

Appointment Booking System – Project Specification

Version: 1.0.0

Status: Production Ready

Last Updated: February 2026

1. Executive Summary

The Appointment Booking Application is a dual-interface platform (User and Provider) developed to streamline the scheduling of professional consultations. Built on the Flutter framework with a PHP/MySQL backend, the system features real-time status tracking, automated meeting ID generation, and secure Google OAuth 2.0 authentication.

2. Core Functional Requirements

User Interface (Client-Side):

- Secure login via Google Sign-In
- Browse verified providers and services
- Book appointments using date/time selection
- Track appointment status and cancel if needed
- Access meeting IDs for approved bookings

Provider Interface (Consultant-Side):

- Dashboard to manage booking requests
- Accept or reject requests
- Automatic meeting ID generation
- Email notifications and real-time updates

3. Technical Stack

Layer	Technology
Frontend	Flutter (Dart)
Backend	PHP 7.4+ (RESTful API)
Database	MySQL 5.7+
Web Server	Apache (XAMPP)
Authentication	Google OAuth 2.0
State Management	StatefulWidget
Storage	SharedPreferences

4. Security & Performance Optimization

Security includes token-based authentication, prepared statements to prevent SQL injection, input validation to prevent XSS, and role-based access control middleware. Performance optimization includes database indexing, efficient queries, lazy loading, and caching techniques.

5. Development Roadmap

Completed features include Google OAuth integration, appointment lifecycle management, role-based dashboards, and responsive UI. Future enhancements include chat, video calls, payment integration, rating systems, and reminders.

6. Quality Assurance

The system has been manually tested for authentication, edge cases, concurrency, and performance to ensure reliability.