

Overview

The Automated Ticket Booking Tool is a custom-built software solution designed to streamline the process of booking tickets for events, travel, or entertainment. It eliminates manual effort, reduces human error, and offers a scalable solution for organizations handling high volumes of ticketing requests.

Purpose

This tool was developed to provide a fast, reliable, and user-friendly interface for booking tickets. It supports multiple platforms including web and mobile applications, with a backend powered by a robust rules engine and intelligent scheduling algorithm.

Target Audience

- Corporate booking managers
- Travel agencies
- Event management companies
- Individual users with high-frequency booking needs

Core Components

1. Frontend Interface: Built using React.js and Flutter for mobile.
2. Backend Engine: Java Spring Boot application handling API requests.
3. Scheduler: A custom cron-based scheduler to scan availability and trigger booking attempts.
4. Database: PostgreSQL for structured data and Redis for caching seat availability.
5. Automation Agent: Selenium-based bot engine for form submissions and CAPTCHA handling.

Data Flow

- User submits request -> Validated by backend -> Passed to scheduler -> Agent executes booking
- > Confirmation returned -> Stored in database

Security Features

- OAuth2-based user authentication
- Encrypted storage of user credentials
- Rate limiting and bot detection evasion

1. Intelligent Booking Queue

- Maintains prioritized queue based on urgency, preferred time slots, and success probability.

2. Multi-Platform Compatibility

- Supports booking from various platforms like IRCTC, BookMyShow, and RedBus.

3. Auto Retry with Smart Throttling

- Failed booking attempts are retried using an exponential backoff strategy.

4. Captcha Solving Integration

- Integrated with 3rd-party CAPTCHA solving services with fallback mechanisms.

5. Custom Rules Engine

- Allows users to define rules like preferred seating, booking times, or price thresholds.

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Step 1: User Setup

- Register and login to the dashboard
- Add booking platforms and credentials securely

Step 2: Create Booking Task

- Define the event or travel details
- Set preferences and fallback options
- Schedule booking attempts

Step 3: Monitoring and Logs

- Real-time status updates on dashboard
- Detailed logs available for every attempt
- Email and SMS notifications on successful bookings

Step 4: Analytics & Reports

- Success/failure rate analysis
- Platform-wise booking statistics
- Daily/weekly/monthly trends

Upcoming Features

- Integration with airline ticketing APIs
- AI-based prediction of ticket availability
- Voice-activated booking through smart assistants

Known Limitations

- CAPTCHA bypass may not work for all platforms
- Subject to rate limiting or bans from strict platforms

Support & Maintenance

- Dedicated support team available via email and ticketing system
- Open-source community contributions are welcome
- Monthly updates and patch releases

Contact

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