency.
- Consider incorporating accessibility features to accommodate users with disabilities.

4.3 REQUIREMENTS OF NEW SYSTEM

Based on the study of the current system, the following requirements have been identified for the development of a new job portal system:

User Management:

- Registration and authentication mechanisms.
- Profile management for users.
- Secure storage of user data.

Quote Generation and Comparison:

- Input forms for car details and coverage preferences.
- Integration with third-party APIs for quote retrieval.
- Comparison tools for evaluating quotes.

Policy Management:

- Purchase and checkout functionality.
- Storage and management of active and expired policies.
- Renewal reminders and processes.

Third-party API Integration:

- Integration with SMS API for OTP verification.
- Integration with APIs for car details retrieval.
- Integration with payment gateway for secure transactions.

Admin Functionality:

- Admin dashboard for monitoring system metrics.
- Customer management tools.
- Access controls and permissions.

Security:

- Implementation of encryption protocols for data security.

- Protection against common security threats like XSS, CSRF, etc.

User Experience:

- Intuitive user interface for easy navigation.
- Responsive design for compatibility across devices.
- Fast and efficient performance.

Customer Support:

- Helpdesk or support channels for user assistance.
- FAQ section or knowledge base for common queries.

Scalability and Flexibility:

- Architecture capable of scaling with increasing user demand.
- Flexibility to accommodate future updates and enhancements.

4.4 SYSTEM FEASIBILITY

There is no unfeasibility in implementing the new system. It will require lots of human resources and time to develop such a new system.

But, once it's done, it will reduce costs to the company drastically as it decreases cost of server hosting like network fee, processing and storing fee, it will also reduce a time and increase understanding of planner.

4.4.1 Does the system contribute to the overall objectives of the organization?

Yes, the e-Sanad insurance website aligns with the organization's objectives by offering a user-friendly platform for easy comparison and purchase of car insurance. Its emphasis on transparency, efficiency, and customer engagement contributes to building trust, increasing accessibility, and driving business growth.

4.4.2 Can the system be implemented using the current technology and within the given cost and schedule constraints?

Yes, if we choose the right technology stack, establish a clear project plan, build a skilled development team, and conduct rigorous testing and quality assurance, it is possible to implement an insurance using current technology and within given cost and schedule constraints.

4.4.3 Can the system be integrated with other systems which are already in place?

No, For the time being, it is not feasible to be integrated with other systems which are already in place.

4.5 ACTIVITY/ PROCESS IN NEW SYSTEM/ PROPOSED SYSTEM

In the proposed e-Sanad insurance system, key activities and processes include:

User Registration and Authentication: Users can sign up using email, mobile number, or social media accounts. The system verifies user identity through SMS OTP or social media logins.

Quote Generation: Users input car details and desired coverage to receive insurance quotes from various providers. The system facilitates different methods of obtaining car details and calculates estimated policy costs.

Quote Comparison: Users can compare quotes based on price, coverage, and insurer. The system presents options for both third-party and comprehensive plans, allowing sorting and filtering based on user preferences.

Policy Management: After selecting a policy, users proceed to the checkout process, where they provide necessary details and make payments. The system stores active policies, expired policies, and pending renewals for easy access and management within the user account.

Administration: Admins can access a dashboard to monitor system metrics, manage customer accounts, view policy details, and oversee third-party API integrations for SMS, car details retrieval, quotation generation, and payment processing.

4.6 FEATURES OF NEW SYSTEM/ PROPOSED SYSTEM

The proposed e-Sanad insurance system features include:

User-friendly Interface: Intuitive design and easy navigation for seamless user experience.

Multi-Channel Registration: Users can sign up via email, mobile number, Facebook, or Google accounts.

Secure Authentication: Two-factor authentication via SMS OTP ensures secure user logins.

Quote Generation: Users can obtain insurance quotes by providing car details and coverage preferences.

Quote Comparison: Comparison of quotes from various insurers based on price, coverage, and benefits.

Policy Management: Users can purchase policies, manage active policies, view policy details, and renew policies within their accounts.

Third-party API Integration: Integration with third-party APIs for SMS verification, car details retrieval, quotation generation, and payment processing.

Admin Dashboard: Dashboard for admins to monitor system metrics, manage customer accounts, and oversee third-party integrations.

Responsive Design: Compatibility with multiple devices and screen sizes for accessibility.

Data Security: Implementation of security measures to safeguard user data and transactions.

Customer Support: Accessible support channels for user assistance and query resolution.

4.7 PROCESS OF PROPOSED SYSTEM

An architectural diagram of a proposed system that is used to abstract the overall outline of the software system. To allow relevant users to understand a system architecture and follow it in their decision-making, we need to communicate information about the architecture. It is an important tool as it provides an overall view of the physical deployment of the software system and its evolution roadmap.

4.8 SELECTION OF HARDWARE/ SOFTWARE

Hardware:

There are no specific requirements for the hardware required for the new proposed system.

Software:

Operating system: Linux, Windows, Macintosh

Database: MongoDB

Programming languages: JavaScript

Front-end framework: React.js, Next.js

Back-end framework: Node.js

CHAPTER 5: SYSTEM DESIGN

5.1 SYSTEM DESIGN & METHODOLGY

Design: Software design is actually a multistep process that focuses on four distinct attributes of a program: data structure, software architecture, interface representations, and procedural (algorithmic) detail. The design process translates requirements into a representation of the software that can be assessed for quality before coding begins. Like requirements, the design is documented and becomes part of the software configuration.

Code generation: The design must be translated into a machine-readable form. The code generation step performs this task. If design is performed in a detailed manner, code generation can be accomplished mechanistically.

Agile Development: Follow an agile methodology for iterative development and frequent delivery of working software increments. Divide the development process into sprints, each focusing on specific features or user stories from the SRS.

Security Considerations: Implement proper authentication and authorization mechanisms to secure user accounts and sensitive data. Follow best practices for data encryption, secure communication (HTTPS), and protection against common web vulnerabilities like XSS and CSRF.

Testing: Once code has been generated, program testing begins. The testing process focuses on the logical internals of the software, ensuring that all statements have been tested, and on the functional externals; that is conducting tests to uncover errors and ensure that defined input will produce actual results that agree with required results.

Support: Software will undoubtedly undergo change after it is delivered to the customer (a possible exception is embedded software). Change will occur because errors have been encountered, because the software must be adapted to accommodate changes in its external environment (e.g., a change required because of a new operating system or peripheral device), or because the customer requires functional or performance enhancements.

5.2 DATABASE DESIGN DATA STRUCTURE DESIGN AND PROCESS DESIGN.

Column Name	Data type	Size	Constrain
Customer Id	Int	11	Primary key
Full Name	Varchar	30	Not null
Age	Int	03	Not null
Phone	Int	10	Not null
Policy Holder	Varchar	12	Not null
DOB	Int	08	Not null

Table 5.1 Customer Database Table

Column Name	Data type	Size	Constrain
Login	Int	10	Primary key
Password	Varchar	15	Not null

Table 5.2 Admin Database Table

5.2.1 Process and Structure Designs

ER Diagram:

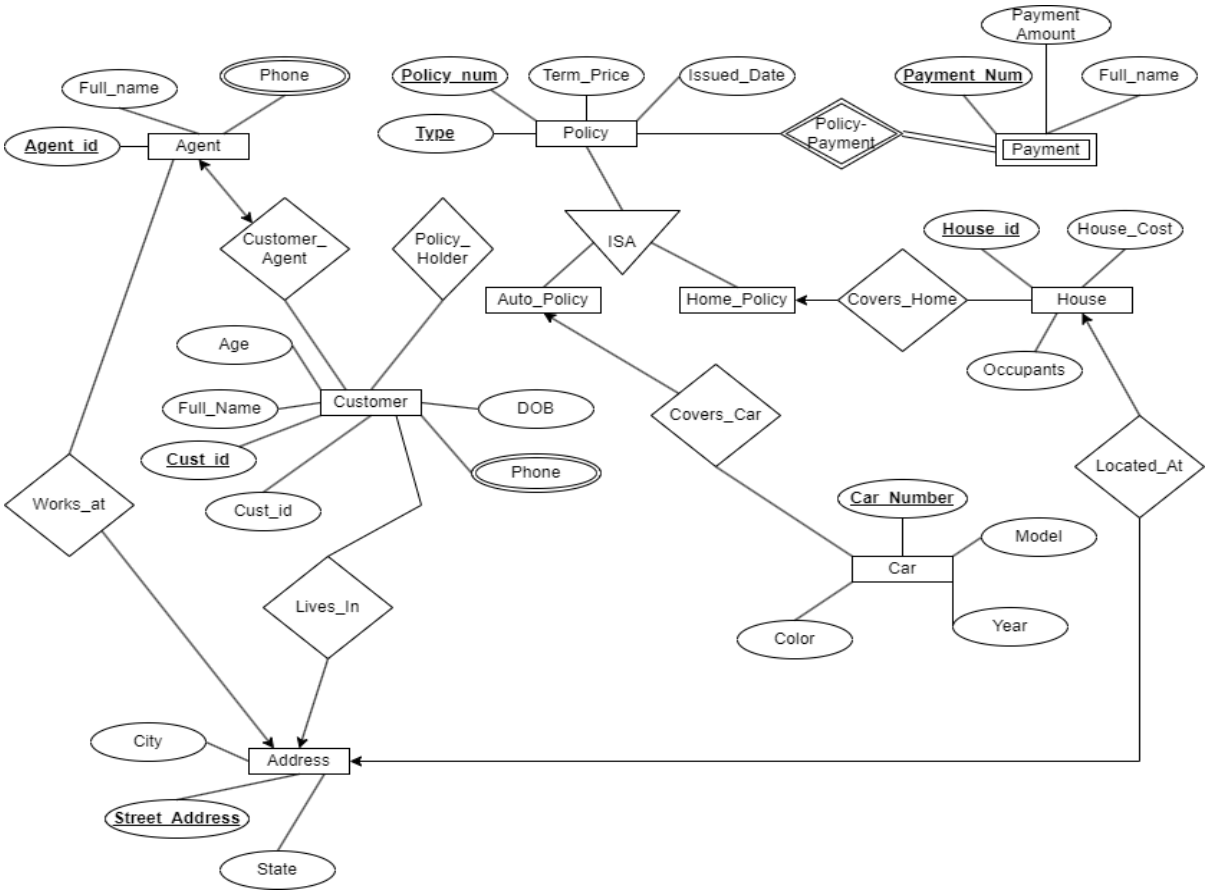

Fig 5.1 ER Diagram

Use Case Diagram:

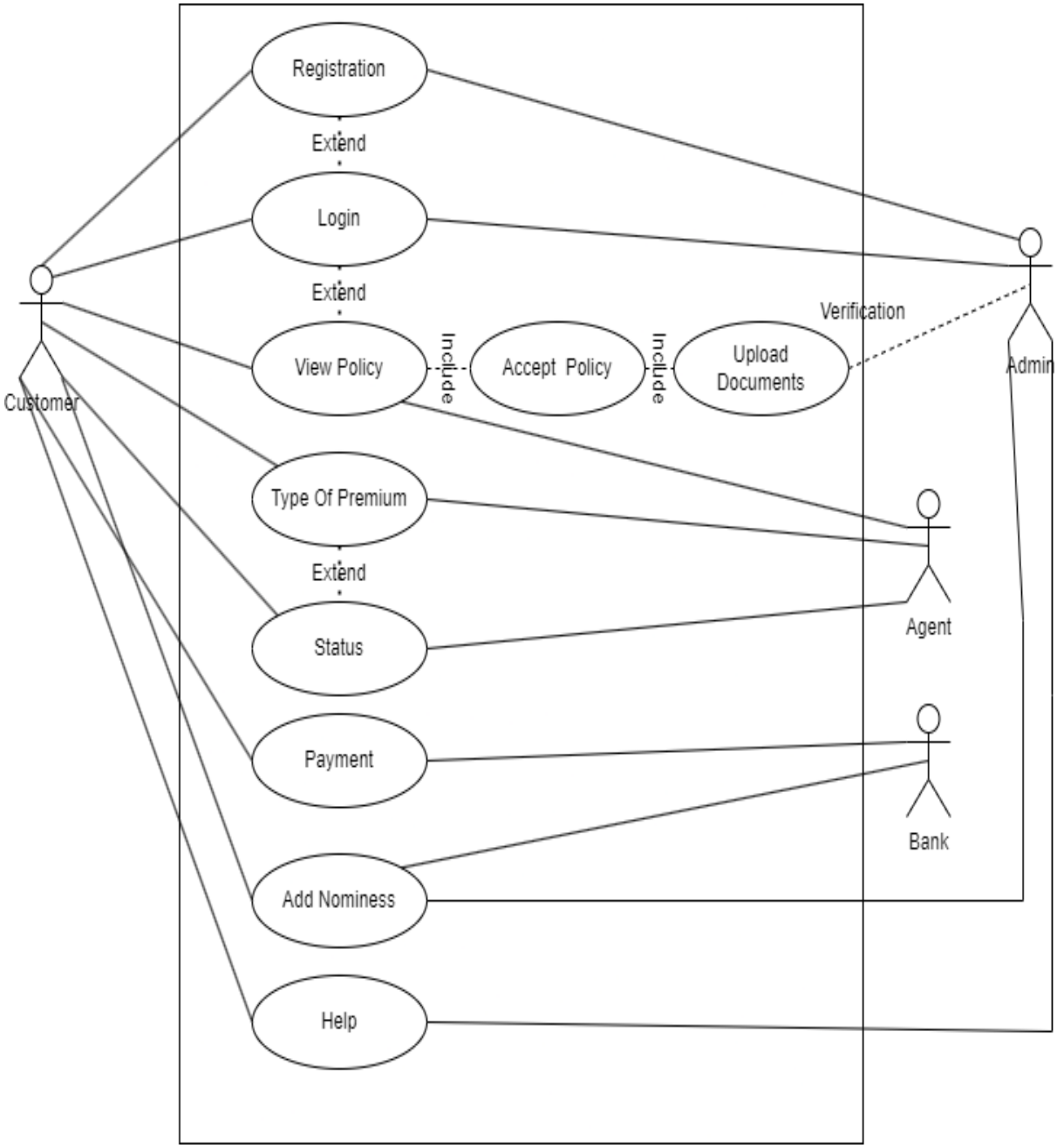

Fig 5.2 Use Case Diagram

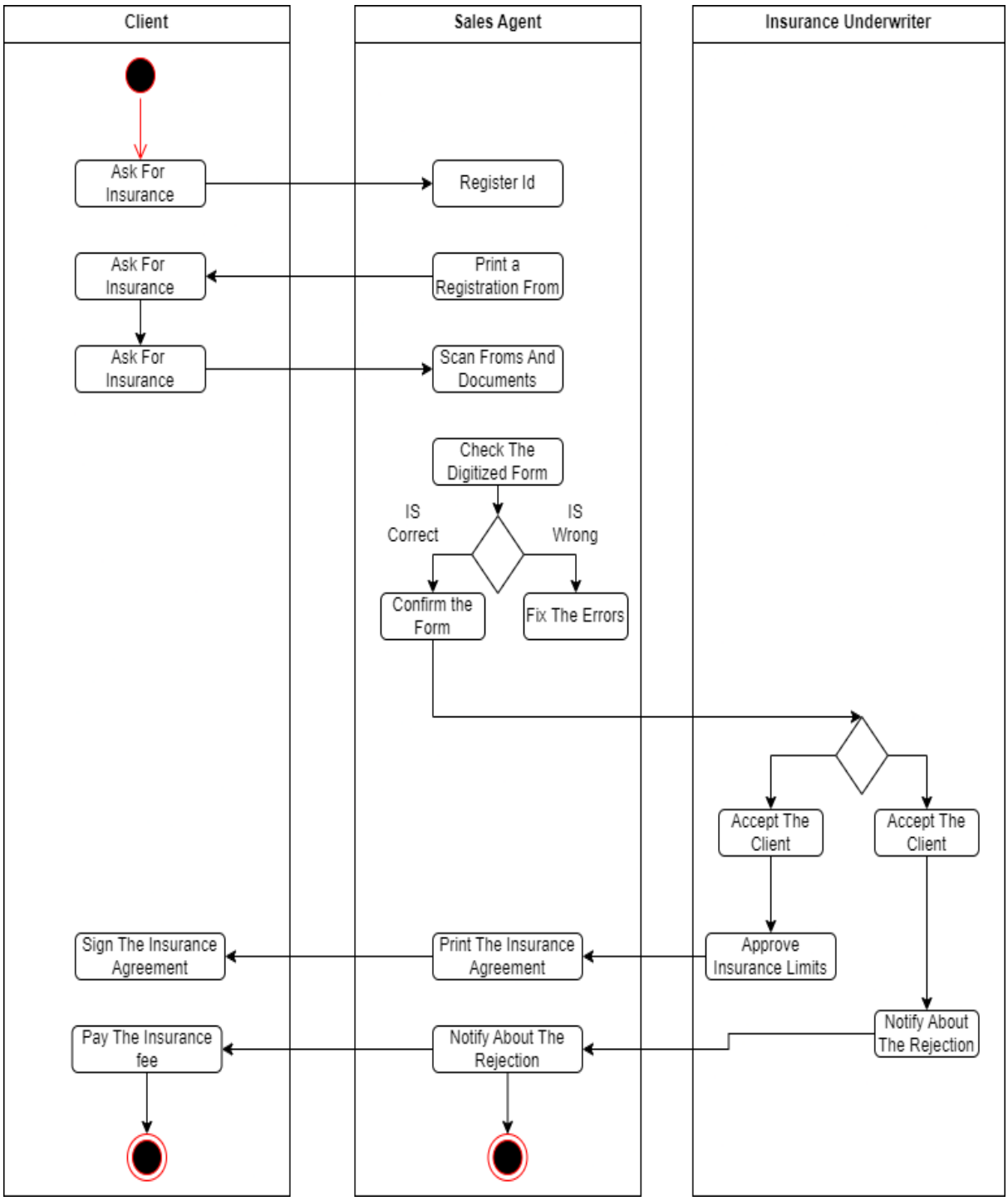

Fig 5.3 Flow Chart Diagram

Fig 5.4 Class Diagram

5.3 INTERFACE DESIGN

- I have implemented a few pages in the e-Sanad project as follows:

a) About Page

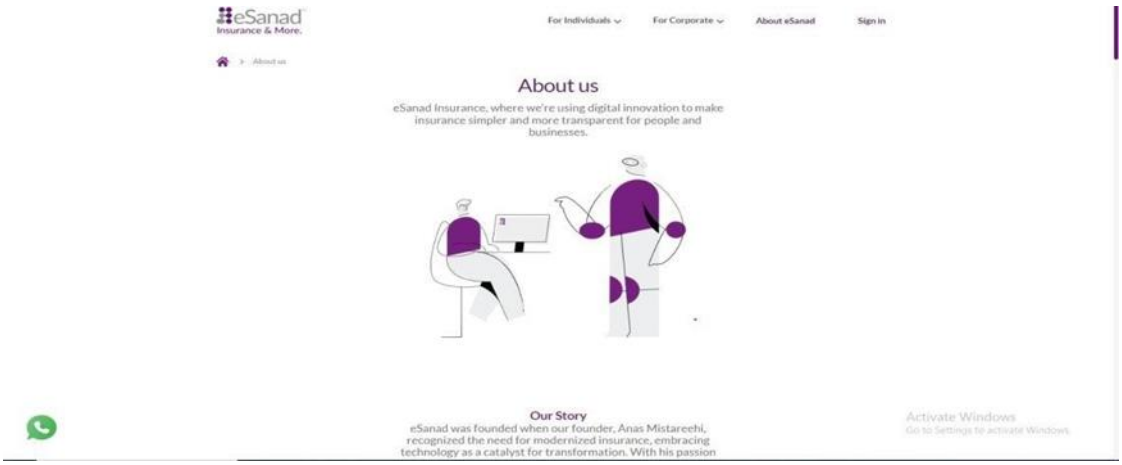

Fig 5.5 Story of e-Sanad

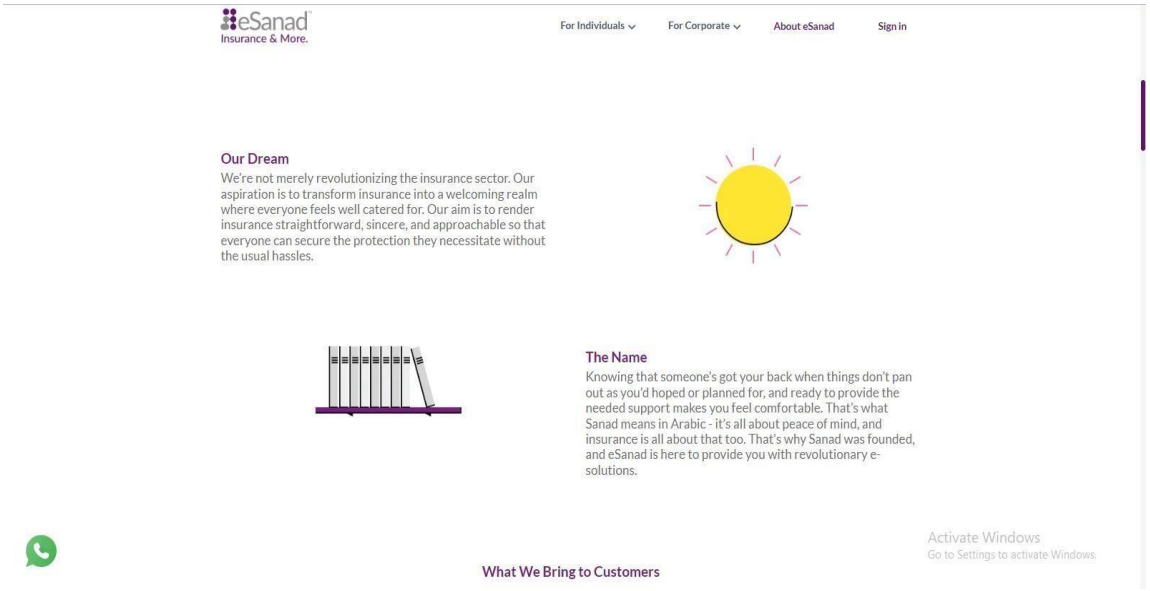

Fig 5.6 Dream of e-Sanad

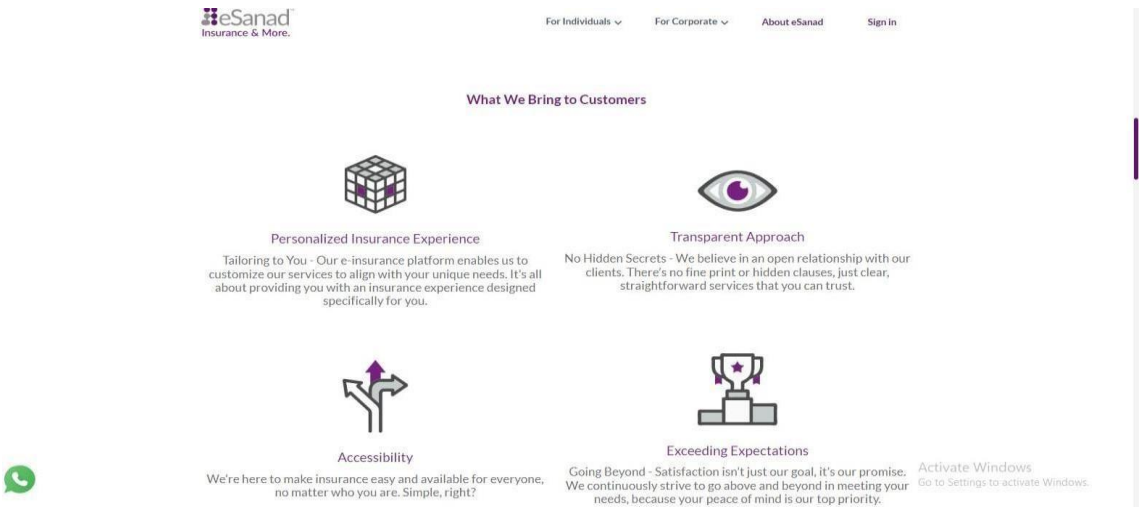

Fig 5.7 Services of e-Sanad

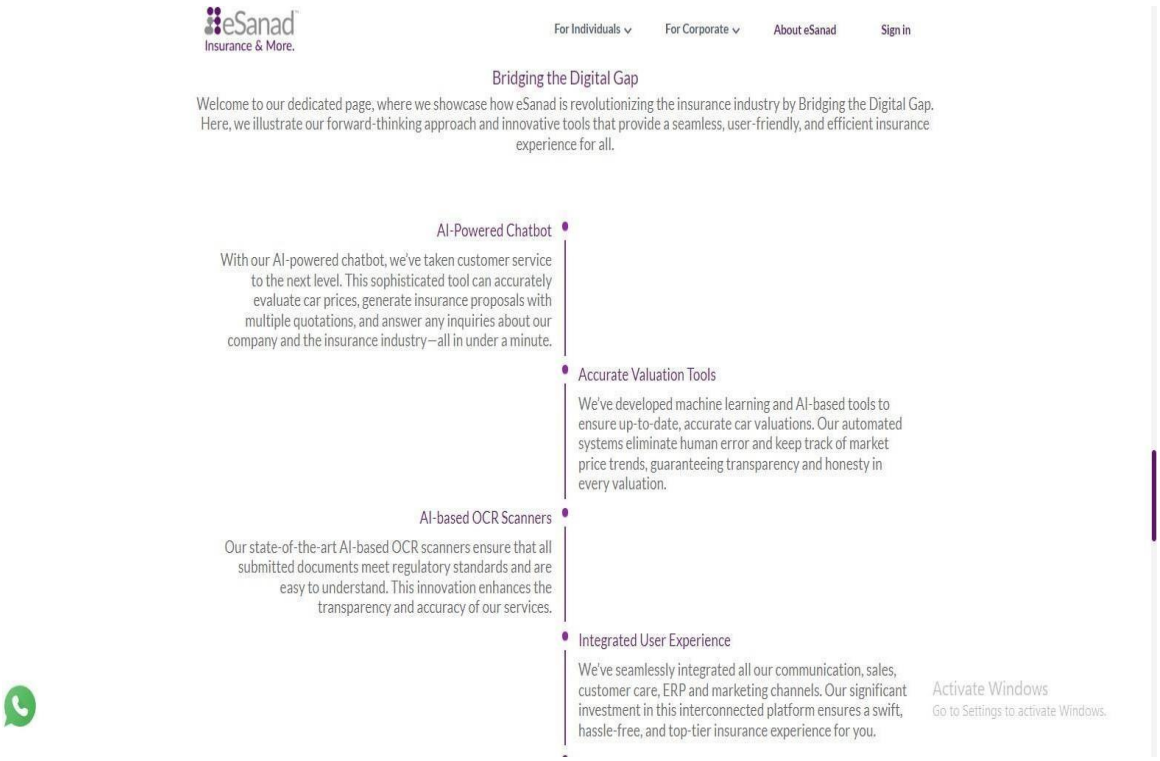

Fig 5.8 Feature of e-Sanad

b) Customer Feedback: -

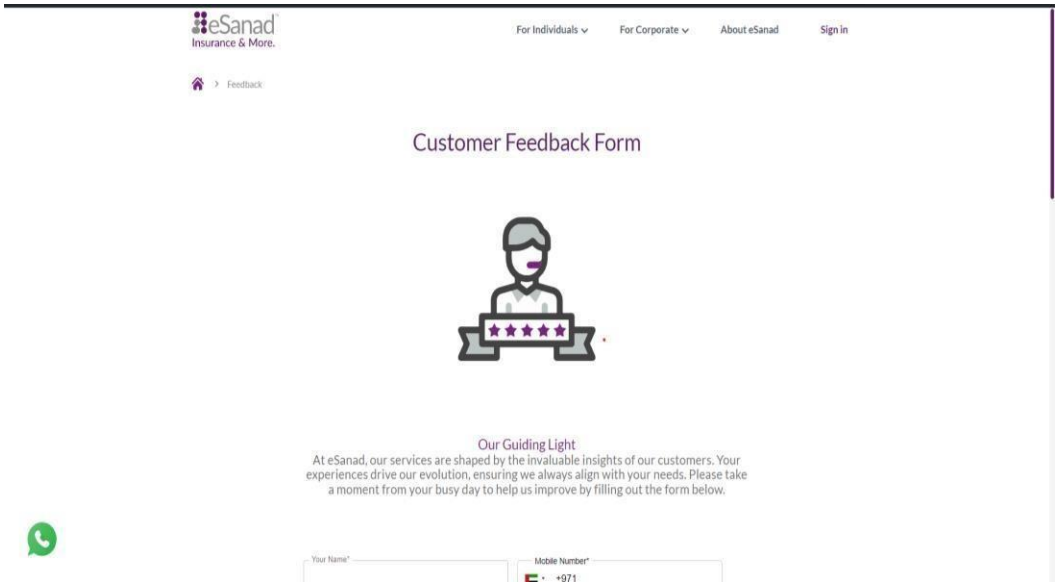

Fig 5.9 Feedback Page of e-Sanad

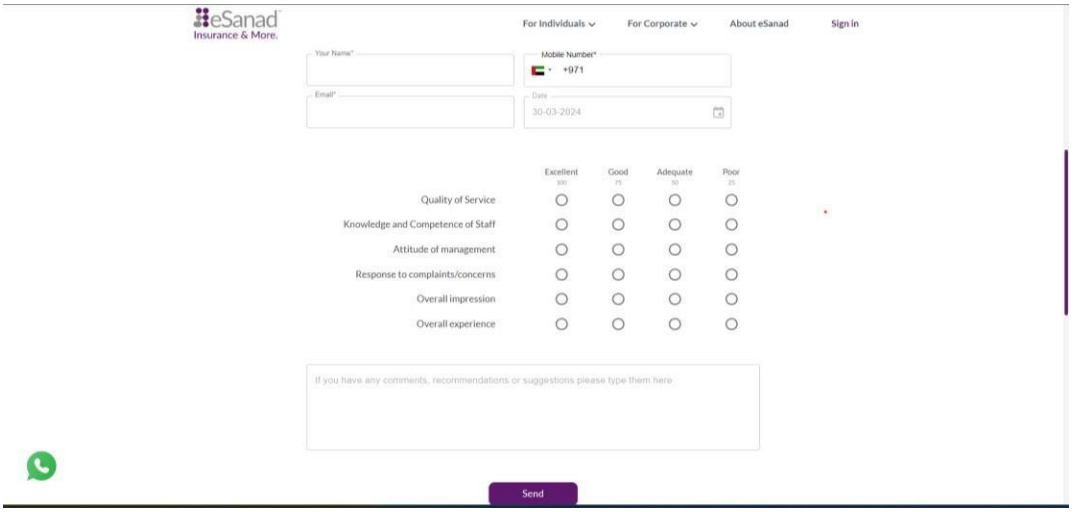

Fig 5.10 Feedback Form of e-Sanad

c) Contact Us: -

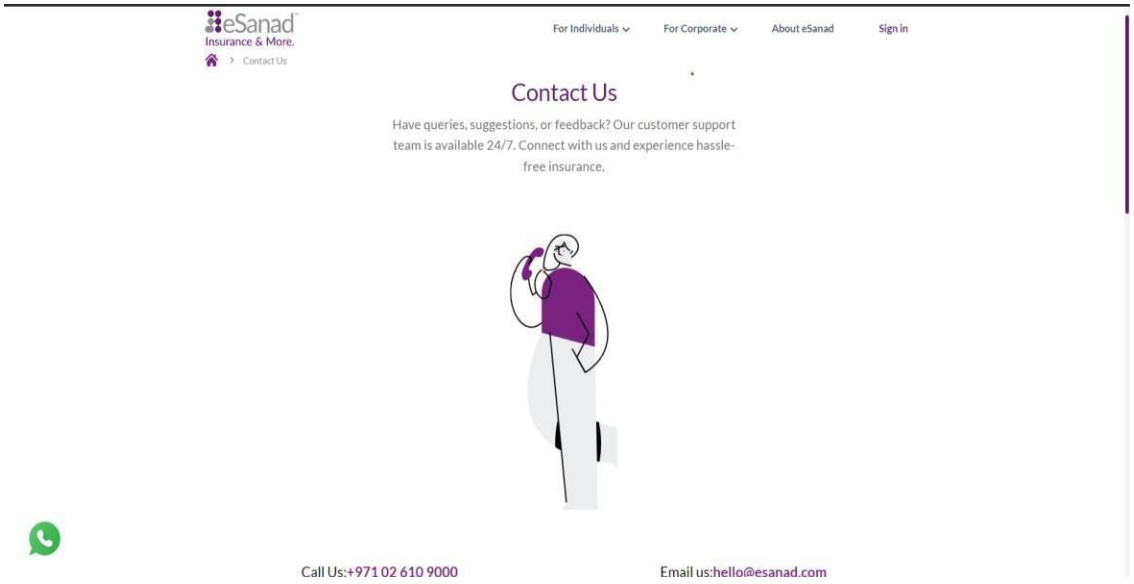

Fig 5.11 Contact us page of e-Sanad

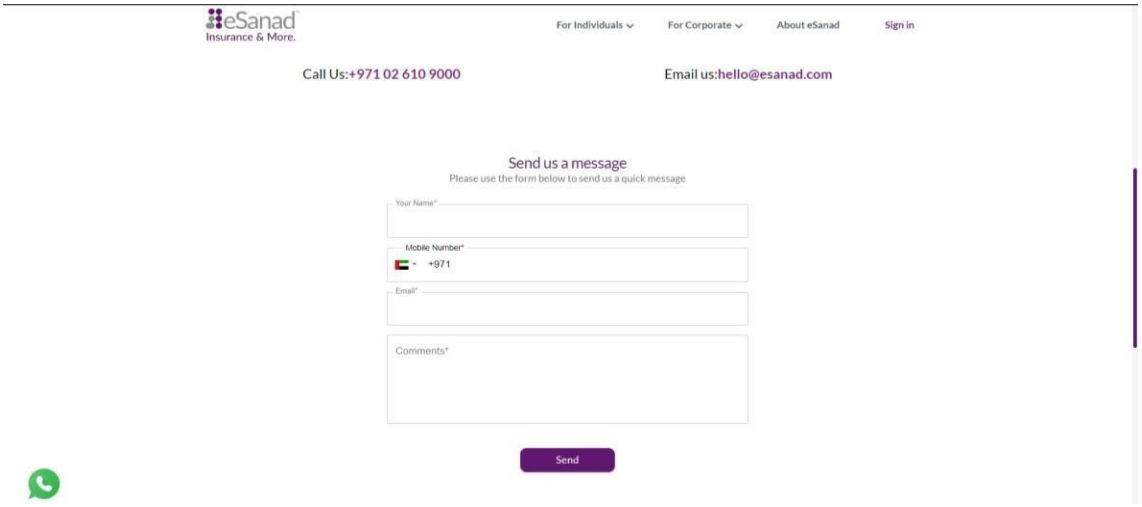

Fig 5.12 Contact us Form of e-Sanad

d) Home Page: -

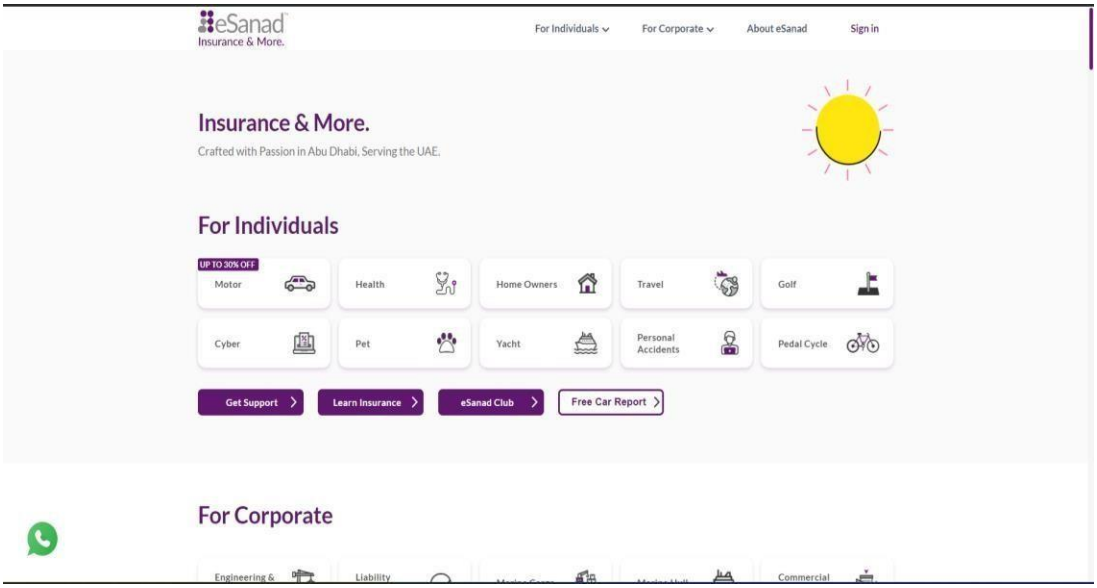

Fig 5.13 Home Page of e-Sanad

e) Pet Insurance: -

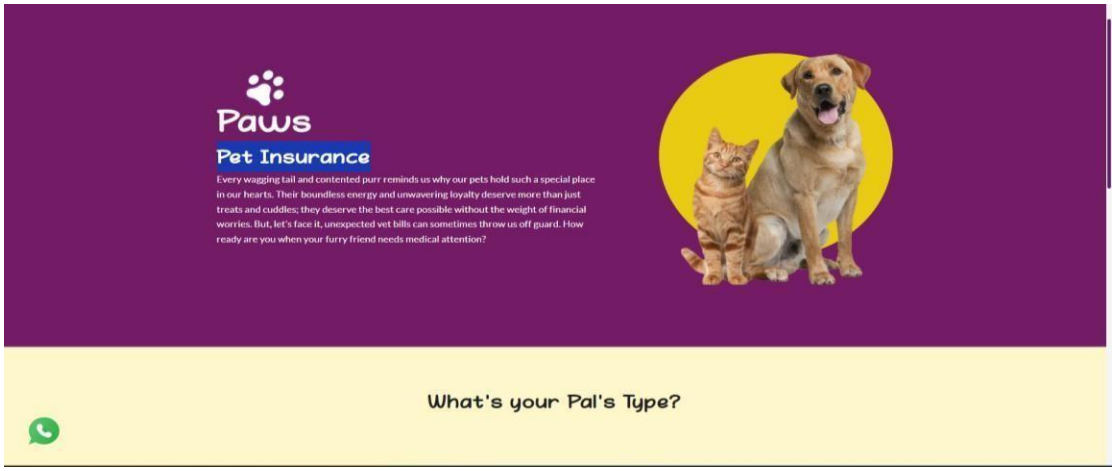

Fig 5.14 Pet Insurance Page

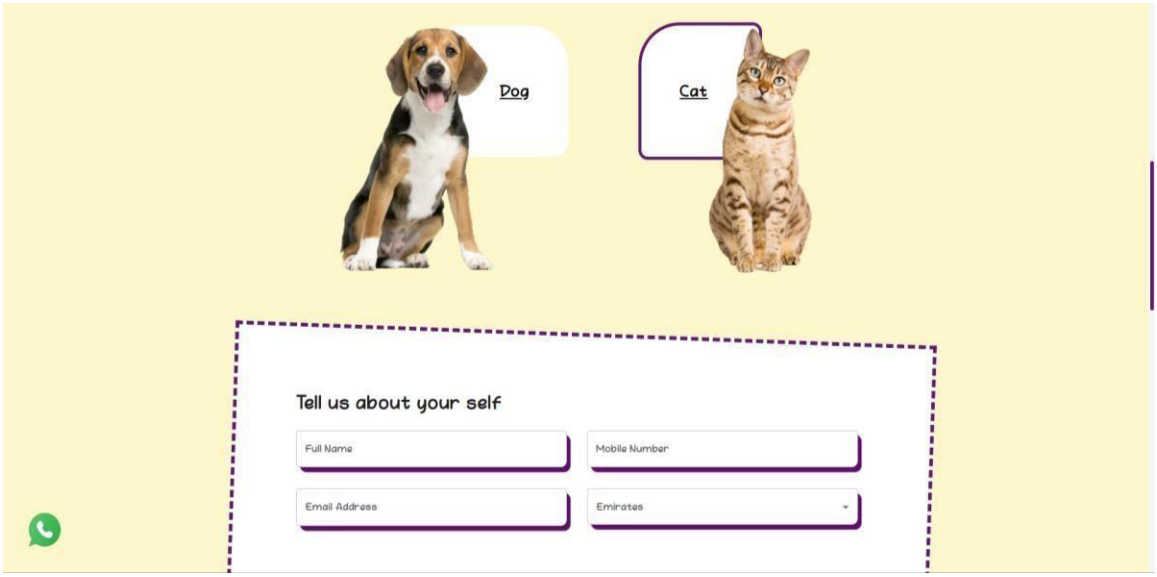

Fig 5.15 Pet Insurance Form

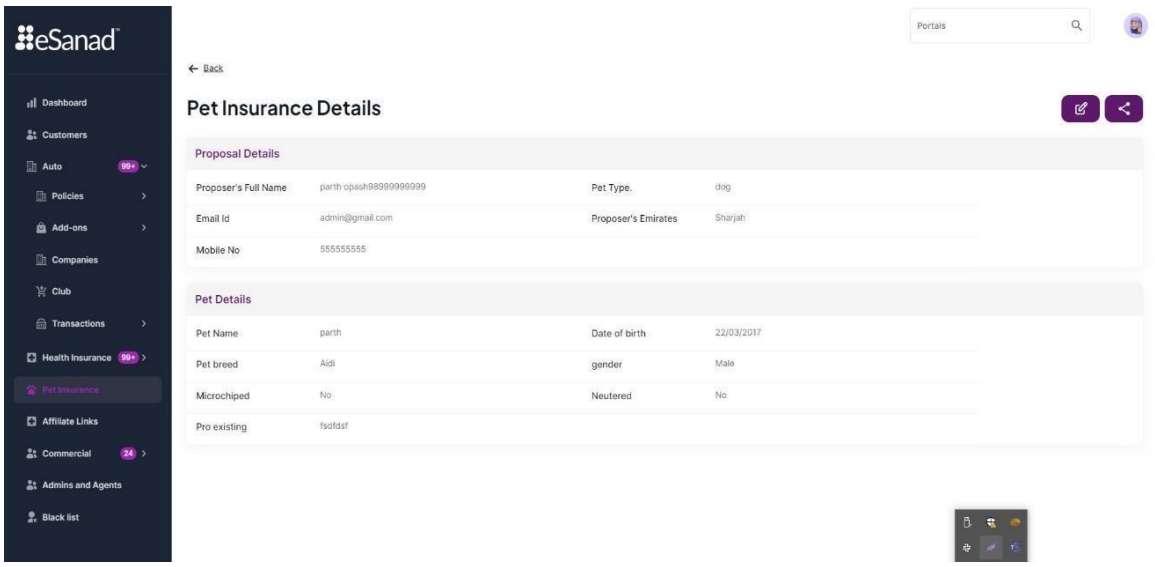

Fig 5.16 Admin Panel

CHAPTER 6: IMPLEMENTATION

6.1 IMPLEMENTATION PLATFORM AND ENVIRONMENT

Frontend

The e-Sanad project is frontend was meticulously crafted using the React JavaScript library. React was selected due to its unparalleled flexibility, modularity, and proficiency in managing intricate UI interactions. The development process prioritized the creation of reusable components, enhancing maintainability and scalability. To ensure a visually appealing and cohesive user experience, CSS and Material UI were employed to style the components consistently across the platform. This strategic approach facilitated the seamless integration of design elements while maintaining code cleanliness and efficiency.

Backend

The backend of the e-Sanad project was built using Node.js. Node.js is a powerful and scalable JavaScript runtime environment that was chosen for its high performance and flexibility. The server-side code was written in JavaScript and was responsible for handling API requests, processing data, and interacting with thedatabase.

Database

The e-Sanad project's database was built using MongoDB, a NoSQL document-oriented database. MongoDB was chosen because of its flexibility, scalability, and ease of use. The data was stored in collections, which were organized according to thedata's structure.

Code Editor

The e-Sanad project was primarily developed using Visual Studio Code as the code editor. Visual Studio Code was chosen for its user-friendly interface, powerful extensions, and support for multiple programming languages. Additionally, Sublime Text was also used for quick code editing and debugging.

6.2 PROCESS / PROGRAM / TECHNOLOGY / MODULES SPECIFICATION(S):

ReactJS

1. React JS is a JavaScript library for building user interfaces for web applications. It was developed by Facebook and is now open-source.
2. React allows developers to create reusable UI components and manage their state

3. The virtual DOM is a key feature of React, making it fast and efficient. React can be used for client-side and server-side rendering.
4. It can be integrated with other libraries and frameworks, such as Redux, to create more complex applications.
5. React has a large and active community of developers who contribute to its development and support.
6. New features and updates are released regularly.

NodeJS

1. Node.js is built on top of Google Chrome's V8 JavaScript engine, which makes it fast and efficient.
2. It uses an event-driven, non-blocking V/O model, which makes it highly scalable.
3. Node.js has a large and active community of developers and users who contribute to its development and support.
4. It can be used to build a variety of applications, including web servers, command - line tools, desktop applications, and more.
5. Node.js has a built-in package manager called pm (Node Package Manager) that makes it easy to install and manage third-party libraries and modules.
6. Node.js is often used with other technologies such as Express.js, a popular web application framework for Node.js, and databases like MongoDB or PostgreSQL

MongoDB

MongoDB is a popular open-source, document-based NoSQL. database. Unlike traditional relational databases, MongoDB stores data in flexible, JSON-like documents, making it easier to store and retrieve data in a dynamic and scalable way.

1. MongoDB is a document-oriented database, which means that it stores data in documents, rather than tables with rows and columns like in a traditional SQL database.
2. Each document can have a different structure, allowing for more flexibility when storing data
3. MongoDB is highly scalable and can handle large amounts of data and high-traffic applications.
4. MongoDB has a powerful query language and supports various types of queries, including range queries, regular expression queries, and more.
5. It has a robust aggregation framework that makes it easy to analyze and group data in various ways
6. MongoDB has a large and active community of developers who contribute to its development and support.

CHAPTER 7: TESTING

7.1 TESTING STRATEGY

Once source code has been generated, software must be tested to uncover as many errors as possible before delivery to customers. Your goal is to design a series of test cases that have a high likelihood of finding errors. Software testing techniques provide systematic guidance for designing tests that.

- Exercise the internal logic of software components.
- Exercise the inputs and outputs domains of the program to uncover errors in program function, behavior and performance.

During early stages of testing, a software engineer performs all tests. However, as the testing process progresses, testing specialists may become involved. Reviews and other activities can and do uncover errors, but they are not sufficient. Every time the program is executed, the customer tests it! Therefore, you have to execute the program before it gets to the customer with the specific intent of finding and removing all errors. In order to find the highest possible number of errors, tests must be conducted systematically, and test cases mustbe designed using disciplined techniques.

Testing Objectives

- Testing is the process of executing a program with the intention of finding an error.
- A good test case is one that has a high probability of finding an as-yet undiscovered error.
- A successful test is one that uncovers an as-yet undiscovered error.

Unit Testing

Unit testing is a software development process in which the smallest testable part of an application, called units, is individually scrutinized for proper operation. Unit testing is often automated, but it can also be done manually. This testing mode is a component of Extreme Programming (XP), a pragmatic method of software development that takes a meticulous approach to building a product by means of continual testing and revision.

Unit testing involves only those characteristics that are vital to the performance of the unit under test. This encourages developers to modify the source code without immediate concerns about how such changes might affect the functioning of the units or the program asa whole. Once all of the units in a program have been found to be working in the most efficient and error free manner possible, larger components of the program can be evaluated by means of integration testing.

Sub System Testing

After testing each unit, we move on to larger units called sub systems. In subsystem testing we tested the whole Add-on as one system and App as another system. We tested each subsystem and got successful results. We found no error or bug after the final test.

System Testing

Now, it's time for the whole System testing. We have found many cosmetic bugs and minor bugs. We have fixed it and again tested it. We worked on each error and exception that We got while testing and most of them are removed or made such corrections that it will not happen again.

Recovery Testing

It is a system test that forces the software to fail in a variety of ways and verifies that recovery is properly performed.

Security Testing

It attempts to verify that protection mechanisms built into a system will, in fact, protect it from improper penetration.

Performance Testing

It is designed to test the run-time performance of software within the context of an integrated system performance testing that occurs throughout all steps in the testing process.

Happy Testing

It means that the testers just start testing, without the help of a script or test design. They will just meet, sit in front of their computers, start the Quintiq application and test whatever they think is important to be tested.

7.2 TEST RESULTS AND ANALYSIS

Test Case	Test Steps	Expected Result	Actual Result	Pass / Fail
Sign In Menu	Click on Sign in Menu	Sign in Menu is Clickable	As per Expected	Pass
	Hovering the Sign in Menu	change the text color While hovering	As per Expected	Pass
	Hovering the Sign in Menu	give the Hand icon while hovering	As per Expected	Pass
	Click on the 'Sign in Menu'	While click on Sign in Menu it should open the Sign in page	As per Expected	Pass
About Menu	1. open the eSanad website 2.click on About Menu	About Menu is Clickable	As per Expected	Pass
	Hovering the About Menu	change the text color While hovering	As per Expected	Pass
	1.Hovering the About Menu 2. Click on About Menu	give the Hand icon while hovering	As per Expected	Pass

Sanad Helps Button	Click On ' Sanad helps' Button	Sanad Helps is clickable	As per Expected	Pass
	Verify the 'Sanad Helps' Button	Button size, color, name as per requirement	As per Expected	Pass
	Hovering the 'Sanad Helps' Button	Change the text color and background color while Hovering	As per Expected	
	Hovering the 'Sanad Helps' Button	Give the Hand icon while Hovering	As per Expected	Pass
	Click on 'Sanad Helps' Button	User should be taken to 'Sanad Helps' page	While clicking on 'Sanad Helps' button it Doest not Open Anything.	Fail
Retail Menu	1. open the eSanad website 2. click on Retail Menu	Retail Menu is Clickable	As per Expected	Pass
	Hovering the Retail Menu	change the text color While hovering	As per Expected	Pass
	Hovering the Retail Menu	give the Hand icon while hovering	As per Expected	Pass
	Click On Retail Menu	While click on Retail Menu it opens the submenu	As per Expected	Pass

Corporate Menu	1. open the eSanad website 2. click on Corporate Menu	Corporate Menu is Clickable	As per Expected	Pass
	Hovering the Corporate Menu	change the text color While hovering	As per Expected	Pass
	Hovering the Corporate Menu	give the Hand icon while hovering	As per Expected	Pass
	Click On Corporate Menu	While click on Corporate Menu it opens the submenu	As per Expected	Pass

Table 7.1 Test Case Table

CHAPTER 8: CONCLUSION AND DISCUSSION

8.1 OVERALL ANALYSIS OF INTERNSHIP VIABILITIES

During the course of the internship, I successfully implemented the concepts that I learnt in Web Development with React JS. Under the guidance and suggestions of our external and internal guide, I implemented the modules assigned to me (Help of Figma Design Create the Web page, completed 53 JavaScript Program Basic To advance, React JS Design).

8.2 PHOTOGRAPHS AND DATE OF SURPRISE VISIT BY INSTITUTE MENTOR (DATE:22/02/2024)

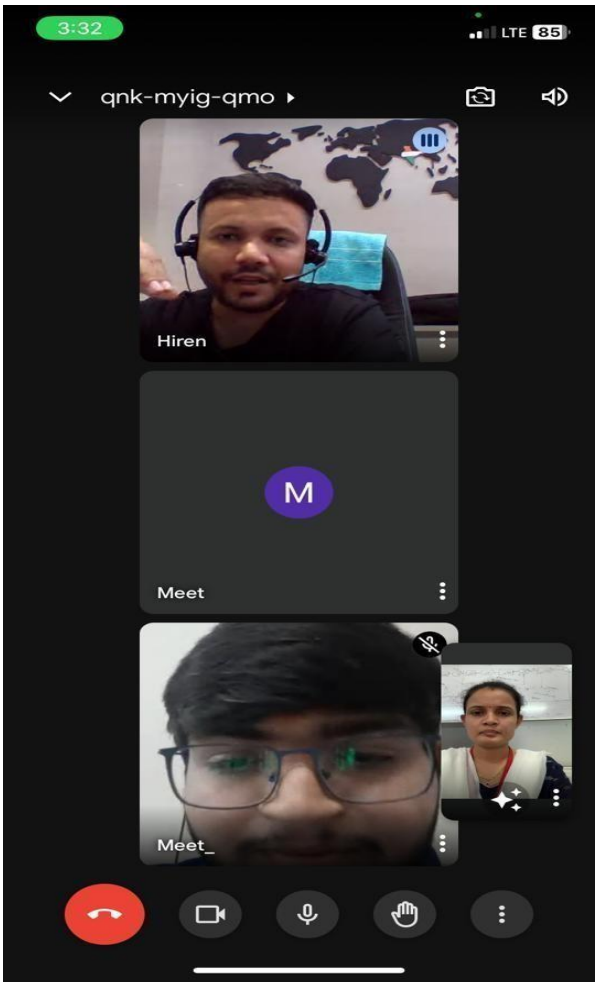

Fig 8.1 Surprise Visit Photograph

8.3 DATES OF CONTINUOUS EVALUATION (CE-I AND CE-II)

Continuous evaluation – I was done on 22 February 2024 by visiting guide Prof. Aishwarya Divan. In this review mostly the learning and outline for the next weeks was evaluated.

Conclusion evaluation – II was done on 27 March 2024 by visiting guide Prof. Aishwarya Divan. In this review project work and overall internship learning was evaluated.

8.4 PROBLEMS ENCOUNTERED AND POSSIBLE SOLUTIONS

I had the opportunity to work on a real-world internship project and gain practical experience in the field of software engineering. Throughout the project, I encountered various challenges and obstacles that required creative problem-solving skills and critical thinking.

One of the main challenges you encountered was the integration of different modules and technologies. Since the system was developed using React, Node.js, and MongoDB, integrating these technologies and ensuring they work seamlessly was a complex task in React JS. To address this issue, I had to thoroughly research and understand each technology and their integration points. Additionally, I had to communicate with team members and seek guidance from experts to ensure successful integration.

In conclusion, the e-Sanad project provided me with valuable insights into the software engineering field and the challenges associated with developing a real-world project. By employing your problem-solving skills and critical thinking, I was able to overcome the challenges and deliver a high-quality system.

8.5 SUMMARY OF INTERNSHIP WORK

Throughout my journey in web development, I've acquired a wealth of knowledge and hands-on experience spanning various critical domains. Beginning with fundamental web frameworks and protocols, I've honed my skills in crafting efficient and secure web applications, laying a solid foundation for robust digital solutions.

The practical application of web development principles in projects using modern tools and technologies like HTML, CSS, and JavaScript has equipped me with the ability to design and implement user-friendly interfaces and responsive layouts. This hands-on experience not only reinforced theoretical concepts but also provided me with the necessary framework to tackle real-world challenges in web development projects.

Moreover, my immersion in web development further deepened my understanding of backend technologies, such as databases, server-side scripting, and API integrations. Throughprojects and collaborations, I've gained proficiency in developing scalable and efficient backend systems, ensuring seamless data management and processing.

In summary, my journey in web development has been transformative, providing me with invaluable insights into the intricacies of crafting digital experiences. With guidance from mentors and peers, I've cultivated expertise and skills essential for driving innovation and delivering impactful solutions in the dynamic landscape of web development.

8.6 Future Work / Future Enhancement

The eSanad is a dynamic and constantly evolving project, and there is always room for improvement and enhancement. Some of the possible areas for future enhancement in the system are:

- In Future, we completed the pet insurance part
- Our team is also completed another part of our website
- We are ready for the future change for our client.
- In my tester's report, there is an issue with a help button, so fix this problem.

REFERENCES

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- CSS: - https://www.w3schools.com/css/
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- ReactJS: - https://react.dev/
- NextJS: https://Next.dev
- e-Sanad Software Requirements Specification