Project Report On

WorkerHub

Submitted in partial fulfillment for the award of

Post Graduate Diploma in Advanced Computing

from

C-DAC ACTS (Pune)

Guided by
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Centre of Development of Advanced Computing (C-DAC), Pune

<u>CERTIFICATE</u>

TO WHOMSOEVER IT MAY CONCERN

This to certify that

Aniket Waghmode – 240340120027

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have successfully completed their project titled

"WorkerHub"

Under the Guidance of Ms. Tejaswini Apte

Project Guide   **HOD ACTS**

ACKNOWLEDGEMENT

The project **" WorkerHub "** was a great learning experience for us and we are submitting the work to Advanced Computing Training School (CDAC ACTS).

We all are very glad to mention the name of **Ms. Tejaswini Apte** for her valuable guidance to work on the project. Her guidance and support helped us to overcome various obstacles and intricacies during the course of project work.

Our most heartfelt thank goes to **Ms. Swati ma'am** (Course Coordinator, PG-DAC) who gave all the required support and kind coordination to provide all the necessities like required hardware, internet facility and extra Lab hours to complete the project and throughout the course up to the last day here in C-DAC ACTS.

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1. Introduction

The **WorkerHub Platform** is a web application designed to connect unorganized workers with local residents seeking on-demand services such as housekeeping, plumbing, and electrical work. The platform simplifies the hiring process by providing a user-friendly interface and leveraging advanced technologies like React, Spring Boot, and MySQL. WorkerHub aims to enhance accessibility for consumers while offering stable job opportunities for workers.

With features including advanced search, secure transactions, and real-time notifications, WorkerHub is poised to transform the gig economy by improving service efficiency and economic stability. Future enhancements will include geolocation services, payment integrations and SMS notifications to further enrich user experience and functionality.

2.Software/Hardware Requirement

Server:

Processor: Intel Core i5 or equivalent AMD processor.

RAM: Minimum 8GB RAM.

Storage: SSD storage for improved performance.

Network: Ethernet or Wi-Fi connectivity.

Operating System: Linux distribution (Ubuntu, CentOS) preferred for server deployment.

Client Devices:

Processor: Dual-core processor or higher.

RAM: Minimum 4GB RAM.

Storage: Sufficient storage for caching and localdata.

Network: Ethernet or Wi-Fi connectivity.

Browser: Compatible with latest versions of popular browsers like Google Chrome, Mozilla Firefox, and Safari.
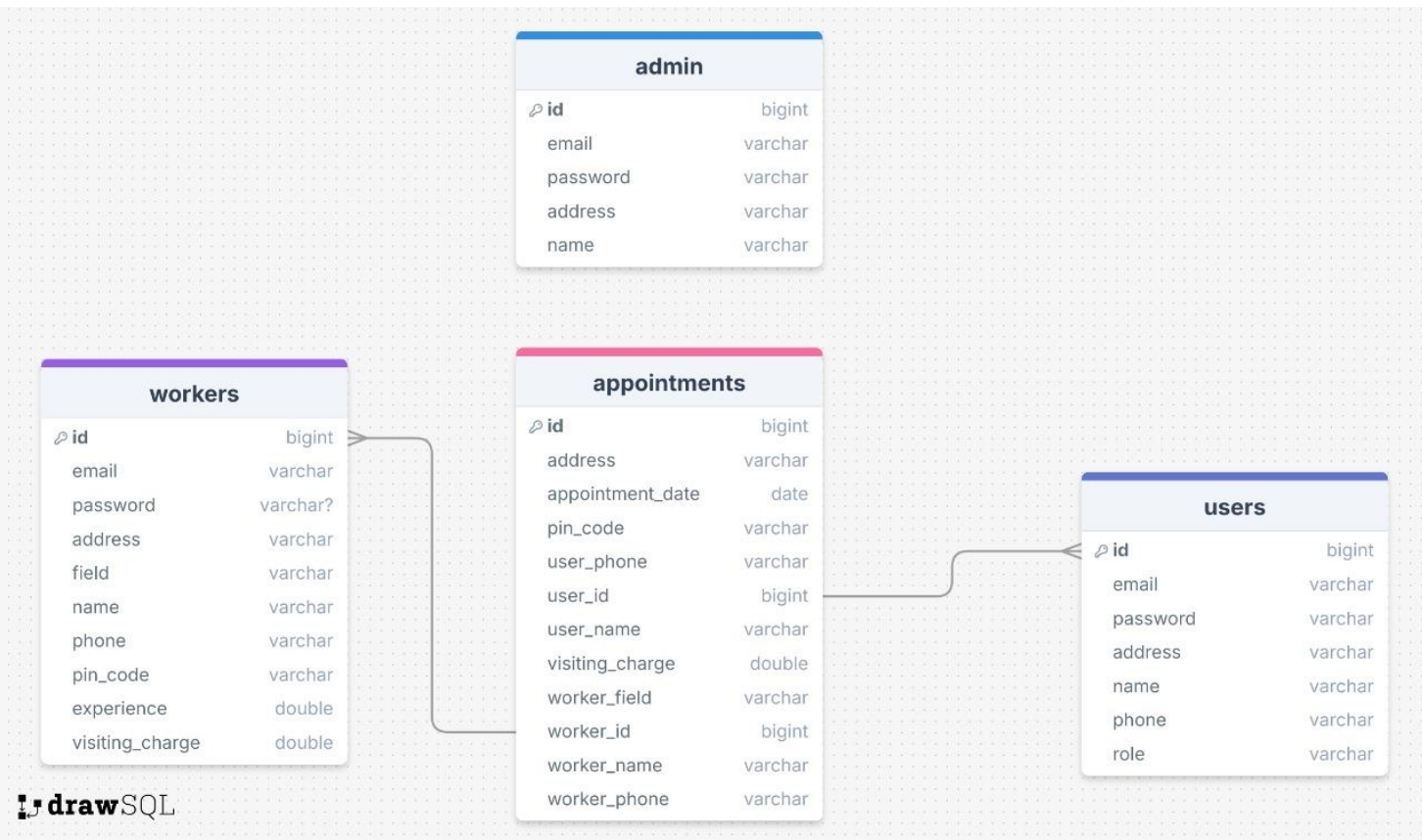
3. Tools and technologies used

- Spring Boot
- Spring Data JPA
- RESTful Web
- Spring Web
- MySQL Database
- React JS
- HTML and CSS
- Axios
- Git

1. Spring Boot: Utilized to develop the backend of the application, providing a robust framework for building Java-based web applications with ease.

2. Spring Data JPA: Implemented for data access, allowing seamless interaction with the MySQL database to store and retrieve sports data efficiently.

3. RESTful Web Services: In the context of an e-commerce web application like Book Charm, RESTful web services play a crucial role in facilitating communication between the frontend and backend components. These services adhere to the principles of Representational State Transfer (REST), which emphasizes a stateless, standardized approach for building web service
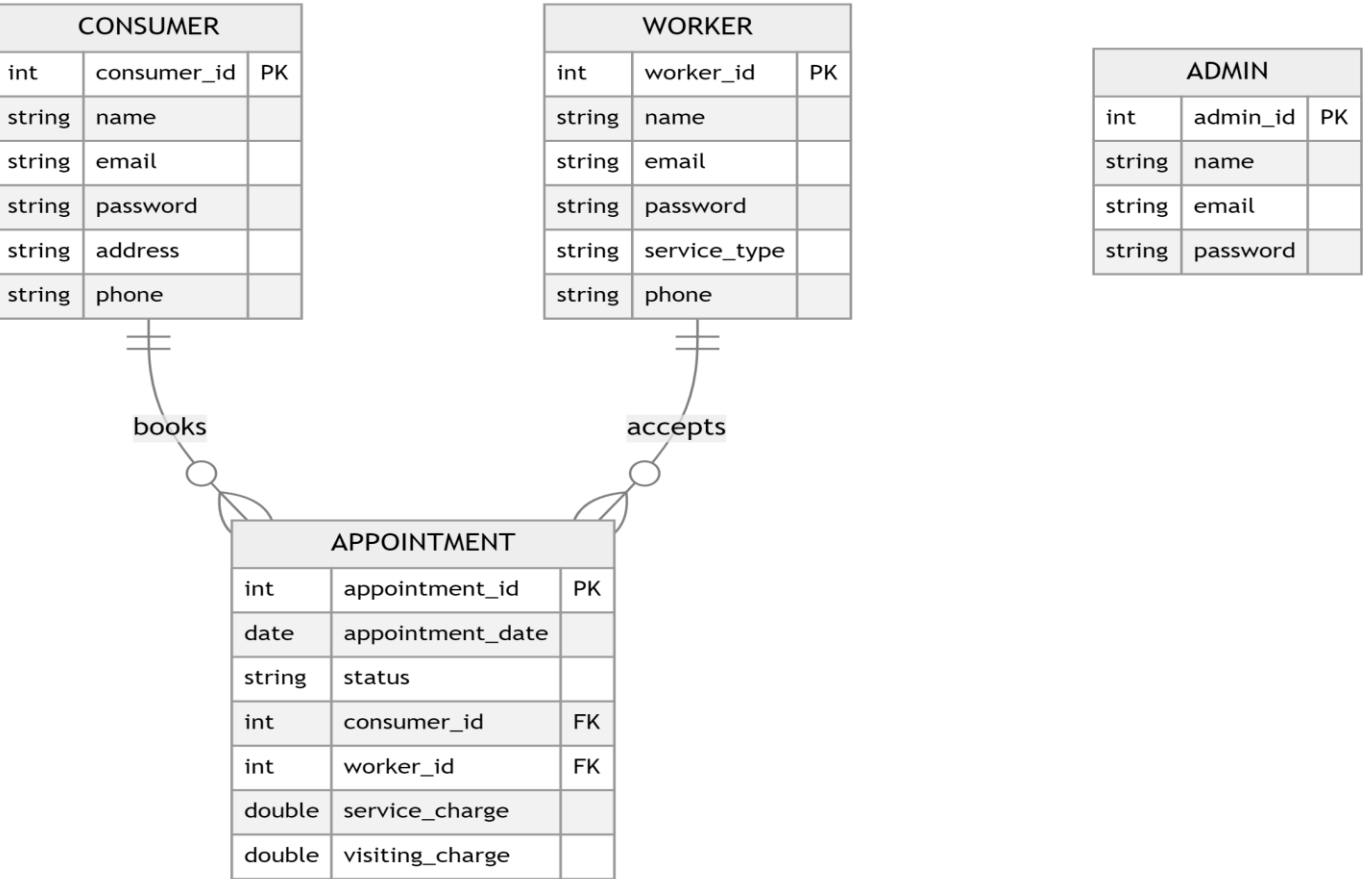
4. Spring Web: Used for handling web requests and responses, managing controllers, and serving static resources to the frontend.

5. MySQL Database: Chosen as the relational database managementsystem to store worker & consumer data including consumer details, service provider details, appointment information and admin details.

6. Axios: In the context of a web application like 'WorkerHub', Axios is likely used as a client-side HTTP library. Axios simplifies the process of making asynchronous HTTP requests from the frontend (React.js) to the backend (Spring boot). It is instrumental in fetching data from the server, handling API calls, and facilitating smooth communication between the frontend and backend components, ensuring efficient data retrieval and seamless user interactions in the web application.

7. React: Employed to build the frontend of the application, offering a component-based architecture for creating dynamic and interactive user interface.

8. CSS: Used for styling the frontend components with utility-first CSS classes, allowing for rapid prototyping and customization of the user interface.

9. Git: Implemented as a version control system to track changes in the source code, enabling collaboration among developers, and facilitating code management and deployment workflows.
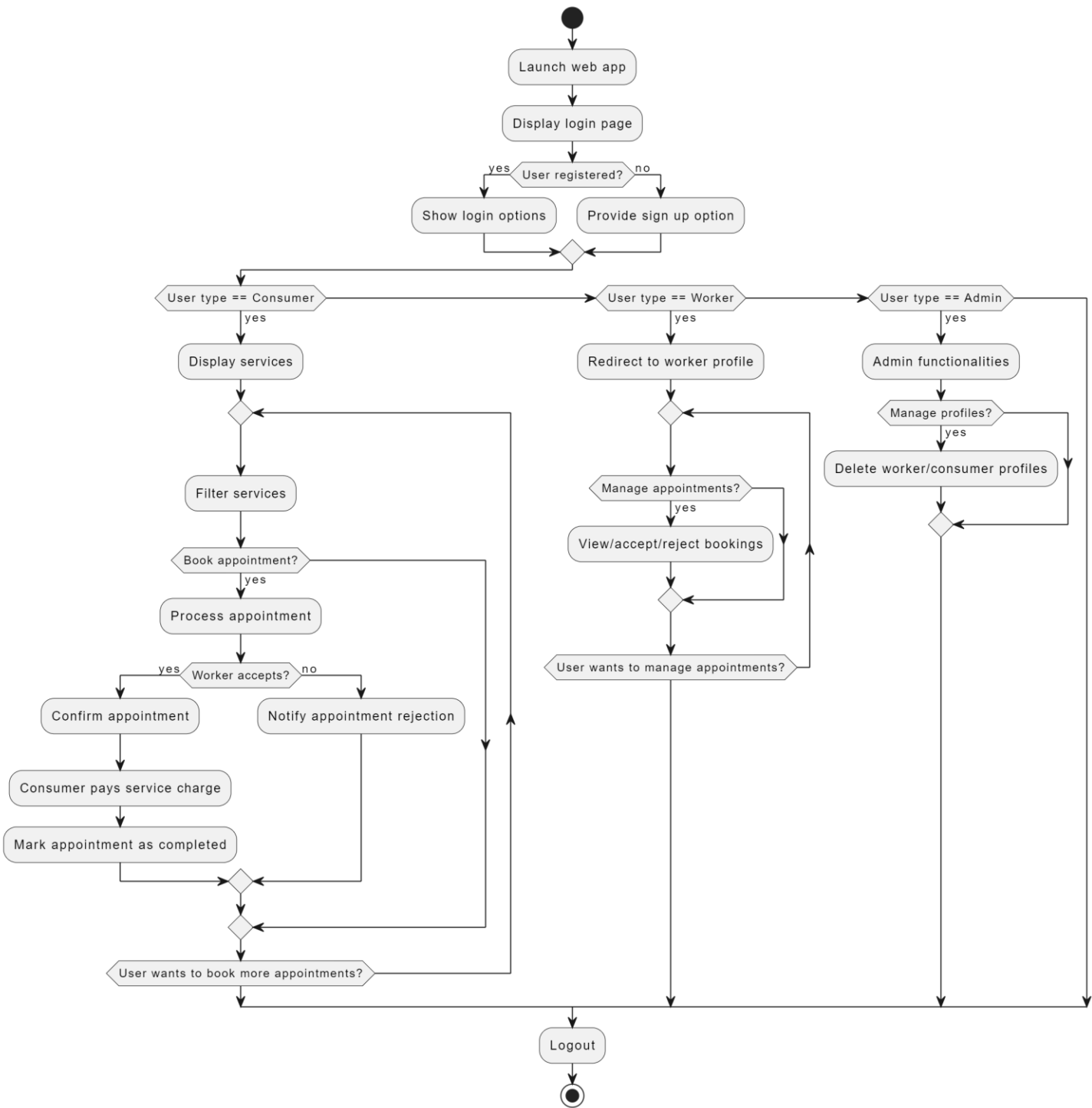
4. Project Database Diagram

admin

id	bigint
email	varchar
password	varchar
address	varchar
name	varchar

workers

id	bigint
email	varchar
password	varchar?
address	varchar
field	varchar
name	varchar
phone	varchar
pin_code	varchar
experience	double
visiting_charge	double

appointments

id	bigint
address	varchar
appointment_date	date
pin_code	varchar
user_phone	varchar
user_id	bigint
user_name	varchar
visiting_charge	double
worker_field	varchar
worker_id	bigint
worker_name	varchar
worker_phone	varchar

users

id	bigint
email	varchar
password	varchar
address	varchar
name	varchar
phone	varchar
role	varchar

drawSQL

5.Project E-R(Entity relationship) Diagram

CONSUMER

int	consumer_id	PK
string	name	
string	email	
string	password	
string	address	
string	phone	

WORKER

int	worker_id	PK
string	name	
string	email	
string	password	
string	service_type	
string	phone	

ADMIN

int	admin_id	PK
string	name	
string	email	
string	password	

books

accepts

APPOINTMENT

int	appointment_id	PK
date	appointment_date	
string	status	
int	consumer_id	FK
int	worker_id	FK
double	service_charge	
double	visiting_charge	

6. Flow Diagram

7.Advantages

1. Empowering Unorganized Workers:

    - Provides stable employment opportunities for unorganized workers.

    - Enhances job security and income stability for gig economy participants.

2. **Meeting Market Demand:**

    -Addresses the growing need for on-demand services.

    -Makes it easier for residents to find reliable service providers quickly.

3. **Technological Efficiency:**

    -Utilizes advanced matching algorithms to connect workers and clients effectively.

    -Streamlines the hiring process with user-friendly interfaces and efficient communication tools.

4. **Improved Service Delivery:**

    -Ensures high-quality service by connecting clients with vetted and skilled professionals.

    -Enhances user satisfaction through a responsive and intuitive platform.

5. **Scalability and Growth Potential:**

    -Offers opportunities for expansion to new cities and regions.

    -Allows integration of additional features and services as the platform evolves.

6. **Social Impact:**

   -Contributes to economic empowerment and social inclusion.

   -Supports local communities by creating job opportunities and fostering economic growth.

7. **Technological Innovation:**

   -Leverages cutting-edge technologies like React, Spring Boot, and MySQL.

   -Incorporates modern web development practices for better performance and user experience.

8. **Cost-Effectiveness:**

   -Utilizes open-source technologies (e.g., MySQL) to reduce costs.

   -Offers an efficient solution for both service providers and clients, potentially lowering service

   costs.

9. **Enhanced Accessibility:**

   -Improves access to services for residents by providing a centralized platform.

   -Facilitates easier discovery and hiring of local service providers.

10. **Robust and Reliable Infrastructure:**

   -Built on a scalable tech stack to handle increasing user volumes and data.

   -Ensures high performance and reliability through optimized database and server management.

   .

8. Screenshots

A) User Related Functionalities
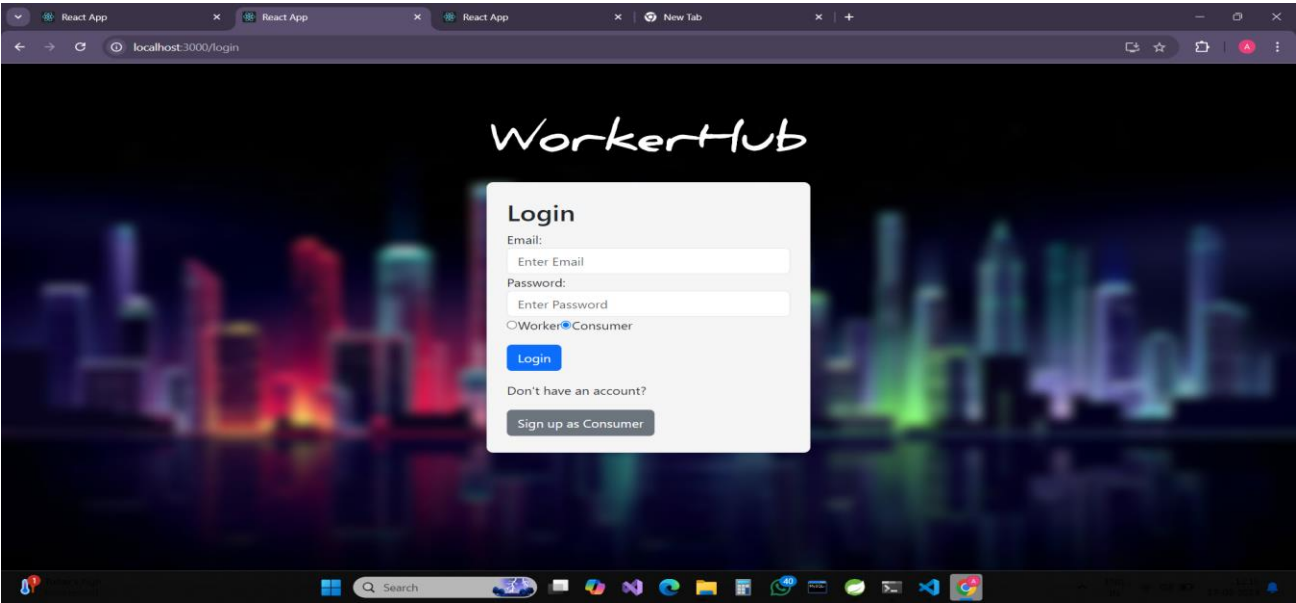
Fig-1: Login Page
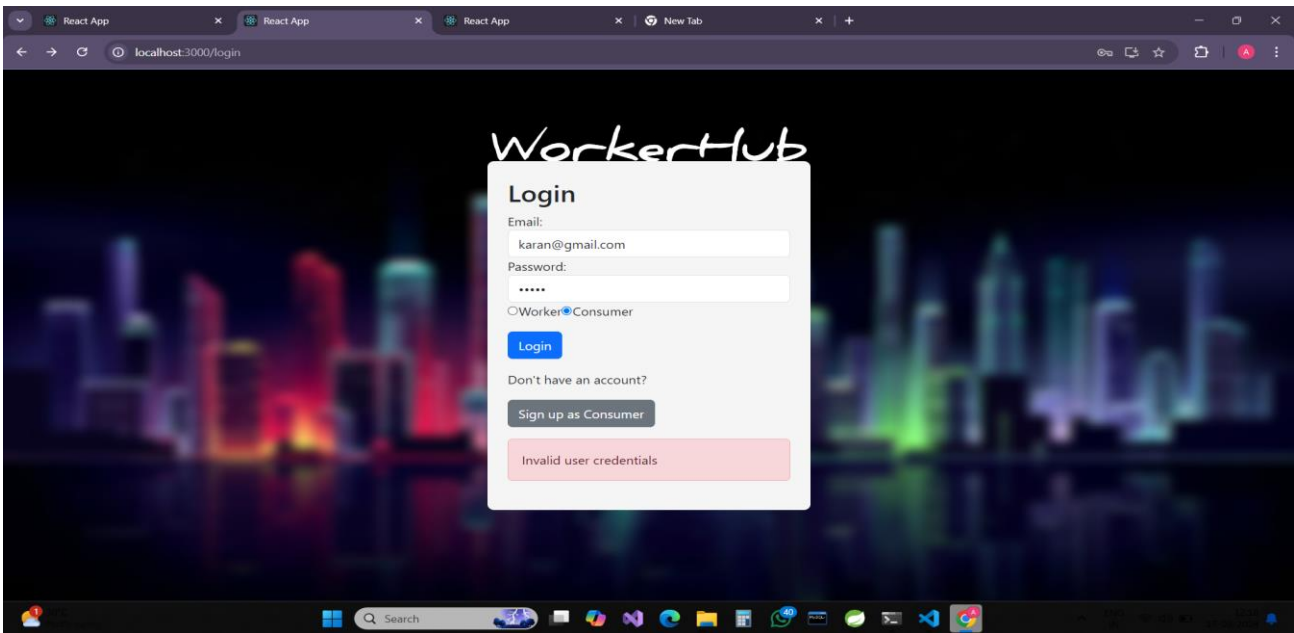
Fig-2: Invalid Login
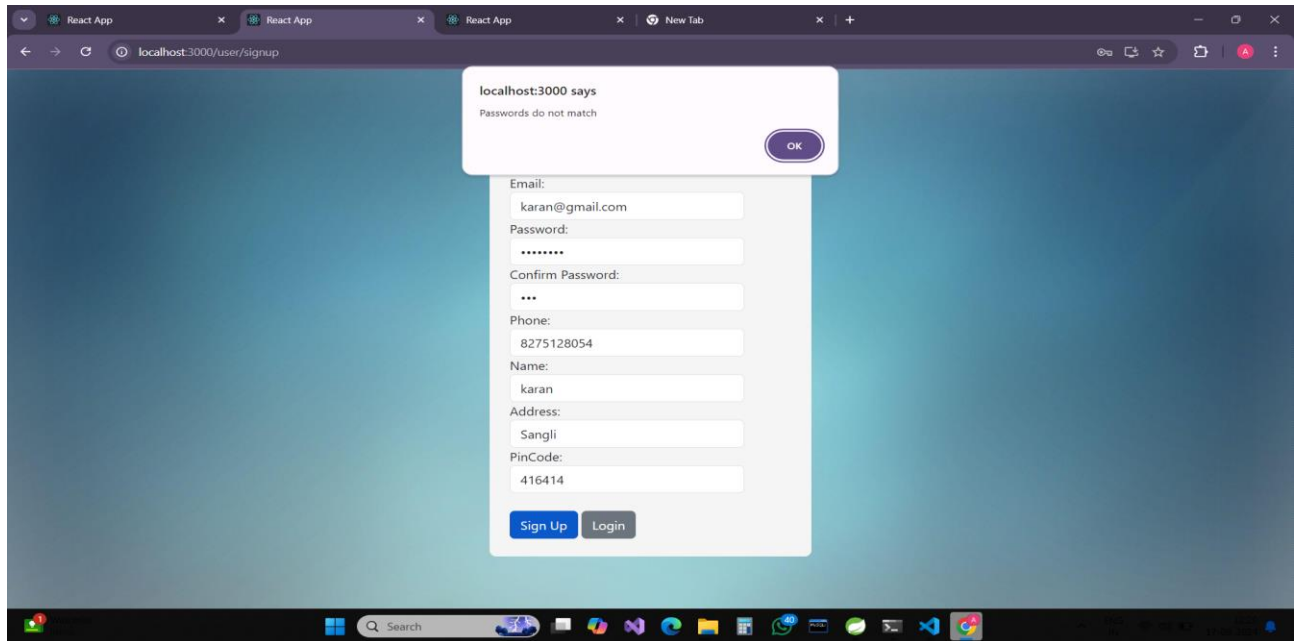
Fig-3: Sign Up Page
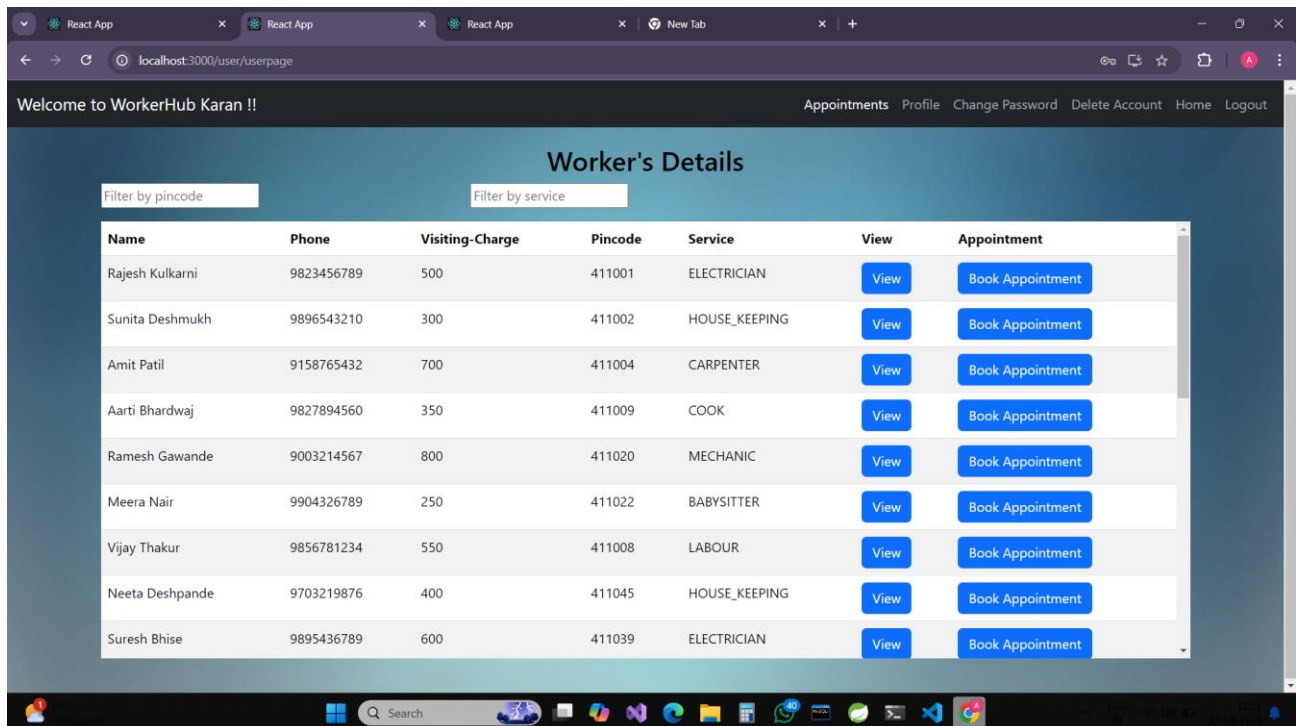
Fig-4: Worker Details
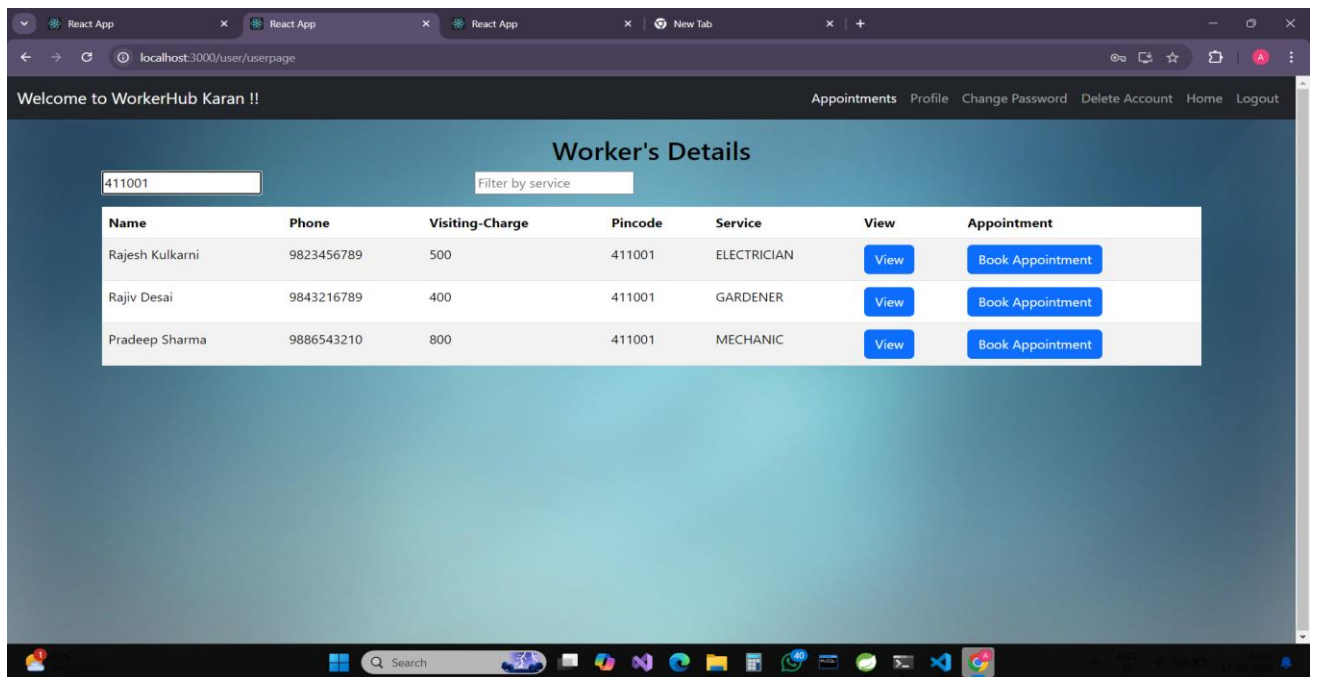
Fig 5: Search by pin-code
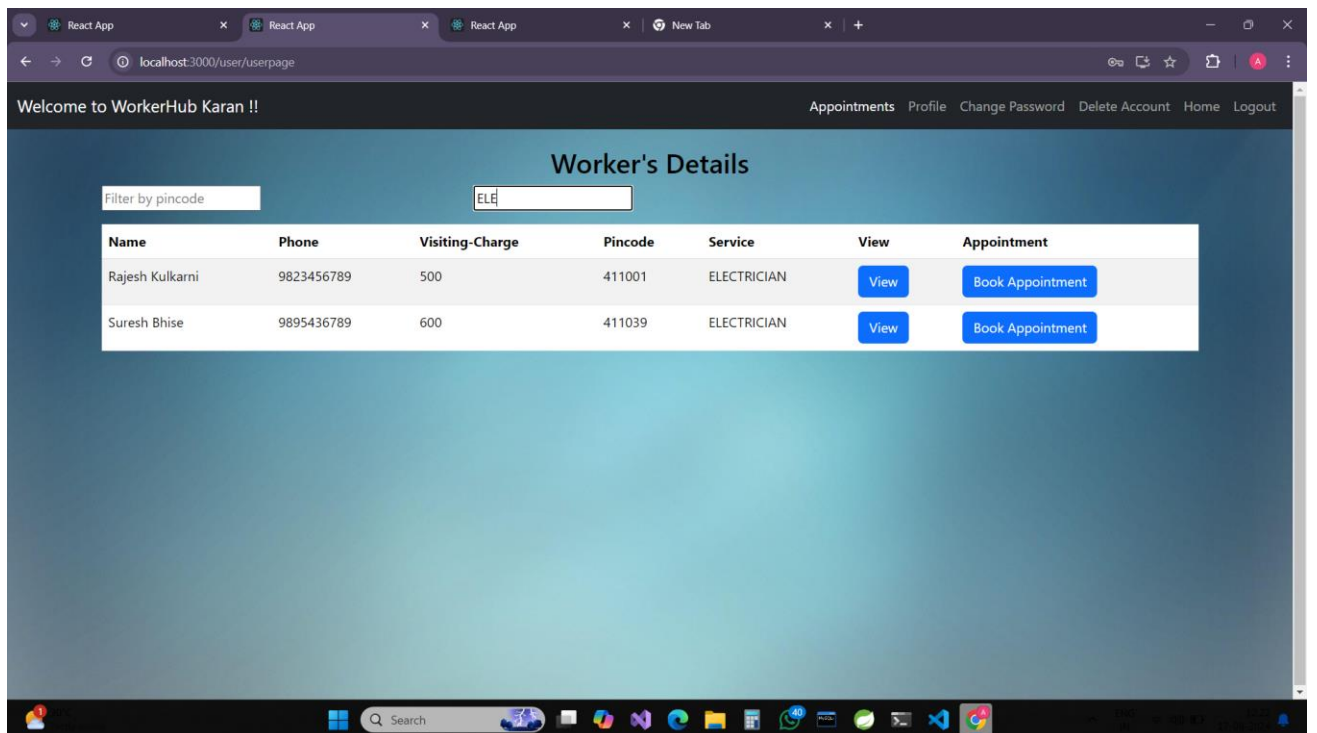
Fig 6: Search by Service
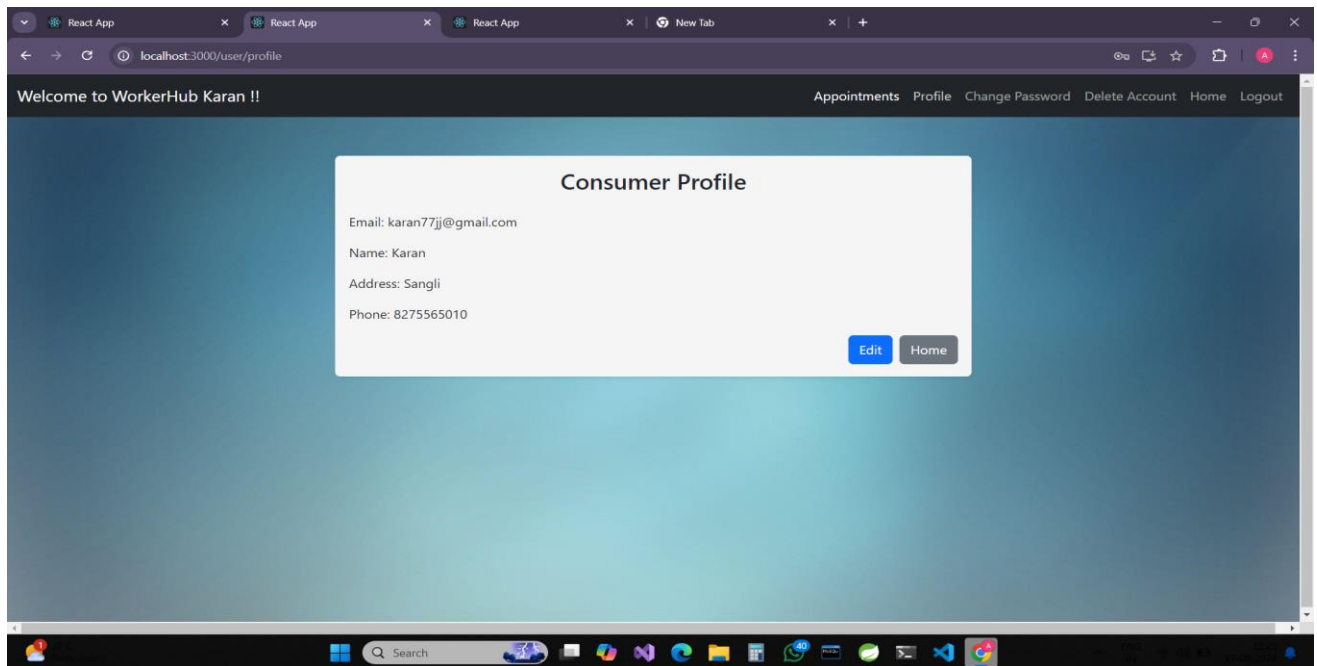
Fig 7: Consumer Profile
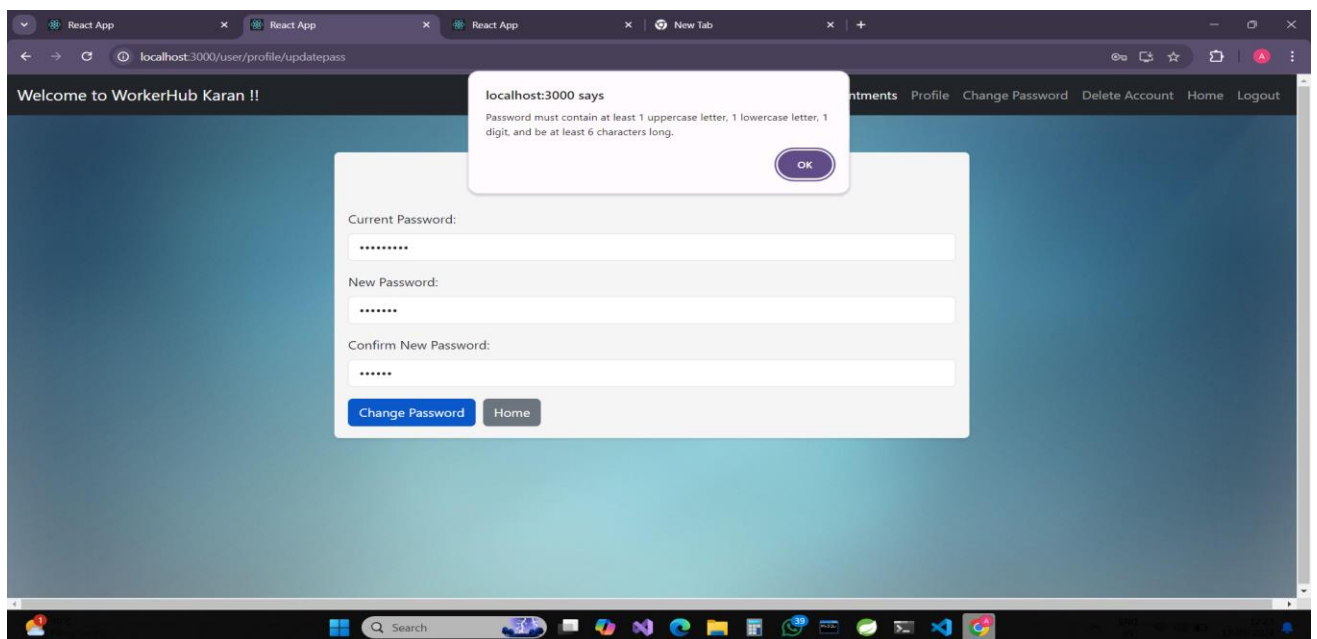
Fig 8: Password Change
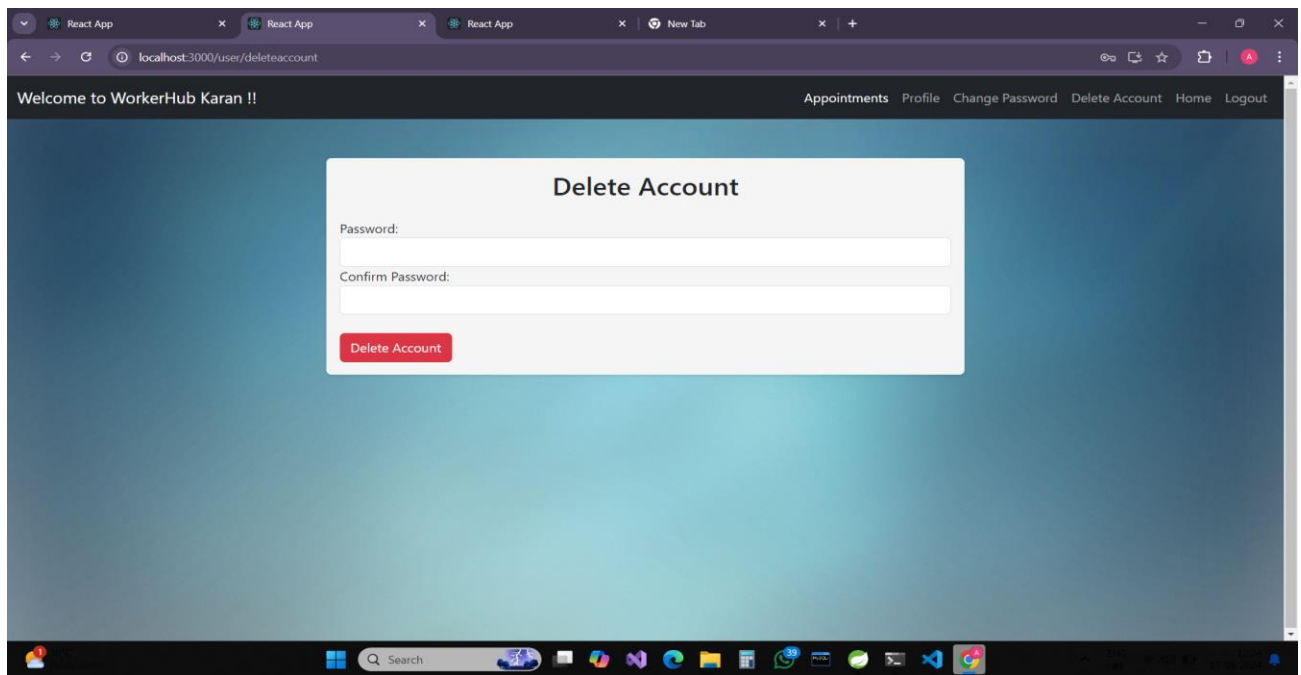
Fig 9: Delete Account
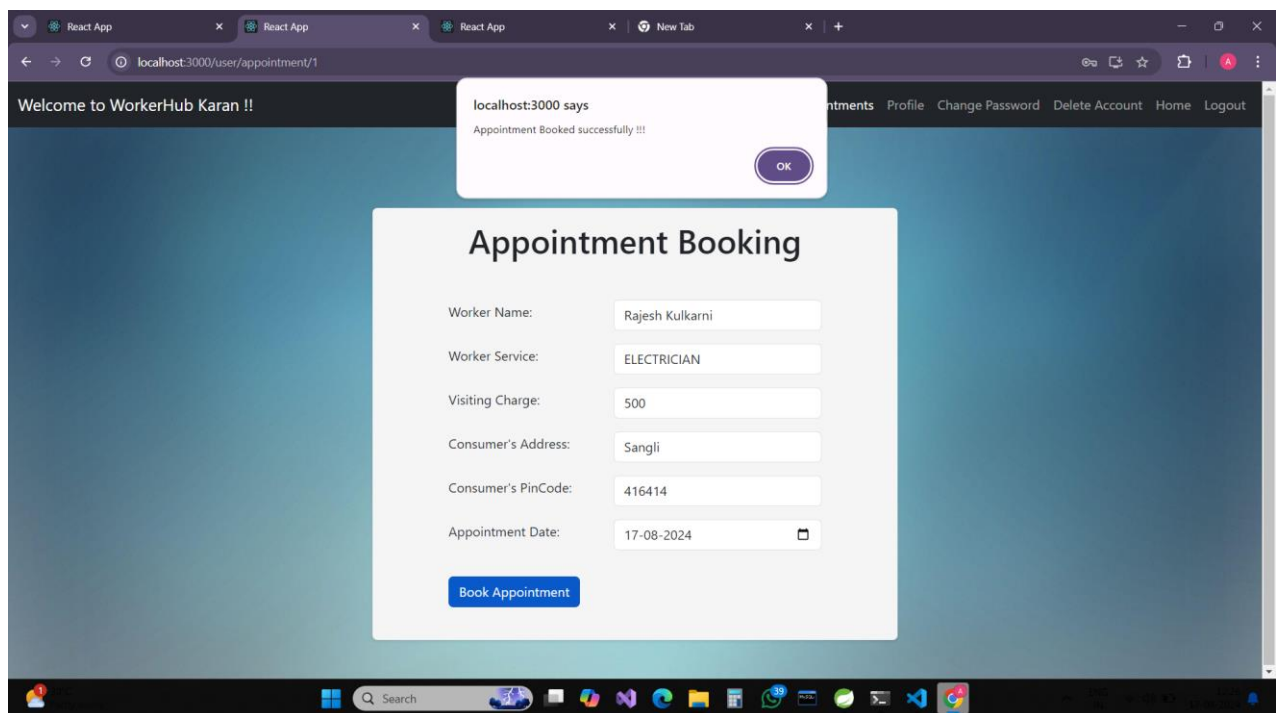
Fig 10: Appointment Booking
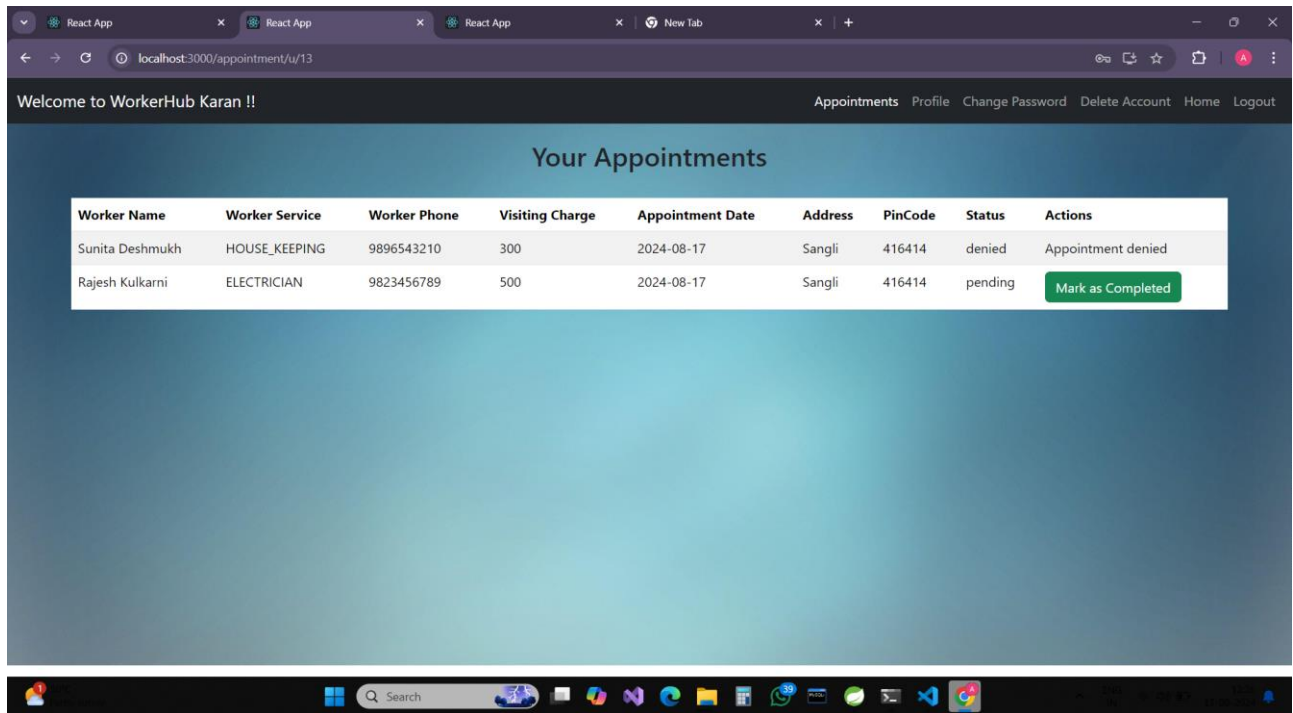
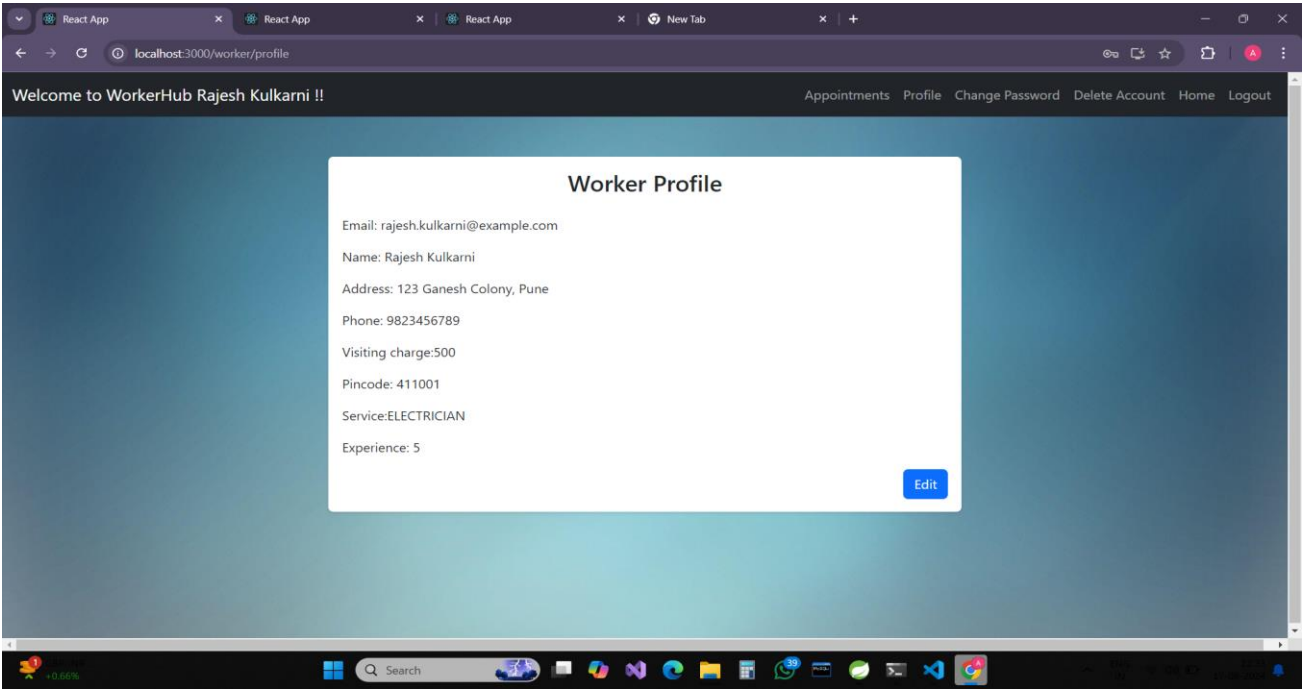**Fig 10: Appointment Status**

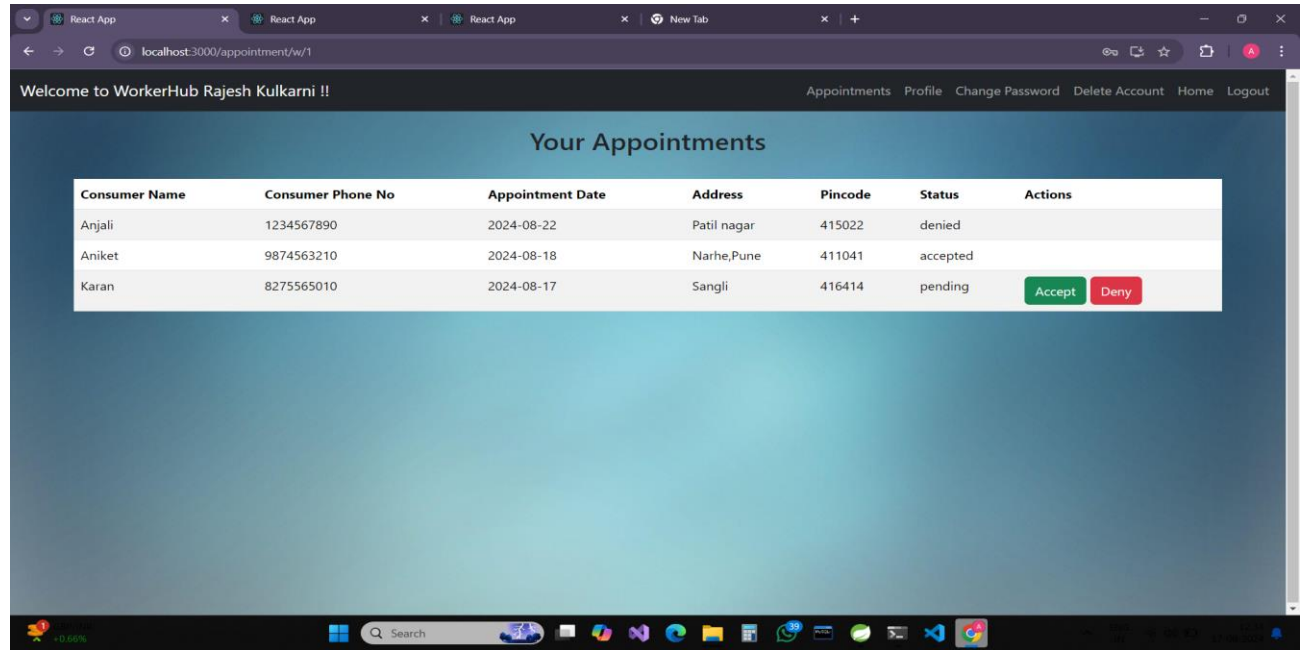# B) Worker Related Functionalities

Fig 11: Worker Profile

Fig 12: Appointment Approval

Fig 13: Consumer Appointment Actions

C) Admin Related Functionalities
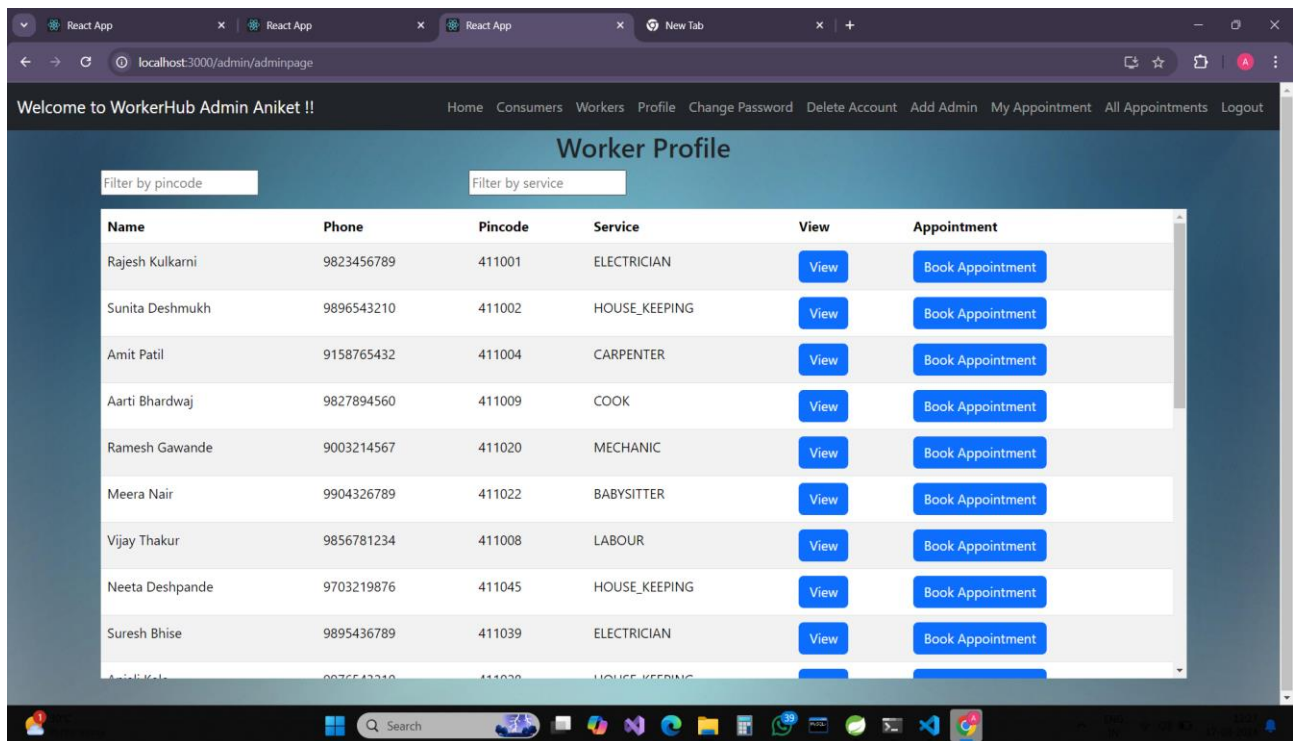
Fig 14: Admin Home Profile/ Worker Details
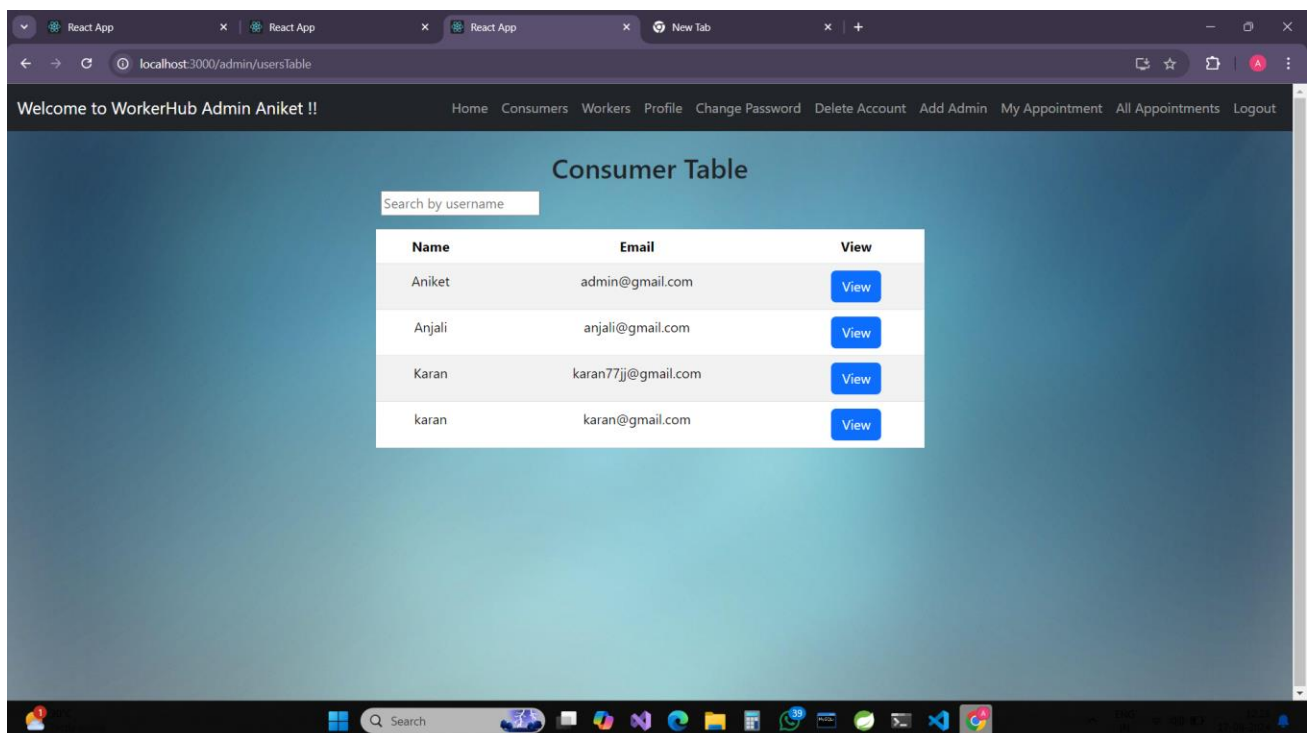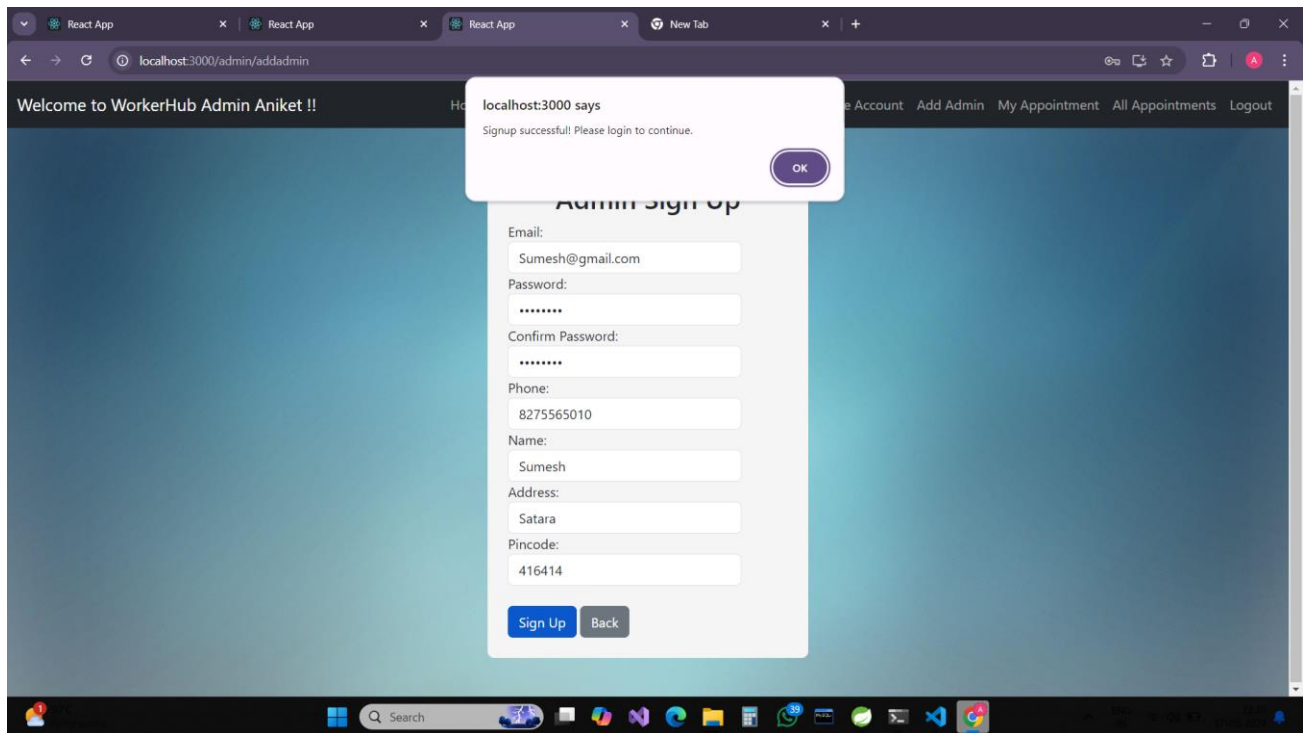

Fig 15: Consumer Details
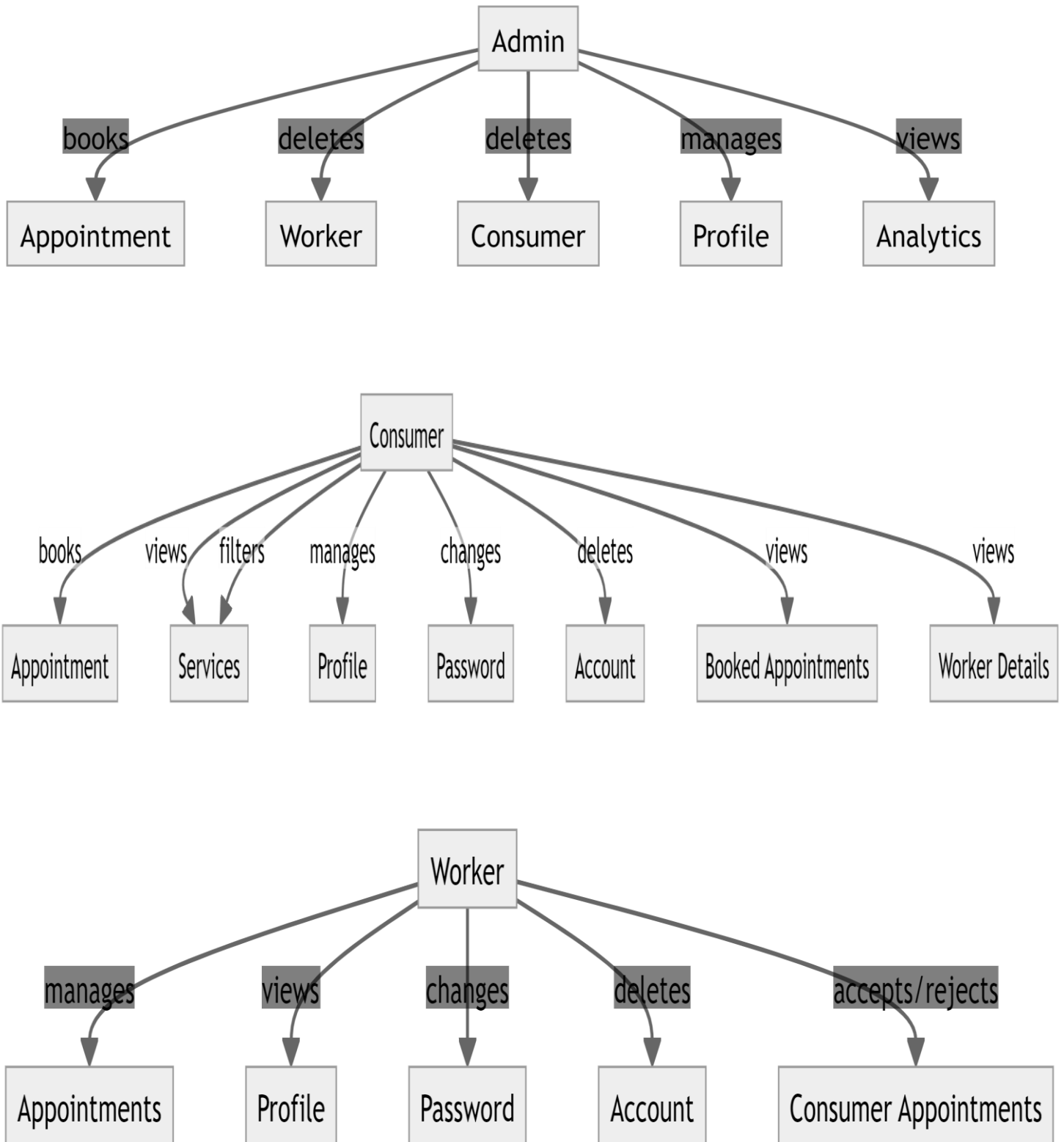
Fig 16:   Add Admin

Fig 17: All Appointments Details
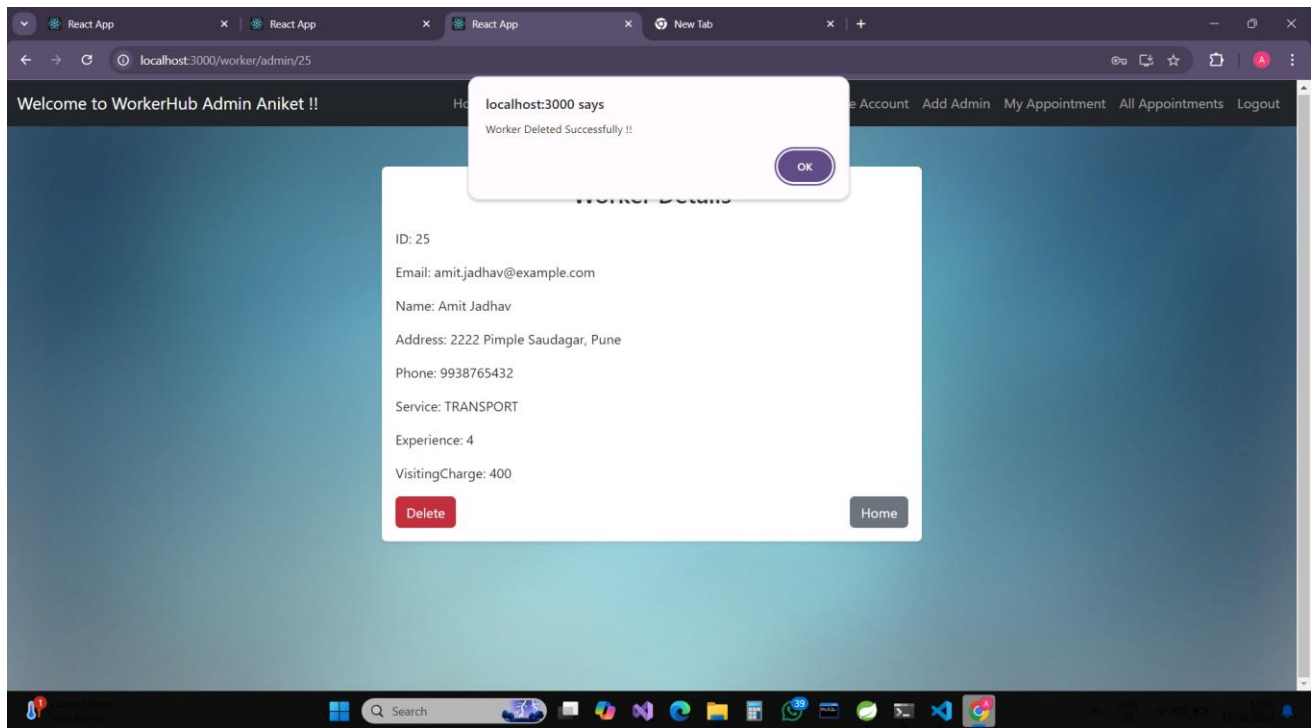
Fig 18: Delete Work

D) Use Case Diagrams:

9.FUTURE SCOPE:

_____

- **Spring Security :**

  Integrating Spring Security into the WorkerHub Platform will enhance its
  security by providing advanced authentication and authorization features. This
  will ensure robust protection of user data, secure access to platform features,
  and compliance with data protection standards, further strengthening the
  platform's reliability and user trust.

- **Geolocation API :**

  Incorporating a geolocation API into the WorkerHub Platform will enable the
  real-time tracking of user locations. This feature will allow the platform to send
  users their precise location, improving navigation and service coordination, and
  enhancing the overall user experience.

- **Payment API :**

  Integrating a payment API into the WorkerHub Platform will facilitate secure and
  seamless transactions between users and service providers. This feature will enable
  users to pay workers directly through the platform, streamlining the payment process
  and enhancing convenience for both parties.

- **SMS Integration :**

  Integrating SMS functionality into the WorkerHub Platform will enable automated
  notifications and real-time communication between users and service providers. This
  feature will enhance the user experience by providing timely updates on job status,
  appointment reminders, and important alerts directly via SMS.

10.Conclusion

The WorkerHub Platform project has effectively developed a web application that connects unorganized workers with local residents in need of on-demand services. Utilizing technologies such as React for the front-end, Spring Boot for the back-end, and MySQL for database management, the platform ensures a seamless, scalable, and user-friendly experience.

Our dedicated team of five members collaborated across various roles, overcoming challenges related to integration and performance through rigorous testing and optimization. The platform not only addresses the growing demand for reliable service providers but also provides unorganized workers with more stable job opportunities, positively impacting their quality of life.

Overall, WorkerHub combines technological innovation with social responsibility, setting the stage for significant growth and enhancing the efficiency of the on-demand service industry.

11.References

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   https://www.geeksforgeeks.org/react-tutorial/

   https://www.w3schools.com/

2. **Bootstrap Documentation**

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3. **Java Documentation**

   Online : https://www.oracle.com/java/technologies/javase-jdk11-doc-downloads.html

   Offline : https://docs.oracle.com/en/java/javase/11/docs/api/index.html