MINI-PROJECT - 2
(2022-2023)

PARIVEDANA
Grievances Portal

PROJECT REPORT

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BONAFIDE CERTIFICATE

Certified that this project report **"PARIVEDANA Portal"** is the bonafide work of "**Chhaya Chaudhary"** who carried out the project work under my supervision.

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Training & DevelopmentDep.

ACKNOWLEDGEMENT

I am delighted to present the summary of our B.Tech mini project II, which was carried out during our third year of B.Tech studies. This project is a testament to the motivation, drive, and technical assistance provided by numerous individuals. I would like to express my sincere appreciation to **Mr. Mandeep Singh(Technical Trainer)** for creating a supportive environment for us to develop this project. His constant encouragement and guidance helped us channel our abilities towards a constructive goal.

His dedication, attention to detail, and perseverance have been a consistent source of inspiration for us. We are confident that he will provide us with invaluable insights and feedback throughout the different stages of the project, and also educate us on the latest industry-specific technologies. We would also like to extend our gratitude to all the faculty members of the department for their kind guidance and cooperation, which contributed to the success of this project.

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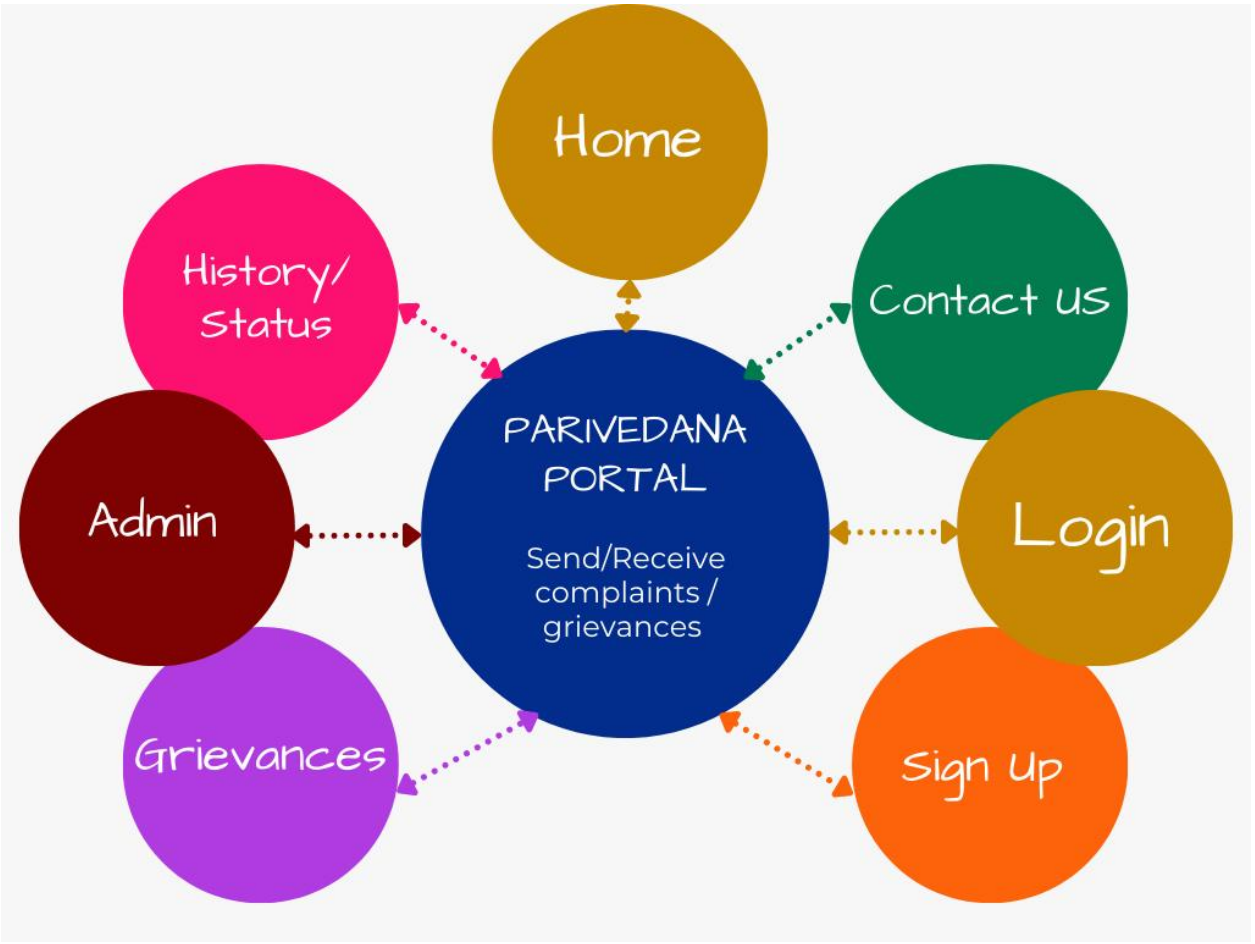
TABLE OF CONTENTS

List of Figures

ABSTRACT

The Grievances Portal "**PARIVEDANA**" using MERN stack is an online platform designed to address grievances reported by users. The project was developed using the MERN stack - MongoDB, Express.js, React.js, and Node.js. The portal allows users to report grievances through a web interface, and the concerned authorities can manage and resolve them through an admin dashboard. The project's objective was to create a user-friendly and efficient system for grievance reporting and management. The motivation behind the project was to provide an accessible and organized platform for addressing grievances in various sectors. The report outlines the problem statement, project description, implementation details, and data flow diagram of the system. The project's implementation involved integrating various technologies and libraries to create a functional and secure system. The project's successful implementation can serve as a valuable reference for developing similar applications in the future.

GRAPHICAL ABSTRACT



ABBREVIATIONS

1. HTML	Hyper Text Markup Language
2. CSS	Cascading Style Sheets
3. JS	JavaScript
4. IT	Information Technology
5. UI	User Interface
6. VS	Visual Studio
7. RAM	Random Access Memory
8. EJS	Embedded Java Script

CHAPTER 1

INTRODUCTION

Identification of relevant Contemporary issue

- The lack of effective grievance redressal mechanisms in many sectors of society.
- The prevalence of corruption, nepotism, and abuse of power in many institutions, leading to grievances.
- The difficulty in accessing justice for marginalized and vulnerable communities, who may not have the resources or knowledge to navigate legal systems.
- The importance of promoting transparency, accountability, and responsiveness in governance, which can be achieved through effective grievance redressal mechanisms.
- The need for technology-based solutions to increase the efficiency and accessibility of grievance redressal mechanisms.

Identification of Problem

The process of reporting and resolving grievances related to various sectors such as healthcare, education, public services, and more can often be time-consuming and inefficient. There is a need for a platform that facilitates the reporting and resolution of grievances in a timely and effective manner.

Identification of Tasks

There are several tasks that need to be performed:

- Gathering of all requirements and features required in the website
- Analyzing requirements and feasibility study
- Planning and creating appropriate model
- Making initial design of website
- Implementation of Design and Coding
- Testing of website
- Error Detection and Handling

Organization of the Report

Chapter 1 gives the introduction to the project specifying the need of the project, various problems which would be solved through the project and the various tasks required to be performed for completion of the project. It also tells the timeline of various activities performed.

Chapter 2 specifies the problem statement and the goals and objectives of the project.

Chapter 3 gives details about the model and design of the project. Various constraints are also discussed here. It gives the structure of the website. It provides all the details about each section provided in the website.

Chapter 4 talks about how the design is implemented using various technologies.

Chapter 5 concludes the project and gives the future scope.

CHAPTER 2

GOALS AND OBJECTIVES

Problem Statement

The process of reporting and resolving grievances related to various sectors such as healthcare, education, public services, and more can often be time-consuming and inefficient. There is a need for a platform that facilitates the reporting and resolution of grievances in a timely and effective manner.
The Grievances Portal project aimed to address this problem by creating a web application that enables individuals to report grievances easily and provides a platform for effective management and resolution of these grievances. Additionally, the project aimed to ensure the security and privacy of user data, which is a significant concern in the context of online grievance reporting.

Goals and Objectives

Goals:

To create a user-friendly and efficient system for reporting and managing grievances.
To provide a centralized platform for addressing grievances in various sectors.
To improve communication and collaboration between users and concerned authorities.
To enhance transparency and accountability in grievance resolution.

Objectives:

To develop a web interface for users to report grievances.
To design an admin dashboard for managing and resolving grievances.
To implement a database to store grievance data securely.
To integrate MERN stack technologies to create a functional and scalable system.
To ensure data privacy and security by implementing proper access controls and encryption.
To comply with data privacy regulations such as GDPR and CCPA.
To incorporate accessibility features to ensure the portal is usable for all users, including those with disabilities.
To conduct user testing to evaluate the portal's usability and effectiveness.
To provide training and support to users and admin personnel to ensure efficient use of the system.

CHAPTER 3

DESIGN FLOW

Hardware & Software Requirements

- HTML, CSS and JAVASCRIPT
- VS CODE
- Google Firebase
- NodeJS, EJS and MongoDB
- Version Control and Hosting: GitHub
- Processor: i5 or above
- Minimum 4GB RAM
- Windows Operating System

Project Design

The website has various sections such as: -

1. Header
2. Home
3. About
4. Contact us
5. Grievances
6. Profile
7. Login
8. Sign up
9. Log out
10. Footer.

The roles of the sections are as follows:

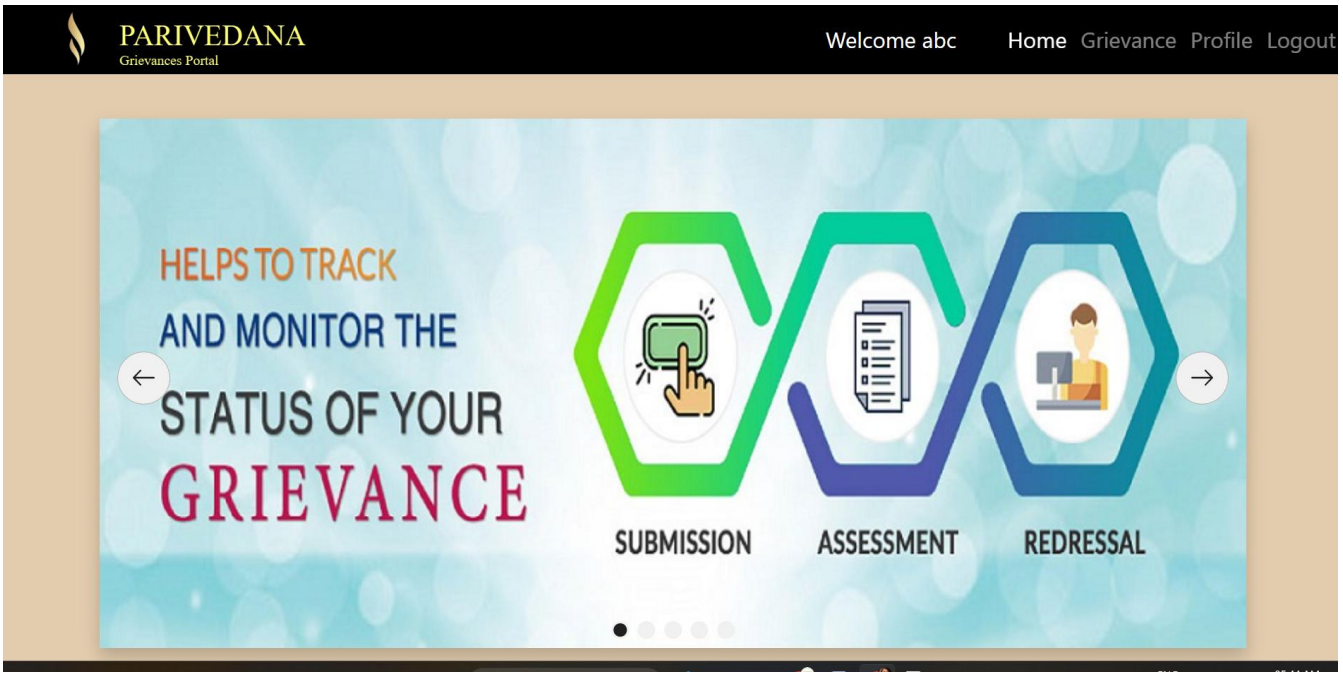
Header: This contains our Daily Journal Logo, Navigation Bar, and button for Home, , Login, Signup, Saved and username, grievances,profile.

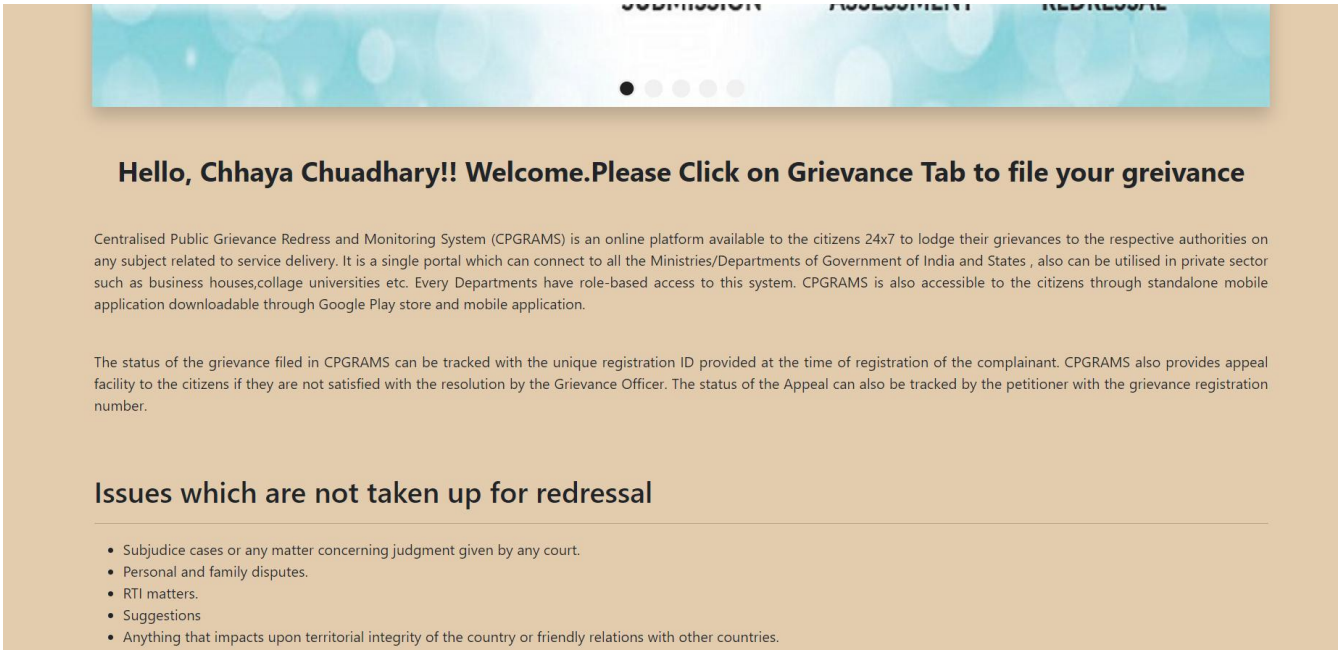
Fig. 3.1 Header with logo and Navigation bar

Home: Home Page showcasing all the journals for the user to read and save. The home page of a journal typically serves as the main entry point for readers to access its content and information. It often features the latest articles, special issues, and announcements related to the journal, as well as information about its scope, editorial board, submission guidelines, and subscription options.

The design and layout of a journal's home page may vary depending on the publisher's preferences and the journal's audience, but most home pages prioritize ease of use, readability, and accessibility. This may involve organizing content into sections or tabs, using clear headings and labels, and providing search functions and navigation menus to help users find what they're looking for quickly.

Overall, a journal's home page serves as a key marketing tool to promote its content and attract new readers and authors. As such, publishers often invest significant resources into optimizing their home pages to make them as engaging and user-friendly as possible.





Hello, Chhaya Chuadhary!! Welcome.Please Click on Grievance Tab to file your greivance

Centralised Public Grievance Redress and Monitoring System (CPGRAMS) is an online platform available to the citizens 24x7 to lodge their grievances to the respective authorities on any subject related to service delivery. It is a single portal which can connect to all the Ministries/Departments of Government of India and States , also can be utilised in private sector such as business houses,collage universities etc. Every Departments have role-based access to this system. CPGRAMS is also accessible to the citizens through standalone mobile application downloadable through Google Play store and mobile application.

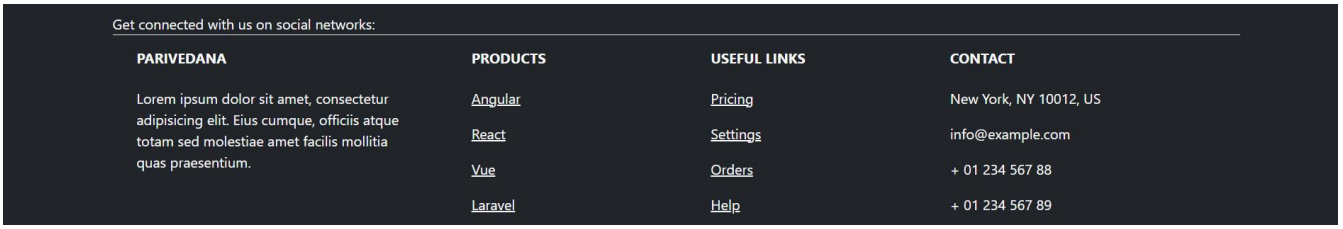
The status of the grievance filed in CPGRAMS can be tracked with the unique registration ID provided at the time of registration of the complainant. CPGRAMS also provides appeal facility to the citizens if they are not satisfied with the resolution by the Grievance Officer. The status of the Appeal can also be tracked by the petitioner with the grievance registration number.

Issues which are not taken up for redressal

- Subjudice cases or any matter concerning judgment given by any court.
- Personal and family disputes.
- RTI matters.
- Suggestions
- Anything that impacts upon territorial integrity of the country or friendly relations with other countries.

Fig. 3.2 Home

Contact Us :



Grievances: File your grievances here

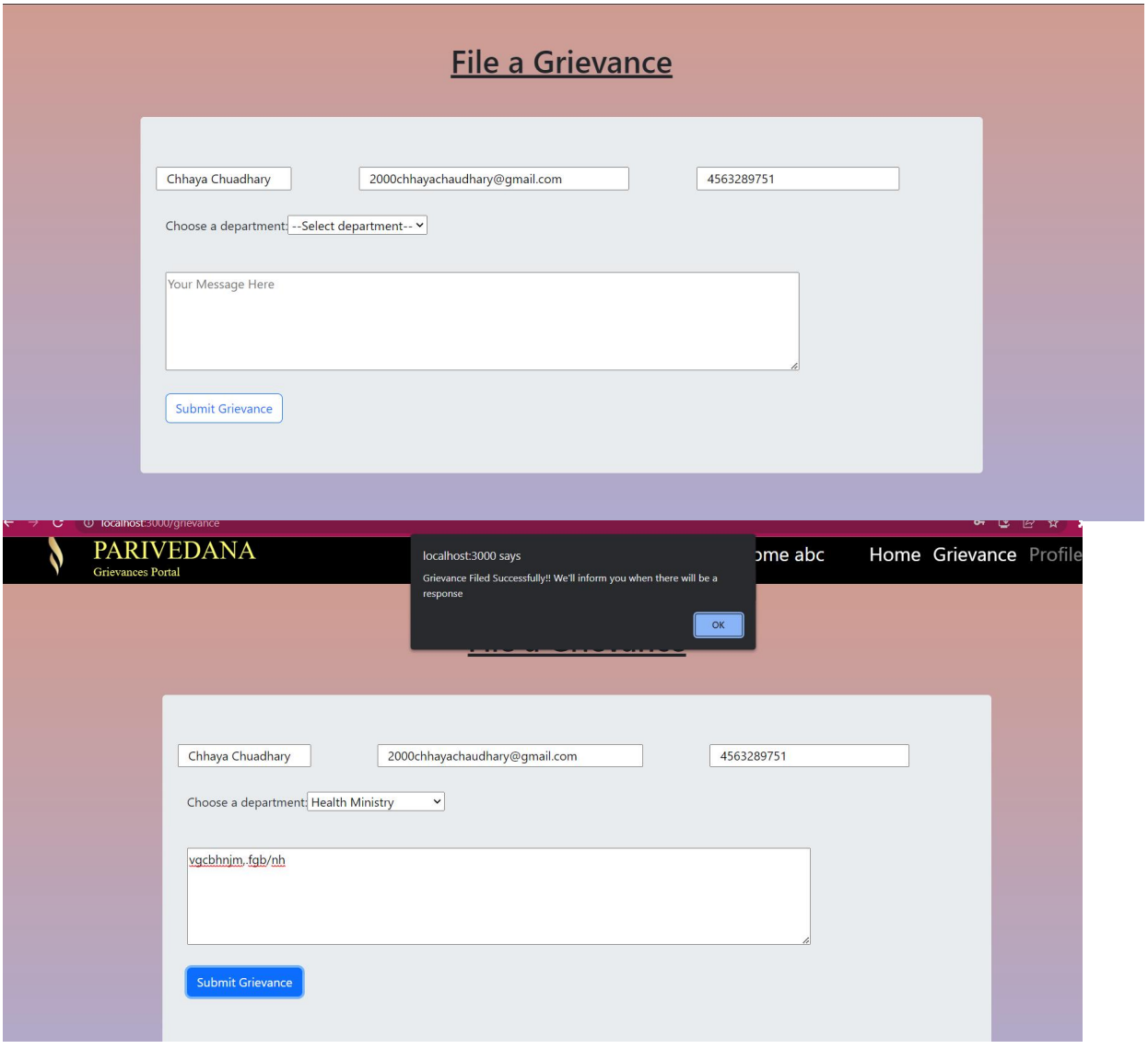


Figure 3.7 Grievance

Profile: A profile page is a page on a website or app that displays information about a specific user or account. This page typically includes details such as the user's name, profile picture, bio, and any other relevant information. It ashow your applications and their status.

Figure 3.8 Profile

Login : A login page is a page on a website or app that requires users to enter their login credentials in order to access the site's content or features. Typically, a login page will prompt the user to enter their username or email address, followed by their password.

Overall, a well-designed login page can help ensure that your website or app is secure and easy to use, enhancing the user experience and encouraging users to return to your site or app. By prioritizing security and ease of use, you can create a login page that meets the needs of both you and your users.

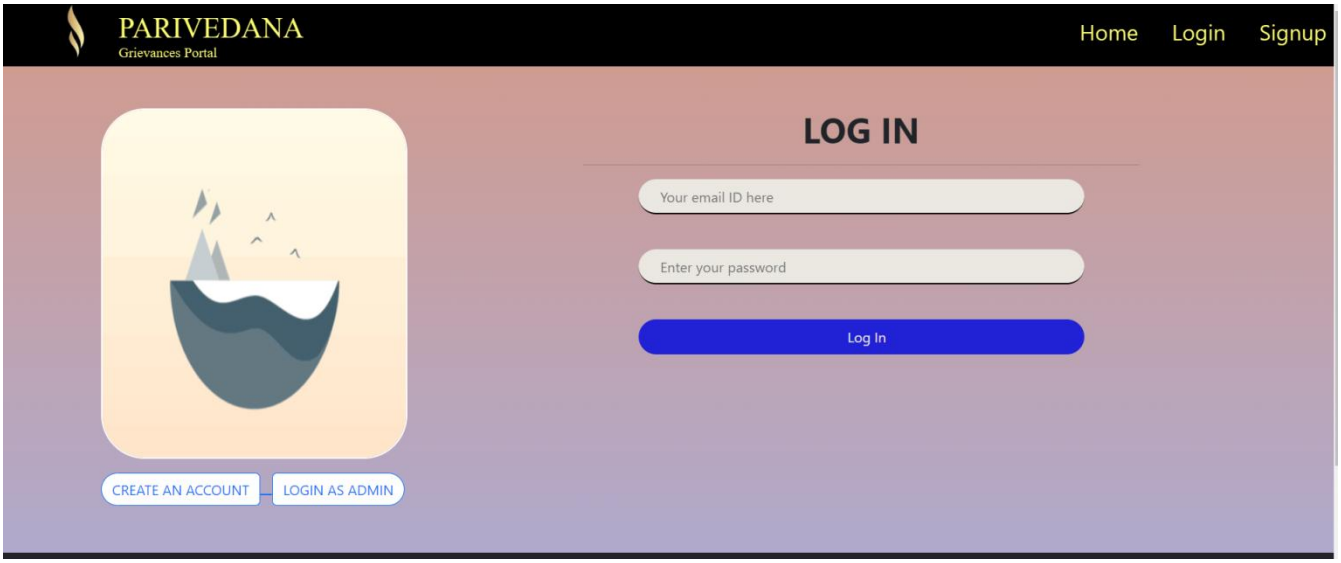
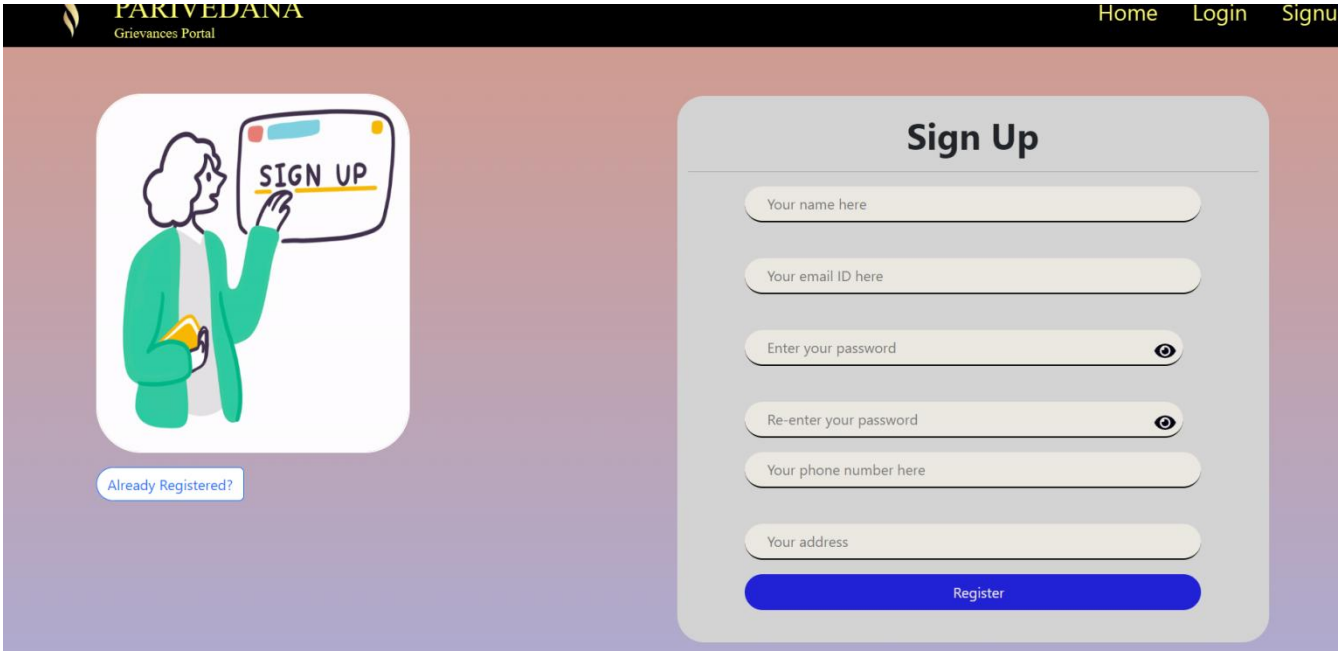


Figure 3.9 Login

Sign Up: A sign-up page is a page on a website or app that allows users to create a new account. Typically, a sign-up page will prompt the user to enter their personal information, such as their name, email address, and password, followed by any additional information that may be required for registration.

Creating an effective sign-up page is important for ensuring a smooth user experience and encouraging users to create an account. To achieve this, it's important to ensure that the sign-up page is easy to use, with clear instructions and minimal required information.

Overall, a well-designed sign-up page can help attract and retain users on your website or app, providing them with a simple and easy way to create an account and begin using your platform. By prioritizing user experience and security, you can create a sign-up page that meets the needs of both you and your users.



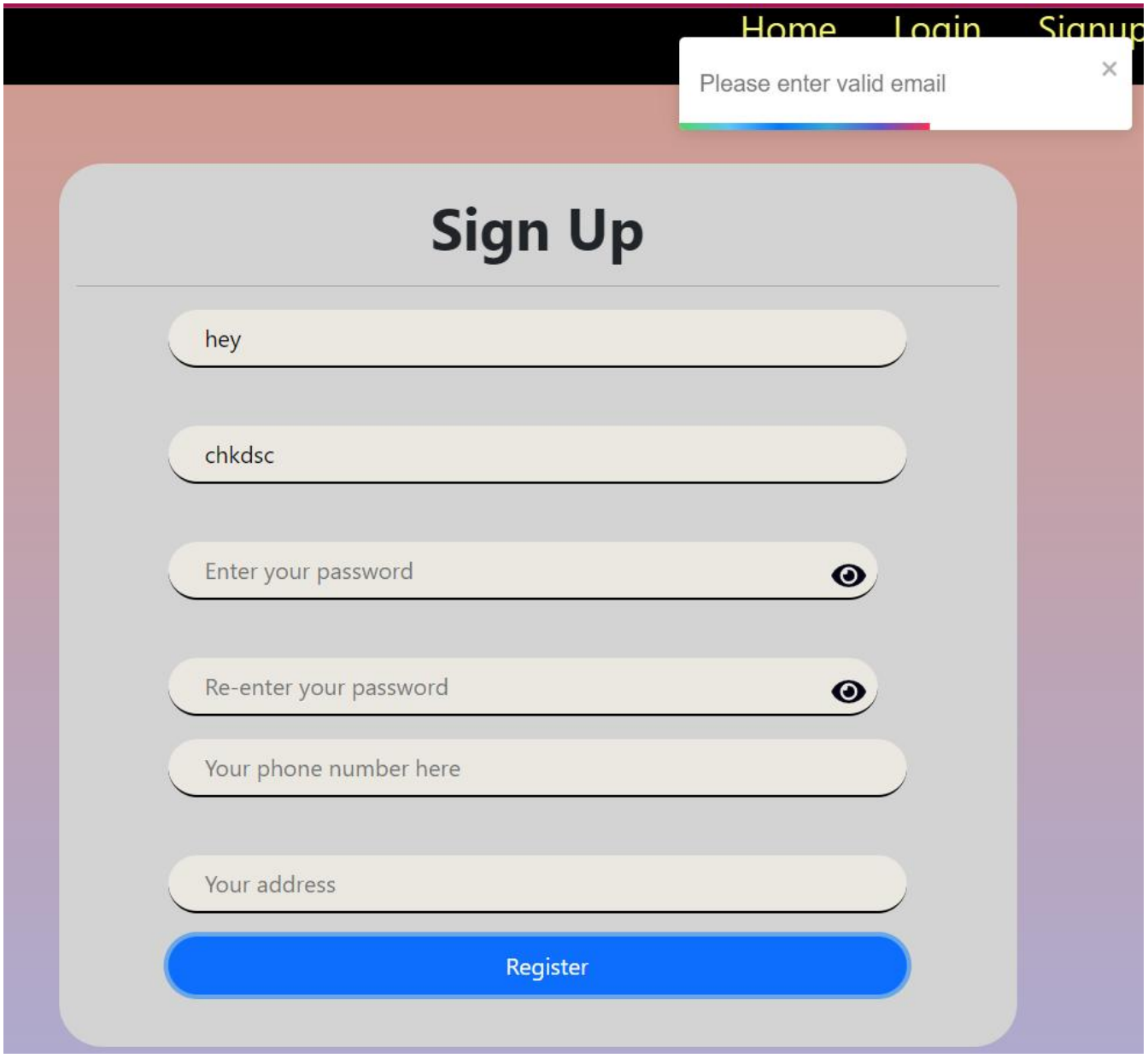


Figure 3.10 Signup

Log out: A log out button is a feature on a website or app that allows users to securely log out of their account. This button is typically located in the user interface and can be accessed from any page on the site or app.

Implementing a log out button is an important security measure, as it ensures that users can protect their personal information and prevent unauthorized access to their account. It also helps ensure that users do not accidentally leave their account open on a shared device or public computer.

To create an effective log out button, it's important to ensure that it is prominently displayed and easy to access, with clear instructions for use. You can also offer users the option to stay logged in for a certain amount of time, such as a week or month, before requiring them to log

in again.

Overall, a well-designed log out button can help ensure the security of your website or app, providing users with an easy and secure way to log out of their account when they are finished using it. By prioritizing security and user experience, you can create a log out button that meets the needs of both you and your users.

Footer: The footer of a website is an important component that is located at the bottom of the page. It typically contains information about the website, such as copyright notices, contact information, social media links, and legal information.

The footer can also be used to provide navigation links to important pages on the website, such as the About Us, Contact, and FAQ pages. This can help users easily find the information they are looking for and improve the overall user experience.

In addition to providing important information and navigation links, the footer can also be used to add a personal touch to the website. This can include a message from the website owner, testimonials from satisfied customers, or links to blog posts or other content that may be of interest to the user.

Overall, the footer of a website plays a crucial role in providing users with important information, improving the user experience, and adding a personal touch to the website. It is important to ensure that the footer is well-designed and easy to navigate to enhance the overall effectiveness of the website.

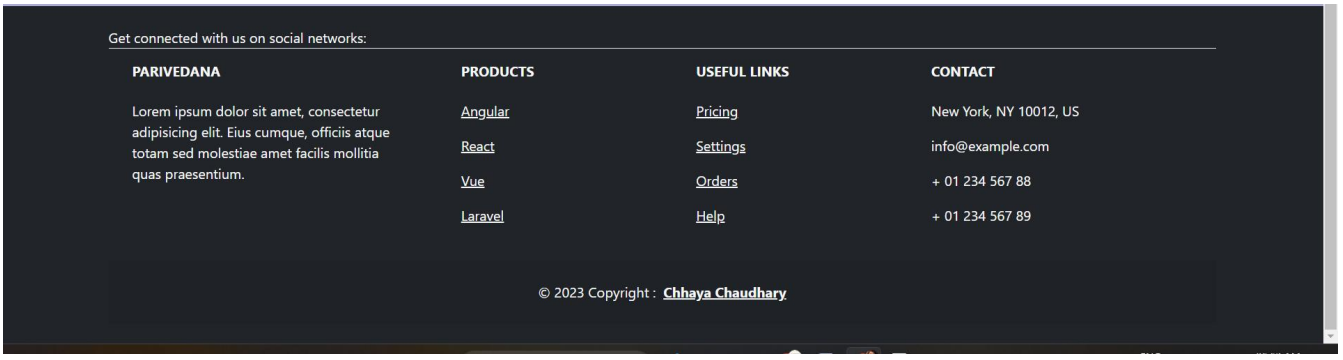


Figure 3.12 Footer

CHAPTER 4

IMPLEMENTATION AND VALIDATION

4.1 Implementation

Frontend

Front end development refers to the part of web development that deals with the user interface and user experience of a website or application. It involves the use of various programming languages, frameworks, and tools to create visually appealing and interactive interfaces that allow users to interact with the website or application.

Front end developers are responsible for designing and developing the layout, navigation, and overall look and feel of a website or application. They use languages such as HTML, CSS, and JavaScript, as well as frameworks such as React, Angular, and Vue, to create responsive and dynamic user interfaces.

In addition to technical skills, front end developers must also have a good understanding of user experience (UX) design principles and be able to create interfaces that are intuitive and easy to use. They must also be familiar with web standards and accessibility guidelines to ensure that their interfaces are accessible to all users.

Overall, front end development is a critical component of web development, as it directly affects the way users interact with and perceive a website or application.

Backend

Backend development involves the creation of server-side applications and APIs that power the functionality of a website or application. MongoDB and Firebase are two popular backend technologies that developers can use to build robust and scalable web applications.

MongoDB is a NoSQL database that uses a document-based model to store and retrieve data. It is known for its flexibility, scalability, and ease of use, making it a popular choice for backend development. With MongoDB, developers can store and query large amounts of data, including unstructured data such as images, videos, and audio files.

Firebase, on the other hand, is a cloud-based platform that offers a range of backend services

such as authentication, real-time database, storage, and hosting. It is a popular choice for mobile and web application development, as it provides developers with a complete backend solution that requires minimal setup and maintenance.

When used together, MongoDB and Firebase can provide developers with a powerful and flexible backend solution that can handle complex data structures and high levels of traffic. With MongoDB handling data storage and retrieval and Firebase handling backend services, developers can focus on building their frontend applications and delivering an optimal user experience.

HTML

HTML is a versatile language that can be used to create simple static web pages or complex dynamic web applications. It is supported by all modern web browsers and is constantly evolving to meet the needs of developers and users.

Learning HTML is essential for anyone interested in web development, as it is the foundation of all web technologies. There are many resources available online to help beginners learn HTML, including tutorials, courses, and reference guides.

In addition to learning HTML, it is important to stay up to date with best practices and web standards to ensure that your web pages are accessible, user-friendly, and compatible with different devices and browsers. Overall, HTML is a powerful and essential tool for web development, and mastering it is key to building effective and engaging web pages and applications.

CSS

CSS, or Cascading Style Sheets, is a style sheet language used to describe the presentation and formatting of HTML documents. It is used in conjunction with HTML and JavaScript to create visually appealing and interactive web pages.

CSS allows developers to separate the content of a web page from its presentation, making it easier to maintain and update. With CSS, developers can control the layout, color, font, and other visual elements of a web page.

CSS is constantly evolving, with new features and capabilities being added regularly.

Learning CSS is essential for anyone interested in web development, as it is a crucial component of modern web design. There are many resources available online to help beginners learn CSS, including tutorials, courses, and reference guides..

JavaScript

JavaScript is a programming language used to create dynamic and interactive web pages and applications. It is a versatile language that can be used for client-side scripting, server-side scripting, and desktop application development.

JavaScript allows developers to add interactivity to web pages, such as animations, form validation, and dynamic content loading. It is supported by all modern web browsers and is constantly evolving to meet the needs of developers and users.

Learning JavaScript is essential for anyone interested in web development, as it is a crucial component of modern web design. There are many resources available online to help beginners learn JavaScript, including tutorials, courses, and reference guides.

Node JS

Node.js is an open-source, cross-platform JavaScript runtime environment that allows developers to build fast and scalable network applications. It is built on the V8 JavaScript engine, which is used by Google Chrome, and provides an event-driven architecture and non-blocking I/O model that makes it ideal for building real-time, data-intensive applications.

Node.js is commonly used for building web applications, RESTful APIs, and microservices. It also provides a range of built-in modules and libraries that make it easy to implement features such as HTTP requests, file system access, and data streaming.

Node.js is constantly evolving, with new features and capabilities being added regularly. Learning Node.js is essential for anyone interested in backend web development, as it is a crucial component of modern web applications. There are many resources available online to help beginners learn Node.js, including tutorials, courses, and reference guides.

MongoDB

MongoDB is a popular open-source document-oriented NoSQL database system. It stores data in a flexible, JSON-like format called BSON, which allows developers to store and manipulate unstructured data with ease.

MongoDB is designed to scale horizontally, allowing applications to distribute data across

multiple servers for improved performance and scalability. It also provides a range of features and capabilities, including automatic sharding, indexing, and query optimization, that make it a popular choice for modern web applications.

Learning MongoDB is essential for anyone interested in building scalable and flexible web applications. There are many resources available online to help beginners learn MongoDB, including tutorials, courses, and reference guides.

EJS

EJS, or Embedded JavaScript, is a templating language used to generate HTML markup with JavaScript. It allows developers to embed JavaScript code directly into HTML templates, making it easier to generate dynamic content and customize the layout and structure of web pages.

EJS is commonly used in Node.js applications, where it can be used to generate HTML pages on the server-side. It also provides a range of features and capabilities, including conditional statements, loops, and custom tags, that make it a powerful and versatile tool for building web applications.

Learning EJS is essential for anyone interested in web development with Node.js, as it is a crucial component of server-side templating. There are many resources available online to help beginners learn EJS, including tutorials, courses, and reference guides.

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CHAPTER 5

CONCLUSION AND FUTURE WORK

Conclusion:

The Grievances Portal using MERN stack is a web-based application designed to provide a user-friendly and efficient platform for reporting and managing grievances. The project implemented the MERN stack technologies to develop a functional and scalable system that can be customized to address grievances in various sectors. The frontend and backend of the portal were designed to be responsive, secure, and accessible, ensuring that all users can report and manage grievances effectively. The implementation and validation process involved rigorous testing to ensure that the system meets the project goals and objectives.

Future work:

In the future, the Grievances Portal using MERN stack can be improved by implementing additional features such as:

Integration with social media platforms for broader reach and engagement.

Automatic email notifications to users and authorities when grievances are reported or resolved.

Real-time chat functionality to enable users to communicate directly with authorities.

Incorporation of machine learning algorithms to analyze grievance data and provide insights for better decision-making.

Integration with blockchain technology to enhance data privacy and security.

Development of a mobile application to improve accessibility and convenience for users.

Furthermore, the project can be expanded to include more sectors and organizations, providing a comprehensive solution for grievance management. Overall, the Grievances Portal using MERN stack has the potential to be a valuable tool for improving communication, accountability, and transparency in grievance resolution, ultimately promoting social responsibility and creating a better society.

REFERENCES

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   a. MDN Web Docs
   b. W3Schools
   c. GeeksForGeeks
   d. Javatpoint
   e. MongoDB atlas
   f. BootStrap
3. **Faculty:** Mr. Mandeep Singh (Technical Trainer in GLA University)
4. **GitHub Repository link:**

https://github.com/Chhaya7817/PARIVEDANA-Grievances-Portal.git