

SANITIZATION MANAGEMENT SYSTEM

**A PROJECT REPORT SUBMITTED IN PARTIAL
FULFILMENT OF REQUIREMENT
FOR THE AWARD OF THE DEGREE**

MASTER OF COMPUTER APPLICATIONS

(MCA)

OF

MAHATMA GANDHI UNIVERSITY, KOTTAYAM

BY

BIBIN THOMAS

Reg No : 22PMC120



**MARIAN COLLEGE
KUTTIKKANAM**

(AUTONOMOUS)

MAKING COMPLETE

Marian College Kuttikkanam Autonomous

Peermade, Kerala – 685 531

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Under the guidance of

Ms.Kochumol Abraham
Assistant Professor
PG Department of Computer Applications
Marian College Kuttikkanam Autonomous



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PG DEPARTMENT OF COMPUTER APPLICATIONS

Marian College Kuttikkanam Autonomous

MAHATMA GANDHI UNIVERSITY, KOTTAYAM

KUTTIKKANAM – 685 531, KERALA.

CERTIFICATE

This is to certify that the project work entitled

SANITIZATION MANAGEMENT SYSTEM

is a bonafide record of work done by

BIBIN THOMAS

Reg. No. 22PMC120

In partial fulfillment of the requirements for the award of Degree of

MASTER OF COMPUTER APPLICATIONS [MCA]

During the academic year 2022-2023

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External Examiner

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BIBIN THOMAS

ABSTRACT OF SANITIZATION MANAGEMENT SYSTEM

Name of the project: Sanitization Management System

The Sanitization Management System (SMS) project focuses on developing a user-friendly website that allows individuals and organizations to conveniently book sanitization services for their homes, offices, and other locations. With the increasing importance of cleanliness and hygiene in light of global health concerns, this project addresses the need for a centralized platform that simplifies the process of scheduling and managing sanitization services.

At the time of Corona virus, pandemic has affected all sections of the society, it is important that we follow all the guidelines and precautions to keep ourselves and loved ones safe. The main purpose of this system is to provide sanitization services to clean and disinfect the environment.

The main objective for developing this project is to provide an easier way to book sanitization for residents in commercial areas to save time. This will reduce the time of people who want to sanitize their home or offices and also reduce the manual storing of managing the details of users. This will systematically record, store and update recorded data of users and the service they have rendered.

The current system is difficult in various circumstances, it is very much time consuming and slow. It is not user friendly because data is not stored in structure and proper format. This application has good appearance and user-friendly interface which is very easy to operate and easy to access.

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1. INTRODUCTION

1.1 PROBLEM STATEMENT

The current system is difficult in various circumstances, it is very much time consuming and slow. It is not user friendly because data is not stored in structure and proper format.

Limitations of existing system

- **Manual Control:** All report calculation is done manually so there is a chance of error.
- **Lots of Paper works:** Person record maintain in the register so lots of paper require storing details.
- **Not user friendly:** The present system not user friendly because data is not stored in structure and proper format.
- **Time consuming**

1.2 PROPOSED SYSTEM

At the time of Corona virus pandemic has affected all sections of the society, it is important that we follow all the guidelines and precautions to keep ourselves and loved ones safe so this web-based application helps to sanitize and disinfects home and offices by sending request to sanitization company without going anywhere. This project aims in simplifying the process of booking sanitization services through a user-friendly website. By offering a centralized platform for service selection, scheduling, and payment, the system enhances convenience and efficiency in accessing professional sanitization services. This project aligns with the growing emphasis on cleanliness and hygiene, promoting a healthier and safer environment for homes, offices, and other locations.

Advantages of Proposed System

- **Easy and Efficient**
- **Cost-Effective**
- **Environment Friendly**

1.3 FEATURES OF PROPOSED SYSTEM

- Automation of the entire system improves the productivity.
- It provides a friendly graphical user interface which proves to be better when compared to the existing system.
- It gives appropriate access to the authorized users depending on their permissions.
- It effectively overcomes the delay in communications.
- Updating of information becomes so easier.
- System security, data security and reliability are the striking features.
- The System has adequate scope for modification in future if it is necessary.

2. FUNCTIONAL REQUIREMENTS

FUNCTIONAL REQUIREMENTS

Sanitization Management consist of two modules

1.User

2.Admin

USER

- **Can Register and login**
- **Fill the Request form** - Fill the form with the details needed to book service
- **Slot booking** – Book the slot for sanitizing according to time and date
- Will Receive a **tracking id** to track the status of request.
- **Tract the request** - For viewing the status of request.
- **Contact us** – For contacting if any query arises
- **About us** -To view about the website.

ADMIN

- **Dashboard**
In this section, admin can briefly view total services, total on the way, total new request, total in process request and total rejected.
- **Manage Sanitization Services**
In this section, admin can manage sanitization services (Add/Del/update).
- **Manage Sanitization Request**
In this section, admin can view new, request and change the status of request according to current status.
- **Manage User Queries**
Admin can manage if any issues or problem arises from user.
- **Manage Users**
Admin can manage the users who have access to the website.

2. NON-FUNCTIONAL REQUIREMENTS

NON-FUNCTIONAL REQUIREMENTS

a. Reliability

The reliability of the overall project depends on the reliability of the separate components. The main pillar of reliability of the system is the backup of the database which is continuously maintained and updated to reflect the most recent changes, Also the system will be functioning inside a container. Thus, the overall stability of the system depends on the stability of container and its underlying operating system.

b. Availability

The system should be available at all times, meaning the user can access it using a web browser, only restricted by the down time of the server on which the system runs. A customer friendly system which is accessible for people around the world should work 24 hours. In case of a hardware failure or database corruption, a replacement page will be shown. Also, in case of a hardware failure or database corruption, backup of the database should be retrieved from the server and saved by the Organizer. Then the services will be restarted. It means 24 X 7 availability.

c. Maintainability

A commercial database is used for maintaining the database and the application server takes care of the site. In case of a failure, a re-initialization of the project will be done. Also, the software design is being done with modularity in mind so that maintainability can be done efficiently.

d. Security

Ensuring robust security measures is crucial for the successful implementation of the Sanitization Management System (SMS) project. As a non-functional requirement, security encompasses the protection of sensitive data, prevention of unauthorized access, and the maintenance of confidentiality, integrity, and availability of system resources. The SMS project acknowledges the importance of incorporating strong security practices to safeguard user information and maintain the overall integrity of the system.

4. FEATURES AND HIGHLIGHTS

SANITIZATION MANAGEMENT SYSTEM

Sanitization management system helps to allow users to book and schedule slots for sanitizing homes, offices, and other locations.

Here are some key features that such a system could include:

1. **User Registration:** Users can create an account by providing their personal details, such as name, contact information, and address.
2. **Location Selection:** Users can specify the location that needs to be sanitized, such as their home, office, or any other premises.
3. **Slot Booking:** Users can select a convenient date and time slot for the sanitization service. The system should provide an available slot based on the user's location and the service requested.
4. **Service Tracking:** User can track the status of the service they have rendered.
5. **Real-time Availability:** The website will be available 24*7.
6. **Admin Dashboard:** In administrative dashboard, admin can manage bookings, track and update status, monitor user problems, and handle any issues or disputes.
7. **Service Provider Management:** The system can include features to manage and onboard service providers, ensuring their qualifications, certifications, and availability.
8. **Service History:** Admin can manage the services rendered to the users i.e their service history, including details of past sanitization appointments, and any related communication.
9. **Customer Support:** The system should provide a means for users to contact customer support if they have any queries, issues, or require assistance.

These are the features included in the project sanitization management system.

5. TECHNICAL ASPECTS

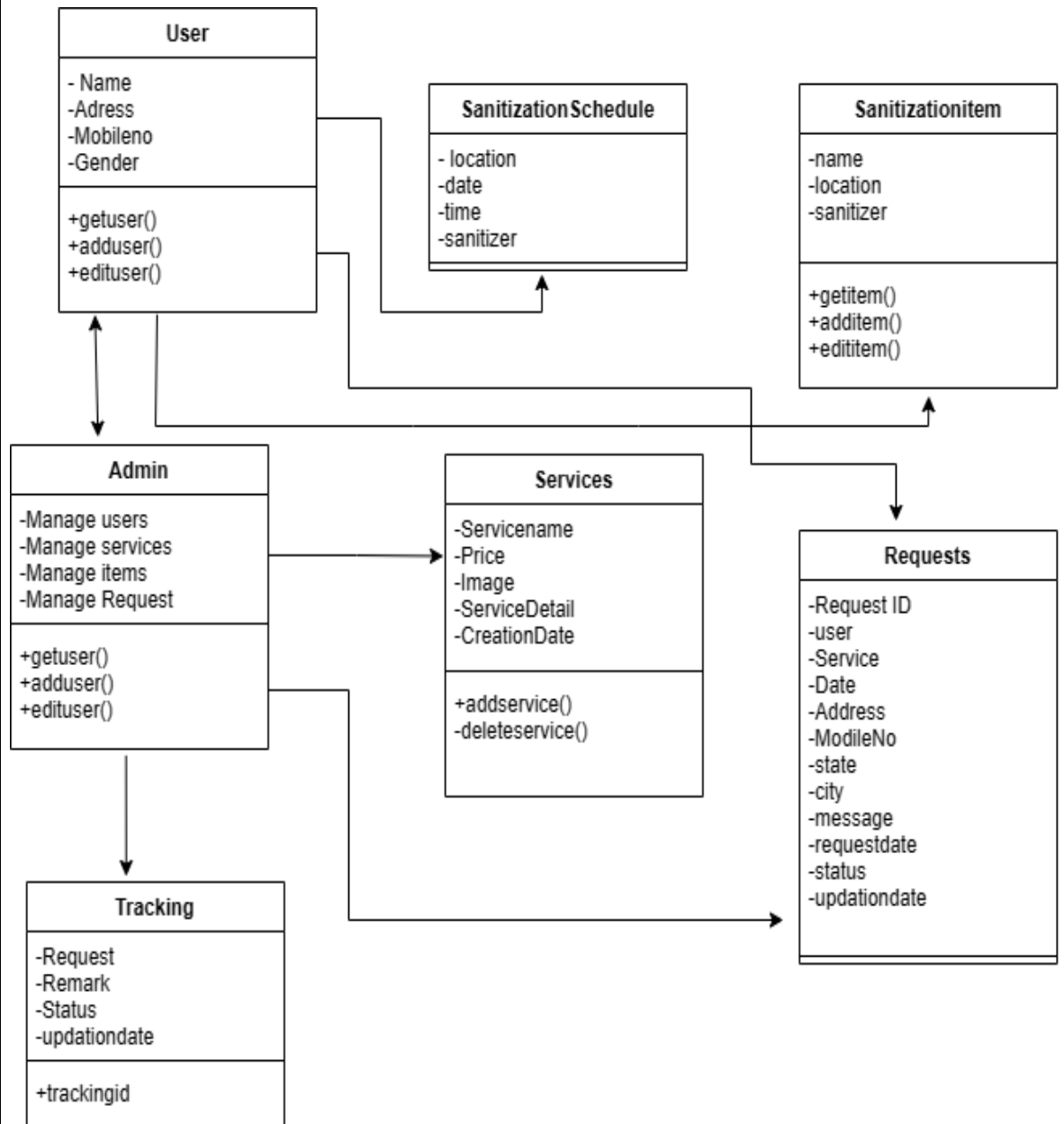
SANITIZATION MANAGEMENT SYSTEM

Here are some key technical aspects focused on:

- **Web Framework:** Choosing a suitable web framework such as Django to build the project. This framework provides the necessary tools and libraries to develop web application efficiently.
- **User Interface:** Design a user-friendly interface using HTML, CSS, and JavaScript. Implementing forms for user registration, login, and booking slots. Using frameworks like Bootstrap or Materialize CSS for responsive and visually appealing designs.
- **Database Management:** Selecting a database management system like SQLite to store user information, bookings, and other relevant data.
- **Authentication and Authorization:** Implementing user authentication and authorization mechanisms to ensure secure access to the system. Use of frameworks like Django's built-in authentication system for managing user sessions and permissions.
- **Slot Scheduling:** Developing a scheduling system that allows users to select slots for sanitization services. Use data structures and algorithms to manage and track slots.
- **Notifications:** Implement a notification system to send a pop-up message of the tracking ID to track the status of the request.
- **Error Handling and Logging:** Implementing error handling mechanisms to gracefully handle exceptions and provide meaningful error messages to users when something goes wrong. Additionally, setting up log to capture and store application logs for debugging and monitoring purposes.
- **Security Considerations:** Implementing security best practices such as input validation, protection against common web vulnerabilities (e.g cross-site scripting, SQL injection), and secure handling of sensitive data like passwords and payment information.
- **Performance Optimization:** Optimize the system's performance by employing techniques such as caching, database indexing, and code profiling. Identify and address any bottlenecks that may impact the system's responsiveness and scalability.

- **Database**

Class Diagram



6. Challenges Faced During Development

- **Database Management**

Configuring and managing the database connections, migrations, and data models was bit challenging, especially when dealing with complex relationships and data transformations.

- **Authentication and Authorization**

Implementing user authentication, managing user roles and permissions, and securing sensitive data

- **Templating and Front-end Integration**

Integrating front-end frameworks like Bootstrap and handling dynamic content rendering through Django's template engine.

- **URL Routing and Views**

Configuring URL routing patterns and mapping them to appropriate views was confusing at times, especially when dealing with dynamic URLs, query parameters, and complex URL structures.

- **User Experience**

Designing a user-friendly interface and ensuring a seamless user experience can be challenging. It requires understanding the needs and preferences of users and implementing intuitive navigation and forms for booking and scheduling slots.

- **Scalability and Performance**

As the user base grows and more people book slots simultaneously, the system needs to handle increased traffic and maintain optimal performance. Scaling the application and optimizing the database queries, caching mechanisms, and server configurations may be necessary to maintain responsiveness.

- **Testing and Quality Assurance**

Writing comprehensive tests to cover various scenarios, including edge cases and error conditions, can be time-consuming. Ensuring the system is thoroughly tested to prevent bugs, handle exceptions gracefully, and provide a stable user experience requires careful planning and execution.

7. FUTURE ENHANCEMENT

Here are future enhancements for the Sanitization Management System project, specifically focusing on email delivery of tracking IDs and an interactive interface:

1. Email delivery of tracking ID

Implementing an automated email delivery system would enhance communication with users. Once a booking is confirmed, the system can generate a unique tracking ID for each appointment and automatically send an email to the user containing the tracking ID and other relevant details. This would provide users with a reference for their appointment and allow them to track the progress of the sanitization process.

2. Interactive user interface

Improving the user interface (UI) and user experience (UX) of the system can enhance usability and engagement. The interface should be intuitive, visually appealing, and provide easy navigation for users to book and manage their sanitization appointments. Interactive elements such as calendars, drag-and-drop functionality, and visual representations of available time slots can make the scheduling process more user-friendly.

3. In-app messaging and chat support

Including an in-app messaging or chat support feature would enable users to communicate directly with the sanitization service provider or support team. This feature can be helpful for addressing any queries, requesting modifications to appointments, or seeking additional information about the sanitization process.

4. Personalized user profiles

Implementing personalized user profiles would allow users to create accounts, save their preferences, and view their booking history. User profiles can store information such as preferred cleaning products, specific instructions for sanitization, and any additional notes for the service provider. This would streamline the booking process for returning users and enable personalized recommendations for future appointments.

5. *Multi-platform accessibility*

Expanding the system's accessibility across multiple platforms such as web, mobile, and tablet devices would ensure that users can access and manage their sanitization appointments from their preferred devices. This flexibility would cater to the diverse needs and preferences of users.

6. *Real-time availability updates*

Integrating the system with a real-time availability tracking mechanism would allow users to see the current availability of slots for sanitization. This feature would provide transparency and help users make informed decisions when selecting a time slot. As soon as a slot is booked by another user, the availability status should be updated in real-time to prevent overlapping appointments.

These are the enhancements that I aim to improve the functionality, convenience, and user experience of the Sanitization Management System project, making it easier for people to book and schedule sanitization appointments for their homes and offices.

8. CONCLUSION

SANITIZATION MANAGEMENT SYSTEM

In conclusion, the Sanitization Management System project provides a convenient and efficient solution for individuals and businesses to book and schedule sanitization services for their homes, offices, and other spaces. By leveraging technology and automation, this system streamlines the process of requesting and managing sanitization slots, ensuring a clean and safe environment for users.

One of the key benefits of this system is its user-friendly interface, which allows users to easily navigate through the booking process. Through the web, individuals can select their desired date and time, specify the location, and choose the type of sanitization service they require. This eliminates the need for traditional, time-consuming phone calls and manual scheduling, making the entire process more efficient and convenient.

The system also incorporates a robust scheduling and management component, allowing service providers to efficiently allocate resources and ensure timely completion of sanitization tasks. By optimizing routes and assigning tasks based on location proximity, the system maximizes the productivity of sanitization teams and minimizes unnecessary travel time. This results in improved operational efficiency and reduced costs for both service providers and customers.

Additionally, the Sanitization Management System promotes transparency and accountability. Users can access real-time updates on the status of their bookings, and upcoming appointments, and even track the progress of the sanitization process.

In conclusion, this project revolutionizes the way people book and schedule sanitization services. By providing a user-friendly interface, customizable options, efficient scheduling, and transparent processes, this system enhances the overall sanitization experience, ensuring a clean and safe environment for homes, offices, and other spaces.

9. REFERENCES

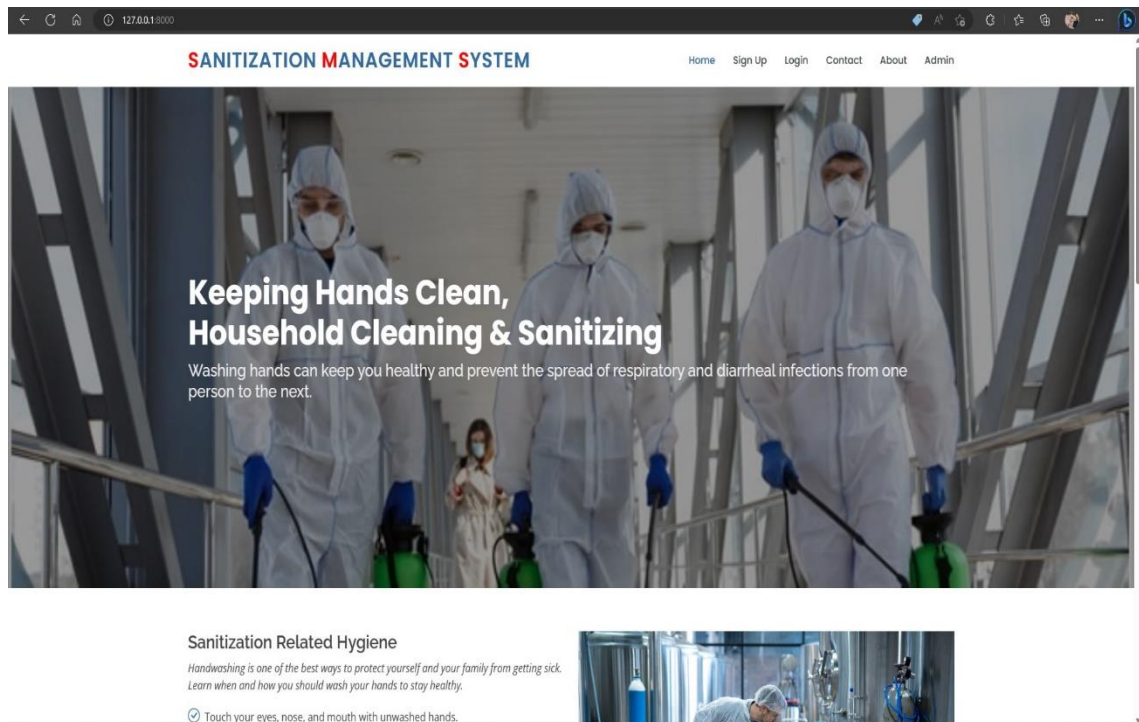
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10. ANNEXURE

A. SCREENSHOTS

- Home Page

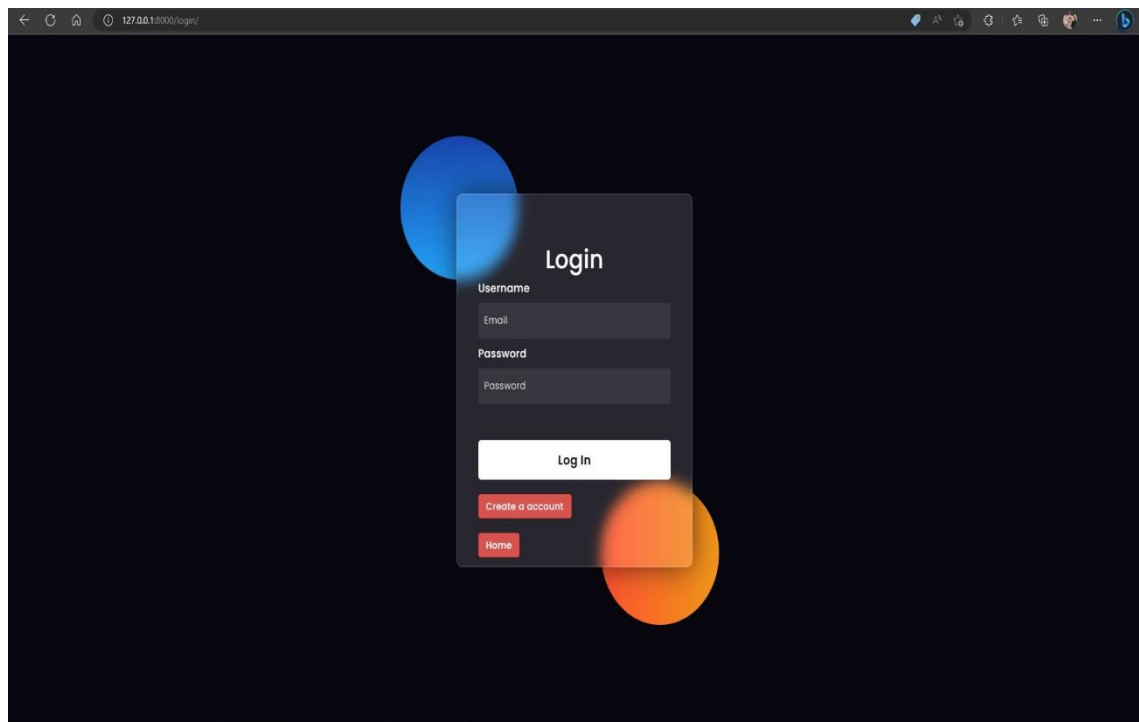


- User Registration

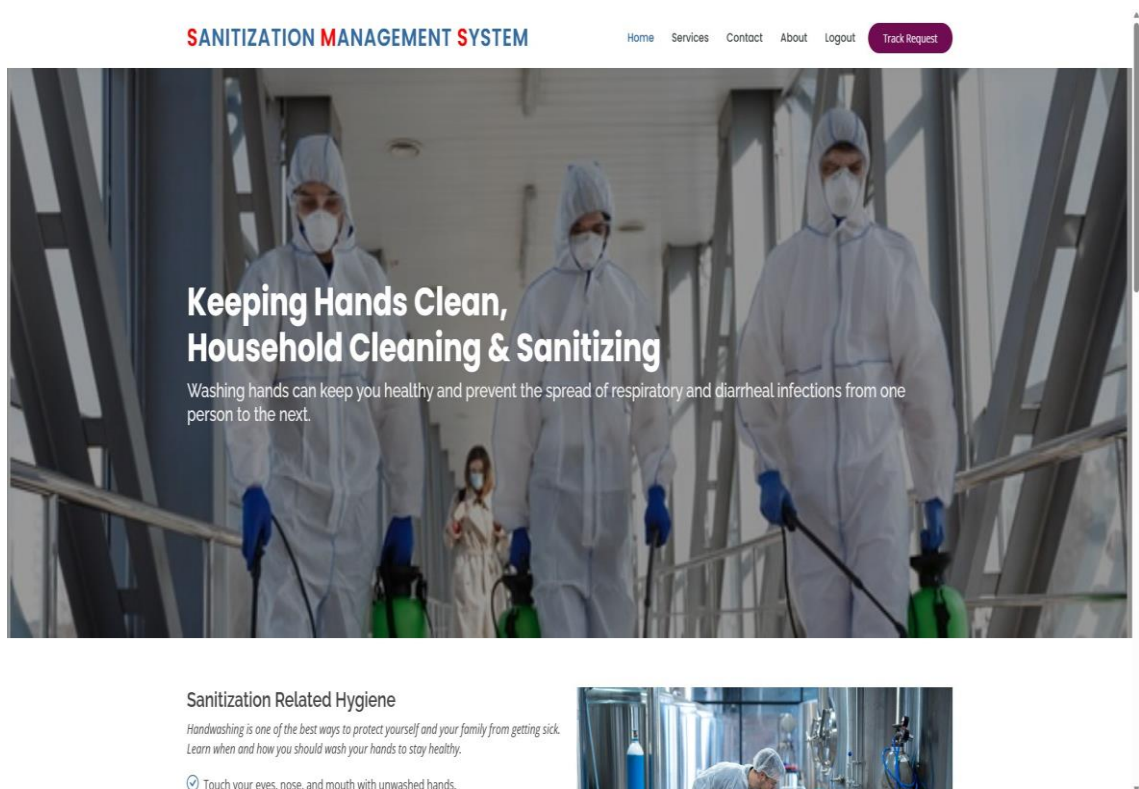
The screenshot shows the user registration (signup) page. The browser address bar displays '127.0.0.1:8000/signup'. The page has a dark background with a central white form titled 'Signup Here'. The form contains the following fields: Name (Username), Email, Contact (Phone), Address, and Password. Below the fields is a white 'Signup' button. At the bottom of the form, there are two red buttons: 'I have already account' and 'Home'.

SANITIZATION MANAGEMENT SYSTEM

- **User Login**



- **User Home Page After Login**




• Services Provided

SANITIZATION MANAGEMENT SYSTEM


Home Services Contact About Logout [Track Request](#)

POPULAR SERVICES




Home Sanitization 2500 Rs.

Wash with soap and warm, clean water. Rinse with clean water. Sanitize using a mixture of 1 tablespoon of bleach per 1 gallon of clean water.



Car Sanitization 3500 Rs.

In case you do not have any gloves, be extra careful and avoid touching your face while cleaning the car.



Office Sanitization 4500 Rs.

Office spaces, including conference rooms should be cleaned every evening after office hours or early in the morning before the rooms are occupied.

Bibin Thomas
CEO

A Person who started from 0 to hero

• Track Request

SANITIZATION MANAGEMENT SYSTEM

Home About Services Contact Logout [Track Request](#)

Track Request

Sanitizing could be done by either cleaning, disinfecting, or both. Sanitizing means that you are lowering the number of germs to a safe level.

Track your request by given request number or mobile number

Enter Request No/Mobile number ... [Search](#)

Search Report against "9400604433" keyword

S No.	Request No.	Name	Mobile No.	Email	Sanitization Date	Sanitization Time	Status
1	88097200	Bibin Thomas	9400604433	bibin@gmail.com	May 19, 2023	11:39 a.m.	Request has been Completed

Sanitization Management System

Phone: +91 8281702433
Email: bibin18@gmail.com

Useful Links

- > Home
- > About us
- > Services

SANITIZATION MANAGEMENT SYSTEM

• Contact us

127.0.0.1:8080/contact

SANITIZATION MANAGEMENT SYSTEM Home About Services Logout [Track Request](#)

Contact Us

Consider putting a wipeable cover on electronics (for example, phones, tablets, touchscreens, keyboards, and remote controls) to make cleaning easier.

Location:
Mannar Alappuzha Kerala

Email:
bibint5@gmail.com

Call:
+91 8281702433

Your Name

Your Email

Subject

Message

[Send Message](#)

Sanitization Management System
Phone: +91 8281702433
Email: bibint5@gmail.com

Useful Links
[Home](#)
[About us](#)
[Services](#)

Sanitization Management System

• About us

127.0.0.1:8080/about

SANITIZATION MANAGEMENT SYSTEM Home About Services **Contact** Logout [Track Request](#)


About Us

Sanitizing could be done by either cleaning, disinfecting, or both. Sanitizing means that you are lowering the number of germs to a safe level.

When and how to clean surfaces in your home
Cleaning with a household cleaner that contains soap or detergent reduces the amount of germs on surfaces and decreases risk of infection from surfaces.

- ✓ Clean high-touch surfaces such as doorknobs, tables, and light switches regularly.
- ✓ Clean surfaces using a product suitable for each surface, following instructions on the product label.
- ✓ If someone in your home has COVID-19, have them isolate within the home.

Many products recommend keeping the surface wet with a disinfectant for a certain period of time (look at the "contact time" on the product label).

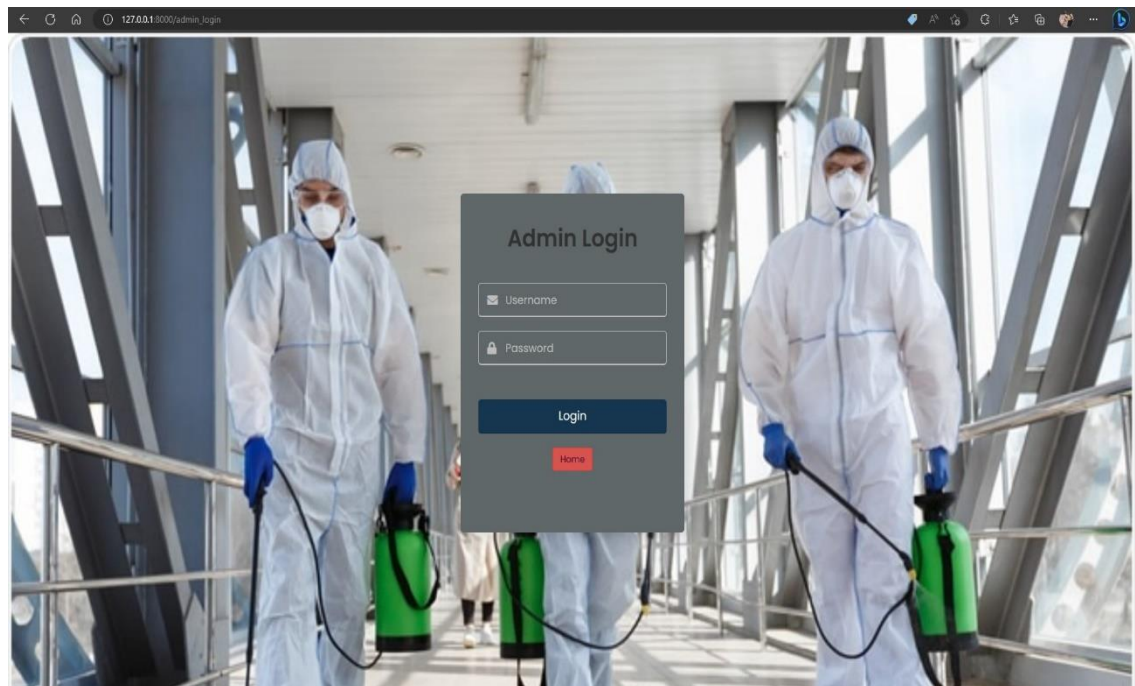


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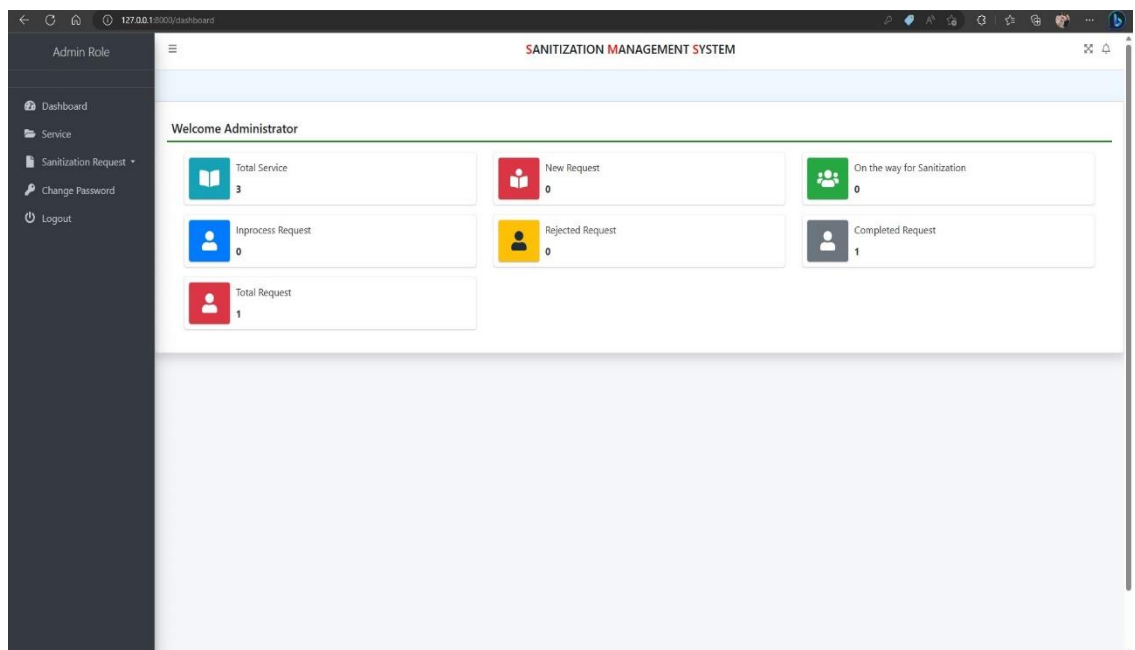
Useful Links
[Home](#)
[About us](#)
[Services](#)

SANITIZATION MANAGEMENT SYSTEM

- **Admin Login**



- **Admin Dashboard**



SANITIZATION MANAGEMENT SYSTEM

- Request Details in Admin

The screenshot displays the 'Request Details' page for request number 88097200. The interface includes a sidebar with navigation options: Admin Role, Dashboard, Service, Sanitization Request, Change Password, and Logout. The main content area is divided into two columns: Personal Information and Test Information, with a Tracking History table at the bottom.

Request Details : 88097200

Personal Information	
Full Name	Ribin Thomas
Email Id	ribin@gmail.com
Mobile Number	9400604433
Date of Sanitization	May 19, 2023
Time of Sanitization	11:39 a.m.
Address	Marian College
State	Kerala
City	Kuttikanam
Message	sa
Request Date	May 8, 2023, 4:10 a.m.

Test Information	
Request Number	88097200
Service Name	Home Sanitization
Service Detail	Wash with soap and warm, clean water. Rinse with clean water. Sanitize using a mixture of 1 tablespoon of bleach per 1 gallon of clean water.
Price	2500 Rs.
Status	Request has been Completed
Request Date	May 8, 2023, 4:10 a.m.
Remark	Ok

Tracking History		
Remark	Status	Remark Date
Ok	Request has been Completed	May 8, 2023, 4:11 a.m.

- Action Taking on Request

The screenshot shows the 'Request Details' page for request 88097200, with a 'Take Action' modal dialog box open in the center. The modal contains a 'Remark' text area and a 'Status' dropdown menu, with a 'Submit' button at the bottom right. The background content is dimmed.

Request Details : 88097200

Take Action

Remark:

Status: