FINAL YEAR PROJECT REPORT

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PROJECT:

SAFE HAEVEN

(PROPERTY PROTECTION WEB APPLICATION)

SUPERVISOR:

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IQRA UNIVERSITY, KARACHI

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STATEMENT OF ORIGINALITY

This property protection web application represents an original and innovative solution developed to address the specific needs and challenges faced by property owners in safeguarding their assets. Our team has designed and implemented features and functionalities tailored to enhance security, usability, and overall user experience. Throughout the development process, extensive research was conducted to identify existing solutions and best practices in property protection. While drawing inspiration from existing frameworks and methodologies.

We affirm that Safe Heaven (property protection web application) is the result of our original ideas, creativity, and hard work. We are committed to upholding the standards of integrity and authenticity in all aspects of our development process, ensuring that our solution remains valuable to our users.

ACKNOWLEDGEMENT

First, we thank Almighty Allah who praise us with the ability to think, work and deliver what we are assigned to do. Secondly, we must be grateful to our supervisor **"Sir Faizan Khan"** who helped us in this project. We also acknowledge our teachers that throughout our studies help us and guide us, departmental staff, and university staff. We are also thankful to the FYP instructor **"Dr. Arij Mehmood"** for their precious support throughout the tenure as they are the best instructor for FYP who makes every student to be updated with the project progress and lead to the completion with great success within the time period given. We are also grateful to our family and friends, for supporting and encouraging us to complete this project. Finally, we would like to thank all the colleagues of IQRA University who have been with us in all difficult times with suggestions and supportive words which carry us to make this project a reality.

ABSTRACT

Safe Heaven provides essential information and strategies for protecting your property against various threats, including theft, vandalism, natural disasters, and cyber security breaches. Through detailed articles, practical tips, and expert advice, users can learn how to implement effective security measures, choose the right insurance coverage, and utilize modern technologies for enhanced protection. Whether you're a homeowner, business owner, or property owners, this resource equips you with the knowledge and tools necessary to safeguard your property assets and ensure peace of mind.

Our aim to create a property protection website serves several important purposes such as many people are unaware of the various risks their properties face and the steps they can take to mitigate those risks. A website dedicated to property protection can educate individuals and businesses on best practices, security measures. The website empowers property owners to take proactive steps to protect their assets. This can lead to increased confidence and peace of mind, Implementing effective property protection measures can significantly reduce the risk of financial loss due to theft, vandalism, natural disasters, or other unforeseen events. By promoting risk awareness and prevention strategies, the website helps minimize potential damages and liabilities. Investing in property protection measures may seem like an additional expense, but it can ultimately save money in the long run by preventing costly repairs, replacements, or legal issues resulting from property-related incident. We have approved this manuscript for submission and presentation as fulfillment of Bachelor of Software Engineering/Computer Science.

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Supervisor:
Faizan khan
March 2024

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Project Coordinator:
Dr. Arij Mehmood
March 2024

List of Acronyms

- App: Application

- PSA: Property Savior App

- API: Application Programming Interface

- UI: User Interface

- UX: User Experience

- GPS: Global Positioning System

- AI: Artificial Intelligence

- ML: Machine Learning

- DB: Database

- CRUD: Create, Read, Update, Delete (database operations)

- GDPR: General Data Protection Regulation

- OTP: One-Time Password

- PoS: Proof of Stake

- PoA: Proof of Authority

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Chapter 01: INTRODUCTION

1.1 Introduction:

Developing a web application for the Property Protection offers numerous advantages ovwe creating a mobile app. Firstly, web application are accessible from any device with an internet connection, eliminating the need for users to download and install a separate application. This accessibility extends to various platform.as web application can run on smartphones, tablets, laptops and desktop computer like without the need for platform-specific development. Additionally, web applications can be updated instantly, ensuring that all users have access to the latest features and security patches without manual downloads or installations. This seamless update process also makes maintenance more straightforward and cost-effective. Furthermore, web applications benefit from being easily shareable via links, enabling effortless distribution and user acquisition.

The Property Protection Web Application is a revolutionary platform designed to safeguard property assets and enhance security measures. With a primary focus on providing comprehensive protection for homeowners, and property managers, this innovative application offers a suite of cutting-edge features and functionalities. From advanced security systems to real-time monitoring capabilities, users can rest assured knowing that their properties are safeguarded against unauthorized access, theft, and vandalism. The application empowers users to take control of their property security through intuitive interfaces, allowing for seamless integration of security devices, access control systems. Moreover, the platform fosters community engagement, enabling users to share information, report suspicious activities, and coordinate responses to security incidents effectively. With its commitment to transparency, integrity, and user-centric design, the Property Protection Web Application sets a new standard for property security solutions in the digital age, providing peace of mind and assurance to property owners and stakeholders alike.

1.2 The problem Statement:

The problem statement for a property protection web application revolves around the inherent vulnerabilities and risks associated with real estate transactions and property ownership in today's digital age. Despite advancements in technology, property owners face numerous challenges related to security, fraud, and privacy breaches. Traditional methods of property protection often lack efficiency, transparency, and accessibility, leaving individuals susceptible to scams, theft, and unauthorized access. Furthermore, the complex and fragmented nature of the real estate industry, coupled with varying legal regulations and documentation requirements, exacerbates the issue, making it difficult for individuals to navigate and safeguard their property assets effectively. In this context, there is a pressing need for a comprehensive and user-friendly property protection web application that addresses these challenges by offering advanced security features, transparent transaction processes, and reliable information resources. Such an application would empower users to secure their properties, mitigate risks, and make informed decisions with confidence, ultimately fostering trust and integrity within the real estate ecosystem.

1.3 Motivation:

Safe Heaven is driven by a strong motivation to address the pressing issue of illegal property occupation and encroachment in Pakistan. The app aims to empower property owners, particularly, who often face challenges in protecting their properties from powerful individuals attempting to unlawfully seize their land. Safe Heaven aims to provide a proactive and accessible solution that helps property owners assert their rights, prevent illegal occupation, and promote a fair and transparent property ownership system.

There is a critical need for a comprehensive and user-friendly solution like Safe Heaven. Property owners in Pakistan often face obstacles in safeguarding their properties, including lack of awareness, limited access to resources, and complex legal processes. Safe Heaven fills this need by offering a platform where property owners can register their properties, monitor them for potential encroachment, and take necessary legal actions. The app's accurate obstacle identification, reliable GPS positioning,

and optimized web application address the specific needs of property owners, ensuring a secure and efficient approach to property protection.

By providing property owners with the necessary tools and support, Safe Heaven aims to empower individuals and communities to secure their properties, protect their rights, and contribute to a more just and transparent real estate assets sector in Pakistan.

1.4 Objective:

The aim of Safe Heaven is to enhance the security, safety, and integrity of transactions and property assets in an increasingly digital environment.

1.4.1 Research objective:

The research objective of Safe Heaven is to develop an innovative web app that effectively addresses the problem of illegal property occupation and encroachment in Pakistan by empowering property owners and promoting a fair and transparent property ownership system.

1.4.2 Academic objective:

- To enhance our knowledge of web application development through hands on experience.
- Research explores various security measures of property protection web application.
- To gain practical skills in a project management, software development and data analysis.
- To learn about how to manage a project.

1.4.3 Commercial objective:

The commercial objective of Safe Heaven is to establish a sustainable and profitable business model by offering the web application as a valuable solution for property owners in Pakistan, attracting a significant user base, securing strategic partnerships with relevant stakeholders, and generating revenue through various channels such as subscriptions, advertisements, and premium features.

1.5 Challenges:

The challenges which we will face during the development of the web application "Safe Heaven" are as below;

- There is no such website to register and protect property. Our aim to ensure the safety and security of properties by providing real-time monitoring, detection of suspicious activities, and timely reporting of incidents.

- Integration of multiple features into one application without sacrificing user experience.

- Providing timely notifications and alerts to property owners regarding potential risks, security breaches, or important updates related to their properties.

- Empowering property owners with actionable insights and information to make informed decisions and take proactive measures to protect their assets.

- Developing a user-friendly web application that is accessible on a wide range of devices and platforms to ensure maximum user reach and convenience.

- Implementing robust security measures to protect user data and maintain the privacy of property-related information.

- Continuously enhancing the Safe Heaven platform through updates, incorporating user feedback, and integrating emerging technologies to provide an advanced and reliable safety solution.

1.6 Structure of report

This marks the completion of chapter of the Safe heaven. The introduction section provides a detailed review regarding the background, and relevant information about the project. The problem statement specifies the need for a better property protecting system and how the Safe Heaven website can address this issue. As we go further into the content of chapter one, the major features of the Safe Heaven website are highlighted, including registering property, online payment method, notifications alert, social media sharing, and two-factor authentication.

Furthermore, we have provided content regarding the challenges that can occur with the development and implementation of the Safe Heaven application.

Lastly, the remaining structure of the project report is given as follows:

1.6.1 Chapter 2: Technology Background

This chapter will consist of our well researched literature review regarding all the related prior work of our project subject and technologies.

1.6.2 Chapter 3: Requirements & Methodology

This Chapter will discuss basic models of the system, in addition to that the chapter will also host functional and nonfunctional requirements of our project.

1.6.3 Chapter 4: Project Plan & Initial Design

This chapter will consist of all the detailed designs of the project that will help the developer in understanding the project implementation and creating an easy route in development of the system.

1.6.4 Chapter 5: Project Design & Development

This is the most significant chapter since it details the actual design and implementation of the concept i.e., the phases of design and development.

1.6.5 Chapter 6: Testing

We will construct test cases in this chapter.

- Perform front end (design testing), which may include user control testing, spelling checks, and alignment, among other things.
- Carry out backend testing (source code)
- Use a tool to conduct testing and incorporate the results in report.

1.6.6 Chapter 7: Conclusion

In this last chapter, we will conclude our work, share results including facts and figures, tables, and graphs to show your findings.

- Discuss limitations and challenges.

- Discuss the work that will be done in the future.

2   TECHNOLOGY BACKGROUND

2.1   Technology Background:

In this chapter, we delve into the technological underpinnings of Safe Heaven, our innovative solution designed to combat illegal property occupation in Pakistan. We will discuss the key features of Safe Heaven, its technological framework, and how it addresses the pressing challenges in the domain. Safe Heaven leverages cutting-edge technologies to empower property owners and protect their rights in the face of illegal property occupation. The app is built upon a robust technological framework that ensures data integrity, transparency, and accessibility for users.

Safe Heaven utilizes a combination of modern technologies and conventional academic techniques to provide a user-friendly platform for property owners. As Safe Heaven continues to evolve, it aims to expand its reach, enhance its functionality, and forge strategic partnerships with local authorities and stakeholders in the real estate sector. With ongoing advancements in technology and collaborative efforts, Safe Heaven is poised to make a significant impact in combating illegal property occupation and promoting transparency within the real estate sector in Pakistan. Safe Heaven stands as a beacon of hope for property owners, offering them a secure and user-friendly platform to protect their rights and combat illegal property occupation effectively.

2.2   Background of Technology:

In the context of Safe Heaven, the technological background revolves around empowering both administrators and users with seamless property management functionalities. The admin panel features capabilities such as adding and viewing user properties, integrating online payment methods into the property registration process for enhanced convenience, tracking user history, generating analytics and reports for informed decision-making, collecting user feedback, managing profiles, and sending notifications and alerts to users.

On the user panel side, individuals can easily view properties, access associated documents, download insightful reports for deeper understanding, receive notifications and alerts regarding their properties, and provide feedback for continuous improvement. This technology-driven approach ensures efficient property management, transparent communication, and user satisfaction within the Safe Heaven ecosystem.

2.3 MySQL:

MySQL is chosen as the database management system for Safe Heaven due to its reliability, scalability, and ease of integration with PHP. Unlike other database systems, MySQL offers seamless compatibility with PHP, allowing for efficient data retrieval and storage within the application. Additionally, MySQL provides robust security features to safeguard sensitive user information, ensuring data confidentiality and integrity. Its widespread adoption and extensive community support further enhance its suitability for Safe Heaven, facilitating seamless collaboration and troubleshooting. Overall, MySQL's comprehensive features and compatibility with PHP make it the ideal choice for storing and managing data in Safe Heaven, ensuring a reliable and efficient user experience.

Supported Platforms

- Mobile Platforms
- Internet Platforms

2.4 PHP:

In the context of Safe Heaven, PHP plays a pivotal role in facilitating the development of a robust and user-friendly platform for property management. Leveraging PHP's versatility, developers can seamlessly integrate dynamic features and interactive interfaces into the Safe Heaven application, enhancing user engagement and experience. PHP's extensive library of frameworks and libraries provides developers with a wealth of resources to expedite development and ensure scalability. Additionally, PHP's server-side scripting capabilities enable efficient data processing and seamless communication between users and the Safe Heaven database. Furthermore, PHP's open-source nature promotes collaboration and innovation, allowing for continuous improvement and enhancement of the Safe Heaven platform. Overall, PHP serves as a reliable foundation for building Safe Heaven, empowering property owners and administrators to manage their properties securely and efficiently.

2.5   Identifying Features:

- PHP incorporates robust security measures, including built-in functions for data validation and encryption, to mitigate potential vulnerabilities and protect against cyber threats.

- PHP supports object-oriented programming (OOP) paradigms, allowing developers to create modular, reusable code for improved maintainability and scalability.

- PHP enables the generation of dynamic content on the server-side, facilitating the creation of interactive web applications with personalized user experiences.

- PHP seamlessly integrates with various databases, web servers, and third-party libraries, ensuring compatibility and ease of integration with existing systems and technologies.

- PHP frameworks like Laravel, Symfony, and CodeIgniter provide developers with pre-built components and tools for rapid application development, streamlining the development process and reducing time-to-market.

- PHP applications can be easily scaled to accommodate growing user bases and traffic volumes, with performance optimization techniques such as opcode caching and asynchronous processing enhancing application responsiveness and efficiency.

- PHP benefits from a large and active developer community, offering extensive documentation, tutorials, and forums for assistance, collaboration, and knowledge sharing.

- As an open-source scripting language, PHP offers a cost-effective solution for web development, eliminating licensing fees and reducing development costs while providing robust features and functionalities.

- PHP is compatible with multiple operating systems, including Linux, Windows, and mac OS, ensuring cross-platform compatibility and flexibility for deployment in diverse environments.

2.6   Literature Review:

In recent years, there has been a growing interest in the utilization of property management systems like Safe Heaven to address issues related to illegal property occupation and encroachment. This paper reviews existing

literature on the adoption and effectiveness of property management systems in safeguarding property rights and preventing unlawful occupation. A comprehensive analysis of 55 research articles published between 2011 and 2016 reveals the current state of the art in property management technology, particularly focusing on the use of databases like MySQL and programming languages like PHP for data storage and application development. Additionally, the paper discusses the implications of using modern technologies such as mobile applications and web-based platforms to empower property owners and strengthen their ability to protect their rights. Furthermore, it highlights the role of administrative features like user management, complaint tracking, and analytics in enhancing the functionality and effectiveness of property management systems like Safe Heaven. The study emphasizes the need for further research and development in this field to address the evolving challenges of property rights protection and enforcement.

In recent years, there has been a surge in the development and adoption of property management applications similar to Safe Heaven, aimed at addressing issues related to illegal property occupation and encroachment. Existing literature has explored various aspects of these applications and their effectiveness in safeguarding property rights.

One such comparable application is Property Guard, which offers similar functionalities such as user registration, complaint filing, and property tracking. Research on Property Guard has highlighted its role in empowering property owners to proactively monitor and protect their properties, similar to the objectives of Safe Heaven. Additionally, studies have examined the use of technologies geo location services in Property Guard to enhance data security and property tracking capabilities. Another relevant application is Secure Property, which provides features like user profile management, complaint tracking, and analytics for property owners. Literature on Secure Property has discussed its impact on improving transparency and accountability in property ownership, similar to the goals of Safe Heaven. Moreover, research has explored the integration of payment gateways in Secure Property to facilitate online transactions and streamline property registration processes. Furthermore, studies have compared these applications to traditional property management systems and highlighted their advantages in terms of accessibility, ease of use, and real-time monitoring capabilities.

The literature emphasizes the need for continued research and development in this domain to further enhance the functionality and effectiveness of property management applications like Safe Heaven and its counterparts.

3 REQUIREMENTS & METHODOLOGY

3.1 Introduction:

In this chapter we will discuss about how much work is done on the development of our project according to the project plan. This chapter will cover the in-detail process and objective of the project. As our app is built on windows that are being reused within the system itself the developers had to take a systematic approach for the app to work smoothly. Our project plan is strategically planned with the Gantt chart and other organizational tools. Each activity has specific time period allotted according to the complexity of the task, which is why the days in work may vary.

We will also discuss in detail about the Functional, Non-Functional and Hardware requirements of our project. The functional requirement are taken in to full consideration as they are the necessary part in order to get the basic requirement by the project such as, location detection and learning objective.

3.2 Project Plan:

S. No.	Elapsed time since start of the project	Milestone	Deliverable
1.	Week 01 – 04	Project Finalizing	Report on Approved Project Ideas
2.	Week 05 – 08	Working on Project Title, Requirements Gathering, and Scope	Report on Project Title, Functional & Non-Functional Requirements and Literature Review
3.	Week 09 – 12	Research on the project development and resource analysis, developing system diagrams (Use case and ERD) to identify functionalities	Research Methodology, Project Use case, ERD
4.	Week 13 – 16	Creating Design of the website	Prototype
5.	Week 17 – 20	Complete Project Report	Final Report and Poster
6.	Week 25 – 24	Working on website development and feedback	-
7.	Week 25 – 28	Working on UI	-
8.	Week 29 – 32	Working on Database	-
9.	Week 37 – 36	Product Testing and end user feedback	-

10.	Week 37 – 40	Deployment	Deployment/Delivery of Final product

Table 1: project plan

Gantt Chart

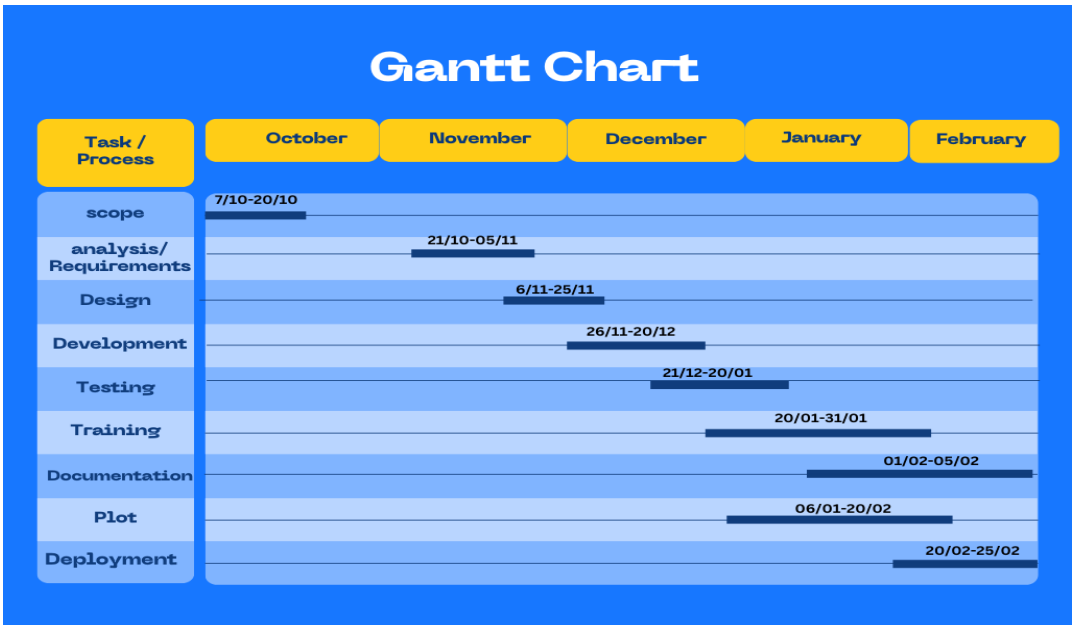| Task / Process	October	November	December	January	February
scope	7/10-20/10				
analysis/ Requirements		21/10-05/11			
Design		6/11-25/11			
Development			26/11-20/12		
Testing			21/12-20/01		
Training				20/01-31/01	
Documentation					01/02-05/02
Plot				06/01-20/02	
Deployment					20/02-25/02

Figure 1: Gantt chart

3.3 Functional Requirements:

- User Registration and Login: Users should be able to register and create an account, and subsequently log in securely.

- Property Registration: Users should have the ability to register their properties on the platform, providing necessary details such as property type, location, and ownership information.

- Complaint Filing: Users should be able to file complaints regarding any issues related to property occupation or encroachment.

- Complaint Tracking: Users should be able to track the status and progress of their filed complaints, receiving updates and notifications as necessary.

- User Profile Management: Users should be able to update and manage their profile information, including contact details and preferences.

- Analytics and Reporting: Admins should have access to analytics and reporting tools to analyze user and complaint data, identifying trends and patterns.

- Feedback System: Users should be able to provide feedback on the platform's functionality and usability, allowing for continuous improvement.

- Notification and Alerts: Users should receive timely notifications and alerts regarding important updates, such as resolution of complaints or new property registrations.

3.4 Non-Functional Requirements:

- Security: The platform should adhere to high-security standards to protect user data and prevent unauthorized access.

- Scalability: The system should be scalable to accommodate a growing user base and increasing data volumes.

- Reliability: The platform should be reliable, with minimal downtime and robust error handling mechanisms.

- Performance: The system should be per formant, with fast response times and efficient use of resources.

- Usability: The platform should be user-friendly and intuitive, with clear navigation and informative feedback.

- Compatibility: The platform should be compatible with a wide range of devices and web browsers to ensure accessibility for all users.

- Data Integrity: The system should ensure the integrity of data stored on the platform, preventing unauthorized modifications or tampering.

- Compliance: The platform should comply with relevant laws and regulations governing property registration and management.

3.5 Hardware Requirements:

- Server Infrastructure: The platform should be hosted on robust server infrastructure capable of handling high traffic and data processing requirements.

- Database Server: A dedicated database server is required to store and manage user data, property information, and complaint records.

- Networking Equipment: Reliable networking equipment, including routers, switches, and firewalls, is necessary to ensure seamless connectivity and data transfer.

- Storage Solution: Sufficient storage capacity is required to store user uploads, property documents, and system backups.

- Monitoring Tools: Monitoring tools should be in place to track system performance, identify potential issues, and ensure optimal resource utilization.

4 PROJECT PLAN & INITIAL DESIGN

4.1 Introduction:

In this chapter, we are going to discuss about the design and specification of our project, in which we elaborate our project deeply with the help of diagrams like we gather all the information related to our application then set the framework to show the flow of the application so that the application flow will be easily understand. We have used different diagrams for the complete flow of our application to make it understandable to user. In this phase, we also discussing the data flow diagrams (DFD'S), entity relationship diagram (ERD'S), UML in detailed as according to our application. These diagrams show the system work flow and specification of our application to make it user friendly. It also shows how every screen work flow is working with the help of diagram.

After all information has been gathered and design has been created so now, the development has started in order to make sure that it is able to be used by user. The purpose for making the data flow diagram and entity diagram to guide the direction of our system that how we perform each and every thing and also show the flow of our application specifically like in implementation. In detail this will provide a clear understanding of the overall coding of the system for the people who are on user bases. Each diagram is detail with all functional input and output of the system, making sure that the system runs smoothly.
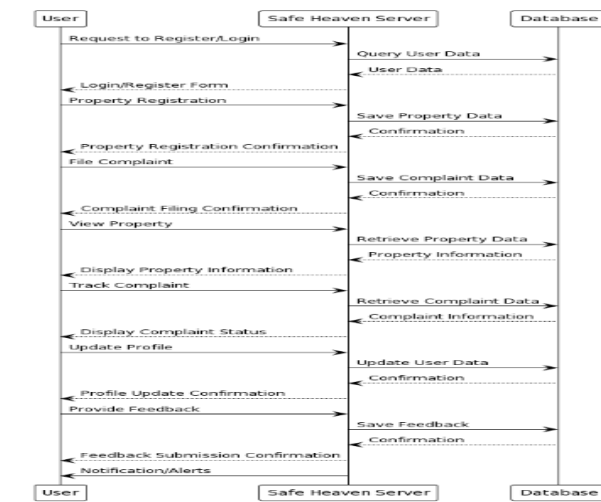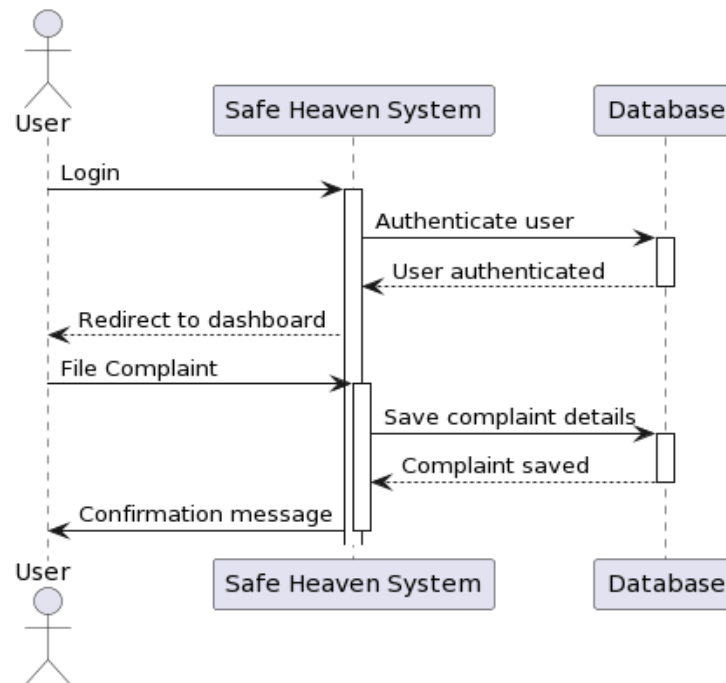
4.2 Data Flow Diagram:

Figure 2: DFD

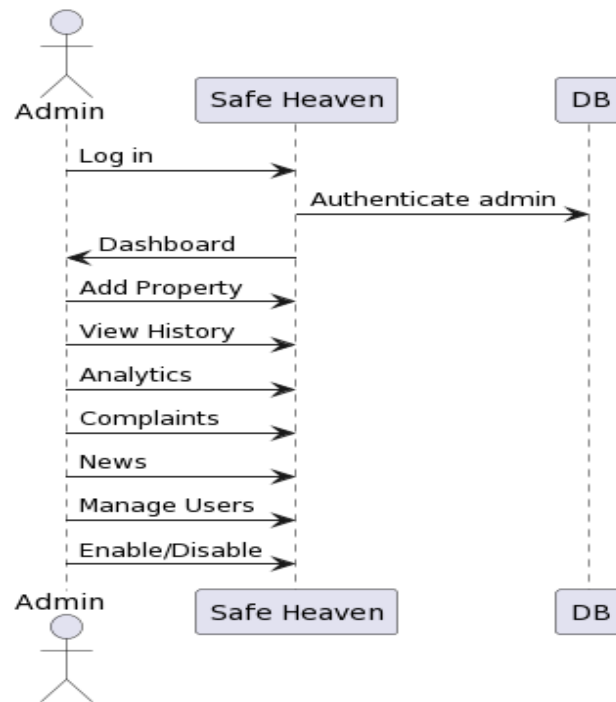*Figure 3: Data Flow Diagram Level 1*

Figure 4: Data Flow Diagram Level 2

4.3   Entity Relationship Diagram:

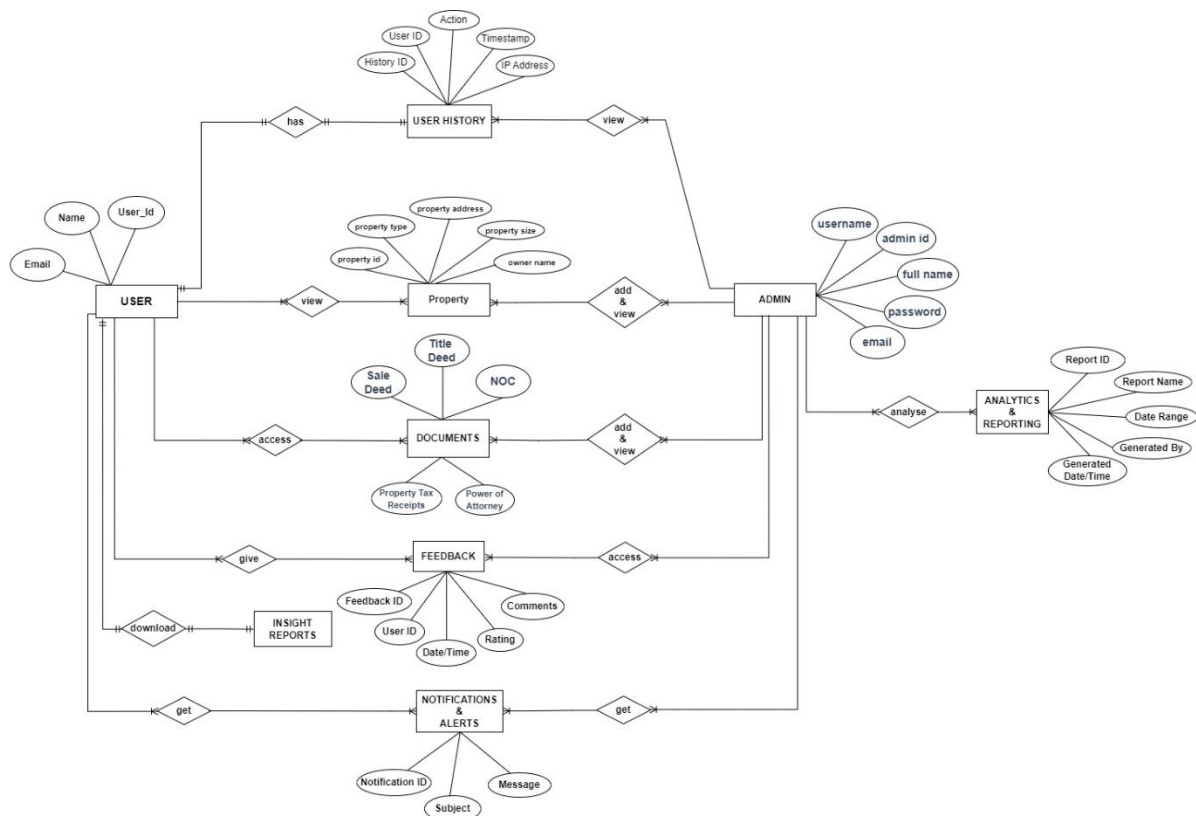*Figure 5: Entity Relationship Diagram*

4.4 Use Cases

4.4.1   Registration/ Signup

Use case Name	Signup
Primary actor	New user
Goal in context	To become a user of application
Precondition	User must agree with terms and conditions
Scenario	1. New user open the website 2. New user click signup option. 3. New user fills the information about him\her. 4. Then click signup button to submit information.
Exceptions	1. User doesn't accept the terms and conditions. 2. Incomplete information

Table 2: Registration/ Signup

4.4.2   Login:

Use case Name	login
Primary actor	Old user
Goal in context	Login to the app
Precondition	User must be registered.
Scenario	1. Old user enter his/her email. 2. Old user enter his/her password. 3. Old user click on login button
Exceptions	User must be registered.

Table 3: Login

4.4.3 View property

Use case Name	View property
Primary actor	Old user
Goal in context	User can view their registered property.
Precondition	User must be registered their property by admin.
Scenario	1. Old user registered their property by admin. 2. Old user approved by admin. 3. Old users can view their property
Exceptions	User must be registered their property by admin.

Table 4:   View property

4.4.4 Manage Profile:

Use case Name	Manage profile
Primary actor	Old user
Goal in context	To update information in profile.
Precondition	User must logon to the website.
Scenario	1. Displays edit profile option. 2. User can edit their information. 3. User click save button to submit information.
Exceptions	1. Incomplete E-mail. 2. User doesn't accept the terms and conditions. 3. Incomplete information

Table 5: Manage profile

4.4.5 Logout:

Use case Name	Logout
Primary actor	Old user
Goal in context	To logout form the website
Scenario	User click logout button to logout

Table 6: logout

4.5 Summary

In this chapter, we met with the data flow diagrams, entity relationship diagrams and UML diagram. Our application covered the all-major modules, which were used to fulfill the Requirements so the data flow diagram (DFD's) and entity relationship diagram (ERD's) elaborate This in detailed because when we gathered the information so it show the flow of our system specifically like in implementation we make sure that the development is start or not then after this testing process will be occurred so if there is any error occur so it must be solved at that time then we monitor our website by time to time to make sure that everything is complete or not that why we make data flow diagram and entity relationship diagram to focus on our mistake.

In spite of everything, information has been accumulated and layout has been created so now, the implementation has been initiated according to the applications' requirement to make sure that it is beneficial for the user on a long run. . Overall, the design phase laid the foundation for the implementation of Safe Heaven, providing a clear roadmap for development and ensuring alignment with user requirements and expectations.

5 PROJECT DESIGN & DEVELOPMENT

5.1 Introduction:

Prototyping plays a pivotal role in the development process of any software project, offering a tangible representation of the final product before its full implementation. In this chapter, we delve into the significance of prototypes in the context of the Safe Heaven project. Prototypes serve as invaluable tools for validating design concepts, gathering feedback from stakeholders, and refining user requirements. By creating prototypes, we aim to visualize and iterate upon various aspects of the Safe Heaven system, ranging from user interfaces to core functionalities. This chapter explores the different types of prototypes employed, such as low-fidelity wireframes, interactive mockups, and functional prototypes, each serving distinct purposes in the design and development lifecycle. Through prototyping, we strive to ensure that the final product meets the needs of its users, fosters a seamless user experience, and achieves the project's objectives effectively. Join us as we embark on the journey of prototyping, transforming ideas into concrete manifestations that pave the way for the successful realization of Safe Heaven.
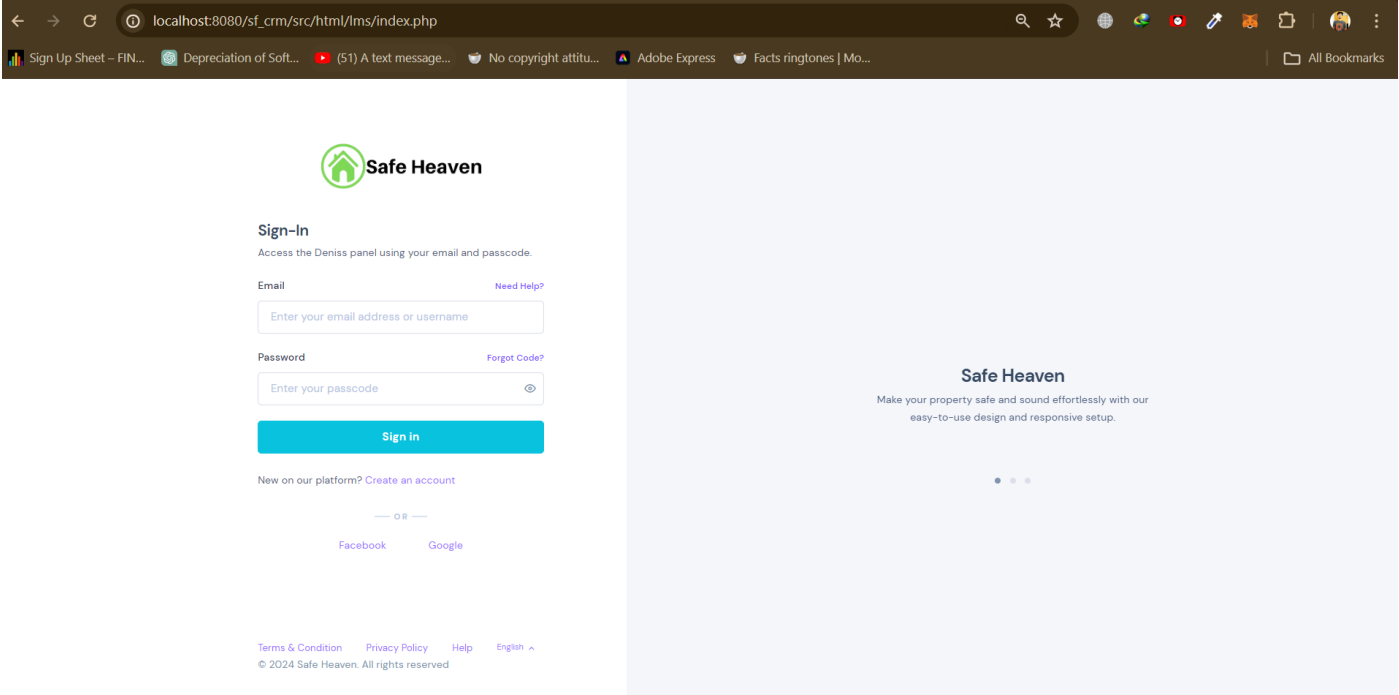
5.2 Prototype Design:

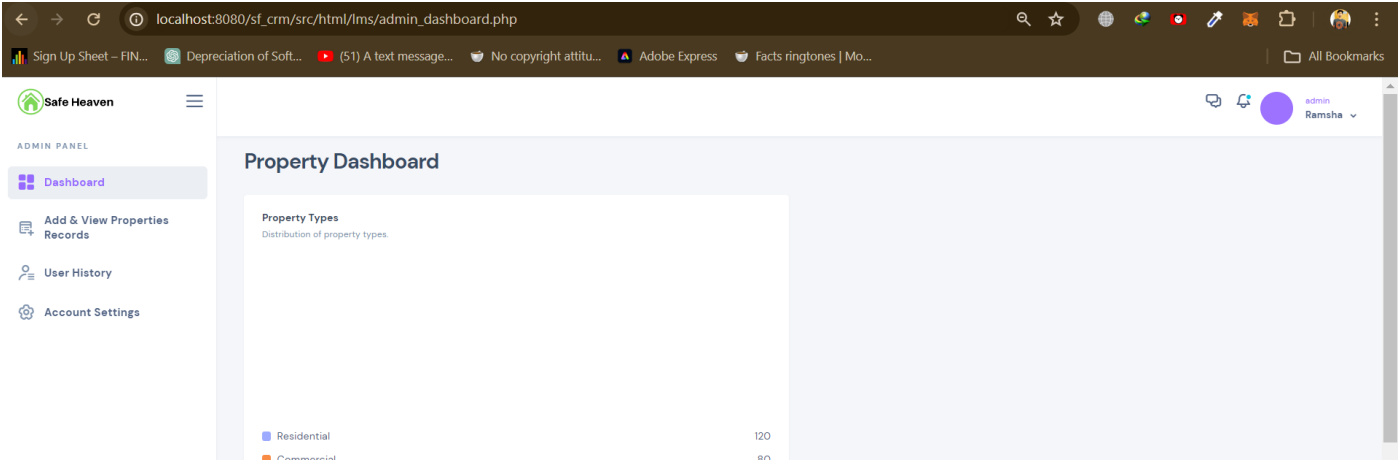|	
Project Title: Safe Heaven **Date:** 18/05/2023 **Screen Name:** *User Registration*	
Screen: < 1 of 14 > **Link from screen:** Splash Screen **Link to screen:** NIL	**Screen Description:** Verify that users can register and create an account securely. **Screen time:** 5 seconds

Functionality/Interactivity:
 	
Steps:
  1. Navigate to the registration page.
  2. Fill in the required fields with valid information.
  3. Click on the "Register" button.
 	
Expected Result: User account should be created successfully, and the user should be redirected to the login page.	

Screen Image:
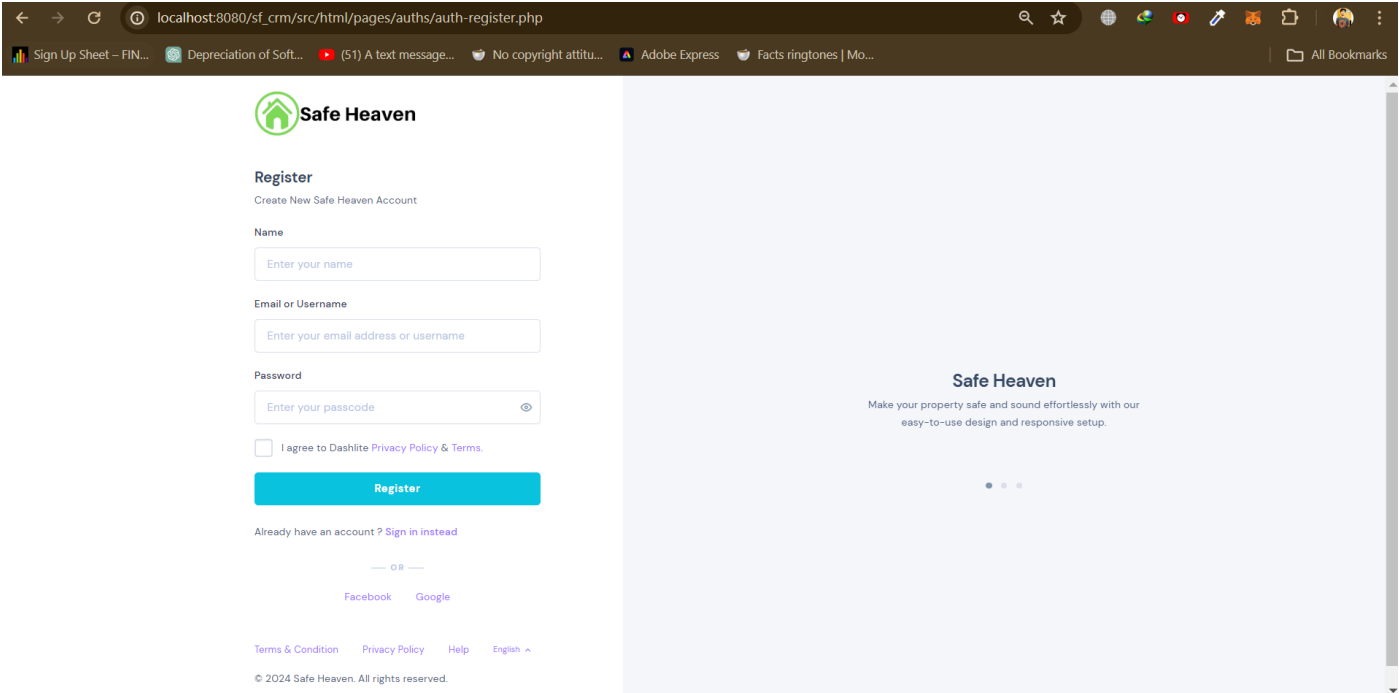
Background: White with green logo	**Audio:** None
Color scheme: white	**Video:** None
Text attributes: None	**Still images:** Logo.png

Prototype 1: User Registration
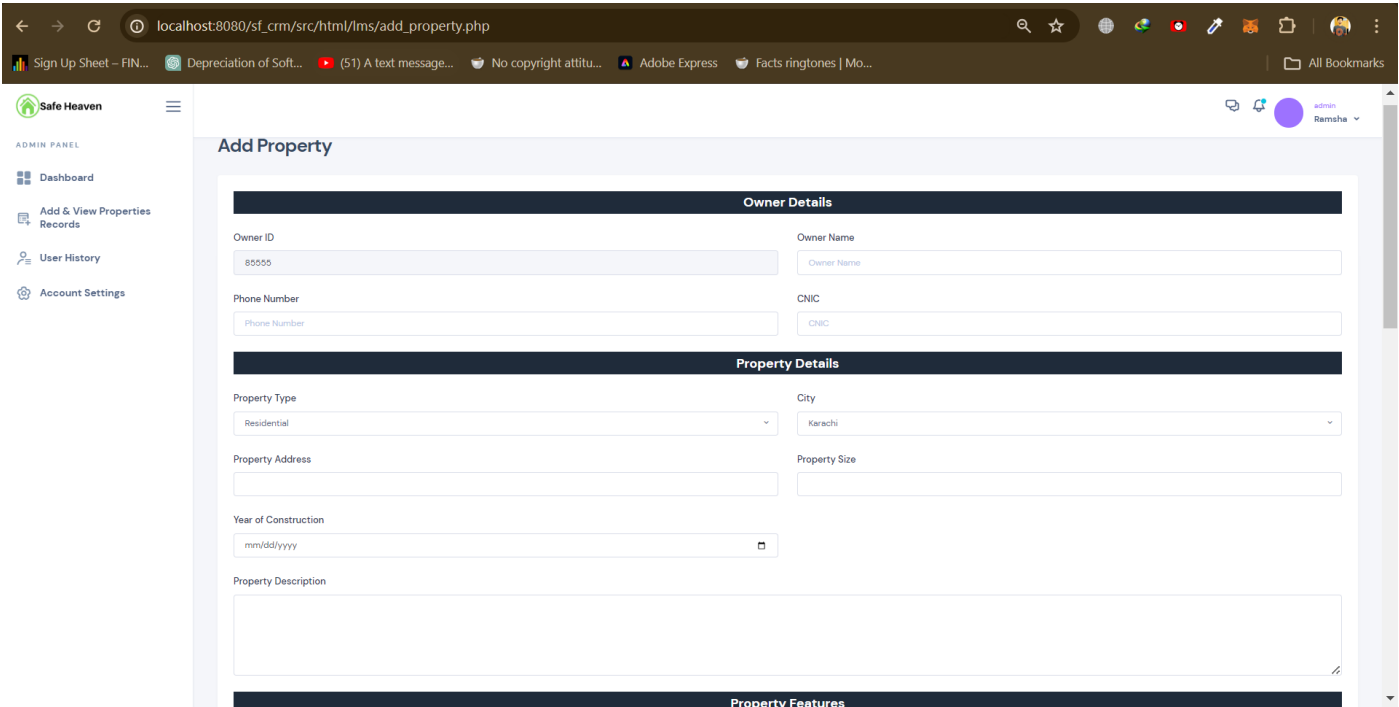
Project Title: Safe Heaven

Date: 18/05/2023

Screen Name: *User Login*

Screen: < 2 of 14 > Link from screen: Splash Screen Link to screen: User Login	Screen Description: Verify that registered users can log in securely.

Functionality/Interactivity:

- **Steps:**
    1. Navigate to the login page.
    2. Enter valid credentials (username/email and password).
    3. Click on the "Login" button.

Expected Result: User should be logged in successfully and directed to the dashboard.

Screen Image:

Background: white	**Audio:** None
Color scheme: White gradient	**Video:** None
Text attributes: Calibri	**Still images:** Signup.png

Prototype 2: User Login
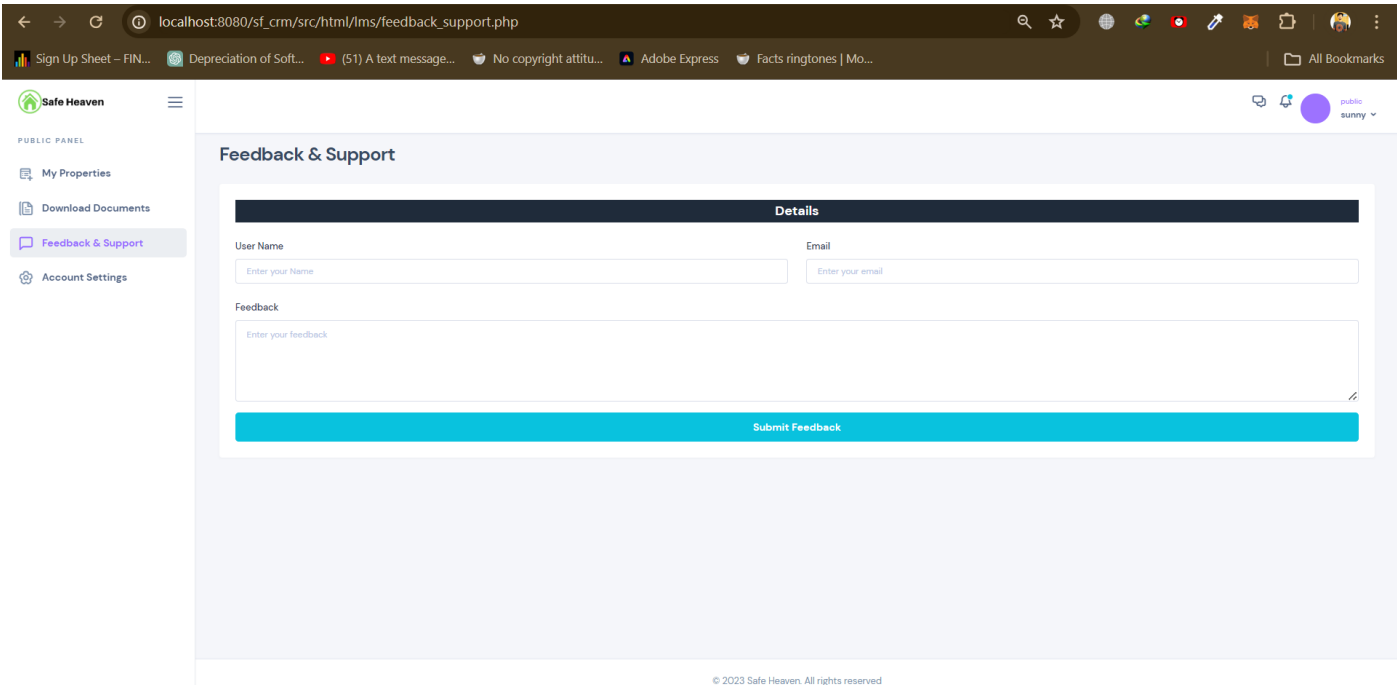
Project Title: Safe Heaven	
Date: 18/05/2023	
Screen Name: Admin Dashboard	

Screen: < 4 of 14 > **Link from screen:** NIL **Link to screen:** Admin Dashboard	**Screen Description:** Validate the functionality of the Admin Dashboard, including managing user profiles, registering properties, controlling activities, and viewing complaints.

Functionality/Interactivity:
- **Steps:**
  1. Log in as an admin.
  2. Access the Admin Dashboard.
  3. Verify the presence of options to manage user profiles, register properties, control activities, and view complaints.
  4. Attempt to update user profiles, register a property, control user activities, and view complaints.

Expected Result:
Admin should be able to manage user profiles, register properties, control activities, and view complaints seamlessly from the Admin Dashboard without encountering errors.

Screen Image:

Background: white		**Audio:** None	
Color scheme: Grey		**Video:** None	
Text attributes: Calibri		**Still images:** AdminDashboard.png	
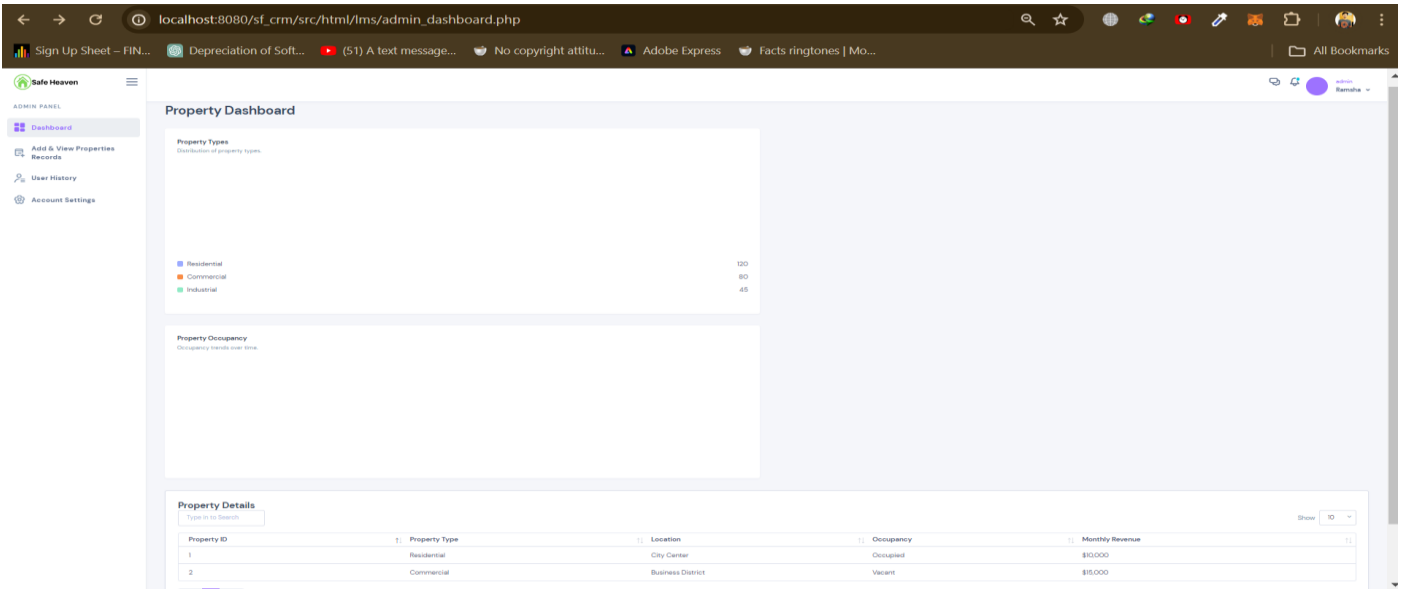
Prototype 3: Admin Dashboard

Project Title: Safe Heaven	
Date: 18/05/2023	
Screen Name: Property Registration	
Screen: < 3 of 14 > **Link from screen:** Admin Dashboard **Link to screen:** Property Registration	**Screen Description:** Verify that users can register their properties on the platform.

Functionality/Interactivity:
- **Steps:**
  1. Log in to the system.
  2. Navigate to the property registration section.
  3. Fill in the necessary property details (type, location, ownership).
  4. Click on the "Register Property" button.

- **Expected Result:** Property should be registered successfully, and the user should receive a confirmation message.

Screen Image:

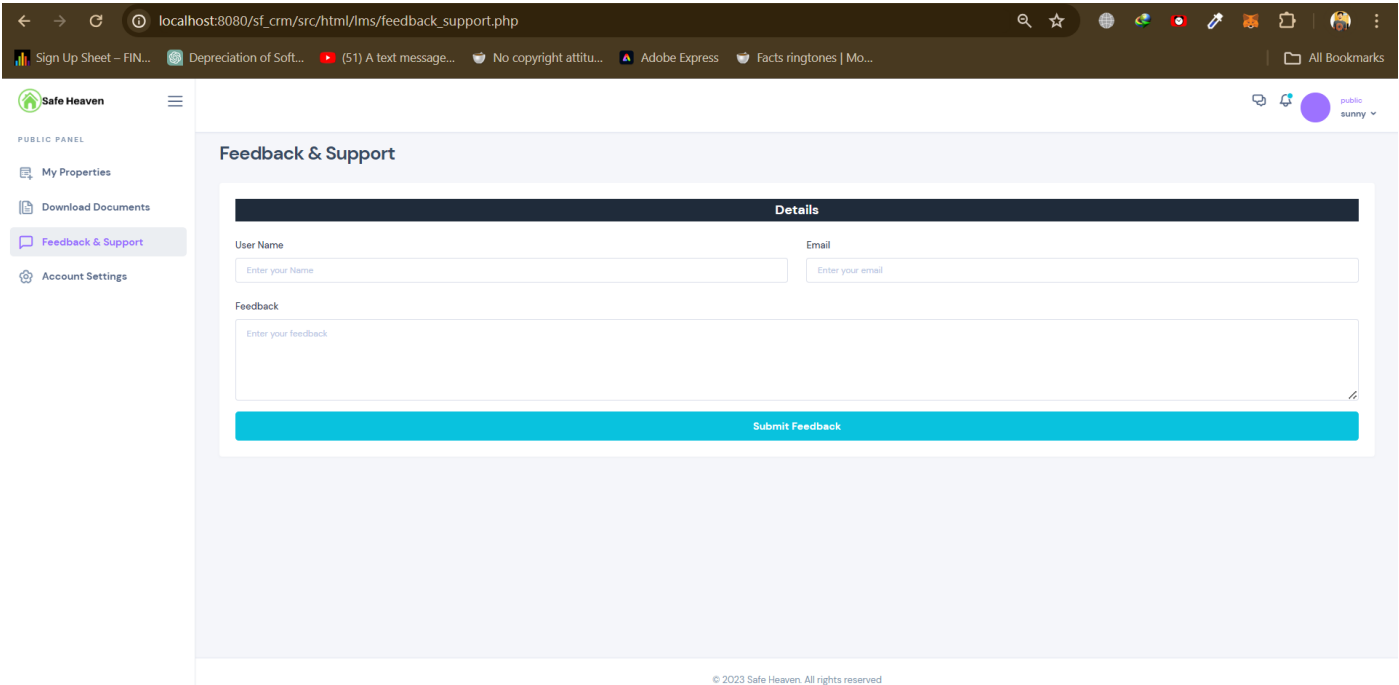| **Background:** white	**Audio:** None
Color scheme: Grey	**Video:** None
Text attributes: Calibri	**Still images:** property.png

Prototype 4: Property Registration

Project Title: Safe Heaven
Date: 18/05/2023
Screen Name: Complaint Filing

Screen: < 6 of 14 >	Screen Description:
Link from screen: User Dashboard	Verify that users can file complaints regarding property occupation or encroachment.
Link to screen: Complaint Filing	

Functionality/Interactivity:
- **Steps:**
    1. Log in to the system.
    2. Navigate to the complaint filing section.
    3. Provide details of the complaint, including property information and nature of the issue.
    4. Submit the complaint.

Expected Result: Complaint should be filed successfully, and the user should receive a confirmation message.

Screen Image:

Background: Gray and black	Audio: None
Color scheme: Grey	Video: None
Text attributes: Calibri	Still images: Complains.png
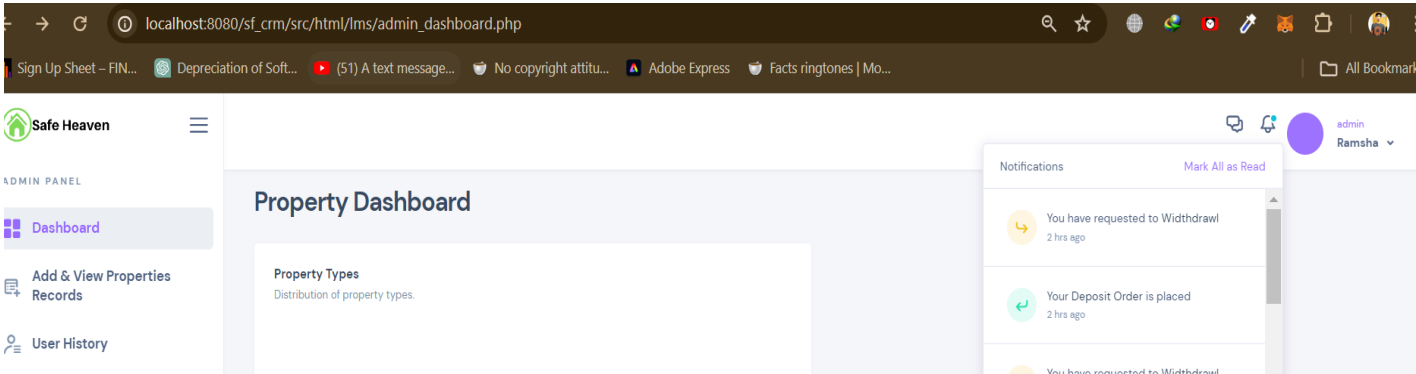
Prototype 5: Complaint Filing

Project Title: Safe Heaven	
Date: 18/05/2023	
Screen Name: Admin Access to Analytics	
Screen: < 7 of 14 >	**Screen Description:**
Link from screen: Admin Dashboard	Verify that admins have access to analytics and reporting tools.
Link to screen: Admin Access to Analytics	

Functionality/Interactivity:
- **Steps:**
    1. Navigate to the admin dashboard.
    2. Access the analytics and reporting section.

Expected Result: Admin should be able to view analytics and generate reports based on user and complaint data.

Screen Image:

Background: Gray and black	**Audio:** None
Color scheme: Grey	**Video:** None
Text attributes: Calibri	**Still images:** analytics.png

Prototype 6: Admin Access to Analytics

Project Title: Safe Heaven	
Date: 18/05/2023	
Screen Name: Providing Feedback	
Screen: < 8 of 14 > **Link from screen:** User Dashboard **Link to screen:** Providing Feedback	**Screen Description:** Verify that users can provide feedback on the platform's functionality and usability.

Functionality/Interactivity:
- **Steps:**
    1. Log in to the system.
    2. Navigate to the feedback section.
    3. Provide feedback in the provided form.
    4. Submit the feedback.

Expected Result: Feedback should be submitted successfully, and the user should receive a confirmation message.

Screen Image:

Background: White	**Audio:** None
Color scheme: Grey	**Video:** None
Text attributes: Calibiri	**Still images:** feedback.png

Prototype 7: Providing Feedback

Project Title: Safe Heaven	
Date: 18/05/2023	
Screen Name: Notification Delivery	
Screen: < 9 of 14 >	**Screen Description:**
Link from screen: User Dashboard	Verify that users receive timely notifications and alerts.
Link to screen: Notification Delivery	

Functionality/Interactivity:

- **Steps:**
- Trigger a notification event (e.g., resolution of a complaint, new property registration).
- Check the user's inbox or notification section.

Expected Result: User should receive the notification/alert promptly, and it should contain relevant information regarding the event.

Screen Image:

Background: White	**Audio:** None
Color scheme: Grey	**Video:** None
Text attributes: Calibri	**Still images:** notifications.png

Prototype 8: Notification Delivery

Project Title: Safe Heaven	
Date: 18/05/2023	
Screen Name: Registered Property	

Screen: < 11 of 14 >	**Screen Description:**
Link from screen: Admin Dashboard	view the property upon proper information by the user.
Link to screen: Property Details	

Functionality/Interactivity: When user registers the property It will be directed to the admin and they will approve the requests by the user.

Screen Image:
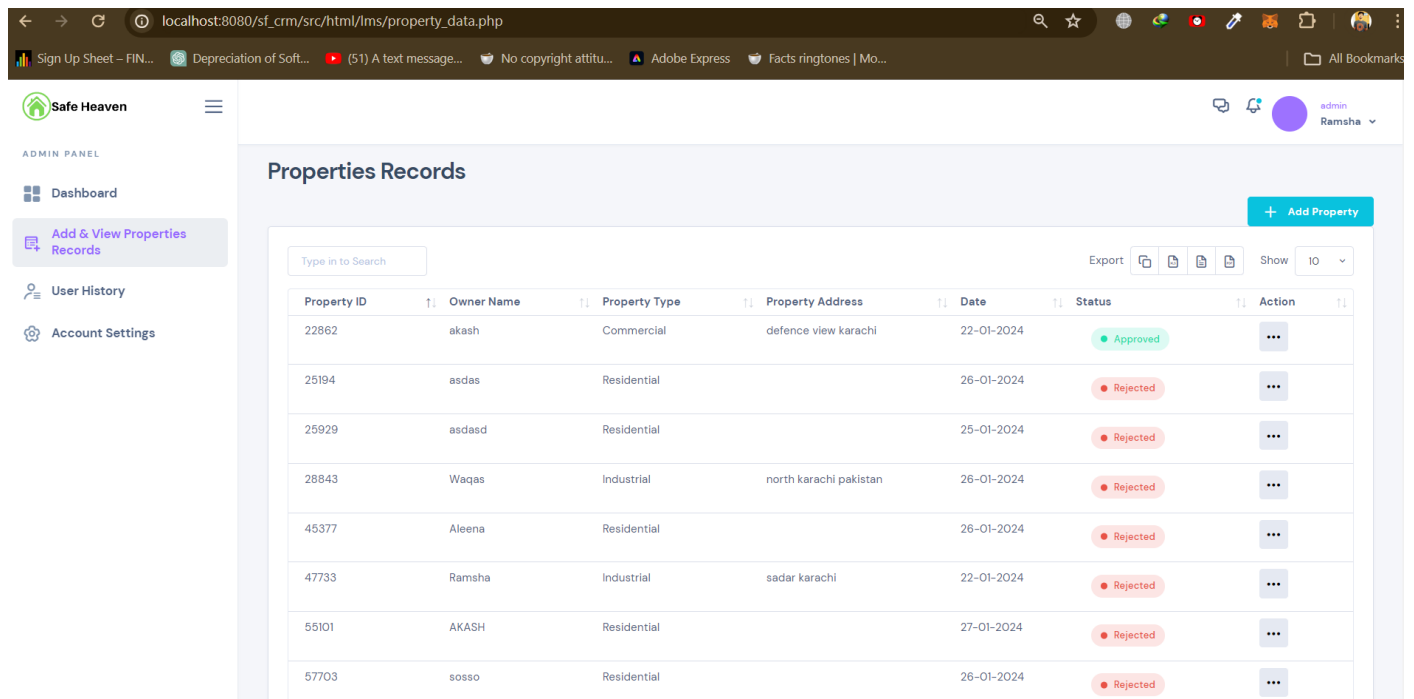
Background: white	**Audio:** None
Color scheme: grey	**Video:** None
Text attributes: Calibri	**Still images:** PropertyDetails.png

Prototype 9: Property Details

6 TESTING

6.1 Introduction:

In this chapter, we have discussed about the test cases to determine whether the software is working the way it should and producing the expected results. We also test cases and usability test cases to test our website. This will help the readers to know about all the minor as well as the major working options of the website. After the completion of the implementation phase testing plays a vital role for making sure that the system works properly. Once the software was developed the testing phase started. Each and every screen and button were tested according to the requirements and functionalities. Each test case has the requirement reference, project name, application name while providing all the details of the test case. In detail attributes of the test case, such as test case ID, Test case description, test steps, expected result, pass or fail status, preparation date, running date end the date at which it was tested.

6.2 Test Cases:

Requirement Reference	1	Project Name	Safe Heaven
Test Case Id	1.1	Test Type	Functionality
Test Case Description	The user will be asked to create his/her account with all details.		
Test Steps	The user will be asked for his/her details for creating new account.		
Expected Result	New account created		
Actual Result	New account created		
Pass/Fail	PASS		
Date Prepared	16th March, 2024		
Date Run	16th March, 2024		
Prepared By	Ramsha Hafeez		
Tested By	Aakash Anand		

Requirement Reference	2	Project Name	Safe Heaven
Test Case Id	1.1	Test Type	Functionality
Test Case Description	The user will be asked to enter a username and password for admin/user login		
Test Steps	Click on the login button to login on to website.		
Expected Result	Show the dashboard of the user/admin.		

Actual Result	Show the dashboard of the user/admin.
Pass/Fail	PASS
Date Prepared	16th March, 2024
Date Run	16th March, 2024
Prepared By	Ramsha Hafeez
Tested By	Aakash Anand

Requirement Reference	3	Project Name	Safe Heaven
Test Case Id	1.3	Test Type	Functionality
Test Case Description	Admin can add the property in the property registration form.		
Test Steps	Admin login to the website. Admin dashboard will be appeared. Admin click on the Add Property Button. Admin add the user property.		
Expected Result	Property registered.		
Actual Result	Property registered.		
Pass/Fail	PASS		
Date Prepared	16th March, 2024		
Date Run	16th March, 2024		
Prepared By	Ramsha Hafeez		
Tested By	Aakash Anand		

Requirement Reference	4	Project Name	Safe Heaven
Test Case Id	1.4	Test Type	Functionality
Test Case Description	Admin can view the user's property that was registered.		
Test Steps	.Admin click on the View property. Admin view the user property.		
Expected Result	View property Page displays the property.		
Actual Result	View property Page displays the property.		
Pass/Fail	PASS		
Date Prepared	16th March, 2024		
Date Run	16th March, 2024		
Prepared By	Ramsha Hafeez		
Tested By	Aakash Anand		

Requirement Reference	5	Project Name	Safe Heaven
Test Case Id	1.5	Test Type	Functionality
Test Case Description	Check if Admin can approve the user status or not		
Test Steps	.Admin click on the user status Admin can reject or accept the user.		
Expected Result	Displays the user status.		
Actual Result	Displays the user status.		
Pass/Fail	PASS		
Date Prepared	16th March, 2024		
Date Run	16th March, 2024		
Prepared By	Ramsha Hafeez		
Tested By	Aakash Anand		

Requirement Reference	6	Project Name	Safe Heaven
Test Case Id	1.6	Test Type	Functionality
Test Case Description	Check the Admin can see the user's history.		
Test Steps	1. Click on the user history page. 2. All the user's displays that were registered their property and their user status is accepted.		
Expected Result	Website correctly shows the user history.		
Actual Result	Displays the user history.		
Pass/Fail	PASS		
Date Prepared	16th March, 2024		
Date Run	16th March, 2024		
Prepared By	Ramsha Hafeez		
Tested By	Aakash Anand		

Requirement Reference	7	Project Name	Safe Heaven
Test Case Id	1.7	Test Type	Functionality
Test Case Description	Verify that users can file complaints regarding property occupation or encroachment.		
Test Steps	1. Log in to the system. 2. Navigate to the complaint filing section. 3. Provide details of the complaint, including property information and nature of the issue. 4. Submit the complaint.		
Expected Result	Complaint should be filed successfully, and the user should receive a confirmation message.		
Actual Result	Complaint filed successfully; confirmation message received		
Pass/Fail	PASS		
Date Prepared	16th March, 2024		

Date Run	16th March, 2024		
Prepared By	Ramsha Hafeez		
Tested By	Aakash Anand		

Requirement Reference	8	Project Name	Safe Heaven
Test Case Id	1.8	Test Type	Functionality
Test Case Description	Verify that users can track the status and progress of their filed complaints.		
Test Steps	1. Log in to the system. 2. Navigate to the complaint tracking section. 3. Enter the complaint ID or search for the complaint by property details.		
Expected Result	User should be able to view the status and any updates regarding the filed complaint.		
Actual Result	User able to view complaint status and updates		
Pass/Fail	PASS		
Date Prepared	16th March, 2024		
Date Run	16th March, 2024		
Prepared By	Ramsha Hafeez		
Tested By	Aakash Anand		

Requirement Reference	9	Project Name	Safe Heaven
Test Case Id	1.9	Test Type	Functionality
Test Case Description	Verify that users can update their profile information.		
Test Steps	1. Log in to the system. 2. Navigate to the profile management section. 3. Update the desired information (contact details, preferences). 4. Save the changes.		
Expected Result	Profile information should be updated successfully, and the user should receive a confirmation message.		
Actual Result	Profile information updated successfully; confirmation message received		
Pass/Fail	PASS		
Date Prepared	16th March, 2024		
Date Run	16th March, 2024		
Prepared By	Ramsha Hafeez		
Tested By	Aakash Anand		

Requirement Reference	10	Project Name	Safe Heaven
Test Case Id	1.10	Test Type	Functionality
Test Case Description	Verify that admins have access to analytics and reporting tools.		
Test Steps	1. Navigate to the admin dashboard. 2. Access the analytics and reporting section.		
Expected Result	Admin should be able to view analytics and generate reports based on user and complaint data.		
Actual Result	Admin able to view analytics and generate reports		
Pass/Fail	PASS		
Date Prepared	16th March, 2024		
Date Run	16th March, 2024		
Prepared By	Ramsha Hafeez		
Tested By	Aakash Anand		

Requirement Reference	11	Project Name	Safe Heaven
Test Case Id	1.11	Test Type	Functionality
Test Case Description	Verify that users can provide feedback on the platform's functionality and usability.		
Test Steps	1. Log in to the system. 2. Navigate to the feedback section. 3. Provide feedback in the provided form. 4. Submit the feedback.		
Expected Result	Feedback should be submitted successfully, and the user should receive a confirmation message.		
Actual Result	Feedback submitted successfully, confirmation message received		
Pass/Fail	PASS		
Date Prepared	16th March, 2024		
Date Run	16th March, 2024		
Prepared By	Ramsha Hafeez		
Tested By	Aakash Anand		

Requirement Reference	12	Project Name	Safe Heaven
Test Case Id	1.12	Test Type	Functionality
Test Case Description	Verify that users receive timely notifications and alerts.		
Test Steps	1. Trigger a notification event (e.g., resolution of a complaint, new property registration). 2. Check the user's inbox or notification section.		
Expected Result	User should receive the notification/alert promptly, and it should contain relevant information regarding the event.		
Actual Result	User received notification/alert promptly		
Pass/Fail	PASS		

Date Prepared	16th March, 2024
Date Run	16th March, 2024
Prepared By	Ramsha Hafeez
Tested By	Aakash Anand

6.3 Summary

We test our website to get our expected results of our website or whether a system under test satisfies

requirements or works correctly. After test cases, we get satisfied results the usability test case.

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