Health Elevator

A PROJECT REPORT
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CERTIFICATE

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Health Elevator

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ABSTRACT

The **Health Elevator** is a cutting-edge healthcare application aimed at enhancing accessibility and efficiency in managing medical needs. This platform integrates essential features to simplify healthcare tasks, enabling users to make informed decisions and take proactive steps toward better health management.

Features and Functionalities

1. **Medicine Management**: Search for medicines by name, type, or cost and Add medicines to the cart for easy purchases.
2. **Medication Reminders**: Set personalized reminders to ensure timely medication adherence.
3. **Pharmacy and Healthcare Information**: Access pharmacy details and locations. View available healthcare schemes, particularly for individuals with disabilities.

Powered by a centralized medical database, the Health Elevator ensures accurate, real-time updates about medicines and related services. The user-friendly interface emphasizes inclusivity, catering to diverse users, including those with special needs. The Health Elevator simplifies healthcare management, fosters improved medication adherence, and promotes equitable healthcare access. By bridging the gap between users and essential services, it contributes to healthier communities and greater accessibility. This report outlines the design and implementation of the Health Elevator, demonstrating its potential to transform healthcare delivery by leveraging technology for inclusivity, efficiency, and user empowerment.

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TABLE OF CONTENTS

- **Abstract** .....…03

  Introduction of Project, Features and Functionalities , Impacts and Benefits,
- Technologies used and conclusion
- **Acknowledgements** .....….04

  Gratitude to contributors and supporters of the project.
- **Chapter 1: Introduction** 07-17
- **Chapter 2: Feasibility Analysis** 18-21
- **Chapter 3: Project Objective** 22-23
- **Chapter 4: Hardware and Software Requirements** 24-26
- **Chapter 5: Project Flow and Modules** 27-37
  - 5.1 Breakdown of the project flow.....27-32
  - 5.3 Data Flow Diagram and Use Case Diagram……..33-34
  - 5.2 Entity Relationship Diagram(E-R Diagram).....35-37
- **Chapter 6: Project Outcome** 38
  - 6.1 Conclusion
- **References/Bibliography** 48

  Sources that informed the project.

LIST OF FIGURES

- Figure 5.1: Project Flow 26
- Figure 5.1.1: Use Case 31
- Figure 5.2.1: Zero-Level Data Flow Diagram 33
- Figure 5.2.2: Level-1 Data Flow Diagram 34
- Figure 5.3: Entity-Relationship Diagram 36
- Figure 6.1: Login 38
- Figure 6.2: Register 39
- Figure 6.3: LogOut 39
- Figure 6.4: Home.....40
- Figure 6.5: Pharmacy near me.....41
- Figure 6.6: Setting Medicine Reminder.....41
- Figure 6.7: Medicine Reminder setted by user……42
- Figure 6.8: Reminder on whatsapp.....42
- Figure 6.9: Add Medicine to Cart.....43
- Figure 6.10: cart 43
- Figure 6.11: successful Checkout.....44
- Figure 6.12: Empty Cart.....44
- Figure 6.13: Medicine Information 45
- Figure 6.14: Disability Schemes and Support.....46
- Figure 6.15: DataBase 47

Introduction

Healthcare is a fundamental necessity, yet access to timely, affordable, and efficient medical services remains a challenge for many. The healthcare sector in India is evolving, with numerous initiatives aimed at improving patient experiences. However, despite the emergence of various online platforms and services, the current ecosystem is often fragmented, leading to delays, inefficiencies, and gaps in access to critical resources.

To address these challenges, **Health Elevator** has been conceptualized as an inclusive, user-friendly, and holistic healthcare solution. Designed to bridge gaps in accessibility, affordability, and awareness, the platform integrates multiple healthcare functionalities into a single, seamless experience. From locating nearby pharmacies to setting personalized medication reminders and providing valuable information about disability-related schemes, Health Elevator aspires to empower individuals and enhance their healthcare journeys.

By leveraging modern technology and focusing on user-centric design, Health Elevator aims to simplify healthcare processes, making it easier for individuals to prioritize their well-being without undue stress or expense.

Health Elevator is a revolutionary platform designed to transform the way individuals access and manage their healthcare needs. In today's fast-paced world, managing health often becomes secondary to other priorities, leading to delays in seeking treatment, missed doses of medications, or an overall neglect of well-being. These challenges are further exacerbated by the lack of comprehensive platforms that address multiple healthcare needs simultaneously.

Importance of Health Elevator:

The platform addresses critical gaps in existing healthcare systems, particularly in terms of accessibility, cost, and awareness. It ensures faster access to medicines, reduces healthcare costs by promoting generic medicines, and empowers individuals with knowledge about healthcare schemes and benefits. By prioritizing user convenience, Health Elevator enables individuals to take control of their health effectively.

Key Features:

1. **Proximity-Based Pharmacy Locator:** Allows users to locate pharmacies nearby for quick access to medicines.
2. **Affordable Generic Medicine Access:** Promotes cost-effective alternatives to branded medicines.
3. **Personalized Medication Reminders:** Ensures adherence to prescribed medication schedules.

4. **Comprehensive Information Repository:** Provides detailed insights into medicines and healthcare schemes.
5. **User-Centric Design:** Offers a simple and intuitive interface for all users.

Challenges:
Health Elevator aims to address challenges such as:

1. Limited awareness about affordable healthcare options and schemes.
2. Dependence on multiple fragmented platforms for healthcare needs.
3. Lack of personalized support for medication management.
4. Difficulties in finding nearby pharmacies during emergencies.

Future Potential:
As the platform evolves, Health Elevator envisions incorporating advanced features like teleconsultations, integration with wearable health devices, and predictive analytics to anticipate healthcare needs. These innovations will further enhance the platform's impact, making it a vital tool for modern healthcare management.

With its robust features and visionary roadmap, Health Elevator has the potential to redefine healthcare accessibility and efficiency, contributing to a healthier society.

1.2 Problems in Existing Systems

The current healthcare landscape, despite advancements in technology, suffers from several inefficiencies and shortcomings:

1. **Delayed Medicine Delivery:**
   Existing platforms often take several hours or even days to deliver medications, which can be detrimental during emergencies. This delay forces patients to undertake time-consuming trips to distant pharmacies.

2. **High Costs:**
   Online medicine delivery services often come with additional delivery charges, making healthcare unaffordable for economically disadvantaged individuals. Furthermore, there is limited emphasis on promoting affordable generic medicines.

3. **Medication Adherence Issues:**
   Many individuals, particularly the elderly and those with chronic conditions, struggle to remember their medication schedules. This lack of adherence impacts treatment outcomes and overall health.

4. **Fragmented Solutions:**
   Existing platforms typically focus on one or two services, such as medicine delivery or general healthcare information, leaving users to navigate multiple platforms to meet their healthcare needs.

5. **Lack of Awareness:**
   Many people are unaware of the healthcare schemes and benefits available to them, especially those designed for differently-abled individuals. This lack of awareness prevents individuals from accessing resources that could significantly improve their quality of life.

These problems underline the need for a unified, efficient, and accessible solution like Health Elevator.

1.3 Proposed Solution

Health Elevator offers an all-encompassing platform designed to address the pain points of existing systems. By integrating multiple healthcare functionalities into a single solution, it simplifies healthcare access, reduces costs, and enhances user experiences.

Overview of the Proposed System:
Health Elevator is an innovative healthcare platform that bridges the gap between healthcare providers and users. It focuses on ensuring quick access to essential services, reducing healthcare costs, and providing detailed information to empower users. The platform's core objective is to create a seamless healthcare management experience.

Key Components of the Proposed System:

1. **Pharmacy Locator:** Real-time geolocation-based pharmacy search.
2. **Generic Medicine Finder:** Promotes affordable healthcare options.
3. **Medication Reminder System:** Ensures adherence to treatment schedules.
4. **Information Repository:** A centralized database for healthcare-related schemes and medicines.
5. **User Interface:** Intuitive design for easy navigation and accessibility.

Features of the Proposed System:

1. **Proximity-Based Pharmacy Locator:**
   Users can easily locate pharmacies near their location, ensuring faster access to medicines compared to traditional delivery services. This feature leverages geolocation technology to provide accurate and real-time information.
2. **Affordable Generic Medicine Access:**
   The platform prioritizes cost-effective healthcare by promoting the purchase of generic medicines. It ensures that users can access affordable alternatives without compromising on quality.
3. **Personalized Medication Reminders:**
   Users can set daily medication reminders, which are delivered via WhatsApp or other communication channels. This feature ensures adherence to prescribed regimens, improving treatment outcomes.
4. **Comprehensive Information Repository:**
   Health Elevator provides a centralized database of detailed information about general medicines, including usage guidelines, precautions, and side effects. It also offers insights into disability-related government schemes, empowering users with knowledge about available benefits.

5. **User-Centric Design:**
   The platform is designed with a focus on simplicity and accessibility, making it suitable for users of all technical proficiencies and age groups. Its intuitive interface ensures that users can navigate the system effortlessly.

1.4 Functional Requirements

Health Elevator is designed to provide a comprehensive range of functionalities aimed at simplifying healthcare management. The functional requirements are key to ensuring that users have a seamless experience while accessing medical resources, managing their health, and getting relevant information.

Here are the key functional requirements of the system, along with detailed explanations of each:

1. **User Registration & Authentication:**
    - **Description**: The system must allow users to securely register and log in to the platform. Users should be able to create personalized profiles where they can store their medical history, medication schedules, and preferred pharmacies.
    - **Why It's Important**: Secure login is essential for protecting users' personal data and ensuring that each user has access to their customized healthcare information.
2. **Personalized Healthcare Dashboard:**
    - **Description**: Upon login, users are presented with a personalized dashboard that summarizes their healthcare activities, medication schedules, pharmacy preferences, and health alerts.
    - **Why It's Important**: The dashboard offers a quick overview of the user's healthcare management, improving convenience and efficiency in accessing key features.
3. **Medication Reminder System:**
    - **Description**: Users can set daily or weekly reminders for their prescribed medications. These reminders can be sent via multiple communication channels such as push notifications, emails, or SMS.
    - **Why It's Important**: Medication adherence is critical for managing chronic conditions and improving health outcomes. This feature ensures users never miss a dose, especially the elderly or those with memory issues.
4. **Pharmacy Locator (Real-time Geolocation):**
    - **Description**: The system allows users to search for nearby pharmacies based on their current location. It provides essential details like address, contact number, and distance from the user.
    - **Why It's Important**: During emergencies or when users need quick access to medications, locating a nearby pharmacy can be vital. It ensures faster access to healthcare services when time is of the essence.

5. **Generic Medicine Finder:**
    - **Description**: Health Elevator helps users find generic alternatives to branded medications. The system suggests affordable, effective substitutes based on the user's prescription.
    - **Why It's Important**: Many people are unaware of the cost-saving benefits of generic medicines. This feature ensures users have access to cheaper alternatives, reducing their healthcare expenses.
6. **Comprehensive Information Repository:**
    - **Description**: The platform houses a repository of detailed information on various medications, including their uses, side effects, precautions, and drug interactions. Additionally, it provides information about healthcare schemes, particularly for people with disabilities.
    - **Why It's Important**: Knowledge is power, especially in healthcare. Providing users with easy access to critical information helps them make informed decisions about their medications and healthcare.
7. **Health Alerts and Notifications:**
    - **Description**: Health Elevator can send real-time alerts for important health-related events such as medication updates, new health guidelines, or government health scheme enrollments.
    - **Why It's Important**: Timely notifications can guide users to take action, be it a medication update or an urgent health alert, ensuring they stay on top of their health needs.
8. **Order Management & Online Pharmacy Integration:**
    - **Description**: Users can add medications to their virtual cart and order them directly from the platform. This feature can integrate with local pharmacies to allow real-time ordering and payment processing.
    - **Why It's Important**: Simplifying the purchasing process reduces the friction that users experience when ordering medications, enhancing overall convenience and ensuring they get the medicines they need quickly.
9. **Healthcare Scheme Registration:**
    - **Description**: Health Elevator provides information on various government healthcare schemes, particularly those for the differently-abled, and allows users to apply or register for these schemes directly through the platform.
    - **Why It's Important**: Awareness of healthcare schemes is often limited. This feature helps users, especially marginalized groups, easily access benefits they might otherwise miss.

10. **User Feedback & Support System:**

- **Description**: The platform includes a feedback mechanism where users can rate services, report issues, or ask for support. This is coupled with a support system that ensures quick resolution of user queries and complaints.
- **Why It's Important**: Ensuring that users have a clear avenue for expressing concerns or getting help is vital for improving the service and maintaining user satisfaction.

1.5 Non-Functional Requirements

In addition to the functional requirements, Health Elevator must meet certain non-functional requirements to ensure that the system is robust, secure, and capable of providing a smooth and reliable user experience. These non-functional requirements are critical to ensuring system performance, scalability, and usability.

Here are the key non-functional requirements, with explanations:

1. **Scalability:**
    - **Description**: The platform must be capable of scaling to accommodate increasing numbers of users, transactions, and data. It should handle surges in traffic, especially during peak times such as health emergencies or government scheme enrollments.
    - **Why It's Important**: As the user base grows, the system must continue to function without performance degradation. Scalability ensures the system can handle increased load without crashing or slowing down.
2. **Reliability & Availability:**
    - **Description**: The platform must ensure high availability with minimal downtime, offering at least 99.9% uptime. Backup systems should be in place to prevent data loss, and downtime should be minimal during maintenance.
    - **Why It's Important**: Healthcare services are critical, and downtime can have serious consequences. High reliability ensures that users can access essential services at any time.
3. **Security:**
    - **Description**: Health Elevator should implement robust security measures, including end-to-end encryption, secure user authentication (e.g., multi-factor authentication), and data protection mechanisms.
    - **Why It's Important**: User health data is sensitive, and the platform must protect it from unauthorized access. Security ensures that user information, such as medication schedules and personal health details, is safe from breaches.
4. **Performance & Response Time:**
    - **Description**: The platform should be optimized for fast response times, especially for key functions like the pharmacy locator, medication reminders, and order processing. Latency should be minimized, and actions should be processed quickly.

- **Why It's Important**: Users expect instant access to healthcare services, especially during emergencies. Slow response times can frustrate users and result in a poor experience, undermining the platform's effectiveness.

5. **User Accessibility:**
   - **Description**: The platform should be accessible to all users, including people with disabilities. It should support features like screen readers, text-to-speech, and easy font sizes to accommodate a diverse range of users.
   - **Why It's Important**: Healthcare services should be inclusive. By making the platform accessible, Health Elevator ensures that everyone, regardless of ability, can benefit from its services.
6. **Cross-Platform Compatibility:**
   - **Description**: Health Elevator must be compatible across various operating systems (iOS, Android) and browsers (Chrome, Firefox, Safari). The platform should offer a consistent experience across devices, including mobile phones, tablets, and desktops.
   - **Why It's Important**: Users will access the platform from a variety of devices. Ensuring compatibility ensures a seamless experience for users, regardless of how they connect to the platform.
7. **Localization and Language Support:**
   - **Description**: The system should support multiple languages, particularly local Indian languages, to cater to a diverse user base.
   - **Why It's Important**: India is a multilingual country, and offering the platform in regional languages ensures that users from different linguistic backgrounds can easily navigate and use the platform.
8. **Data Privacy Compliance:**
   - **Description**: Health Elevator must comply with relevant data privacy regulations, including the General Data Protection Regulation (GDPR) and Indian privacy laws, ensuring user data is handled responsibly and with full consent.
   - **Why It's Important**: Users must trust the platform with their personal data. Compliance with data privacy laws builds trust and ensures that the platform operates within legal boundaries.
9. **Usability:**
   - **Description**: The platform must have an intuitive, easy-to-navigate interface that can be used by people of all technical skill levels, from the elderly to tech-savvy users.

- **Why It's Important**: A user-friendly design ensures that all individuals, regardless of their familiarity with technology, can benefit from the platform's features. This improves the overall user experience and increases adoption.

10. **Maintainability & Updatability:**

    - **Description**: The system should be designed for easy maintenance and regular updates. New features and fixes should be deployed seamlessly, with minimal disruption to users.
    - **Why It's Important**: Continuous improvement is essential for the platform's long-term success. Regular updates ensure the system stays relevant, bug-free, and secure, while also accommodating evolving healthcare needs.

By meeting these non-functional requirements, Health Elevator will ensure that it not only meets users' immediate healthcare needs but also provides a reliable, secure, and efficient platform that stands the test of time.

Feasibility Analysis

Feasibility analysis is a crucial aspect of the project as it evaluates the practicality and potential success of developing and implementing the **Health Elevator** platform. This analysis is conducted across multiple dimensions, including technical, operational, economic, and legal feasibility. It helps in determining whether the project is achievable, cost-effective, and aligned with regulatory requirements.

2.1 Technical Feasibility

Technical feasibility assesses whether the current technology infrastructure and resources are adequate to develop and support the **Health Elevator** platform. It examines whether the required hardware, software, and technical expertise are available.

Key Considerations:

1. **Platform Development**: The project will leverage modern web and mobile development technologies (such as React, Angular, Node.js, and Swift for iOS and Kotlin for Android) to build the user interface and backend systems. Cloud services such as AWS or Azure can provide scalable infrastructure to host the application.
2. **Integration with Third-Party Services**: The platform will need to integrate with external systems for services such as pharmacy locators, real-time inventory data, geolocation APIs, payment gateways, and healthcare databases. The integration with government schemes and other healthcare data repositories will require APIs and secure data-sharing protocols.
3. **Security and Data Privacy**: Implementing security protocols, such as SSL encryption, multi-factor authentication, and adherence to data privacy regulations like GDPR or the Indian Data Protection Bill, is essential for safeguarding users' sensitive health information.
4. **Scalability and Performance**: The system will be built to scale using cloud infrastructure, ensuring it can handle increasing traffic and user demands without performance degradation. Efficient database design and load-balancing mechanisms will be implemented to ensure responsiveness and uptime.
5. **Maintenance and Support**: The system will be designed for easy maintenance with regular updates to address security vulnerabilities, add new features, and improve system performance. Continuous integration and continuous deployment (CI/CD) pipelines will be used for efficient deployment.

Based on the technologies available and the design requirements, the project is technically feasible. The team can leverage existing platforms, frameworks, and services to build a robust, scalable system.

2.2 Operational Feasibility

Operational feasibility evaluates whether the **Health Elevator** platform can be integrated into the existing operational environment and whether it can meet the needs of users. It focuses on the system's usability, user adoption, and the ability to support day-to-day operations efficiently.

Key Considerations:

1. **User Adoption**: The platform must be user-friendly and accessible to a wide range of users, including elderly individuals and those who are not tech-savvy. The user interface will be designed to be intuitive, with features such as easy navigation, voice assistance, and multilingual support.
2. **Training and Support**: Health Elevator will provide tutorials, FAQs, and customer support services to ensure that users can easily navigate the platform and understand how to use its features. This support will include phone and chat-based customer service for troubleshooting.
3. **Operational Sustainability**: The system must ensure minimal downtime and smooth day-to-day operations. The availability of pharmacies and healthcare providers will be regularly updated in the database, and user feedback will be actively gathered to improve operational efficiency.
4. **Staffing Requirements**: A dedicated team will be responsible for the day-to-day management of the platform, including monitoring user activities, providing customer support, handling pharmacy integration, and ensuring compliance with regulatory standards.
5. **Interoperability**: The platform should work well with existing healthcare infrastructures, such as pharmacies, hospitals, and government agencies offering health schemes. Ensuring interoperability with electronic health records (EHRs) and other medical systems is essential for smooth operations.

Operational feasibility is high, as the system's functions align with the goals of simplifying healthcare access and management. Proper training, user support, and regular updates will contribute to smooth daily operations.

2.3 Economic Feasibility

Economic feasibility evaluates whether the project is financially viable. This analysis considers both the costs of development and the expected financial benefits, including return on investment (ROI) and sustainability of the platform over time.

Key Considerations:

1. **Development Costs**: The initial development will require significant investment in technology (software development, cloud services, etc.), human resources (developers,

designers, testers), and infrastructure (servers, databases). The costs will be carefully estimated based on the scope of the project.

2. **Revenue Model**: The platform will generate revenue through:
    - **Subscription Models**: Users may pay a subscription fee for premium features such as personalized consultations or advanced medication reminders.
    - **Affiliate Revenue**: Partnering with pharmacies and healthcare providers can generate revenue from referrals and commissions on sales.
    - **Government Partnerships**: Collaborations with government health schemes and NGOs may bring in funding or grants to support the platform's operations.
3. **Operational Costs**: Ongoing operational costs will include server hosting, system maintenance, customer support, and marketing. These costs must be offset by the platform's revenue streams to ensure long-term profitability.
4. **Cost Savings**: The platform aims to reduce healthcare costs for individuals by promoting the use of generic medicines, improving medication adherence, and offering timely access to healthcare services. These cost savings could encourage users to adopt the platform more readily.
5. **Return on Investment (ROI)**: Financial projections indicate that the revenue generated from subscriptions, affiliate partnerships, and government collaborations will cover initial development costs within the first 2–3 years of operation, leading to positive ROI thereafter.

Conclusion: The economic feasibility is positive. With a well-structured revenue model and low operational costs compared to the expected benefits, the project is financially sustainable.

2.4 Legal Feasibility

Legal feasibility assesses whether the platform complies with relevant laws and regulations, particularly concerning data privacy, healthcare regulations, and intellectual property.

Key Considerations:

1. **Data Privacy and Protection**: Health Elevator will collect and process sensitive health data. It must comply with data protection regulations such as GDPR (if operating in the European Union) and India's Data Protection Bill. The platform will implement robust encryption, secure user authentication, and user consent protocols for data handling.
2. **Healthcare Compliance**: The platform will need to adhere to Indian healthcare regulations, such as the **Drugs and Cosmetics Act**, **National Digital Health Mission (NDHM)** guidelines, and **telemedicine regulations**. Ensuring compliance with these laws will be vital for integrating with pharmacies and healthcare providers and offering teleconsultation services.

3. **Intellectual Property**: Health Elevator must secure intellectual property rights, including trademarks for its branding, copyrights for the platform design, and patents for any proprietary technologies or processes developed.
4. **Pharmacy Regulations**: Partnering with pharmacies requires adherence to the **Pharmacy Practice Regulations** under the **Pharmacy Act of India**. Ensuring that the platform operates legally and ethically when promoting or selling medications is critical for avoiding legal issues.
5. **Consumer Protection**: The platform will include terms of service, user agreements, and a privacy policy that ensure users are aware of their rights and responsibilities. Consumer protection laws will govern the platform's interaction with users, ensuring fair practices.

Legal feasibility is achievable with proper attention to data privacy, healthcare laws, and intellectual property. Health Elevator will need to work closely with legal experts to ensure full compliance with relevant regulations.

Project Objective

1. **Improve Access to Healthcare Services**
    - Provide users with quick and easy access to nearby pharmacies and healthcare resources.
    - Use real-time geolocation to locate pharmacies, ensuring faster access to essential medicines.
    - Integrate healthcare schemes and services, making them easily accessible.
2. **Promote Medication Adherence and Health Management**
    - Offer personalized medication reminders to help users follow prescribed regimens.
    - Improve treatment outcomes by ensuring timely medication intake, especially for chronic conditions and the elderly.
3. **Educate and Raise Awareness**
    - Provide information about affordable generic medicines and their benefits.
    - Raise awareness about government healthcare schemes, particularly those for differently-abled individuals.
    - Empower users to make informed decisions about their healthcare.
4. **Reduce Healthcare Costs for Users**
    - Promote the use of generic medications to reduce costs without compromising on quality.
    - Help users save money on medications and other healthcare services, making healthcare more affordable.
5. **Simplify the Healthcare Experience**
    - Integrate multiple healthcare functionalities (medication reminders, pharmacy locators, healthcare scheme details) into one platform.
    - Save users time and effort by providing an all-in-one solution for healthcare management.
6. **Create an Inclusive Platform for All**
    - Design the platform to be accessible and user-friendly for all individuals, including those with limited technical skills.

- Ensure the platform is inclusive for differently-abled users with features like voice assistance and simplified navigation.

7. **Foster a Community of Health Awareness**
    - Encourage user engagement through community features such as forums, feedback channels, and health tips.
    - Create a supportive environment where users can share experiences and advice about managing their health.
8. **Empower Individuals to Take Control of Their Health**
    - Provide tools and resources that help users actively manage their health and well-being.
    - Enable users to make proactive decisions about their health through information, reminders, and accessible resources.

These objectives aim to make healthcare more **accessible**, **affordable**, and **manageable** for everyone, simplifying the process of healthcare management and improving overall health outcomes.

Hardware and Software Requirements

The **Health Elevator** platform is being developed as part of a student project, with the initial development phase being carried out on local machines. Therefore, the hardware and software requirements are designed to be modest and are suitable for small-scale development and testing environments.

4.1 Hardware Requirements

Since the development is taking place on local computers, the hardware requirements are focused on ensuring smooth performance for development, testing, and running the platform at a small scale.

1. Development Environment Hardware Requirements:

- **Developer Workstations:**
    - **Processor:** Intel Core i3 (or equivalent) or higher
    - **RAM:** 4 GB minimum (8 GB recommended for smoother performance with multiple tools)
    - **Storage:** 128 GB SSD (minimum) for faster loading and smooth operations
    - **Graphics Card:** Integrated graphics (sufficient for development work)
    - **Display:** Single monitor (dual monitors optional for more efficient multitasking)
    - **Operating System:** Windows 10/11, macOS, or Linux (Ubuntu) for development

2. Local Testing Environment:

- **Processor:** Intel Core i3 (or equivalent) or higher
- **RAM:** 4 GB minimum
- **Storage:** 128 GB or more of available storage space for local databases and testing files
- **Network:** Stable internet connection for downloading dependencies, testing API requests, and running cloud-based services (if applicable)

Note: The platform is initially being developed on local machines and can be tested on these machines before deployment to more robust server environments.

4.2 Software Requirements

The software requirements for the **Health Elevator** project consist of the tools and technologies required for development, testing, and deployment in a local environment.

1. Development Tools and Languages:

- **Frontend Development:**
    - **Programming Languages:** HTML5, CSS3, JavaScript
    - **Frameworks/Libraries:**
        - React.js (for dynamic, responsive web interfaces)
        - Bootstrap or Tailwind CSS (for user interface design)
    - **Development Tools:** Visual Studio Code (preferred IDE), Webpack (for bundling), npm (Node Package Manager)
- **Backend Development:**
    - **Programming Languages:** JavaScript (Node.js)
    - **Frameworks:**
        - Express.js (for building RESTful APIs)
        - JWT (for authentication)
    - **Database:**
        - Mongodb (lightweight database for local development)
- **Version Control:**
    - **Git:** For version control and collaboration (GitHub or GitLab for remote repository management)
    - **CI/CD Tools:** Optional for student projects (local testing may suffice at this stage)

2. Web and Application Hosting:

- **Local Hosting:**
    - For local development and testing, the application will be hosted using local environments (e.g., running on localhost via Node.js server or using live-server for frontend testing).
    - The development will use minimal cloud services, as the primary goal at this stage is to test features locally.

3. Security and Privacy Tools:

- **Authentication:** JWT for user login and session management

4. Database Management Systems:

- Mongodb or Mongoose database

4.3 Summary of Requirements

Hardware:

- Developer workstations with basic specifications (Intel Core i3, 4 GB RAM, 128 GB SSD).
- Local testing can be done on personal laptops or desktops with internet access for downloading necessary development dependencies.

Software:

- Frontend: React.js, Bootstrap/Tailwind CSS, HTML, JavaScript.
- Backend: Node.js, Express.js, MongoDB or mongoose (for production).
- Version Control: Git, GitHub/GitLab for code management.
- Optional: JWT for authentication.

These hardware and software requirements are sufficient for a student project environment and will support the development of the **Health Elevator** platform in its initial stages, providing a solid foundation for further scaling once the platform moves to a more professional, production-ready environment.

Project Flow

The **Health Elevator** platform is designed to provide a seamless and integrated healthcare experience for users, encompassing a wide range of functionalities like pharmacy location, medication reminders, access to affordable medicines, and healthcare scheme information. The project flow outlines the sequence of steps that users and administrators will follow in their interaction with the platform, from the initial registration to accessing services and functionalities.

5.1 step-by-step breakdown of the project flow:

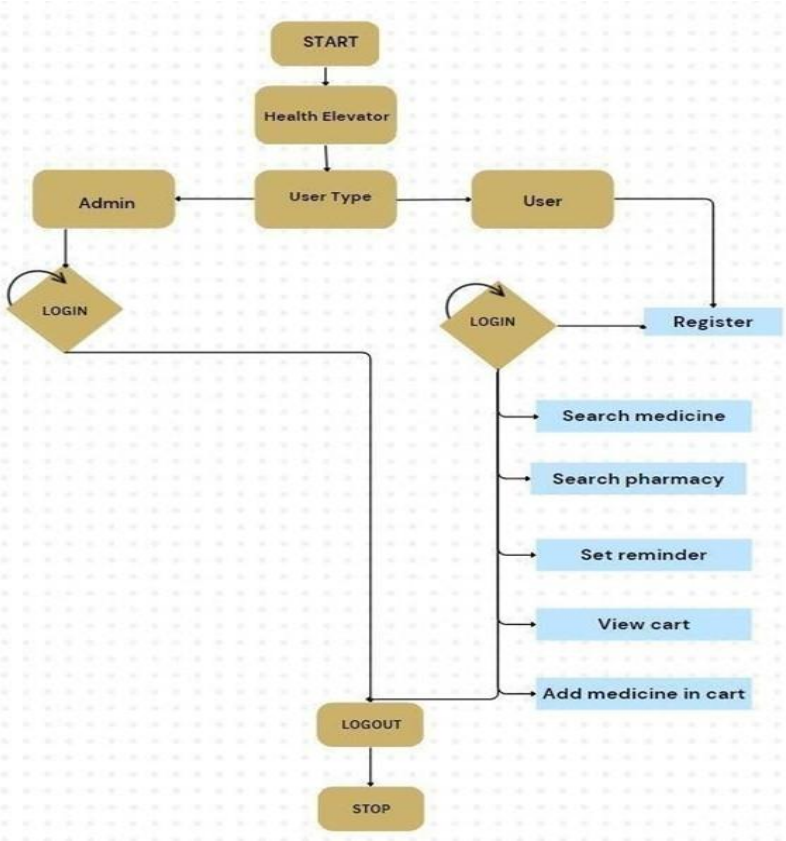


Figure:5.1.1 Project Flow Diagram

5.1.1 User Registration and Login

1. **User Registration:**
    - **Step 1:** The user navigates to the Health Elevator application (web or mobile).
    - **Step 2:** The user is prompted to register by providing basic details (name, email, phone number, and password).
    - **Step 3:** The system sends a verification email or SMS to confirm the user's identity.

- **Step 4:** Once verified, the user's account is activated, and they are redirected to their dashboard.
- **Step 5:** Users can then complete their profile by adding more health-related information (e.g., medication details, chronic conditions, etc.).

2. **User Login:**
   - **Step 1:** The user enters their registered email/phone number and password to log in.
   - **Step 2:** The system validates credentials and grants access to the platform.
   - **Step 3:** If the user forgets their password, they can reset it via email or SMS verification.

5.1.2 Dashboard and Personalization

1. **User Dashboard:**
   - **Step 1:** Upon successful login, users are directed to their personalized dashboard.
   - **Step 2:** The dashboard displays an overview of the user's health management, including upcoming medication reminders, health tips, and notifications about relevant schemes or services.
   - **Step 3:** Users can access different modules from the dashboard: Pharmacy Locator, Medication Reminder, Information Repository, etc.
2. **Personalized Settings:**
   - **Step 1:** Users can customize their profile, set up health preferences, and provide more details on their health conditions.
   - **Step 2:** The system may offer personalized recommendations based on the user's profile (e.g., generic medicines, nearby pharmacies, healthcare schemes).

5.1.3 Pharmacy Locator

1. **Search Nearby Pharmacies:**
   - **Step 1:** The user accesses the **Pharmacy Locator** module.
   - **Step 2:** The platform uses geolocation services to detect the user's current location or allows them to manually enter their location (city, pin code).
   - **Step 3:** The system returns a list of nearby pharmacies, showing the pharmacy name, contact details, and distance from the user's location.

- **Step 4:** The user can choose a pharmacy and see additional details, such as store hours and available medicines.

2. **Real-Time Updates:**
    - **Step 1:** The platform provides real-time availability of pharmacies, including any stock shortages, open/close status, and delivery options (if applicable).
    - **Step 2:** Users can contact pharmacies directly or get directions via Google Maps.

5.1.4 Medication Reminders

1. **Setting Medication Reminders:**
    - **Step 1:** The user accesses the **Medication Reminder** module from the dashboard.
    - **Step 2:** The user inputs their medication details, such as the name of the medicine, dosage, frequency, and time of intake.
    - **Step 3:** The system prompts the user to set up reminder notifications (via email, SMS, or push notifications on mobile).
    - **Step 4:** The user saves the medication schedule, and reminders are activated.
2. **Reminder Notifications:**
    - **Step 1:** At the specified times, users receive a notification reminding them to take their medicine.
    - **Step 2:** Users can mark the reminder as "taken" or "skipped," and the system tracks their adherence.
    - **Step 3:** If the user misses a dose, the system will send a follow-up reminder to ensure adherence.

5.1.5 Affordable Generic Medicines

1. **Browse Generic Medicines:**
    - **Step 1:** Users can navigate to the **Generic Medicine Finder** section from the dashboard.
    - **Step 2:** The platform allows users to search for generic alternatives to their prescribed branded medicines by name or category (e.g., pain relievers, antibiotics).
    - **Step 3:** The system displays a list of generic medicines along with their prices and manufacturers.
2. **Order and Purchase:**

- **Step 1:** Once a user selects a generic medicine, they can proceed to purchase it via the platform.
- **Step 2:** The platform may offer a "Buy Now" option that links the user to nearby pharmacies for purchasing or allows them to order the medicine online.
- **Step 3:** The user completes the transaction by providing payment and delivery details.
- **Step 4:** Users receive confirmation of the order and estimated delivery time (if applicable).

5.1.6 Healthcare Schemes and Information Repository

1. **Access Healthcare Information:**
    - **Step 1:** Users can access the **Information Repository** section to browse various healthcare topics, including medicine usage, precautions, side effects, and more.
    - **Step 2:** The platform provides detailed information on government schemes and programs, especially for differently-abled individuals, elderly people, and low-income groups.
    - **Step 3:** Users can search for specific schemes by category (e.g., financial assistance, disability benefits, free medical care).
2. **View and Apply for Schemes:**
    - **Step 1:** If a user qualifies for any scheme, the platform provides a link or application form to apply for the benefit directly through the system.
    - **Step 2:** The system may also provide reminders and notifications for renewal dates or application deadlines for certain schemes.

5.1.7 Admin Panel

1. **Admin Login:**
    - **Step 1:** The admin can log in using a secure username and password.
    - **Step 2:** Admin access is granted to manage users, review data, and perform other administrative tasks.
2. **Manage Users and Data:**
    - **Step 1:** The admin can view user details, including profile information and medication adherence data.

- **Step 2:** The admin can manage pharmacy listings, update generic medicine information, and monitor overall platform usage.
- **Step 3:** Admin can update or add information on healthcare schemes, medicines, and features.

5.1.8 Notifications and Alerts

1. **User Notifications:**
   - **Step 1:** The system sends notifications for reminders about medication, new healthcare schemes, or updates to nearby pharmacies.
   - **Step 2:** Users can manage their notification preferences and choose how they want to be alerted (e.g., email, SMS, push notification).
2. **Emergency Alerts (Optional):**
   - **Step 1:** In case of urgent healthcare alerts (e.g., emergency medicine stock shortages), the platform may notify users in specific areas.
   - **Step 2:** Users can take appropriate action based on the alerts received.

5.1.9 Feedback and User Interaction

1. **User Feedback:**
   - **Step 1:** After using any feature or service, users can rate their experience and provide feedback via a simple form.
   - **Step 2:** The feedback is collected to improve future versions of the platform and address any issues faced by users.
2. **Community Interaction (Optional):**
   - **Step 1:** The platform may allow users to interact through community forums or discussion boards where they can share health tips, experiences, or ask questions about medicines and schemes.

5.1.10 End of Session / Logout

1. **Logging Out:**
   - **Step 1:** The user can log out of the platform by clicking on the “Logout” button available in the user settings or on the dashboard.
   - **Step 2:** The system terminates the session and redirects the user to the login page.

- **Step 3:** The user's session is securely closed, and all data is safely stored.

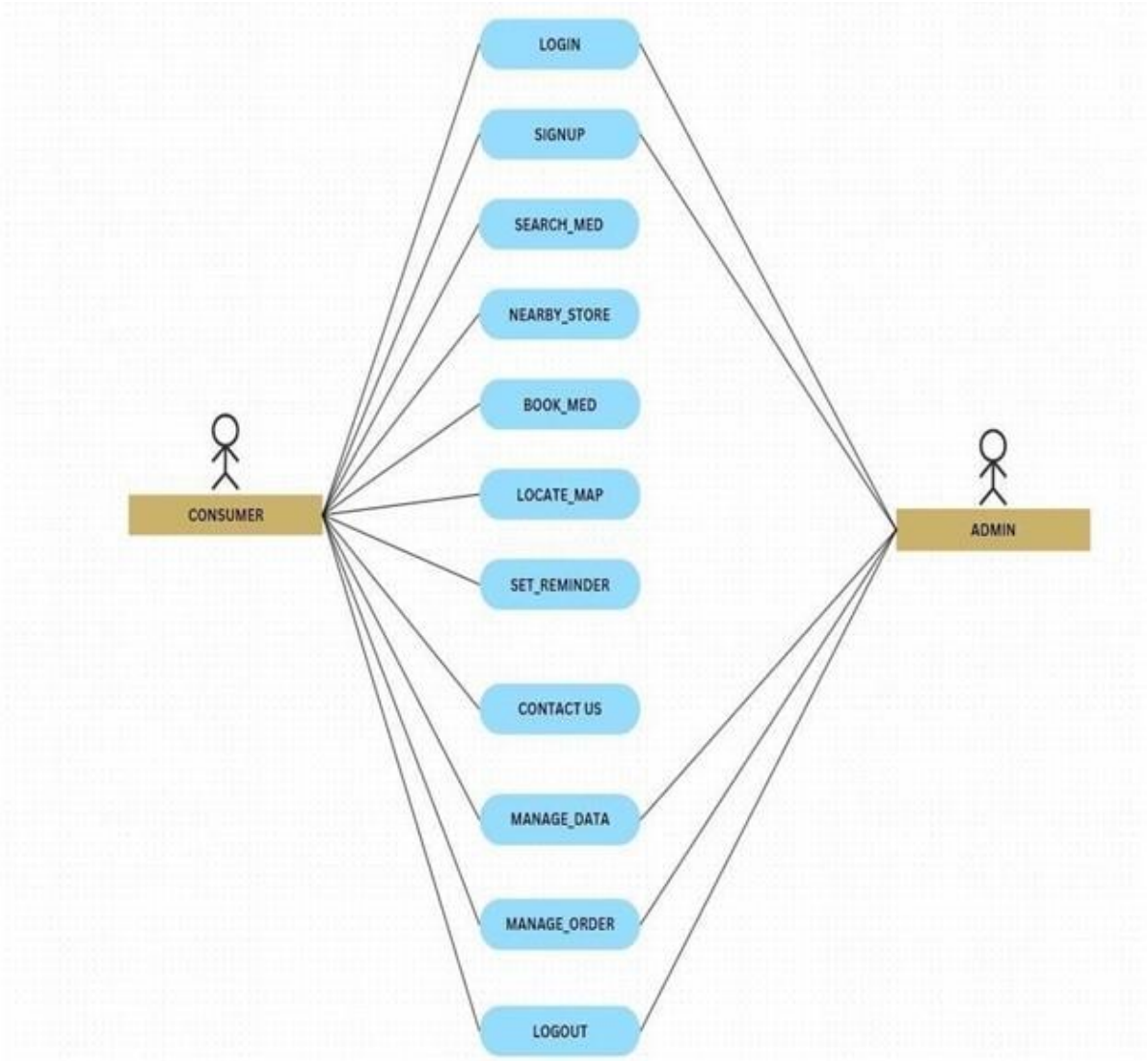


Figure 5.1.2 Use Case Diagram

5.2 Data Flow Diagram

A **Data Flow Diagram (DFD)** visually represents how data moves through the system, including data sources, processes, data stores, and outputs. Below is the DFD for a **Tour and Travel System**, illustrating the flow of information between different components.

Level 0 DFD (Context Diagram):

- The **Level 0 DFD** provides a high-level overview of the system, showing the interaction between the **User** and the **Medical Website**.

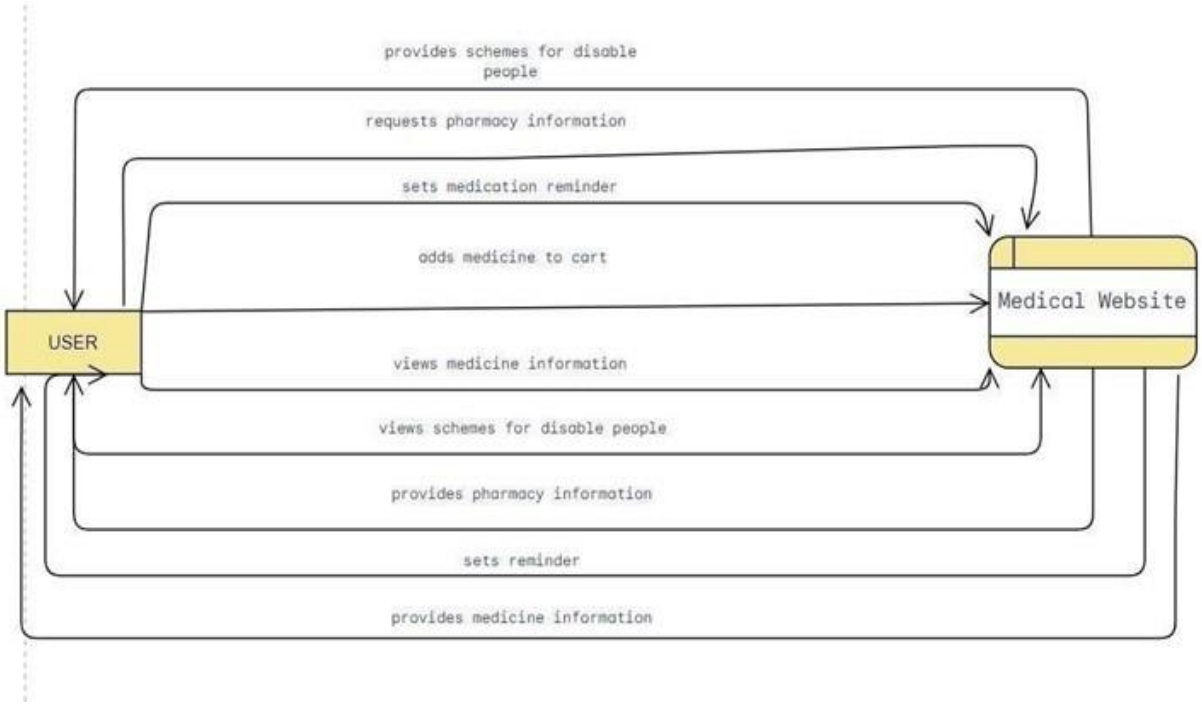


Figure 5.2.1 DFD-0

- **Processes and Interactions**:
    - **User** interacts with the website to:
        - View and request information about medicines and pharmacies.
        - Add medicines to the cart.
        - Set medication reminders.
        - Access schemes for disabled people.
    - The **Medical Website**:

- Provides medicine, pharmacy, and scheme information.
- Accepts user requests (e.g., cart updates and reminders).

This diagram focuses on the system's external interactions and gives a simple overview without detailing internal processes.

Level 1 DFD:

- The **Level 1 DFD** breaks down the system into more detailed processes and shows additional entities, such as the **Pharmacy** and the **Medical Database**.

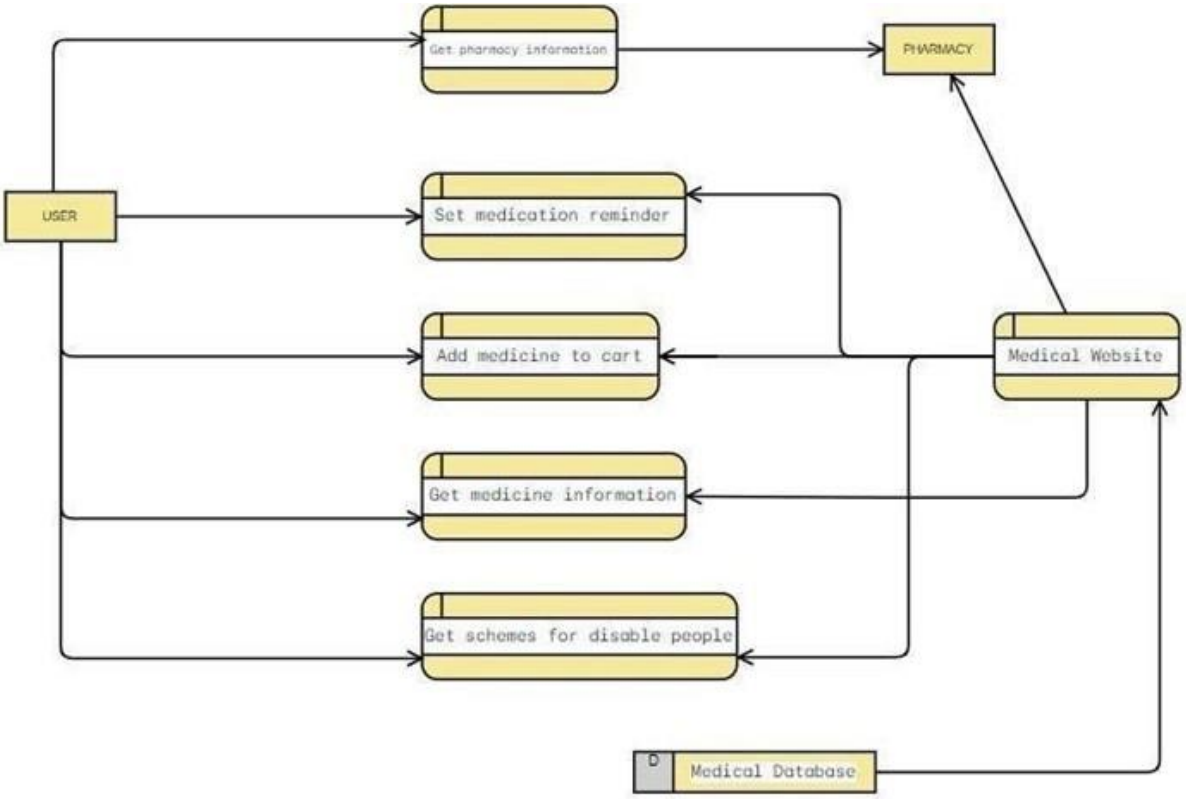


Figure 5.2.2 DFD-1

- **Processes**:
  - **User** requests specific services such as:
    - **Get pharmacy information**: Sent to the **Pharmacy** via the website.
    - **Set medication reminders**: Stored or managed within the system.
    - **Add medicine to cart**: Handled by the **Medical Website**.

        - **Get medicine information**: Retrieved from the **Medical Database**.
        - **Get schemes for disabled people**: Also retrieved from the **Medical Database**.
- **Data Stores and Entities**:
    - **Pharmacy** provides pharmacy-related details.
    - **Medical Database** stores information about medicines and schemes.

This diagram illustrates the internal processes and the flow of data within the system, offering more granularity than Level 0.

5.3 Entity-Relationship (ER) Diagram

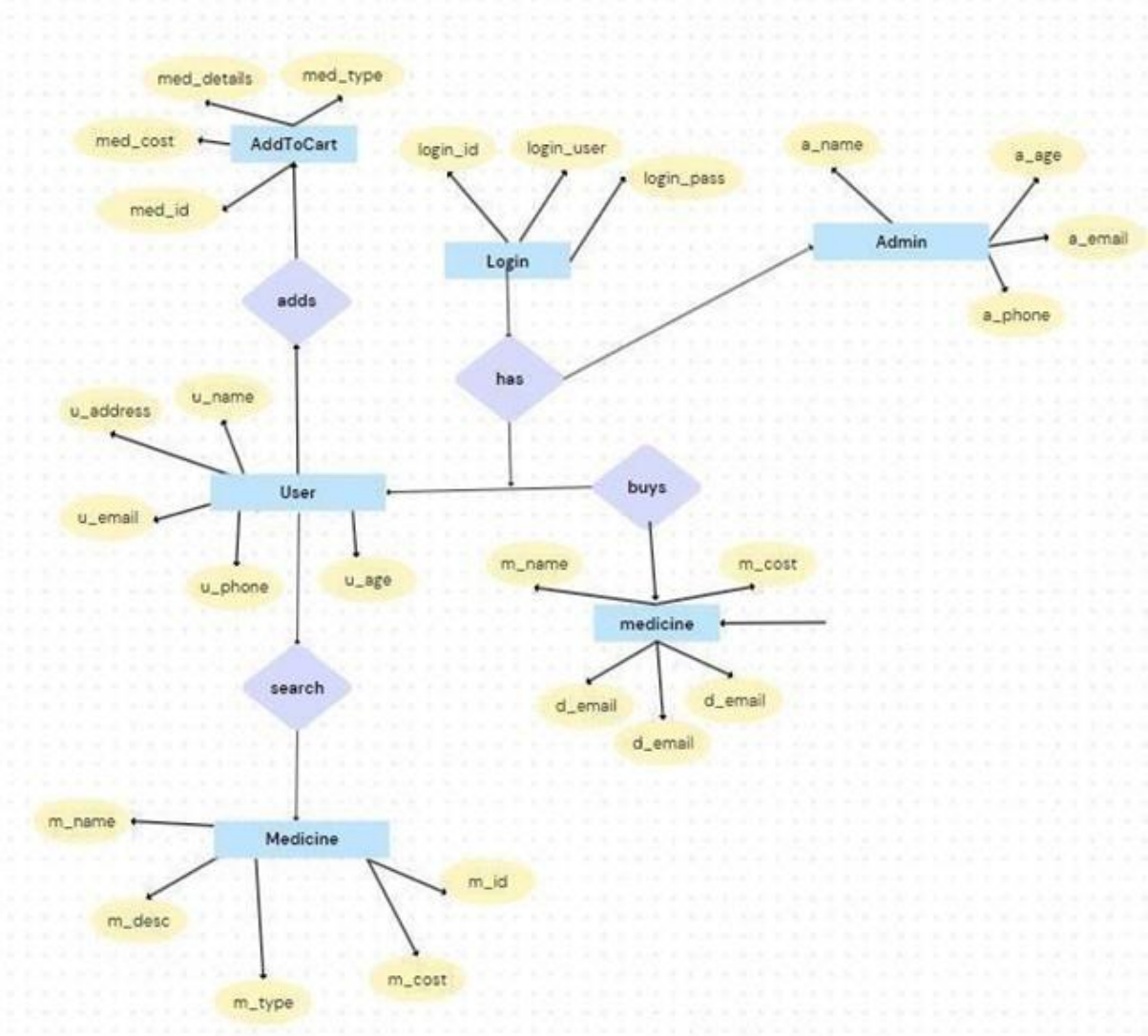


Figure 5.3: E-R Diagram

This is an **Entity-Relationship (ER) Diagram** that represents a system for managing the purchase of medicines through user accounts. Here's a short explanation:

1. **Entities**:
    - **User**: Represents the users of the system, with attributes like u_name, u_email, u_address, u_phone, and u_age.
    - **Medicine**: Represents medicines, with attributes like m_id, m_name, m_desc, m_cost, and m_type.

- **Admin**: Represents system administrators, with attributes like a_name, a_age, a_email, and a_phone.
- **Login**: Manages login details with attributes like login_id, login_user, and login_pass.
- **AddToCart**: Tracks the medicines added to the user's cart with attributes like med_id, med_details, med_cost, and med_type.

2. **Relationships**:
   - **adds**: Links User to AddToCart, indicating that a user can add medicines to their cart.
   - **search**: Shows that users can search for medicines.
   - **buys**: Represents the relationship between User and Medicine, indicating that users can purchase medicines.
   - **has**: Connects User to Login, indicating the user account has login credentials.
   - **medicine**: Connects Medicine with a distributor email (d_email), possibly referring to suppliers.
3. **Attributes**:
   - Attributes are shown as ovals connected to their respective entities.
   - Key attributes such as m_id for Medicine and u_name for User uniquely identify instances of those entities.

This diagram essentially models an e-commerce-like system where users can search, add medicines to a cart, and purchase them, while admins manage operations.

Project Outcome

The Health Elevator app successfully enhances healthcare accessibility by providing users with a comprehensive platform to manage their medical needs. It allows users to search for medicines, set reminders, add items to their carts, and access pharmacy information effortlessly. The app also prioritizes inclusivity by offering dedicated schemes for people with disabilities. Integration with a centralized medical database ensures accurate and reliable information for informed decision-making. By improving medication adherence through reminders and offering tailored healthcare support, the app empowers users to manage their health proactively. Overall, it bridges the gap between users and essential healthcare services efficiently and effectively.

6.1. Login Page-

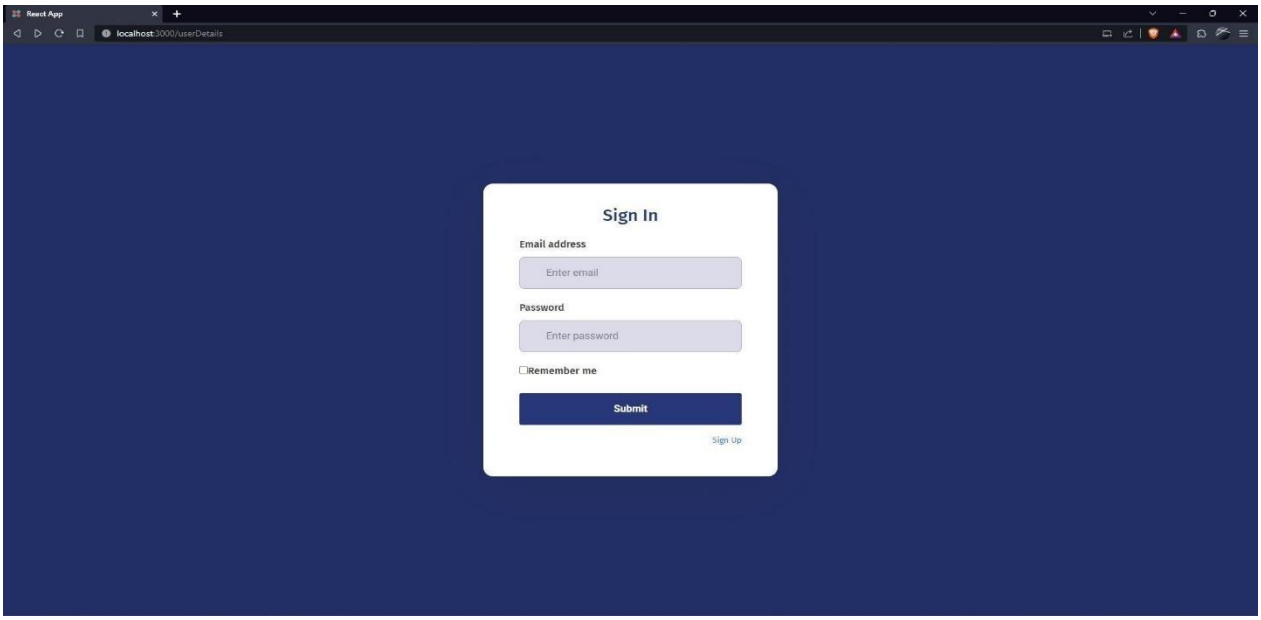


Figure 6.1 Login Page

6.2 Registration Page-

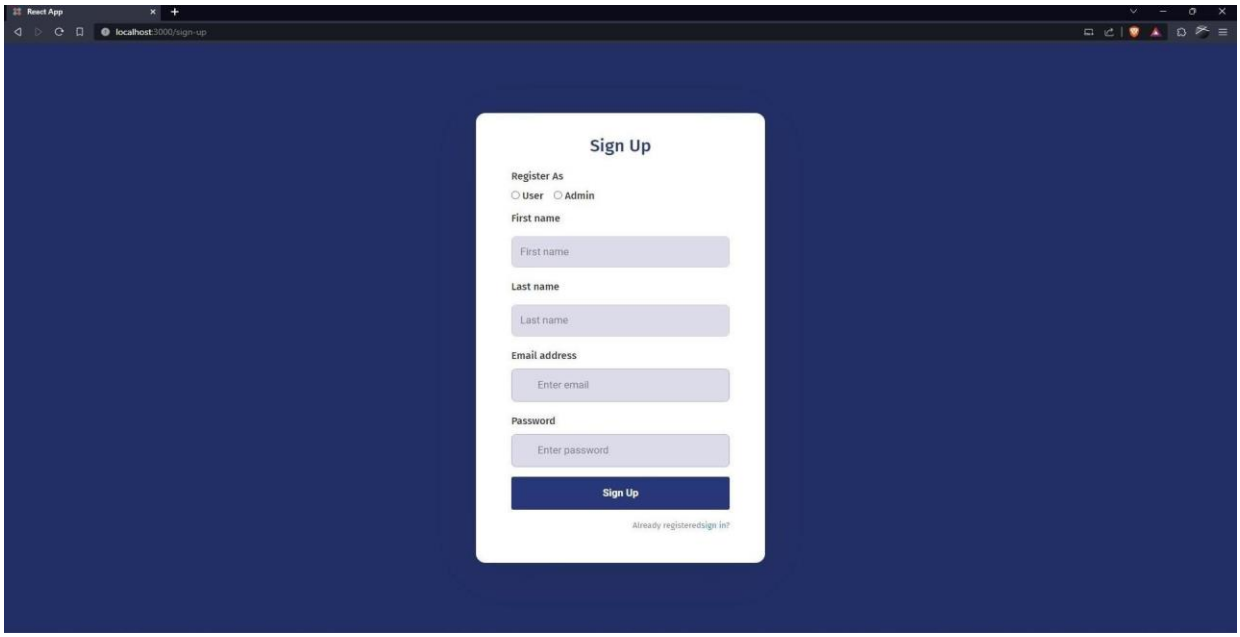


Figure 6.2 Registration Page

6.3 Logout Page -

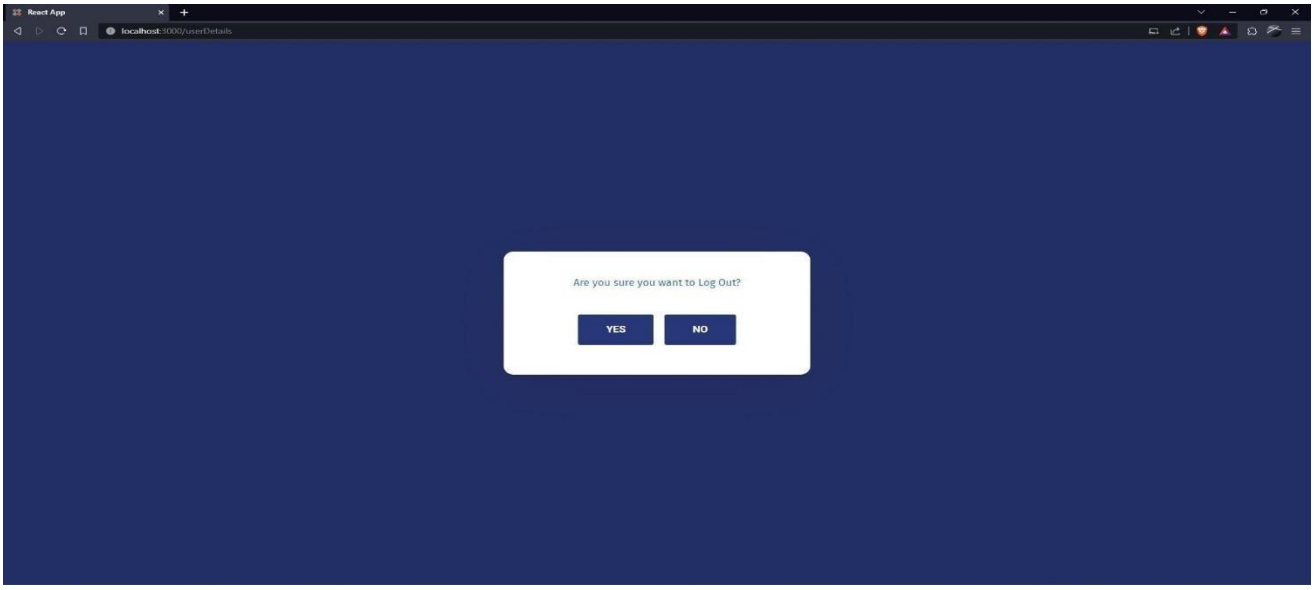


Figure 6.3 Logout Pag

6.4 Home Page

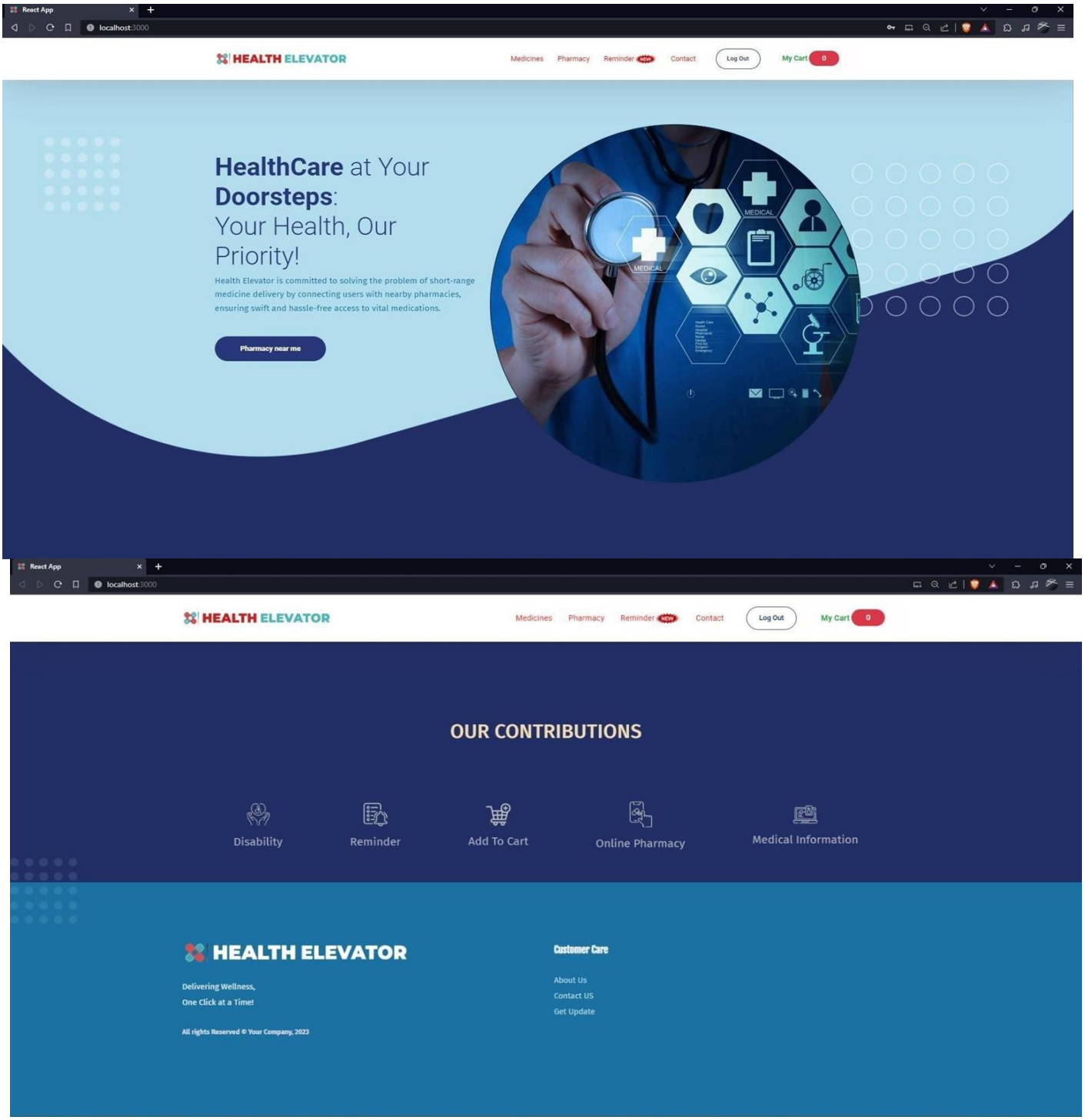


Figure 6.4 Home page

6.5 Pharmacy near me -

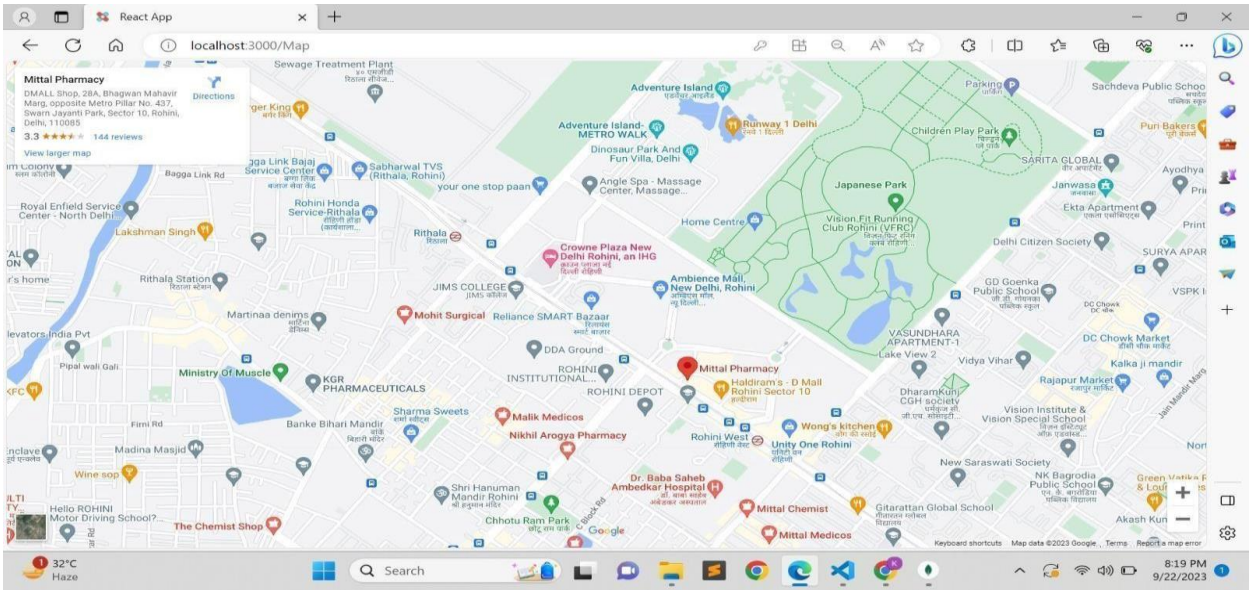


Figure 6.5 Pharmacy near me

6.6 Setting Medicine Reminder –

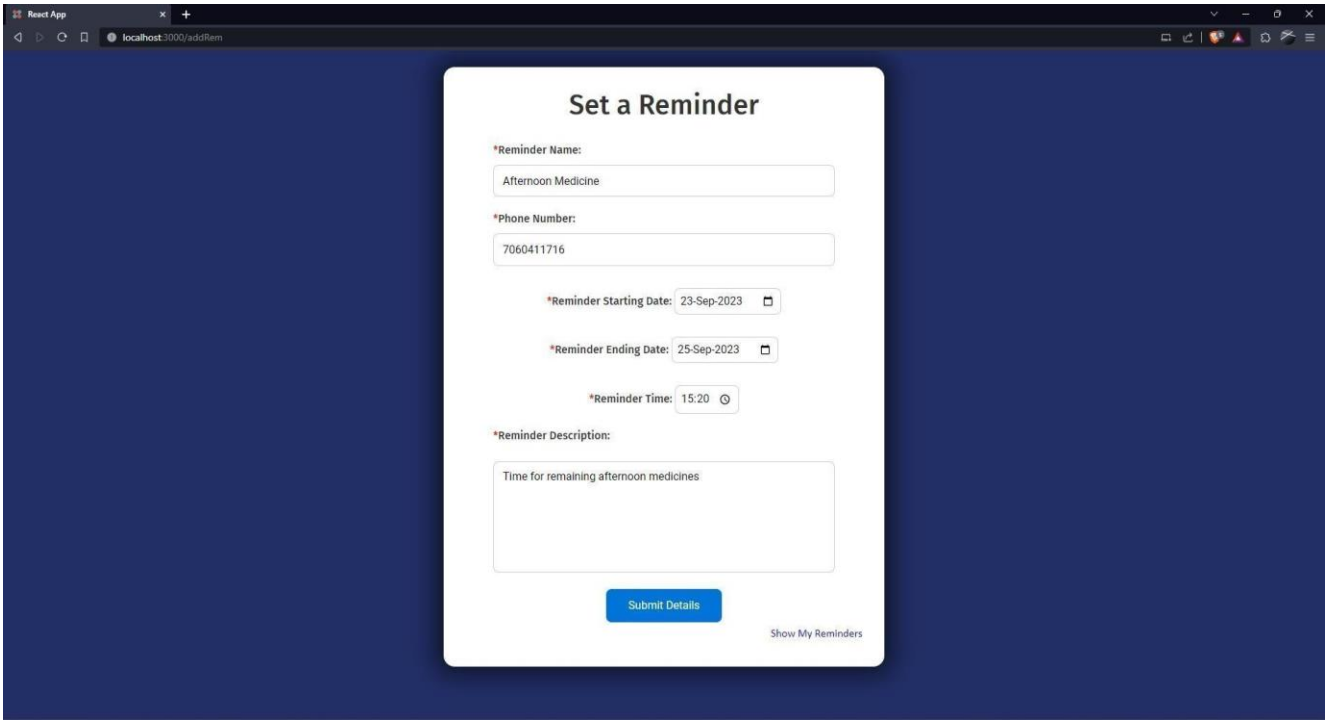


Figure 6.6 Setting Medicine Reminder

6.7 Medicine Reminders entered by user –

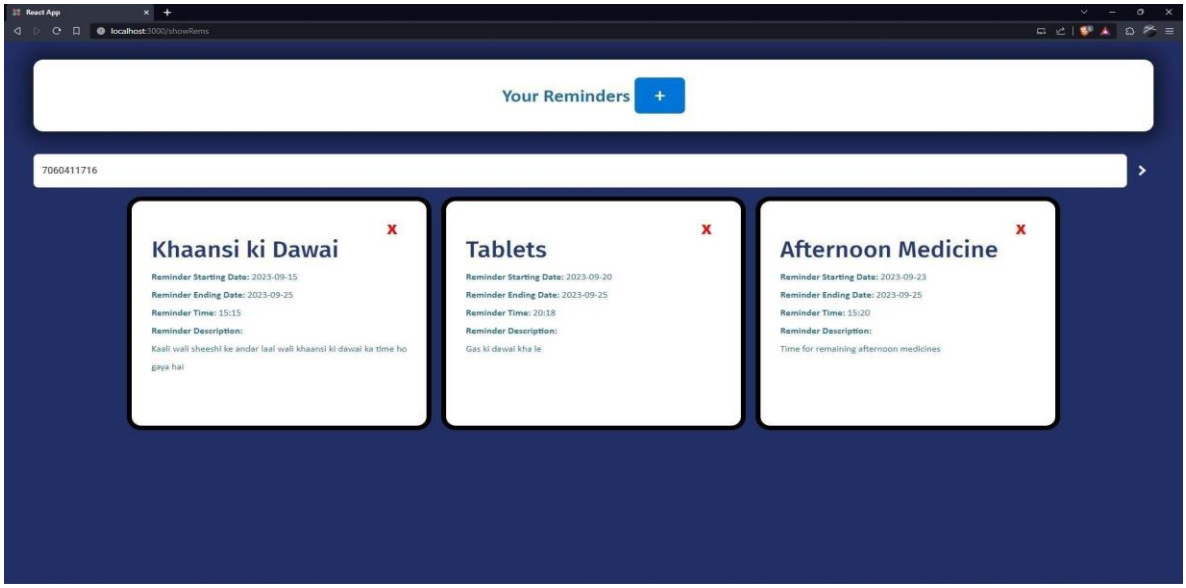


Figure 6.7 Medicine Reminders Entered by user

6.8 Reminder on WhatsApp

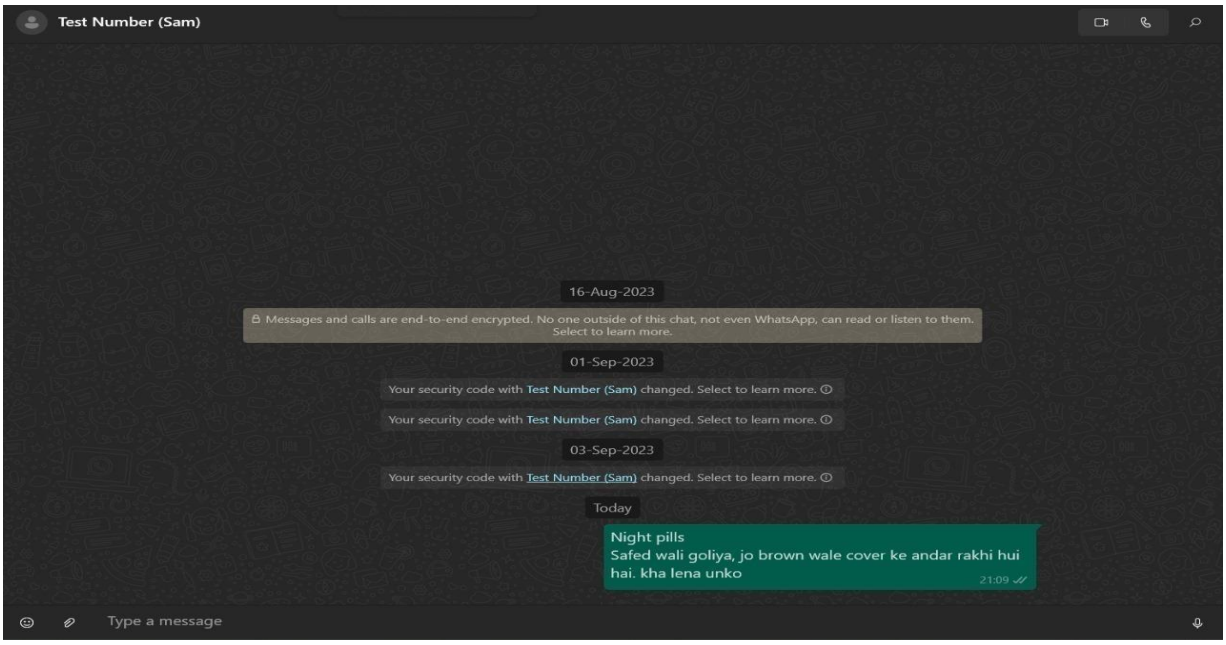


Figure 6.8 Reminder on WhatsApp

6.9 Add Medicine to cart –

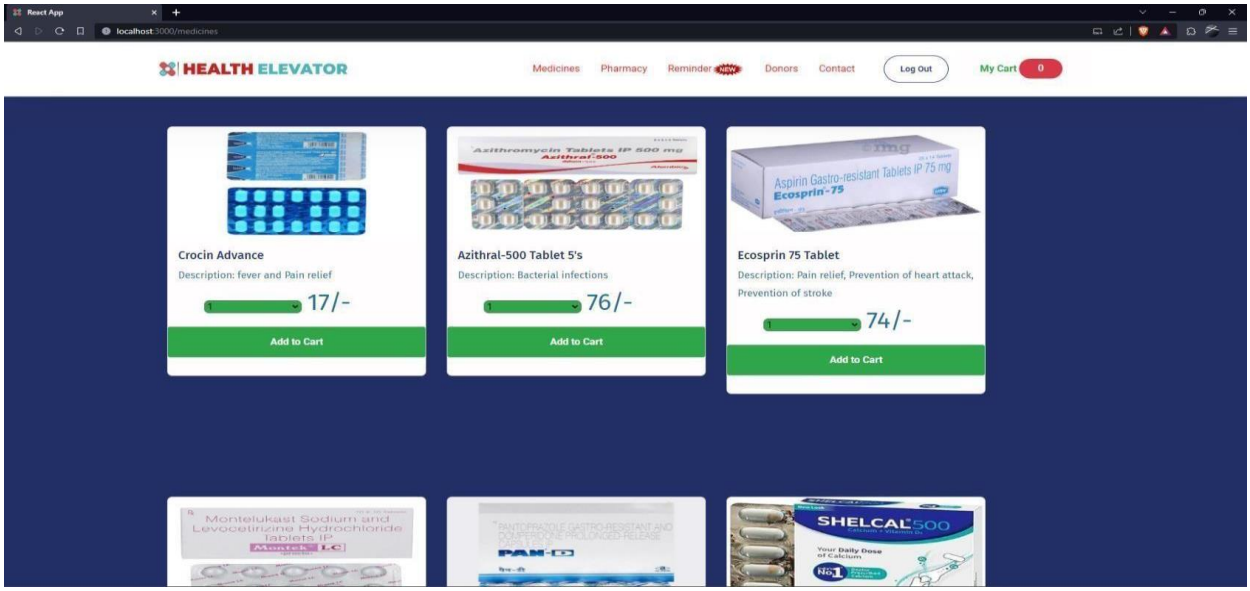


Figure 6.9 Add medicine to cart

6.10 Cart Items

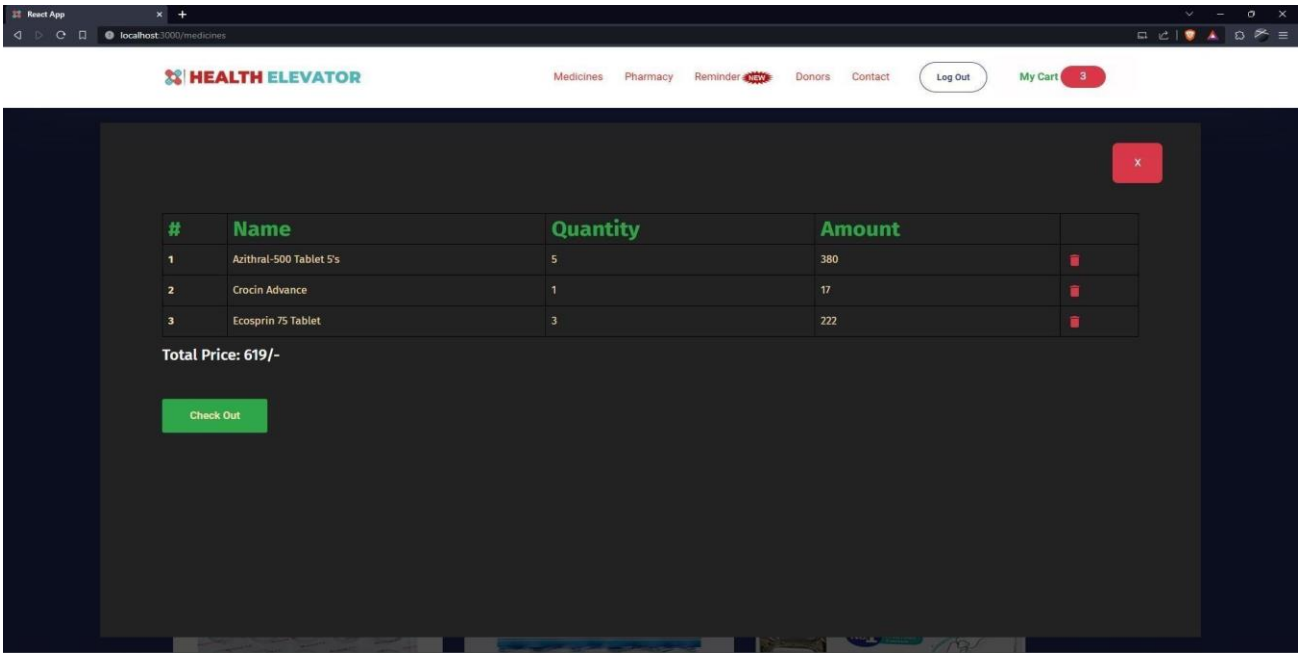


Figure 6.10 Cart

6.11 Successful Checkout–

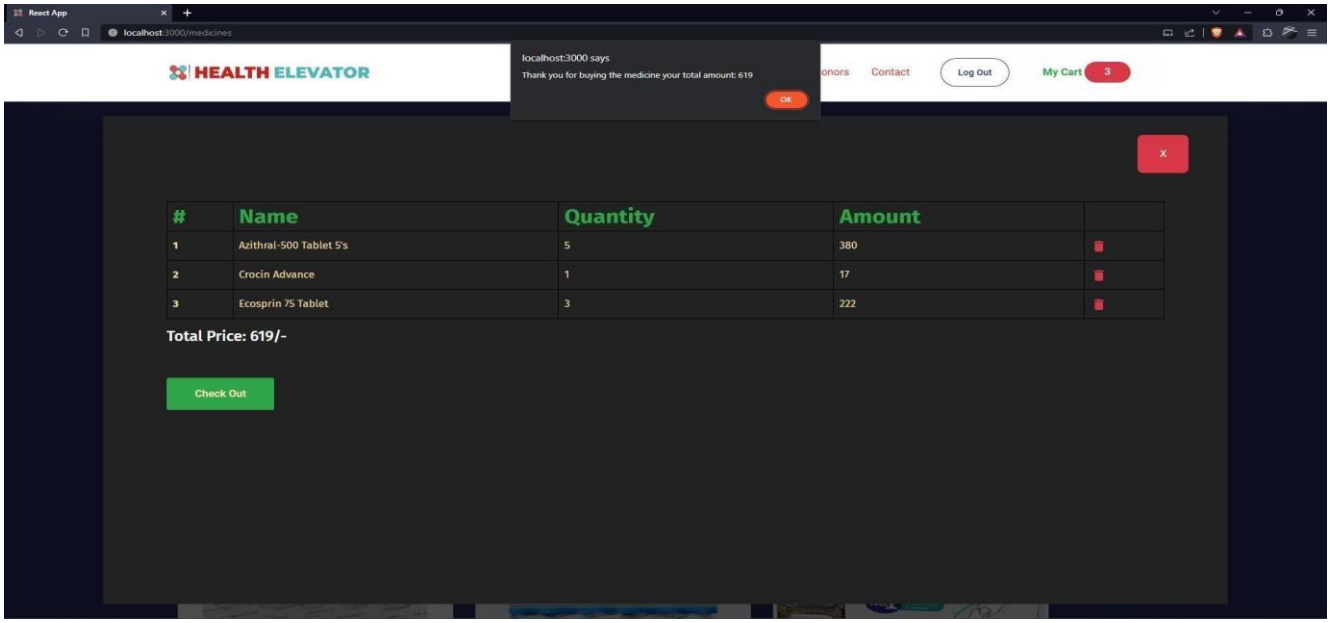


Figure 6.11 Successful checkout

6.12 Empty Cart

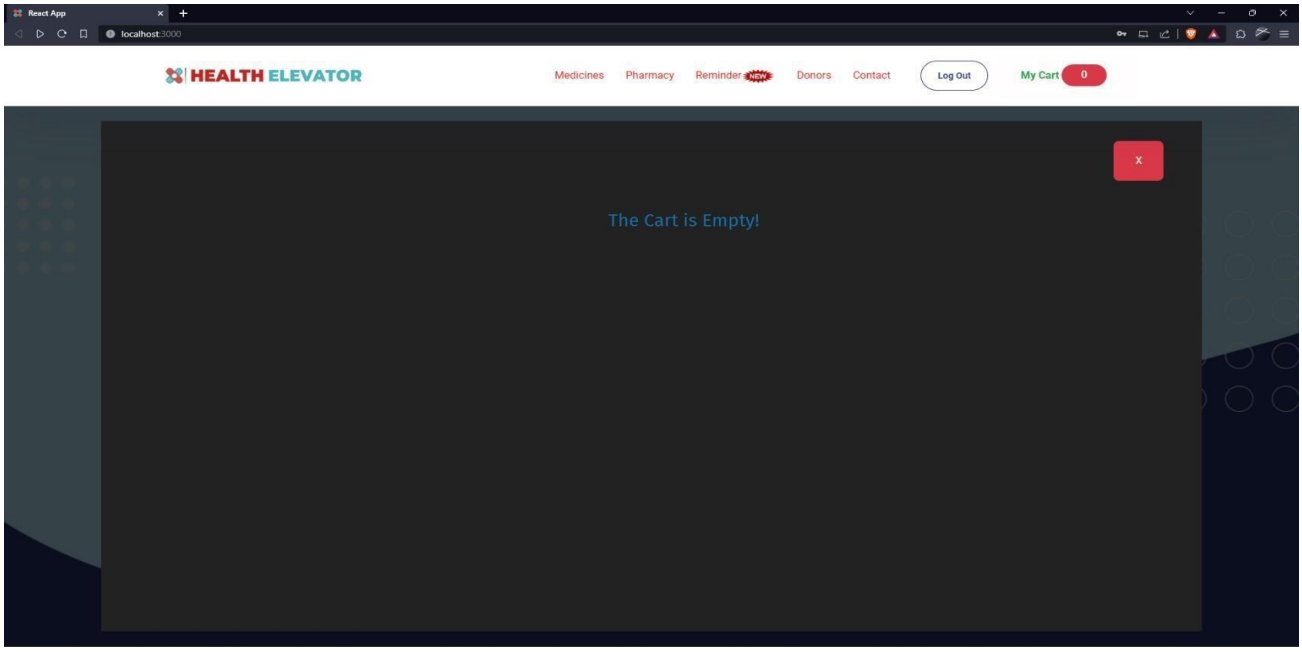


Figure 6.12 Empty Cart

6.13 Medicine Information -

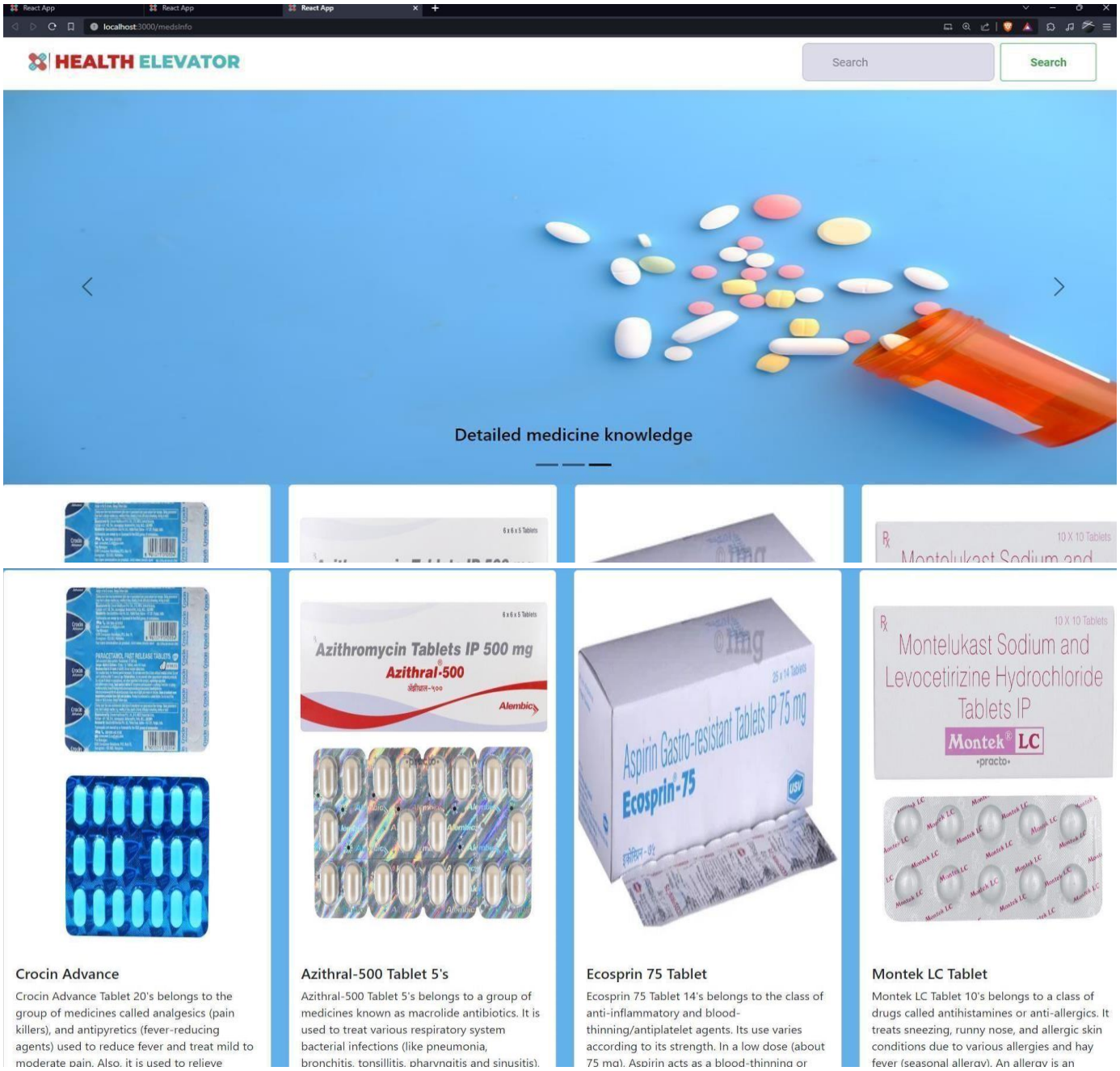
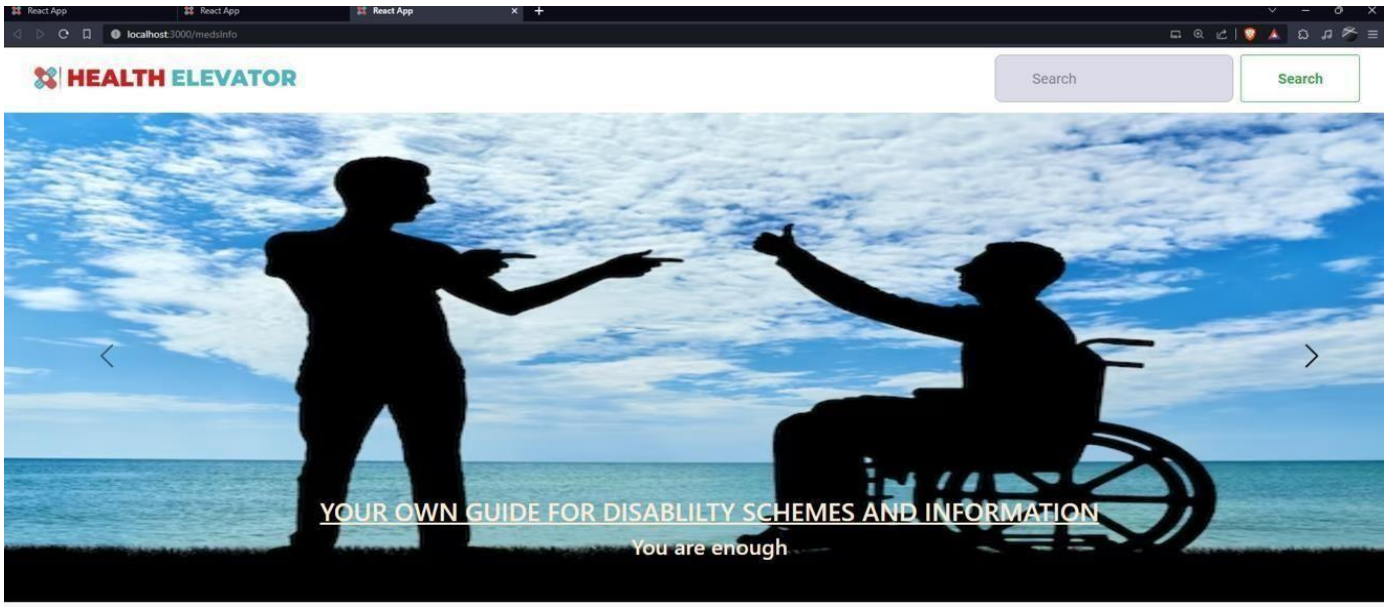


Figure 6.13 Medicine Information

6.14 Disability Schemes and support -



Unique Disability ID

About UDID(Unique Disability ID)

Unique Disability ID

About UDID(Unique Disability ID)

The UDID project initiated by Department of Empowerment of Persons with Disabilities aims at building a holistic end-to-end integrated system for Issuance of Universal ID & Disability Certificates for Person with Disabilities with their identification and disability details. It includes -

- Online availability of data of Person with Disabilities across country through a centralized web application
- Online filing and submission of registration application form for disability certificate/ Universal ID card; Offline applications may also be accepted and subsequently digitized by agencies
- Quick Assessment process for calculating the percentage of disability by the hospitals/ Medical Board
- Non-duplication of PwDs data
- Online renewal and update of information by Person with Disabilities/ on their behalf
- MIS reporting framework
- Effective management including interoperability of the benefits / schemes launched by the Government for PwD
- To take care of additional disabilities in future. Number of disabilities at the moment is seven and shall be subject to increase as per the new Act/ notification which can be up to 19 or more

FAQ's

What is UDID card?

UDID Card or Unique Disability Identity card is an initiative by Government of India with a view of creating a National Database for PwDs, and to issue a Unique Disability Identity Card to each person with disabilities. This aims to encourage transparency, efficiency and ease of delivering the government benefits to the person with disabilities, and to ensure uniformity.

Who can apply for UDID Card and where to apply for UDID card?

Any citizen of India with full/partial disability can apply for UDID card at the website- https://www.swavlambancard.gov.in/

What are the documents required for applying for the UDID card?

A coloured photo, Disability Certificate (If already has) and Address Proof.

How many digits/characters are there in the UDID Card?

The UDID card has a total of 18 digits/characters. The first 2 characters represent State Code, next 2 digits for district code, next 1 digit for CMO code, next 2 digits for disability type, next 4 digits for year of birth of PwD, following 6 digits for running number and the last digit for check sum which is involved for security reason.

What is the process of UDID Card generation

1. The PwD needs to apply through the portal for a fresh UDID card or for a renewal of UDID card in case of temporary UDID card has been
2. The application reached to the notified Chief Medical Officer (CMO) or District Medical Officer (DMO) of the PwD's resident district as the case may

6.15 Database of Reminder –

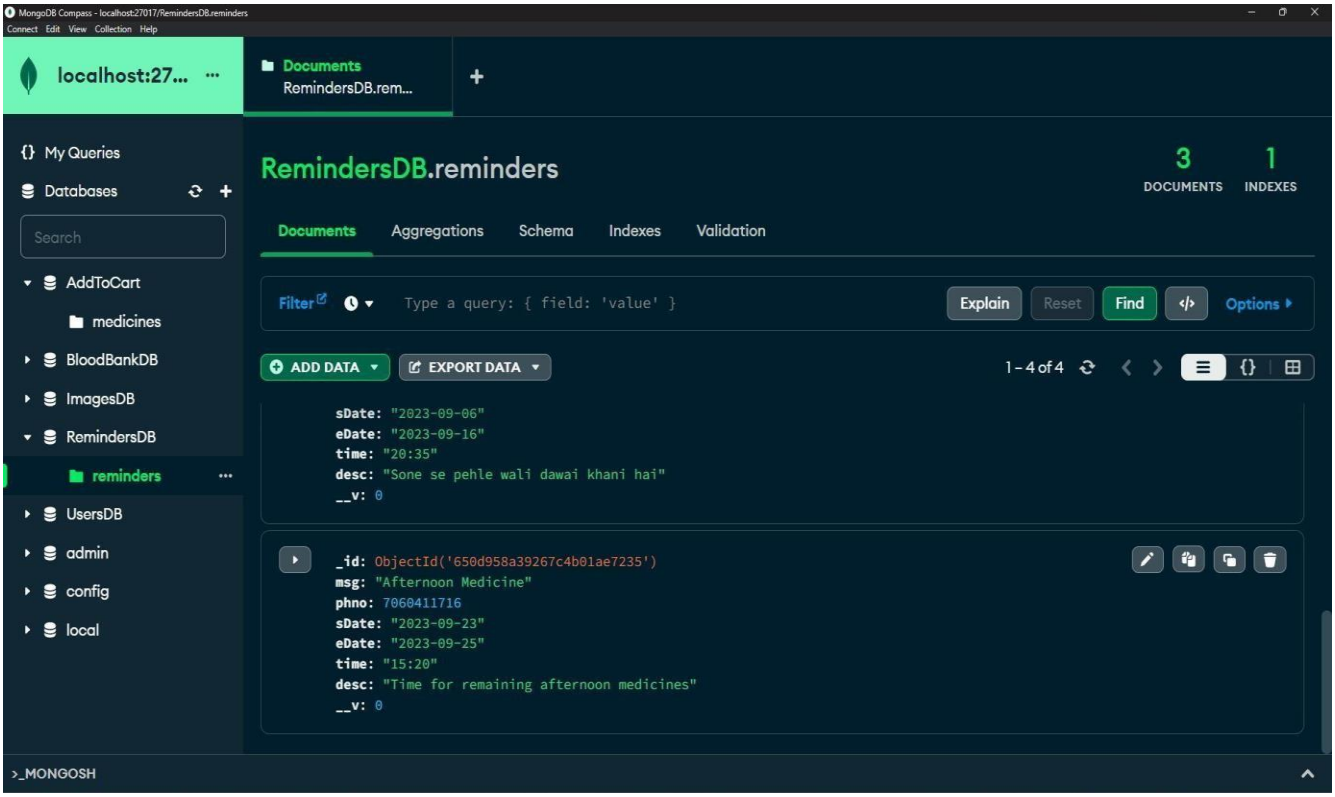


Figure 6.15 Database-1

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These references provide credibility and support the project's basis in medical, technical, and social domains. If you have specific sources, replace these with them.