

Key Features for Full Stack Projects

Dear Students,

Here is the list of key features that can be included in your project. The relevance of each feature will depend on the type of project you are working on. You are encouraged to assess which of these features best suits your project's objectives and scope. Some of these features may enhance the functionality, user experience, and overall quality of your project. Ensure that you implement the most appropriate ones based on the requirements and expectations:

One-Time Password (OTP) Implementation

- **OTP Generation:** Implement a secure OTP generation mechanism for actions such as login, transaction approvals, and password resets.
- **OTP Delivery:** Ensure OTP delivery via both email and SMS.
- **OTP Validation:** Validate the OTP within a specified timeframe.
- **Expiry and Resend Mechanism:** Implement OTP expiry and a mechanism to resend OTPs if they expire or are not received.

Email Integration

- **Email Notifications:** Send email notifications for actions such as account creation, password changes, and transaction confirmations.
- **Email Templates:** Design reusable email templates for different notifications.
- **SMTP Configuration:** Configure SMTP settings for reliable email delivery.
- **Email Verification:** Ensure email verification during user registration.

Authorization and Authentication

- **User Authentication:** Implement secure user login and logout functionality.
- **OAuth Integration:** Allow users to log in using OAuth providers such as Google, Facebook, etc.
- **Role-Based Access Control:** Implement role-based access control to restrict access to different parts of the application.
- **Token-Based Authentication:** Use token-based authentication (JWT or similar) for session management.

Password Management

- **Password Encryption:** Store passwords securely using strong encryption algorithms.
- **Password Reset:** Implement a secure password reset mechanism.
- **Password Strength Validation:** Ensure passwords meet minimum strength requirements.

User Profile Management

- **Profile Creation and Editing:** Allow users to create and edit their profiles, including personal information and preferences.
- **Profile Picture Upload:** Enable users to upload and update profile pictures.

- **Activity Log:** Maintain an activity log for user actions within their profile.

Real-Time Data Integration

- **Data Collection:** Integrate real-time data from various sources including IoT devices, GPS trackers, and third-party logistics providers.
- **Dashboard:** Provide a comprehensive dashboard displaying live updates on inventory levels, shipment statuses, and warehouse operations.

Inventory Management

- **Automated Reordering:** Implement AI algorithms to predict inventory needs and automate reordering processes.
- **Demand Forecasting:** Use predictive analytics to forecast demand based on historical data and market trends.

Route Optimization

- **Dynamic Route Planning:** Develop algorithms to optimize delivery routes based on real-time traffic data, delivery priorities, and vehicle capacities.
- **Cost Minimization:** Calculate the most cost-effective routes to minimize transportation costs and delivery times.

Supplier Coordination

- **Supplier Portal:** Create a portal for suppliers to update inventory, track orders, and communicate with the logistics team.
- **Performance Analytics:** Monitor and evaluate supplier performance using key metrics such as on-time delivery rates and quality compliance.

Automated Decision-Making

- **AI-Driven Insights:** Implement machine learning models to analyze data and provide recommendations for improving logistics operations.
- **Event-Driven Alerts:** Set up automated alerts for events such as inventory shortages, delivery delays, and equipment malfunctions.

Property Listing and Search

- **Listing Management:** Allow agents and sellers to list properties with detailed descriptions, photos, and pricing.
- **Search Functionality:** Provide advanced search filters for buyers to find properties based on location, price range, and property type.

Transaction Workflow Management

- **Task Automation:** Automate routine tasks such as document generation, scheduling inspections, and managing escrow accounts.
- **Workflow Tracking:** Track the progress of each transaction stage (e.g., offer acceptance, inspections, financing approval) in real-time.

Document Management

- **Secure Document Storage:** Provide a secure repository for storing and sharing legal documents, contracts, and disclosures.

- **Version Control:** Manage document versions and ensure stakeholders have access to the latest updates.

Financial Transactions

- **Payment Processing:** Facilitate secure online payments for earnest money deposits, down payments, and closing costs.
- **Transaction Monitoring:** Monitor financial transactions and provide transparency on payment status and deadlines.

Communication and Notifications

- **Messaging System:** Enable direct messaging between buyers, sellers, agents, and other stakeholders involved in the transaction.
- **Notification Alerts:** Send real-time notifications for important updates, deadlines, and milestones.

Real-Time Video Streaming and Conferencing

- **Video Meetings:** Enable users to initiate and join real-time video conferences with multiple participants.
- **Screen Sharing:** Facilitate screen sharing capabilities to enhance presentations, demonstrations, and collaborative work.

Collaboration Tools

- **Chat Functionality:** Integrate chat rooms or messaging features for real-time communication among participants.
- **Interactive Whiteboards:** Provide virtual whiteboards for brainstorming, drawing, and annotating shared documents or presentations.

Virtual Classroom Features

- **Live Lectures:** Support virtual classrooms with live streaming capabilities for lectures, seminars, or workshops.
- **Attendance Tracking:** Implement attendance management and engagement monitoring tools for educational sessions.

Event Streaming and Audience Interaction

- **Live Events:** Enable organizers to stream live events, webinars, or conferences to a larger audience.
- **Audience Interaction:** Incorporate Q&A sessions, polls, and feedback mechanisms to engage participants during live events.

Security and Privacy

- **End-to-End Encryption:** Ensure secure transmission of video streams and data with end-to-end encryption protocols.
- **Access Controls:** Implement role-based access controls (RBAC) and permissions management to safeguard sensitive information.

Ride Management

- **Offer Rides:** Enable drivers to offer rides by specifying departure times, routes, and available seats.

- **Find Rides:** Allow passengers to search for available rides based on origin, destination, and travel preferences.

Booking and Scheduling

- **Booking System:** Implement a booking mechanism for passengers to reserve seats in desired rides.
- **Notification System:** Send real-time notifications for ride bookings, updates, and cancellations to users.

Route Optimization and Navigation

- **Optimized Routing:** Provide route optimization algorithms to suggest efficient travel routes and minimize detours.
- **Navigation Integration:** Integrate with mapping APIs (e.g., Google Maps) for real-time navigation and directions during rides.

Payment Integration

- **Fare Calculation:** Calculate ride fares based on distance, time, and shared costs among passengers.
- **Payment Gateway:** Integrate secure payment gateways (e.g., Stripe, PayPal) for cashless transactions and fare settlements.

Rating and Review System

- **Feedback Mechanism:** Implement a rating and review system for passengers and drivers to provide feedback after each ride.
- **Driver Verification:** Verify driver credentials and maintain a reputation system to ensure trust and reliability.

Multi-Sport Coverage

- **Live Scores:** Display real-time scores and match updates for various sports leagues and tournaments.
- **Match Details:** Provide comprehensive details such as team line-ups, match schedules, and venue information.

Player and Team Statistics

- **Player Profiles:** Showcase player profiles with career statistics, performance metrics, and historical data.
- **Team Stats:** Present team statistics including win-loss records, rankings, and historical performance summaries.

News and Updates

- **Latest News:** Aggregate and display sports news articles, editorials, and updates from reliable sources.
- **Notification System:** Send push notifications for important match events, news alerts, and personalized updates.

User Engagement

- **Interactive Features:** Include features like live commentary, polls, and user-generated content (e.g., fan discussions, predictions).

- **Social Sharing:** Enable users to share match highlights, scores, and articles on social media platforms.

Customization and Personalization

- **Favorite Teams:** Allow users to follow and receive updates about their favorite teams and players.
- **Custom Alerts:** Provide options for setting personalized alerts for specific match outcomes, player milestones, or league updates.

Real-Time Editing and Collaboration

- **Live Editing:** Enable multiple users to simultaneously edit stories in real-time with instant updates and collaborative tools.
- **Commenting and Feedback:** Provide features for leaving comments, suggesting edits, and discussing story elements within the platform.

Version Control and History

- **Version History:** Implement version control to track changes, revisions, and contributions made by different users.
- **Restore and Compare:** Allow users to revert to previous versions and compare changes to understand the evolution of the story.

User Roles and Permissions

- **Role-Based Access:** Define user roles (e.g., writer, editor, reader) with customizable permissions for viewing, editing, and managing story content.
- **Collaborative Ownership:** Facilitate shared ownership of stories while maintaining control over access rights and contributions.

AI-Assisted Writing Suggestions

- **Writing Prompts:** Provide AI-generated writing prompts and story starters to inspire creativity and overcome writer's block.
- **Grammar and Style Checking:** Offer AI-powered suggestions for grammar corrections, style improvements, and writing enhancements.

Multimedia Integration

- **Image and Media Upload:** Allow users to embed images, videos, audio clips, and interactive media to enrich storytelling experiences.
- **Visual Storytelling Tools:** Provide tools for creating visual storyboards, character illustrations, and multimedia presentations within the platform.