Software Requirements Specification (SRS) for

Smart Calendar

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Software Requirements Specification (SRS) for Smart Calendar

1. Introduction

1.1 Purpose

The purpose of this Software Requirements Specification (SRS) document is to define the functional and non-functional requirements for the development of a Smart Calendar system. The system is designed to enhance personal and professional time management by integrating intelligent features such as smart reminders, voice assistance, and event planning. It aims to provide users with an intuitive platform to organize their schedules effectively, improve productivity, and ensure better planning.

1.2 Document Conventions

This document follows the conventions of the IEEE SRS template , including structured sectioning, numbering, and formatting.

1.3 Intended Audience and Reading Suggestions

This document is intended for stakeholders such as end-users, project managers, software developers, designers, and quality assurance teams involved in the development and implementation of the Smart Calendar system.

1.4 Project Scope

The Smart Calendar system aims to assist users in managing their time by offering features like event creation, intelligent reminders, time analytics, and voice assistance. The system will integrate with external services like weather forecasting and support a customizable user interface for enhanced user experience.

1.5 References

- IEEE Std 830-1998, IEEE Recommended Practice for Software Requirements Specifications
- Calendar Application Design Guidelines - https://iq.opengenus.org/calendar-application-in-java/

2. Overall Description

2.1 Product Perspective

The Smart Calendar system is an advanced time management tool that leverages AI, cloud computing, and mobile integration. It will interact seamlessly with third-party APIs for weather forecasting, provide secure data storage options, and integrate with devices for alarm and clock functionalities.

2.2 Product Features

- **Calendar Dashboard:** Centralized view of all schedules, events, and reminders.
- **Easy Event Creation:** Quick and user-friendly event setup with customizable options.
- **Smart Reminders and Notifications:** AI-driven reminders based on event priority and proximity.
- **Smart Search and Filters:** Advanced filtering options for locating events or tasks.
- **Secure Local Backup:** Data encryption and local backup features for enhanced security.
- **Smart Planning with Weather Forecasting:** Integration of weather updates for better planning.
- **Voice-Assisted Guiding Companion:** Voice commands for event management and navigation.
- **Alarm and Clock Integration:** Synchronization with alarms and time-tracking devices.
- **Time Spent Analysis:** Insights into time usage patterns for productivity improvements.
- **Customizable UI:** Personalization of themes and layouts to suit user preferences.
- **Review and Feedback Collection:** Mechanisms for users to provide feedback and rate the system.
- **Luck Deciphering:** users can know their lucky object and lucky color of the day.
- **Location planning:** select location for an event and find the best route.
- **Financial Analysis:** analyze the financial expenses done by the user over a period of time

2.3 User Classes and Characteristics

- **Individual Users:** People managing personal or professional schedules.
- **Teams and Organizations:** Groups requiring collaborative scheduling and event planning.
- **Developers and Administrators:** Personnel maintaining, updating, and supporting the system.

2.4 Operating Environment

The system will be accessible on various platforms, including web browsers, Android, and iOS devices. It requires reliable internet connectivity for synchronization with external services and a secure local backup mechanism.

2.5 Design and Implementation Constraints

- Compliance with privacy regulations such as GDPR.
- Integration with third-party APIs for weather updates and voice assistance.

2.6 User Documentation

Comprehensive user manuals, FAQs, and online tutorials will be provided to ensure smooth adoption of the system.

2.7 Assumptions and Dependencies

- Users will have access to internet-enabled devices.
- Availability of APIs for weather forecasting and voice assistance.

3. System Features

3.1 Calendar Dashboard

- Centralized view of daily, weekly, and monthly schedules.
- Color-coded events and reminders for better visualization.

3.2 Easy Event Creation

- Predefined templates for recurring events.
- Options to attach files or notes to events.

3.3 Smart Reminders and Notifications

- Adaptive reminders based on user activity and location.
- Multi-channel notifications (email, SMS, push).

3.4 Smart Search and Filters

- Keyword search for events.
- Filters by date, category, or priority.

3.5 Secure Local Backup

- Encrypted local backups with automated scheduling.

3.6 Smart Planning with Weather Forecasting

- Integration with weather APIs for event planning.
- Alerts for weather-based event adjustments.

3.7 Voice-Assisted Guiding Companion

- Voice commands for event creation and navigation.
- Real-time responses to queries.

3.8 Alarm and Clock Integration

- Synchronization with alarms and world clocks.
- Customizable alarm tones for event reminders.

3.9 Time Spent Analysis

- Graphical reports of time spent on different activities.
- Suggestions for better time management.

3.10 Customizable UI

- Multiple themes and layout options.
- Drag-and-drop customization.

3.11 Review and Feedback Collection

- User feedback forms for continuous improvement.
- Analytics on user ratings and reviews.

3.12 Luck Deciphering

- Decipher user’s luck for the day.
- Get suggestions on your lucky object and color of the day

3.13 Location Planning

- Select location for an event and find the best route.
- Real-time integration with maps.

3.14 Financial Analysis

- Analyze the financial expenses done by the user over a period of time.
- Predict profit-loss for the user.

4. External Interface Requirements

4.1 User Interfaces

- Intuitive web and mobile interfaces.
- Voice interface for hands-free interaction.

4.2 Hardware Interfaces

- Integration with smartphones, smartwatches, and IoT devices.

4.3 Software Interfaces

- APIs for weather, voice assistance, and third-party integrations.
- Cloud and local storage systems for data management.

4.4 Communications Interfaces

- Secure communication protocols (HTTPS, SSL).
- Support for email and SMS services.

5. Other Non-functional Requirements

5.1 Performance Requirements

- Support up to 10,000 concurrent users with a response time of under 2 seconds.

5.2 Availability Requirements

- 99.9% uptime guarantee.

5.3 Security Requirements

- Multi-factor authentication for user accounts.
- Data encryption for sensitive information.

5.4 Reliability Requirements

- Regular system backups and failover mechanisms.

5.5 Usability Requirements

- Intuitive design with accessibility features for differently-abled users.

5.6 Scalability Requirements

- Scalability to support 1 million users over the next 5 years.

5.7 Maintainability

- Modular design for easier updates and maintenance.

6. Other Requirements

- Compliance with regional privacy and data protection laws.
- Periodic user surveys for feature enhancements.

Appendix A: Glossary

- **API:** Application Programming Interface
- **GDPR:** General Data Protection Regulation
- **UI:** User Interface

Appendix B: Analysis Models

- Use case diagrams
- Activity diagrams

Appendix C: Issues List

- Identified integration challenges
- Proposed resolutions for scalability concerns

Traceability Matrix

Requirement ID	Functional/Non-functional	Description
R1	Functional	Calendar dashboard feature
R2	Functional	Smart reminders and notifications
R3	Non-functional	99.9% uptime guarantee
R4	Non-functional	Support for up to 10,000 concurrent users