# Software Requirements Specification (SRS) Document

## SheCare Website

# 1. Introduction:

## Purpose

SheCare is an AI-powered women’s health and wellness web application designed to provide personalized insights, health tracking, and virtual gynecological assistance. The system aims to offer AI-based menstrual and fertility insights, digital health twins, and an emergency AI SOS system for enhanced women’s healthcare.

## Document Conventions

This document follows the IEEE 830 standard for Software Requirements Specification.

## Intended Audience and Reading Suggestions

• Developers: For implementing system features.  
• Project Managers: For overseeing project progress.  
• Testers: For validating system functionality.  
• Stakeholders: For understanding project goals and scope.

## Project Scope

SheCare aims to integrate AI-powered women’s health and wellness features into a single web platform. The website will provide:  
• AI-powered menstrual and fertility tracking.  
• Digital Twin for personalized health insights.  
• AI-driven fertility planner and health recommendations.  
• Emergency AI SOS with smart vitals.  
• A virtual AI gynecologist chatbot.  
• Secure data storage using MySQL.

# 2. Overall Description

## Product Perspective

SheCare is a web-based system developed using FastAPI (backend), MySQL (database), AI algorithms (Scikit-learn, PyTorch), and HTML/CSS/JavaScript (frontend).

## Product Functions

• User Registration & Login: Secure authentication using email/password.  
• Menstrual & Fertility Tracking: AI predictions for ovulation and menstrual cycles.  
• AI-Powered Conception Planner: Suggests best conception days.  
• Emergency AI SOS: Real-time health alerts based on vitals.  
• Virtual AI Gynecologist: Provides AI-based health consultations.  
• Health Data Dashboard: Displays user insights and predictions.

## User Characteristics

• Women of all age groups looking for reproductive health support.  
• Healthcare professionals seeking AI-powered insights.  
• Individuals interested in fertility planning and wellness.

## Constraints

• The system must be accessible via web browsers.  
• Data privacy and security must be ensured using encryption.  
• Integration with AI models for predictive analytics.  
• The system should handle multiple concurrent users efficiently.

## Assumptions and Dependencies

• Users have internet access and a compatible browser.  
• The AI algorithms depend on user-provided health data.  
• Third-party APIs (e.g., health monitoring devices) may be required.

# 3. Specific Requirements

## 3.1 Functional Requirements

|  |  |
| --- | --- |
| Feature | Description |
| User Authentication | Users can register, log in, and manage their profiles with secure password storage. |
| Menstrual & Fertility Tracking | Users can log menstrual cycles and symptoms; AI predicts ovulation and fertility windows. |
| AI-Powered Conception Planner | Analyzes user health data for best conception days and provides lifestyle recommendations. |
| Emergency AI SOS | Monitors vital signs (heart rate, BP, etc.) and sends emergency alerts. |
| AI-Powered Virtual Gynecologist | Provides AI-driven answers to health-related questions and offers personalized health insights. |
| Data Analytics & Visualization | Users can view cycle trends and AI-generated predictions with interactive reports. |

## Non-Functional Requirements

• Security: Implement end-to-end encryption for sensitive data.  
• Performance: The system should respond within 2 seconds under normal load.  
• Scalability: The architecture should support 10,000+ concurrent users.  
• Usability: The UI should be user-friendly and accessible.  
• Reliability: The system should have 99.9% uptime.

# 4. External Interface Requirements

## User Interfaces

• Web-based UI with a dashboard, interactive graphs, and chat interface.  
• Mobile responsiveness for seamless access on various devices.

## Hardware Interfaces

• The system should support integration with wearable health devices.

## Software Interfaces

• Backend: FastAPI with MySQL database.  
• Frontend: HTML, CSS, JavaScript.  
• AI Models: Scikit-learn, PyTorch, TensorFlow.

## Communication Interfaces

• HTTPS protocol for secure data transmission.  
• APIs for AI model integration and third-party services.

# 5. Appendices

• Technologies Used: Python, FastAPI, MySQL, AI/ML frameworks.  
• Regulatory Compliance: HIPAA compliance for health data security.

# 6. Conclusion

This SRS document defines the functional and non-functional requirements for SheCare, ensuring the successful development of an AI-powered women’s health platform.