Functional Requirements

1. Register and Login Functionality

- **Description**: Allow users to create accounts securely (register) and log in with secure authentication to access personalized features.

2. Multi-Disease Prediction

- **Description**: The system should allow users to input health data and predict multiple diseases based on this input.

3. User Profile and History Tracking

- **Description**: Users can create accounts and track their past predictions and health insights over time.

4. Input Validation

- **Description**: Real-time validation of user inputs to ensure accuracy and reliability of data used for predictions.

5. Risk Level Classification

- **Description**: Classify prediction outcomes into risk levels (Low, Medium, High) for easier interpretation of results.

6. Result Visualization

- **Description**: Present prediction results through visual formats such as charts and graphs, enhancing result comprehension.

7. Health Tips Based on Results

- **Description**: Provide personalized health advice and prevention tips based on each user's prediction results.

8. Health Report Download

- **Description**: Enable users to download their prediction results as a PDF report for offline reference or sharing.

9. Educational Content

- **Description**: Offer comprehensive disease information, including causes, symptoms, and prevention methods to educate users.

10. Notify Relatives

- **Description**: Send notifications to users or designated family members via email if health parameters indicate potential risks.

11. Doctor Subscription

- **Description**: Collaborate with doctors through a subscription model to share diagnostic services and earn commissions on patient referrals.

12. Doctor Collaboration and Reviews

- **Description**: Allow users to upload results for a second opinion from certified doctors, creating a small community for expert reviews.

13. Stripe Payment Gateway

- **Description**: Integrate the Stripe payment gateway to facilitate secure and efficient payment processing.

Non-Functional Requirements

1. Data Privacy and Security

- **Description**: Protect user data by collecting explicit consent before submission, encrypting stored data, using secure data transmission, and enforcing role-based access controls.

2. Scalability

- **Description**: Design the system to handle an increasing number of users and predictions smoothly, without performance degradation.

3. Performance

- **Description**: Ensure the system responds to user inputs and provides predictions within an acceptable timeframe (e.g., under 2 seconds).

4. Reliability

- **Description**: Maintain high availability, with minimal downtime, ensuring the system is consistently accessible to users.

5. Usability

- **Description**: Design a user-friendly interface that is intuitive to navigate, with clear and concise instructions for ease of use.

6. Responsiveness

- **Description**: Ensure the website is fully responsive, optimized for both desktop and mobile devices for a seamless user experience.

7. Maintainability

- **Description**: Develop a well-structured and documented codebase, facilitating easy maintenance, debugging, and future updates.

8. Error Handling and Reporting

- **Description**: Implement robust error handling to gracefully manage issues and log them for future analysis and resolution.

9. Modularity

- **Description**: Design the system in a modular fashion, allowing easy updates or additions of new features, such as integrating a new disease model.