Software Requirements Specification (SRS) for Animal Rehabilitation Website

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1) Introduction

1.1) Purpose

The purpose of the Animal Rehabilitation Website is to create a centralized platform that connects pet owners with rehabilitation centres, facilitating the seamless rehabilitation and care of animals. The system aims to streamline the process of booking rehabilitation services, ensuring effective communication between users and rehabilitation centres, and providing a secure and user-friendly experience.

1.2) Intended Audience

The intended audience for the Animal Rehabilitation Website includes:

- Pet owners seeking rehabilitation services for their animals.
- People who find stray animals in need of medical attention.
- Rehabilitation centres offering animal care services.
- Veterinarians and medical staff associated with rehabilitation centres.
- Administrators responsible for managing and overseeing the operation of the website.

1.3) Project Scope

The project scope encompasses the development of a web-based platform that consists of two consoles: one for users (pet owners) and another for rehabilitation centres. Users can view and select rehabilitation centres, choose doctors for their pets, book services, and communicate with the centres. Rehabilitation centres can manage information

about animals under their care, view doctor details, receive online bookings. The website will also integrate features such as a payment gateway for service transactions, ensuring a comprehensive and efficient system for animal rehabilitation.

2) Overall Description

2.1) Product Features

Common Features:

User Authentication:

Secure login mechanisms for both users and rehabilitation centres, ensuring data privacy.

Responsive Design:

Ensure the website is accessible and user-friendly across various devices and screen sizes.

Data Security Measures:

Implement measures to secure user and animal data, protecting against unauthorized access and data breaches.

2.2) Operating Environment

The website should be compatible with modern web browsers (Chrome, Firefox, Safari).

Mobile responsiveness is required for users accessing the website from smartphones and tablets.

2.3) Design and Implementation Constraints

The system will be developed using ReactJS and Next.js.

Use of a non-relational database management system(MongoDB) for data storage.

2.4) Assumptions and Dependencies

It is assumed that users have a stable internet connection for accessing the website.

The successful operation of the system depends on the availability and reliability of external services such as payment gateways.

The rehabilitation centres are assumed to have the necessary infrastructure for handling animal pickups and medical care.

Users are responsible for providing accurate and up-to-date information about their pets during the booking process.

2.5) Life Cycle Model

We will be using the Spiral Life Cycle Model for developing the website.

3) System Features

3.1) Function Requirements

User Module

Registration:

- Users can register using email or social media accounts.
- Registration includes profile creation with basic information and pet details.

Search:

- Users can search for rehabilitation centers based on slot availability, animal species and ratings.

Profile Management:

- Users can edit personal information and manage their pet profiles.
- Upload photos/documents of medical records for pets.

Reviews and Ratings:

- Users can leave reviews and ratings for rehabilitation centers and vets.

Payment Integration:

- Centres can view and manage transactions related to rehabilitation services.

- Integrated payment gateway for processing payments securely.

Rehabilitation Center Module

Registration:

- Rehabilitation centers can register and create profiles with detailed information about their facilities and services.

Profile Management:

- Rehabilitation centers can manage their profiles, update services, and provide contact information.

Manage Animals:

- Rehabilitation centres can view and manage information about animals under their care.
- Add new animals to the system, including details like species, breed, and health status.
- Update information about existing animals, such as treatment plans and progress.

Doctor Details:

- Centres can view and update information about doctors associated with their facility.
- Include details about qualifications, schedules, and specialization areas.

Booking Management:

- Receive and manage online bookings from users.
- Confirm appointments and update users on the status of their pets.
- Mark completed services and generate invoices for transactions.

Administrator Module

User Management:

Administrators can manage user accounts, permissions, and access logs.

4) External Interface Requirements

4.1)User Interfaces

Responsive UI using NextJS for a seamless experience across devices.

4.2) Software Interfaces

MongoDB for document storage.
Utilize RESTful APIs for communication between the front end and back end.

4.3)Hardware Interfaces

Server Infrastructure:

Hardware infrastructure capable of handling concurrent user requests and database transactions.

End-User Devices:

The website should be accessible from standard end-user devices such as desktops, laptops, tablets, and smartphones.

4.4) Communication Interfaces

APIs for External Services:

Integrate with external services, such as payment gateways, using secure APIs.

5) Non-Functional Requirements

5.1) Performance Requirements

- The system should respond to user interactions within 20 seconds.
- Concurrent user capacity: The website should support a minimum of 500 concurrent users.
- The database should handle a load of at least 500 requests per minute.

5.2) Safety Requirements

- The system should ensure the secure and confidential storage of user and animal data.
- Regular backups of the database should be performed to prevent data loss.
- In case of unexpected system failures, there should be a mechanism to recover critical data.

5.3) Security Requirements

- All communication between the user, rehabilitation centres, and the server should be encrypted using HTTPS.
- User authentication should be secure, employing hashed passwords and secure session management.
- The system should be protected against common web vulnerabilities such as SQL injection and cross-site scripting (XSS).

5.4) Software Quality Attributes

Reliability:

- The system should have an uptime of at least 99.9%.

- It should be resilient to server failures, ensuring continuity of service.

Maintainability:

- Code should be well-documented and adhere to coding standards.
- Provide an admin interface for easy management of user accounts and system configurations.

Scalability:

The system architecture should allow for easy scaling to accommodate an increasing number of users and rehabilitation centres.

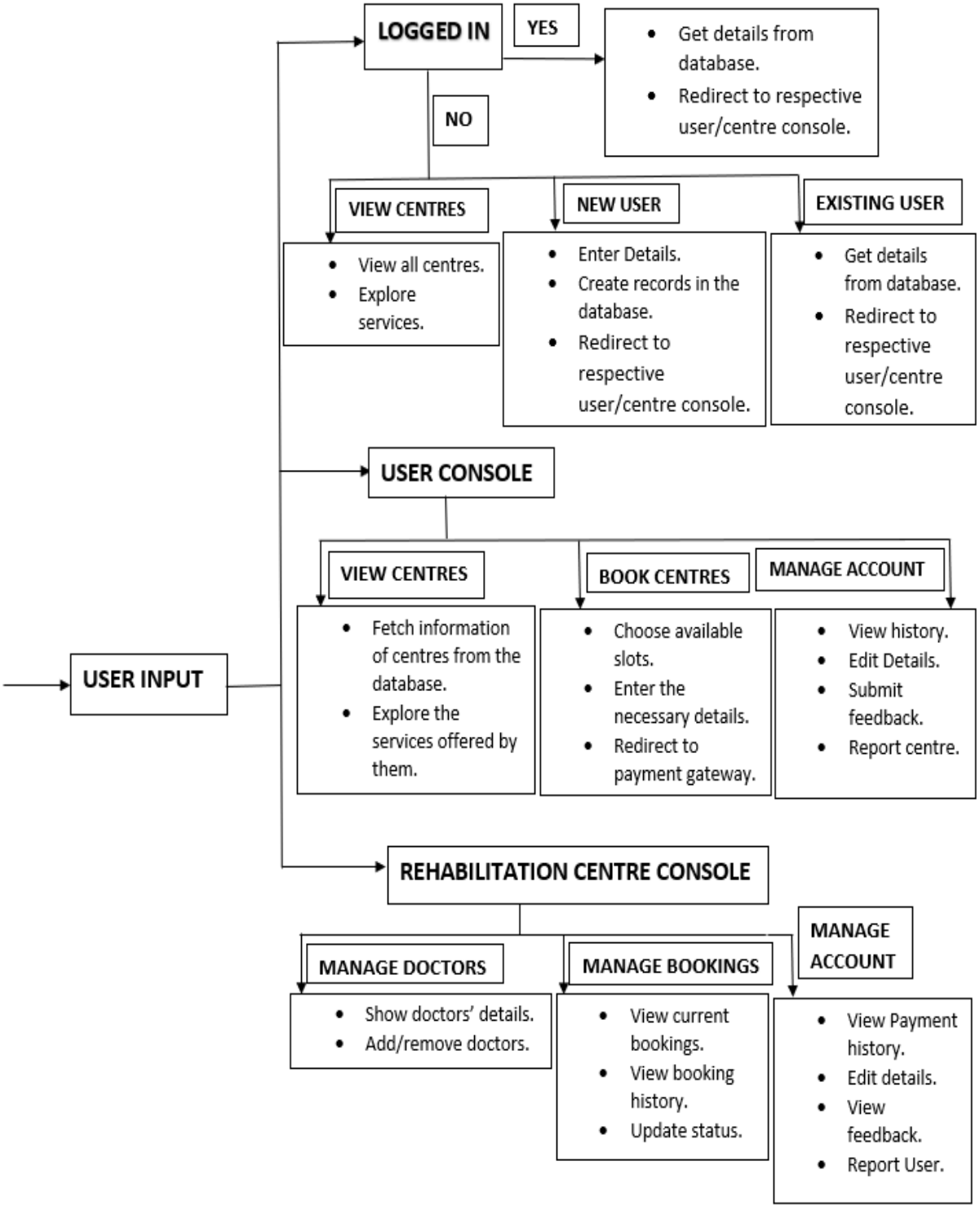
Usability:

The user interface should be intuitive and user-friendly.

6)Update Section:

7) Decision Tree and Table

7.1) Decision Tree



7.2) Decision Table

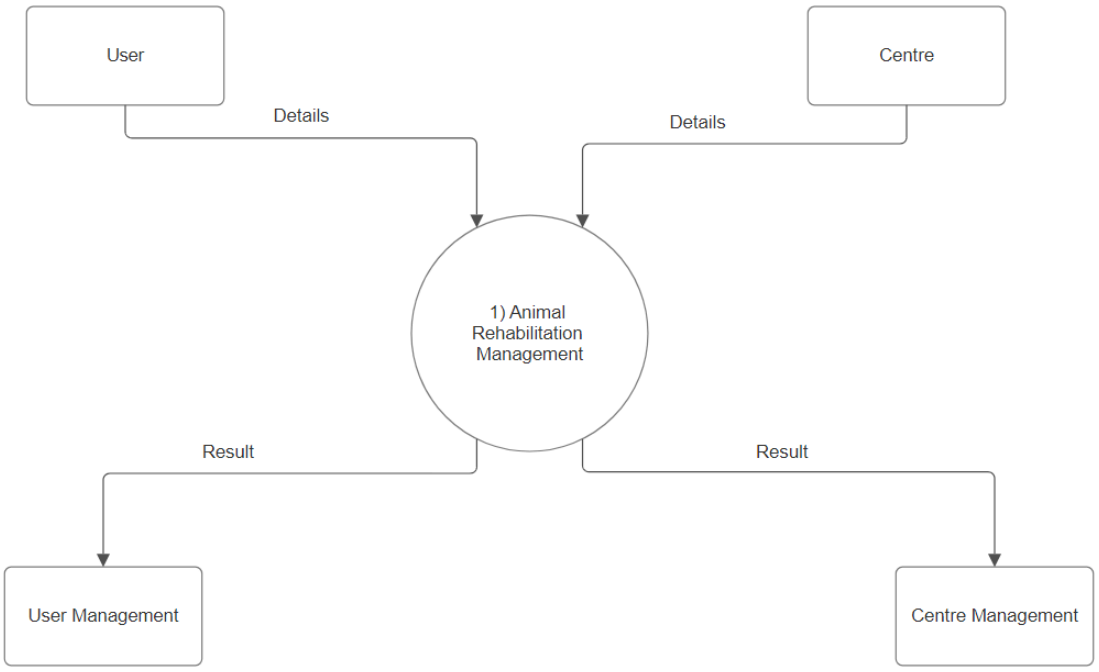
Conditions				
Logged In	No	No	Yes	Yes
User	No	No	Yes	No
Center	No	No	No	Yes
View Centers	Yes	Yes	Yes	Yes
Book Center	No	No	Yes	No
Manage Doctors	No	No	No	Yes
Manage Bookings	No	No	No	Yes
Manage Account	No	No	Yes	Yes
New User	No	Yes	No	No
Existing User	No	No	Yes	Yes

Actions				
Get Centers	Yes	Yes	Yes	Yes
Get Details	No	No	Yes	Yes
Create Record	No	Yes	No	No
Pick Slot	No	No	Yes	No
Payment Gateway	No	No	Yes	No
Input	No	Yes	Yes	Yes
Get History	No	No	Yes	Yes
Edit Details	No	No	Yes	Yes
Give Feedback	No	No	Yes	No
Report	No	No	Yes	Yes
View Feedback	No	No	No	Yes
Get Doctor Details	No	No	No	Yes
Edit Doctors	No	No	No	Yes

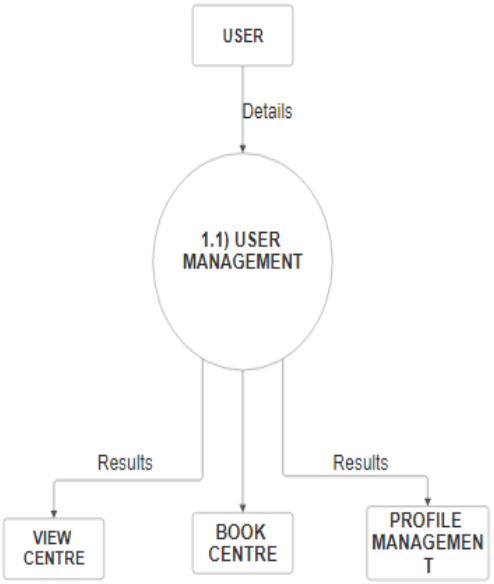
View Bookings	No	No	No	Yes
Update Bookings	No	No	No	Yes
View Payment History	No	No	No	Yes

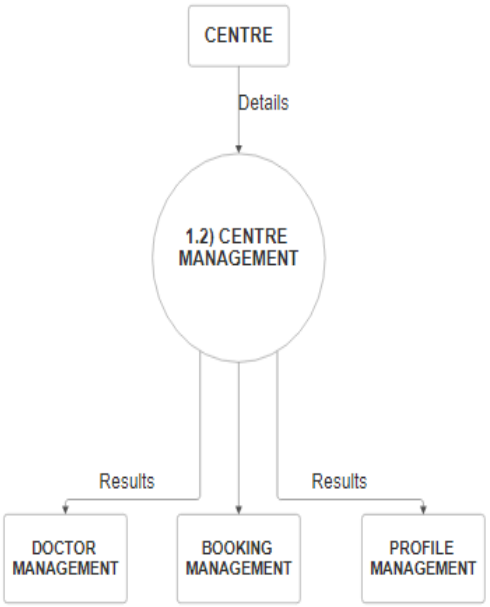
8) Data Flow Diagram

8.1) Level 0

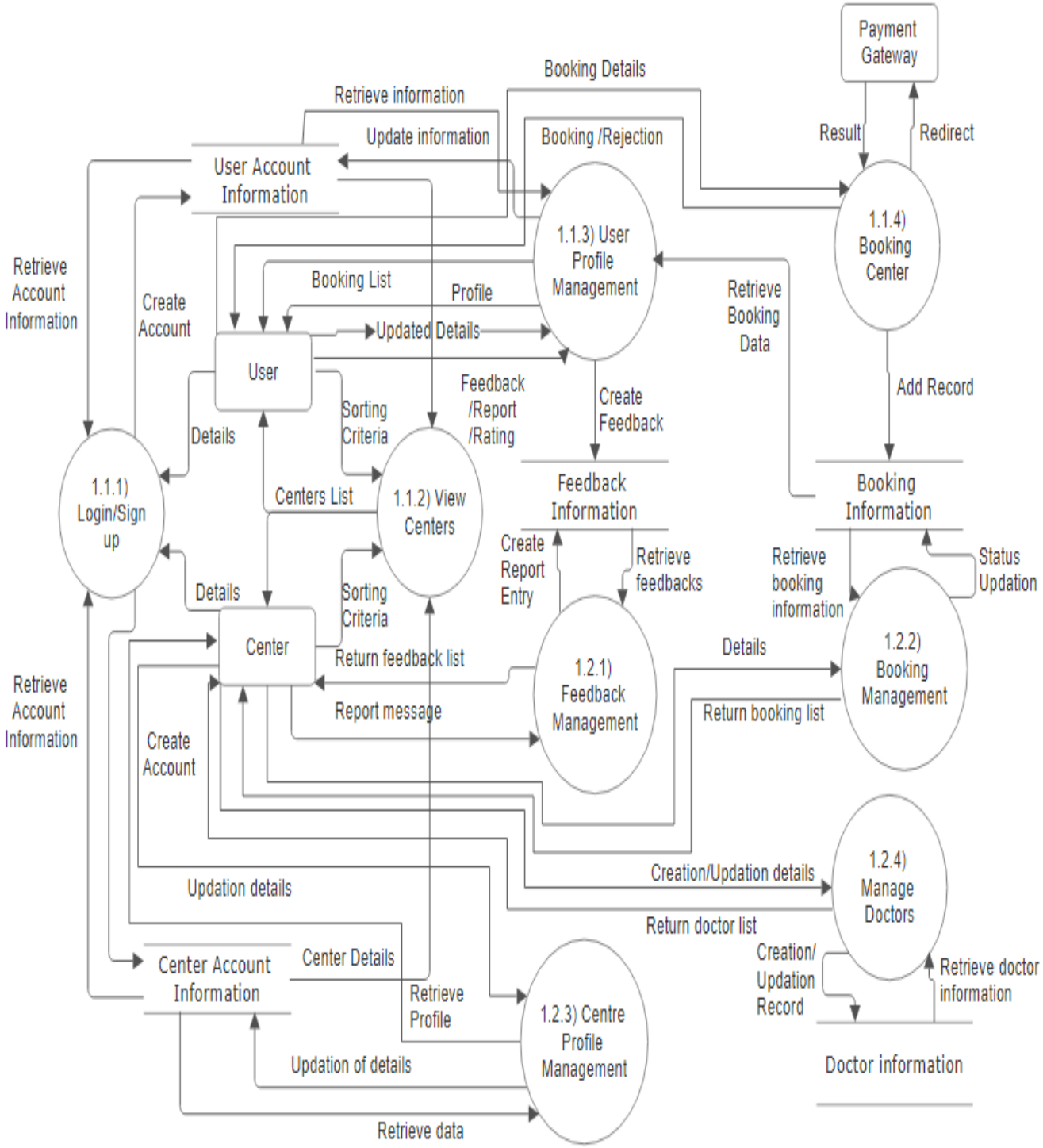


8.2) Level 1


USER
Details
1.1) USER MANAGEMENT
Results
Results
VIEW CENTRE
BOOK CENTRE
PROFILE MANAGEMEN T

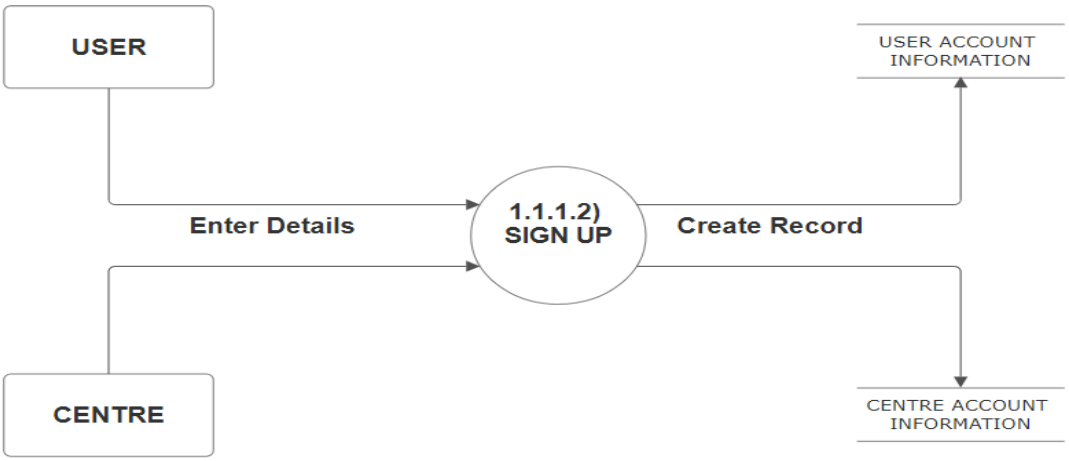

CENTRE
Details
1.2) CENTRE MANAGEMENT
Results
Results
DOCTOR MANAGEMENT
BOOKING MANAGEMENT
PROFILE MANAGEMENT

8.3) Level 2

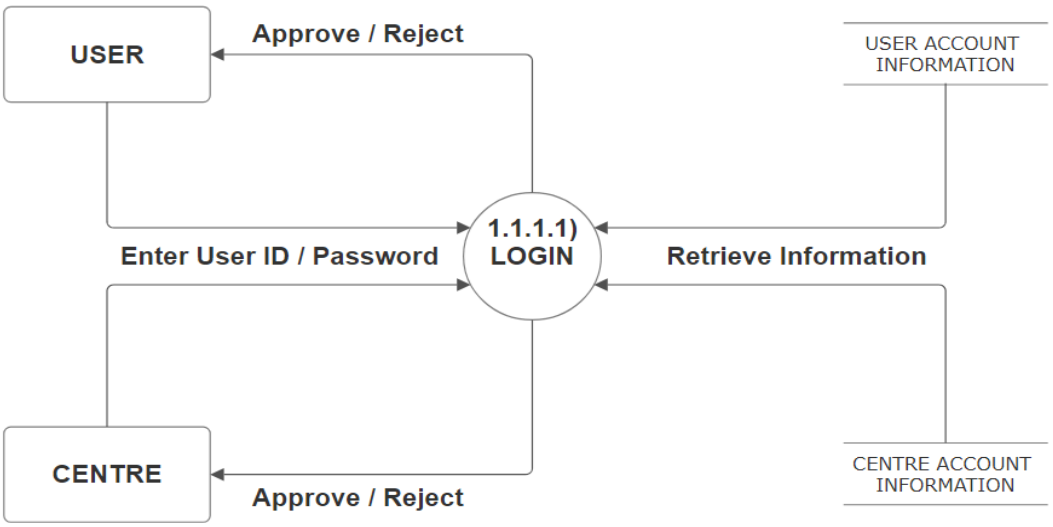

Payment Gateway
Booking Details
Retrieve information
Update information
Booking /Rejection
Result
Redirect
User Account Information
1.1.3) User Profile Management
1.1.4) Booking Center
Retrieve Account Information
Create Account
Booking List
Profile
Updated Details
Retrieve Booking Data
User
Feedback /Report /Rating
Create Feedback
Add Record
Sorting Criteria
Details
1.1.1) Login/Sign up
Centers List
1.1.2) View Centers
Feedback Information
Booking Information
Create Report Entry
Retrieve feedbacks
Retrieve booking information
Status Updation
Details
Sorting Criteria
Center
Return feedback list
1.2.1) Feedback Management
1.2.2) Booking Management
Details
Retrieve Account Information
Report message
Return booking list
Create Account
Creation/Updation details
1.2.4) Manage Doctors
Updation details
Return doctor list
Center Account Information
Center Details
Retrieve Profile
1.2.3) Centre Profile Management
Creation/ Updation Record
Retrieve doctor information
Updation of details
Doctor information
Retrieve data

8.4) Level 3

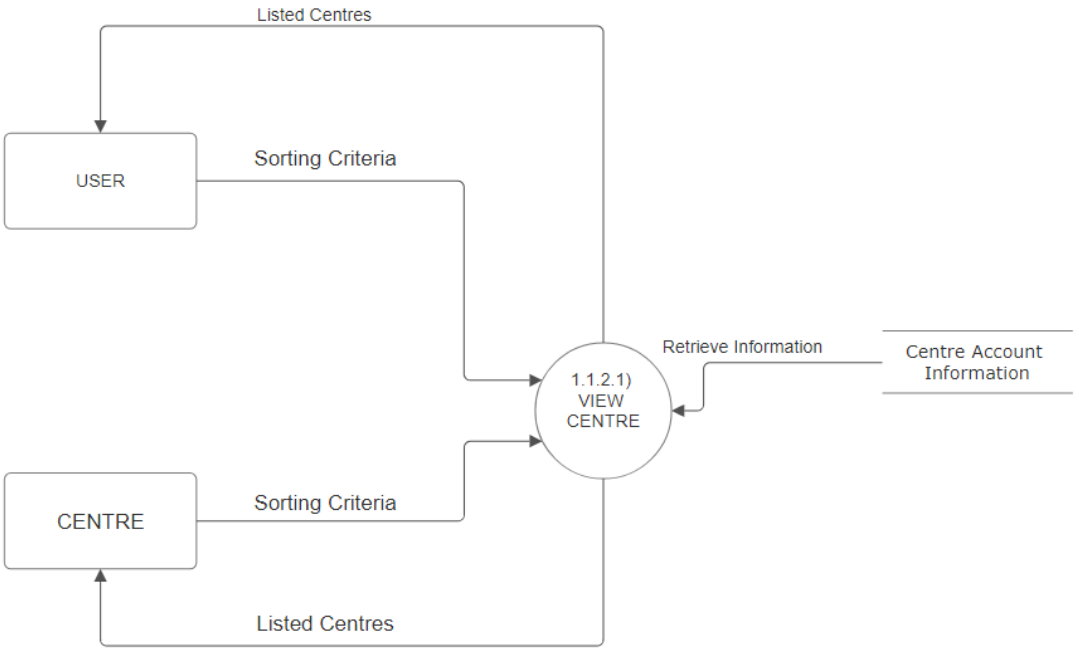
8.4.1) Signup



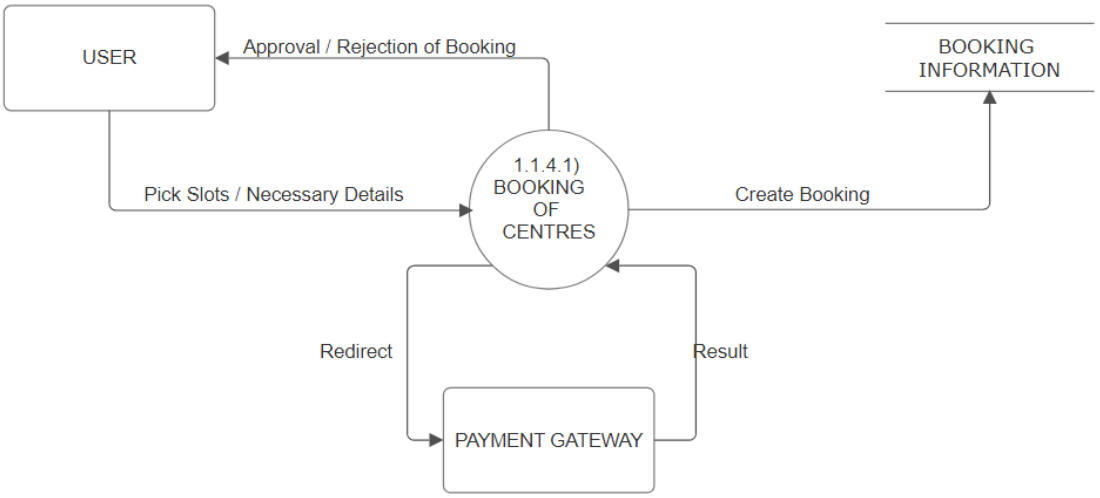
8.4.2) Login



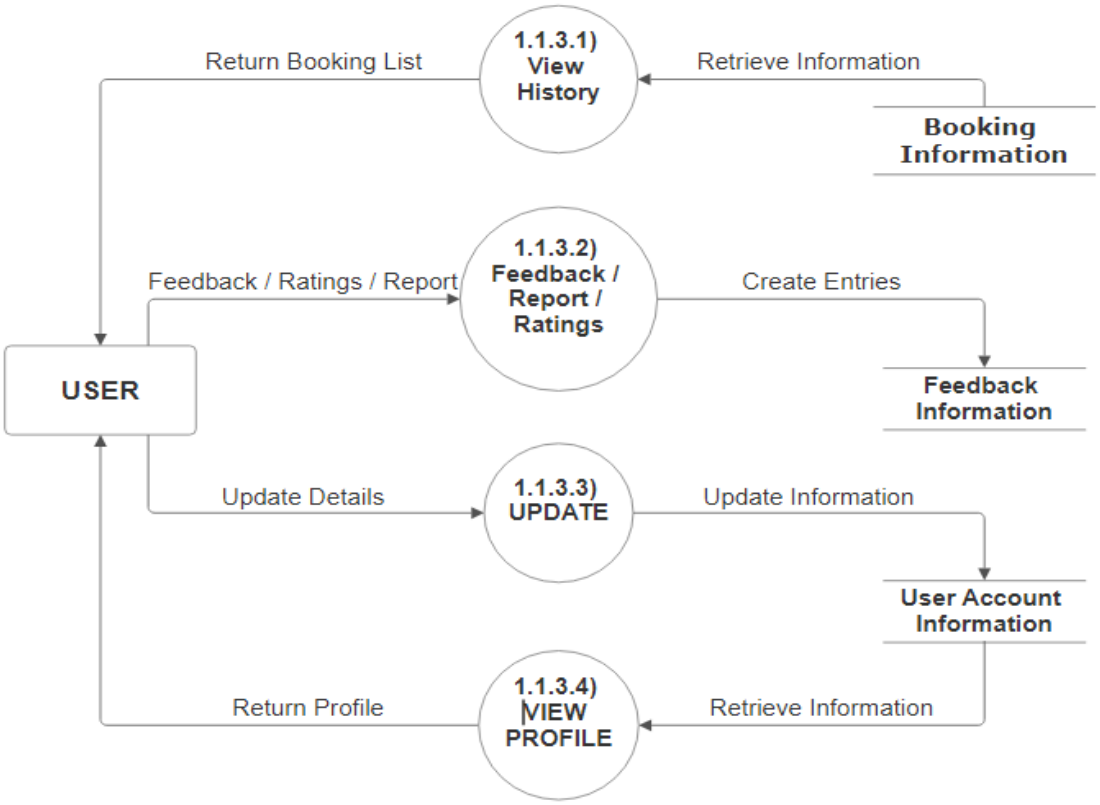
8.4.3) View Centre



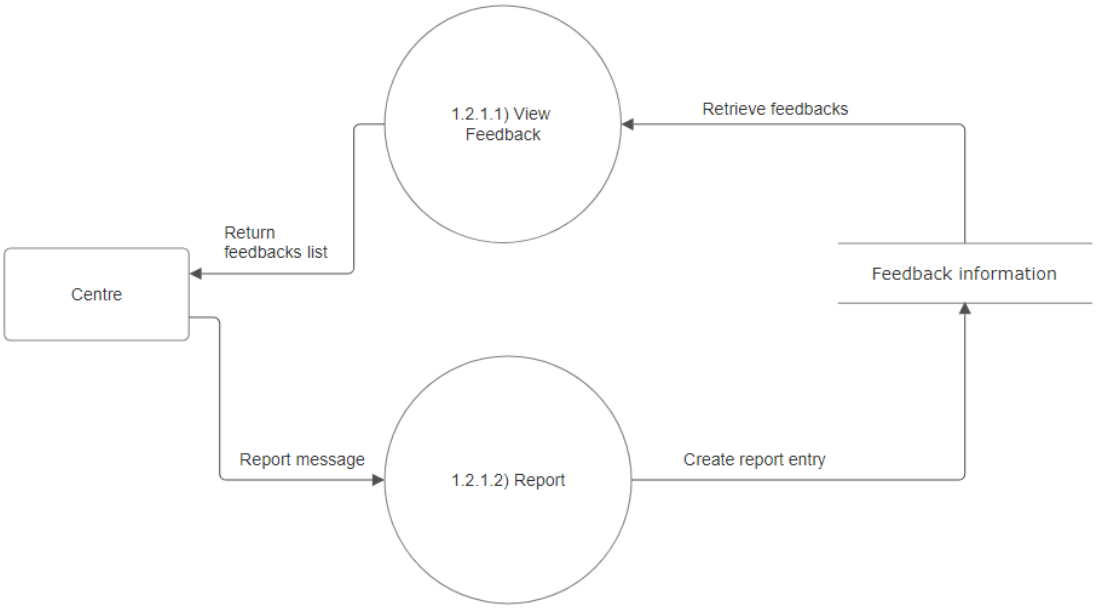
8.4.4) Book Centre



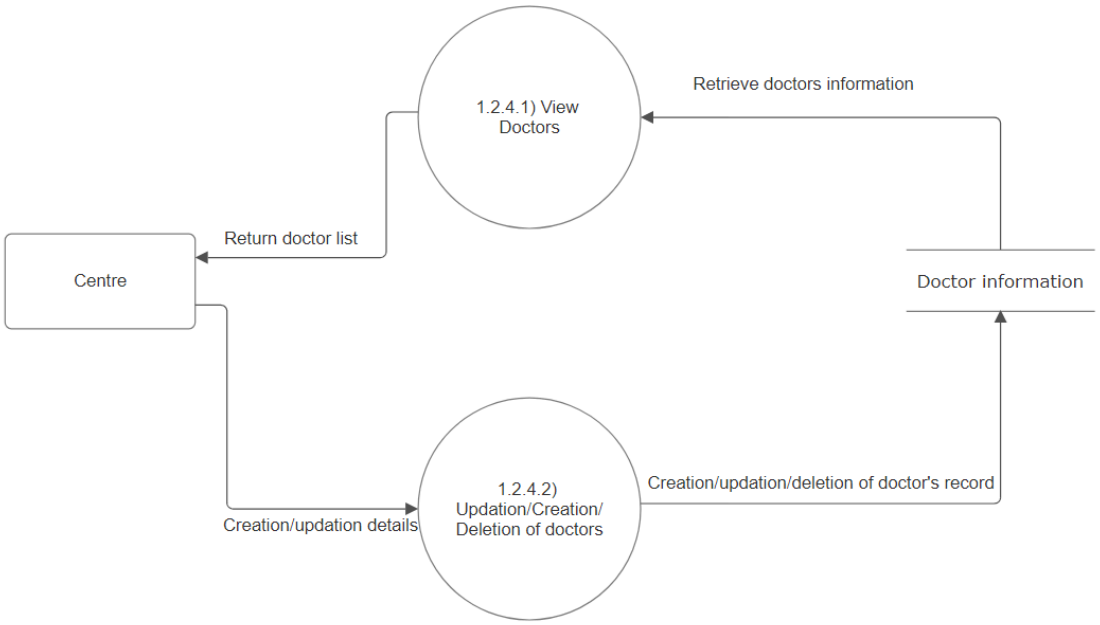
8.4.5) User Profile Management



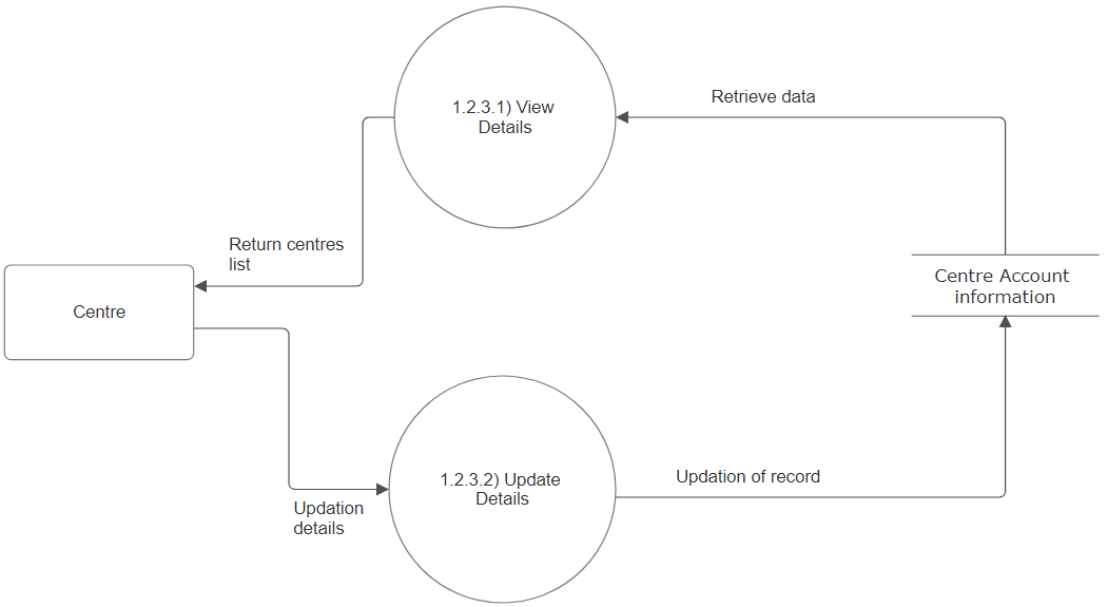
8.4.6) Feedback/Report for Centre



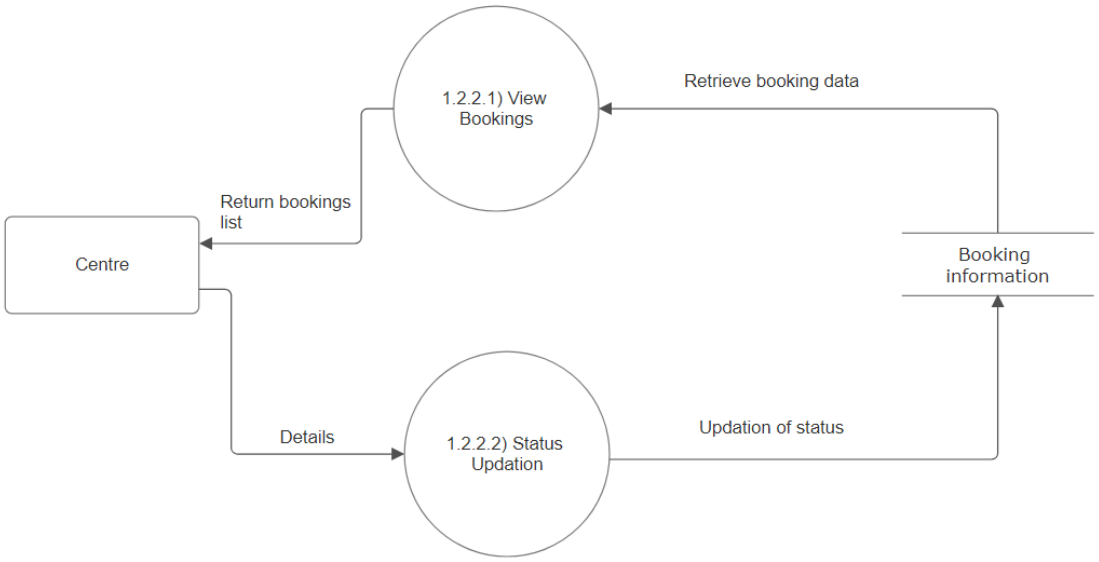
8.4.7) Doctor Management



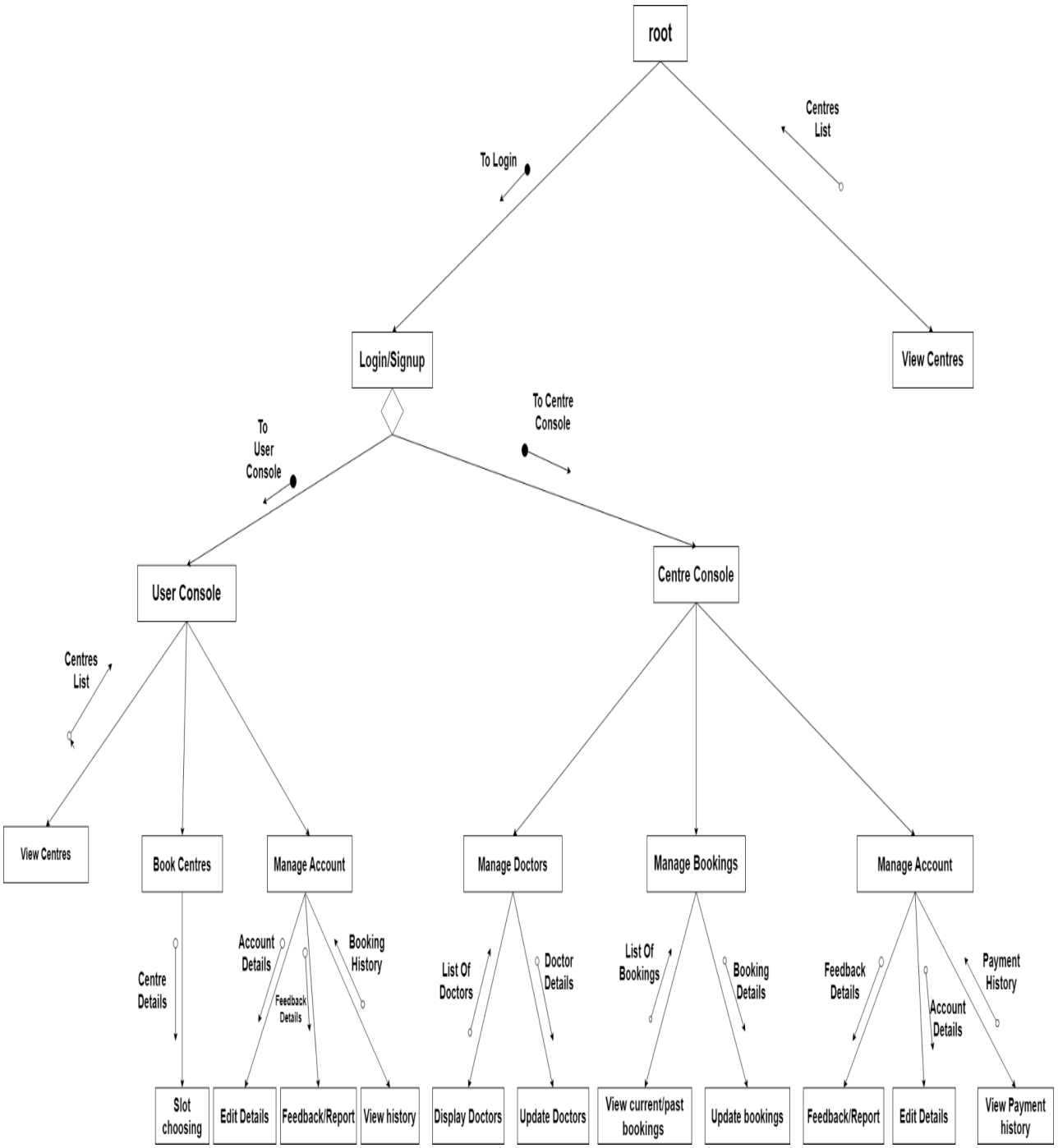
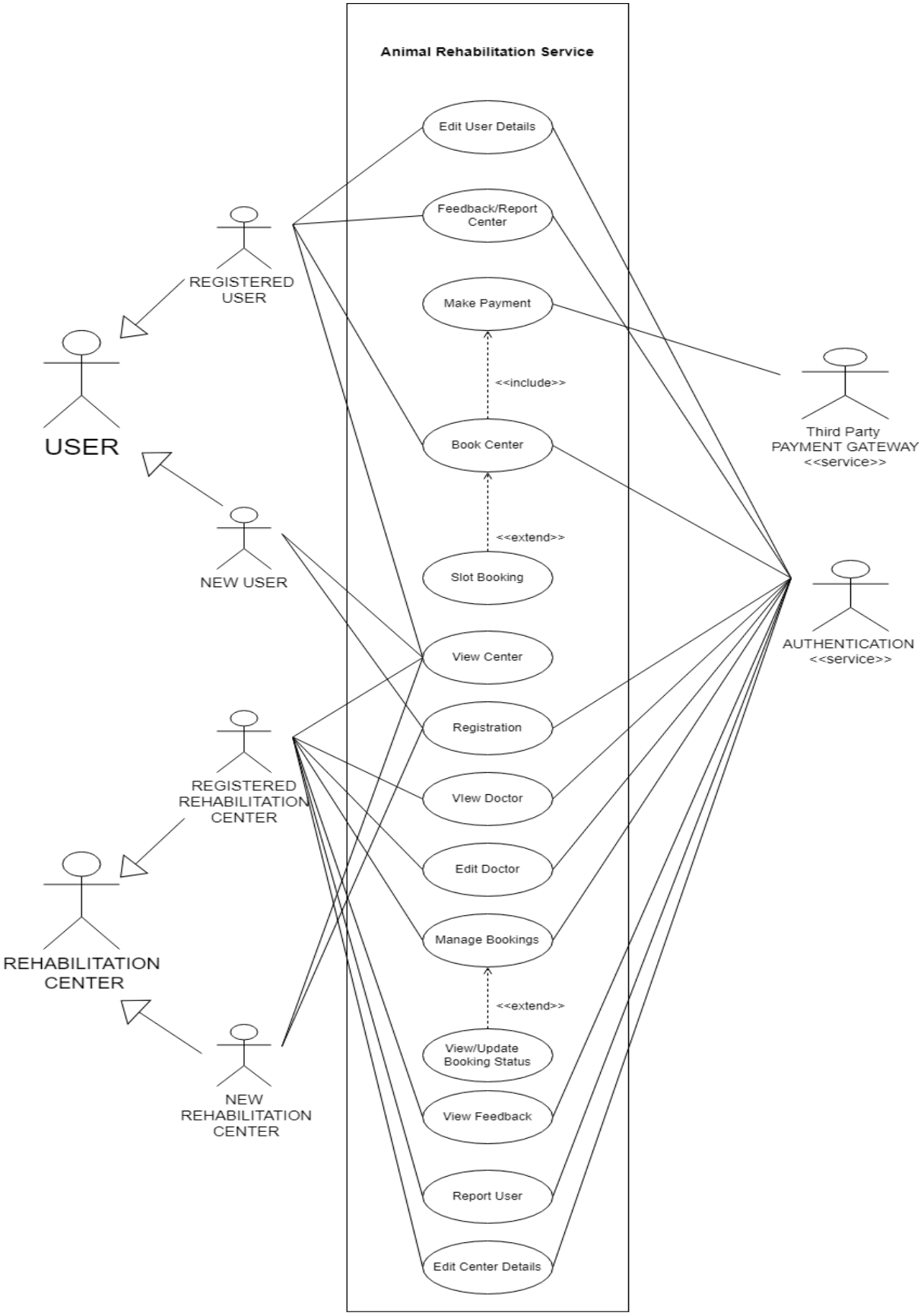
8.4.8) Centre Profile Management



8.4.9) Manage Bookings



9) Structure Chart



10) Use Case UML Diagram