Software Requirements Specification

Project Title: Event Management and Ticketing System

1. Introduction

1.1 Purpose

The purpose of this document is to specify the software requirements for the Event Management and Ticketing System. This system aims to provide a seamless platform for event organizers to manage events, sell tickets online, track attendee data, and generate analytical reports.

1.2 Scope

The system will be a web-based platform that supports the creation, management, and promotion of events, ticketing, attendee registration and check-ins, as well as analytics dashboards. It will serve both event organizers and attendees while ensuring secure payment and notification integration.

1.3 Overview

This document outlines the functional and non-functional requirements, performance and user interface requirements, schedule and budget estimates, and supporting information for system development. It provides a basis for design and development teams to build a scalable and maintainable software solution.

2. General Description

2.1 Functions

The key functionalities include:

- Event creation and management
- Online ticket sales and seat selection
- Attendee registration and check-in using QR code scanning
- Dashboard and analytics for event performance
- Secure login and role-based access control
- Integration with payment and notification systems

2.2 User Community

User Class	Description
Event Organizer	Manages events, reviews analytics, sets ticketing options
Attendee	Buys tickets, checks event details, and receives notifications

System Administrator	Manages user roles, monitors system health, and ensures smooth operations

3. Functional Requirements

3.1 Possible Outcomes

- Successful creation, update, and deletion of events
- Completion of ticket purchases with confirmation and seat allocation
- Attendee registration with QR-based check-in
- Generation of reports with accurate metrics

3.2 Ranked Order of Features

1. Ticket Sales and Payment Integration
2. Event Creation and Management
3. Attendee Registration and Check-in
4. Analytics and Reporting
5. User Authentication and Role Management
6. Notification System Integration

3.3 Input-Output Relationships

Input	Output
Event details (date, venue, type)	Event created and listed for sale
Ticket selection and payment details	Ticket confirmation and receipt
Attendee scan (QR code)	Check-in status update
Organizer analytics request	Reports on sales, attendance, and revenue

4. User Interface Requirements

4.1 Software Interfaces

- Web Browsers: Chrome, Firefox, Safari, Edge
- Payment Gateway APIs: Razorpay, Stripe, PayPal
- SMS/Email APIs: Twilio, SendGrid
- Database Systems: MySQL, PostgreSQL, MongoDB

4.2 UI Examples

- Dashboard: Visual cards for ticket sales and check-ins
- Event Wizard: Step-by-step UI with progress indicators
- Ticket Checkout: Secure responsive selection and payment
- Admin Panel: User management with roles and permissions

5. Performance Requirements

5.1 Response Time

- Page loads: < 3 seconds
- Ticket check-in: < 1 second
- Report generation: < 5 seconds

5.2 Throughput
- Support 100 transactions per second during peak hours

5.3 Scalability
- Initial support for 1000 concurrent users with scale-up support via cloud

6. Non-Functional Attributes

6.1 Usability
- Intuitive, responsive UI
- Accessibility compliant (WCAG 2.1)

6.2 Reliability
- 99.9% uptime, automated backups, real-time error tracking

6.3 Security
- Role-based access control
- Encrypted data, GDPR compliance

7. Schedule and Budget

7.1 Timeline

Phase	Timeline
Requirements Gathering	Week 1–2
System Design	Week 3–4
Development (MVP)	Week 5–10
Testing and QA	Week 11–12
Deployment and Handover	Week 13
Post-deployment Support	Week 14–15

7.2 Cost Estimate
- Development: $15,000–$20,000
- APIs: $500–$1,000/year
- Hosting: $100/month
- Miscellaneous: $2,000

Total: $20,000–$25,000

8. Appendices

8.1 Supplementary Information
- QR scanning via mobile or third-party SDKs
- UI should support dark/light themes

8.2 Glossary

Term	Definition
MVP	Minimum Viable Product – the most basic version of the system with core features
GDPR	General Data Protection Regulation – data protection standard in the EU
UI/UX	User Interface/User Experience design
Throughput	The number of transactions processed per unit of time