

Project Design Phase-II

Solution Requirements (Functional & Non-functional)

Date	17 April 2025
Team ID	SWTID1743955267
Project Title:	RideEase
Maximum Marks	4 Marks

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	<ul style="list-style-type: none">- Registration through Form- Registration through Gmail- Registration through LinkedIn- User profile creation- Email verification- Phone number verification
FR-2	User Login	<ul style="list-style-type: none">- Login via Email and Password- Login via OTP- Social media login integration- Password reset functionality- Two-factor authentication option

FR-3	Ride Booking	<ul style="list-style-type: none"> - Select pickup and drop-off locations - Choose ride type (economy, premium, etc.) - View estimated fare and arrival time - Schedule rides for later - Add multiple stops to a ride
FR-4	Payment Processing	<ul style="list-style-type: none"> - Secure payment gateway integration - Multiple payment options (credit/debit cards, digital wallets) - Split fare functionality - Automatic receipts generation - Refund processing for cancellations
FR-5	Driver Management	<ul style="list-style-type: none"> - Driver availability status - Driver ratings and reviews - Real-time driver location tracking - Driver earnings dashboard - Shift management for drivers
FR-6	Ride Tracking	<ul style="list-style-type: none"> - Real-time GPS tracking of rides - Estimated time of arrival updates - Share ride details with contacts - In-app navigation for drivers - Ride history for users

FR-7	Customer Support	<ul style="list-style-type: none"> - In-app chat support - Call support integration - FAQ section - Ticket-based issue resolution - Emergency SOS feature
FR-8	Feedback System	<ul style="list-style-type: none"> - Post-ride ratings for drivers and passengers - Detailed review submission - Photo/video upload for feedback - Driver performance analytics - Incentive system based on ratings

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

NFR No.	Non-Functional Requirement	Description
NFR-1	Usability	<ul style="list-style-type: none"> - Intuitive user interface requiring minimal learning curve - Consistent design patterns across all screens - Accessibility features for users with disabilities - Responsive design for various screen sizes and devices
NFR-2	Security	<ul style="list-style-type: none"> - End-to-end encryption for all data transmission - Secure storage of payment information using PCI DSS standards - Multi-factor authentication for account access - Secure API endpoints with proper authentication

NFR-3	Reliability	<ul style="list-style-type: none"> - System uptime of at least 99.9% - Graceful error handling with user-friendly messages - Data backup and recovery mechanisms - Fault tolerance for critical functions - Transaction consistency for payments and bookings - Automated system health monitoring
NFR-4	Performance	<ul style="list-style-type: none"> - App loading time under 3 seconds on standard connections - Response time for booking confirmation under 2 seconds - Map rendering and location updates within 1 second - Support for simultaneous user connections during peak hours - Efficient battery usage on mobile devices - Optimized database queries for faster data retrieval
NFR-5	Availability	<ul style="list-style-type: none"> - 24/7 system availability with planned maintenance windows - Geographically distributed servers for regional availability - Offline mode for basic functionality during connectivity issues - Automatic failover mechanisms - Real-time monitoring of service availability - Disaster recovery plan with minimal recovery time

NFR-6	Scalability	<ul style="list-style-type: none"> - Ability to handle 100,000+ concurrent users - Horizontal scaling for peak demand periods - Database sharding for growing data volumes - Microservices architecture for independent scaling - Cloud-based infrastructure with auto-scaling capabilities - Efficient resource allocation during varying load conditions
NFR-7	Maintainability	<ul style="list-style-type: none"> - Well-documented code with consistent coding standards - Modular architecture for easier updates - Automated testing for regression prevention - Continuous integration and deployment pipeline - Version control for all system components - Technical debt management strategy
NFR-8	Compatibility	<ul style="list-style-type: none"> - Support for iOS 13+ and Android 8.0+ - Compatibility with major web browsers (Chrome, Safari, Firefox, Edge) - Adaptability to various screen resolutions
NFR-9	Regulatory Compliance	<ul style="list-style-type: none"> - Adherence to transportation regulations in operating regions - Compliance with accessibility standards (WCAG 2.1) - Data retention policies as per legal requirements - Compliance with local labor laws for driver management - Regular compliance audits and reporting

NFR-10	Localization	<ul style="list-style-type: none">- Support for multiple currencies and payment methods- Localized content and UI elements- Time zone handling for scheduling and ride history- Regional map data accuracy- Cultural considerations in UI/UX design- Local emergency service integration
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