Software Requirements Specification

for

PREGNANCY ASSISTANCE APP

Version 1.0 approved

Prepared by

MADHAV VIJAYAN

PRITHVIRAJ V NAIR

RON SIBY

SHARON SUNNY

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Revision History

Name	Date	Reason For Changes	Version

1. Introduction

1.1 Purpose

The purpose of this document is to outline the requirements for the development of a pregnancy assistance app, designed to provide support and information to expecting mothers and families throughout the prenatal, antenatal, and postpartum periods.

1.2 Product Scope

The app will offer a range of features including prenatal care tracking, symptom monitoring, nutrition guidance, exercise recommendations, baby development tracking, community support, medical resources, appointment reminders, labor and delivery preparation, postpartum support, customizable profiles, privacy and security measures, integration with wearable devices, multilingual support, and feedback mechanisms.

1.3 Intended Audience and Reading Suggestions

This document is intended for the development team, project stakeholders, including but not limited to product managers, designers, developers, testers, and any other personnel involved in the development, testing, and deployment of the pregnancy assistance app. Additionally, healthcare professionals, obstetricians, and potential users may also refer to this document to understand the functionality and features of the app.

1.4 Document Conventions

- **Requirements Identifier:** Each requirement is identified by a unique identifier for easy reference and tracking.
- **Priority:** Requirements are categorized based on priority levels such as "Must-have," "Should-have," and "Nice-to-have."
- **Dependency:** Any dependencies between requirements are clearly indicated.
- **Assumptions:** Assumptions made during the requirement gathering process are documented for reference.

1.5 References

- List any external documents, standards, or resources referenced during the creation of this SRS, such as medical guidelines, regulatory requirements, or industry best practices.

2. Overall Description

2.1 Product Perspective

The Pregnancy Assistance App is a standalone mobile application designed to provide comprehensive support and guidance to expecting mothers and families throughout the various stages of pregnancy, childbirth, and postpartum recovery. The app itself operates independently, offering a centralized platform for users to access valuable resources and tools.

2.2 Product Features

The app offers a wide range of features to cater to the diverse needs of expecting mothers and families:

- **Prenatal Care Tracking:** Users can log prenatal appointments, tests, and milestones, with the app providing reminders for upcoming events.
- **Symptom Tracker:** Users can monitor and log symptoms, receiving relevant information and advice based on their reported symptoms.
- **Nutrition Guidance:** Tailored nutritional advice and meal plans are provided for each stage of pregnancy.
- **Exercise Recommendations:** Safe exercise routines and tips for staying active during pregnancy are offered.
- **Baby Development Tracking:** Information on fetal development and baby milestones is provided, allowing users to track their baby's growth.
- **Community Support:** Users can connect with other expectant mothers for support and advice through forums and chat features.
- **Medical Resources:** Access to trusted medical resources and articles on pregnancy-related topics is available.
- **Appointment Reminders:** Reminders for prenatal appointments, tests, and important dates are sent to users.
- **Labor and Delivery Preparation:** Information and resources to prepare for labor and delivery, including birth plans, are provided.
- **Postpartum Support:** Resources for postpartum recovery, newborn care, and breastfeeding support are available.
- **Customizable Profiles:** Users can create profiles with personal information and preferences.
- **Privacy and Security:** User data is kept confidential and secure, complying with relevant privacy regulations.

- **Multilingual Support:** The app supports multiple languages to reach a broader audience.
- **Feedback Mechanism:** Users can provide feedback and suggestions for improving the app.

2.3 User Classes and Characteristics

The primary users of the app include expecting mothers, their partners, and family members seeking support and information during pregnancy. These users may vary in age, cultural background, and technological proficiency. Additionally, healthcare professionals such as obstetricians and midwives may also use the app as a supplementary resource for patient education and support.

2.4 Operating Environment

The app operates in a web-based environment accessible via standard web browsers. It utilizes a secure server infrastructure to ensure data integrity and confidentiality. The database is hosted on a Microsoft Windows Server running MySQL, accessible only to authorized users within the designated network

2.5 Design and Implementation Constraints

Key constraints include:
- **Database:** The database must support internal queries and be easily modifiable for future upgrades or modifications.
- **Application:** The web application must support all planned features and adhere to security standards for web-based systems

2.6 User Documentation

User documentation includes:
- **Database:** Documentation on the database schema and setup guide for running database scripts.
- **Application:** Tutorial documentation with step-by-step instructions, screenshots, and tooltips to educate users on app functionality and best practices.

2.7 Assumptions and Dependencies

Assumptions and dependencies include:
- **Database:** Reliance on Microsoft Windows OS for SQL functionality.
- **Application:** Dependency on Local Area Network and internet connectivity for app   functionality.

This overall description provides an overview of the Home, Furniture, and Apartment Rental App, detailing its functions, user classes, operating environment, constraints, documentation, and dependencies.

3. External Interface Requirements

3.1 User Interfaces

The Pregnancy Assistance App will have user-friendly interfaces for seamless interaction with users. The following are specific requirements related to user interfaces:

- The app shall have a visually appealing and easy-to-navigate interface for Android platforms.
- User interface elements such as buttons, menus, and forms shall adhere to platform-specific design guidelines.
- The app shall support various screen sizes and orientations to ensure compatibility with a wide range of mobile devices.

3.2 Hardware Interfaces

An internet connection to allow the browser software interfaces to connect to the internet to access the files of the website.

The application requires an internet connection for browser access and server-class computers for server-side components. Workstation-class and personal-class computers are suitable for client-side components

3.3 Software Interfaces

- Name: Google Chrome
  Mnemonic: Chrome
  Version number: 6
  Source: google.com/chrome
  Purpose: To allow remote access of the website and downloading of files via the internet.
- Name: Opera
  Mnemonic: Opera
  Version number: 10.62
  Source: opera.com
  Purpose: To allow remote access of the website and downloading of files via the internet.
- Name: Microsoft Internet Explorer
  Mnemonic: IE
  Specification number IE7, IE8
  Version number: 7.0, 8.0
  Source: Microsoft.com

Purpose: To allow remote access of the website and downloading of files via the internet

3.4 Communication Interfaces

- Internet Protocol (IP) will be used for communication interfaces, ensuring secure data transfer and synchronization mechanisms.
- Ethernet communications interface – Ethernet is a frame – based computer network technology for local area networks(LANs)
- Ubiquitous, easy to set up and easy to use. Low cost and high data transmission rates.

4. System Features

4.1 User Registration and Authentication
- Users can register using email or social media accounts.
- Secure authentication mechanisms for user login.

4.2 Community and Support
- Forum or community feature for users to connect and share experiences.
- Access to expert advice and support groups.

4.3 Postpartum Support
- Information and resources for postpartum care.
- Support for breastfeeding and newborn care.

4.4 Privacy and Security
- Ensure the highest standards of privacy and security for user data.
- Compliance with healthcare data protection regulations.

4.5 Hospital Suggestions
- **Nearby Hospital Locator:** Integration with mapping services to suggest nearby hospitals and healthcare facilities.
- **User Reviews:** Allow users to read and leave reviews about hospitals and maternity care services.
- **Filtering Options:** Enable users to filter hospital suggestions based on specific criteria (e.g., maternity services, NICU facilities, etc.).

4.6 Emergency Contacts
- A dedicated button or gesture is giving for an emergency contact

- Integration with emergency services locator for quick access during emergencies.

4.7 Push Notifications
- Reminders for taking prenatal vitamins.
- Notifications for important milestones in fetal development.
- Alerts for upcoming prenatal classes or workshops.
- Gentle reminders for hydration and self-care.

4.8 Virtual Consultation Feature
- Integration with healthcare professionals for virtual consultations.
- Secure video calls for discussing pregnancy-related concerns.
- In-app scheduling system for booking virtual appointments.

4.9 Appointment Scheduling
- **Calendar Integration:** Sync with the user's calendar for easy scheduling and reminders.
- **Real-Time Availability:** Display healthcare professionals' real-time availability for appointments.

4.10 Pregnancy Tracking:
- **Medical History Logging:** Users can record and track their medical history, including previous pregnancies, medical conditions, and medications.
- **Symptom Tracking:** Allows users to log and track pregnancy-related symptoms and discomforts.

5 Other Non-Functional Requirements

5.1 Performance Requirements

- **Responsiveness:** The app should respond promptly to user interactions without noticeable delays.

- **Scalability:** Design the app to handle increasing numbers of users and data without significant degradation in performance.

- **Offline capabilities:** Provide offline access to essential features and data, allowing users to use the app even when they have limited or no internet connectivity.

5.2 Security Requirements

- **Data encryption:** Ensure that sensitive user data, such as personal health

information, is encrypted both in transit and at rest.

- **User authentication:** Implement secure authentication mechanisms, such as biometric authentication or two-factor authentication, to prevent unauthorized access to the app.

- **Compliance:** Ensure compliance with relevant data protection regulations, such as HIPAA (Health Insurance Portability and Accountability Act) in the United States or GDPR (General Data Protection Regulation) in the European Alliance

5.3 Usability

- **Intuitive user interface:** The app should have a user-friendly interface that is easy to navigate, especially for pregnant women who may experience fatigue or discomfort.

- **Accessibility:** Ensure that the app is accessible to users with disabilities, such as vision impairments or motor limitations.

5.4 Reliability

- **Stability:** The app should be stable and perform reliably without frequent crashes or errors.

- **Data integrity:** Ensure that user data is stored securely and is not vulnerable to loss or corruption.

- **Backup and recovery:** Implement mechanisms for regular data backups and provide a way for users to recover their data in case of device failure or loss.

5.5 Compatibility

- **Device compatibility:** Ensure that the app is compatible with a wide range of devices, including smartphones and tablets, running different operating systems (iOS, Android, etc.).

- **Cross-browser compatibility:** If the app includes a web component, ensure compatibility with popular web browsers such as Chrome, Safari, Firefox, and Edge.

5.6 Maintainability

- **Modular design:** Design the app with a modular architecture that makes it easy to update and maintain.

- **Code documentation:** Document the codebase to facilitate future maintenance and troubleshooting.

- **Version control:** Use version control systems such as Git to manage changes to

the app's codebase and track revisions over time.

6. Other Requirements

6.1 Educational Content

- **Reliable information:** Provide accurate and up-to-scheduled meeting information on pregnancy, childbirth, postnatal care, and related topics.

- **Multimedia content:** Include videos, articles, infographics, and interactive tools to educate users about various aspects of pregnancy and parenting.

- **Expert advice:** Offer insights from healthcare professionals, including obstetricians, pediatricians, and nutritionists, to address common concerns and questions.

6.2 Community Engagement

- **Forums and support groups:** Facilitate online communities where users can connect with other expecting parents, share experiences, and seek advice.

- **Peer support:** Enable users to communicate with others at similar stages of pregnancy, fostering a sense of camaraderie and mutual support.

- **Moderation:** Implement moderation tools to ensure that community discussions remain respectful, supportive, and free from harmful or inappropriate content.

6.3 Personalization and Customization

- **Personalized recommendations:** Offer personalized tips, reminders, and recommendations based on the user's stage of pregnancy, health profile, and preferences.

- **Customizable settings:** Allow users to customize their app experience, such as setting reminders for prenatal appointments, tracking symptoms, and receiving relevant notifications.

6.4 Integration with Healthcare Providers

- **Appointment scheduling:** Enable users to schedule appointments with healthcare providers directly through the app and receive reminders.

- **Electronic health records (EHR) integration:** Integrate with electronic health record systems to allow users to access their medical records and share relevant information with healthcare professionals.

6.5 Privacy and Confidentiality

- **Data anonymization:** Protect user privacy by anonymizing sensitive information

and ensuring that personally identifiable data is handled securely.

6.6 Feedback and Continuous Improvement

- **User feedback mechanisms:** Solicit feedback from users through surveys, ratings, and reviews to identify areas for improvement and prioritize feature enhancements.

- **Iterative development:** Adopt an iterative development approach to continuously update and refine the app based on user feedback, emerging trends, and advances in healthcare technology.

7. Appendix A: Glossary

<Define all the terms necessary to properly interpret the SRS, including acronyms and abbreviations. You may wish to build a separate glossary that spans multiple projects or the entire organization, and just include terms specific to a single project in each SRS.>

Appendix B: Analysis Models

<Optionally, include any pertinent analysis models, such as data flow diagrams, class diagrams, state-transition diagrams, or entity-relationship diagrams.>

Appendix C: To Be Determined List

<Collect a numbered list of the TBD (to be determined) references that remain in the SRS so they can be tracked to closure.>