

Event Ticket Platform Frontend

Overview

This is an enterprise-grade ticketing platform frontend, architected to rival industry leaders like Ticketmaster. Built with modern web technologies, it delivers a seamless, secure, and scalable experience for event discovery, ticket purchase, and event management.

Technology Stack

- **React 19:** Modern, component-based UI
 - **TypeScript:** Type safety across the codebase
 - **Vite:** Lightning-fast build tool and dev server
 - **React Router v6:** Advanced client-side routing
 - **Tailwind CSS:** Utility-first, responsive design
 - **Syncfusion UI Suite:** Enterprise-grade UI components (rich text editor, dropdowns, etc.)
 - **Swiper.js:** Touch-enabled carousels
 - **Lucide React & React Icons:** Modern iconography
 - **PayOS:** Embedded payment gateway integration
 - **ESLint + Prettier:** Automated code quality and formatting
-

Architecture & Best Practices

Modular, Feature-Based Structure

- **Pages:** Each feature (home, search, event, payment, profile) is a self-contained module
- **Components:** Reusable, atomic UI components (Navbar, Tooltip, EventCard, etc.)
- **Context:** Global state management for authentication and user session
- **Hooks:** Custom hooks for file preview, API integration, etc.
- **Types:** Centralized, type-safe data models

Context-Driven State Management

- **AuthContext:** Handles authentication, session restoration, and user state
- **Automatic session validation** on app load
- **Type-safe context** for robust state management

Advanced Routing

- **RESTful, parameterized routes** for events, tickets, payments, and profiles
- **Nested resource navigation** for a clean, scalable URL structure

API Integration

- **Type-safe API calls** with error handling
- **Cookie-based authentication** for secure sessions

- **Role-based access control**
-

UI/UX Excellence

Design System

- **Professional color palette** for brand consistency
- **Responsive grid layouts** for mobile-first design
- **Accessible components** (ARIA, keyboard navigation)
- **Interactive states** (hover, loading, error)

Component Highlights

- **Navbar**: Dynamic links based on authentication state
 - **Tooltip**: Custom, positionable tooltips for enhanced UX
 - **EventCard & TicketCard**: Consistent, visually appealing event/ticket displays
 - **FilterPanel**: Multi-dimensional filtering for event discovery
 - **OrderReceipt**: Professional, printable order summary
-

Core Features

1. Event Discovery & Search

- **Home page**: Special events carousel, upcoming events, trusted brands
- **Search page**: Real-time search, multi-dimensional filtering (category, location, price, date)
- **Event details**: Rich event info, images, organizer, and ticket classes

2. Ticket Purchase Flow

- **Visual seat selection**: Interactive venue map, real-time seat status
- **Multi-seat selection**: Add/remove seats, price calculation
- **Buyer info form**: Collects attendee details
- **Order summary**: Real-time updates, clear breakdown

3. Payment Integration

- **Embedded PayOS checkout**: No redirects, seamless experience
- **QR code fallback**: For digital ticket validation
- **Real-time payment status polling**: Automatic confirmation and error handling
- **Order receipt**: Downloadable, printable, and email-ready

4. Event Creation & Management

- **Multi-step wizard**: Event info, time/tickets, payment
- **Rich text editor**: Syncfusion for event descriptions
- **Image upload with preview**: Posters, covers, organizer logos
- **Draft saving**: Local storage for incomplete events
- **Form validation**: Real-time, step-based validation

5. User Profile & Order Management

- **Profile page:** View/update personal info
 - **Order history:** Track past purchases
 - **Role-based navigation:** Attendee/Organizer/Admin
-

Brilliant Design Decisions

- **Embedded payment flow:** Seamless, secure, and user-friendly
 - **Visual seat selection:** Interactive, real-time, and intuitive
 - **Multi-step wizards:** Simplifies complex forms
 - **Real-time polling:** Ensures up-to-date payment/order status
 - **Type-safe architecture:** Reduces bugs, improves maintainability
 - **Mobile-first design:** Fully responsive and touch-friendly
 - **Professional UI library:** Syncfusion for enterprise features
 - **Context-based state:** Clean separation of concerns
-

Security & Industrial Standards

- **HTTP-only cookies** for authentication
 - **Automatic token refresh**
 - **CSRF protection**
 - **Input validation and sanitization**
 - **Role-based access control**
 - **Comprehensive error handling**
-

Performance & Scalability

- **Vite:** Fast builds and HMR
 - **Code splitting & lazy loading**
 - **Optimized state updates with useMemo/useCallback**
 - **Efficient API calls and error boundaries**
 - **Modular, scalable folder structure**
-

Localization & Regionalization

- **Vietnamese payment gateway (PayOS)**
 - **Local address system (city/district/ward)**
 - **Currency formatting (VND)**
 - **Date/time localization**
-

Competitive Advantages

- **Enterprise-level features:** Event lifecycle, payment, ticketing, and management
- **Professional UI/UX:** Modern, accessible, and responsive

- **Scalable architecture:** Ready for growth and new features
 - **Security-first:** Meets industry standards for data protection
 - **Developer experience:** TypeScript, ESLint, Prettier, and Vite
-

Folder Structure (Key Highlights)

- `src/pages/` - Feature-based pages (home, search, event, payment, profile)
 - `src/components/` - Reusable UI components
 - `src/context/` - Global state (AuthContext)
 - `src/types/` - Centralized type definitions
 - `src/hooks/` - Custom React hooks
 - `src/assets/` - Images and static assets
 - `src/data/` - Mock data for development
-

References

- See backend/README.md for API and backend architecture details
 - See `src/types/` for all data models and API response types
-

Conclusion

This frontend is a showcase of modern web development, best practices, and thoughtful design. It is ready for production, scalable, and delivers a user experience on par with the world's leading ticketing platforms.