**SaaS Restaurant Platform System Flow Document**

**1. Objective**

The objective of this system is to develop a **multi-tenant SaaS platform** for restaurants where customers can browse, order, and track food deliveries, while restaurant owners can manage their business operations. The system will utilize **Laravel, Inertia.js, and React** to ensure a **high-performance, scalable, and seamless user experience**. The platform will support multiple restaurants, facilitate online ordering, and integrate real-time order tracking.

**2. Requirements**

**2.1 Functional Requirements**

**Customer (User) Features:**

* User authentication (email, social login, OTP verification, two-factor authentication)
* Search and filter restaurants based on location, cuisine, rating, offers, and availability
* View detailed restaurant profiles including menus, images, and customer reviews
* Place orders, customize food selections, and specify dietary preferences
* Track order status in real-time with push notifications and SMS alerts
* Secure payment processing (Credit Card, PayPal, COD, Apple Pay, Google Pay)
* Order history and easy reordering from past transactions
* Review, rate restaurants, and upload images for feedback
* AI-powered recommendation system for personalized suggestions

**Restaurant Owner Features:**

* Business registration, document verification, and approval process
* Customizable restaurant profile with branding and contact details
* Comprehensive menu management (add, edit, remove items, set pricing, update availability)
* Order management (track incoming orders, assign tasks to kitchen staff, manage takeout/delivery options)
* Integration with delivery partners for efficient logistics
* Staff management (assign roles, track shifts, manage payroll, set permissions)
* Marketing tools (promo codes, automated discounts, targeted ads, loyalty programs)
* Sales analytics dashboard to track revenue, expenses, and popular items
* Automated payout system for restaurant earnings with tax compliance tracking

**Delivery Partner Features:**

* Secure login and verification process
* Order assignment and optimized delivery route suggestions
* Live location tracking for customers and restaurants
* Real-time delivery updates and estimated time of arrival
* Performance tracking and earnings dashboard

**Super Admin (Platform Owner) Features:**

* Admin dashboard to monitor real-time platform activities
* Automated and manual restaurant approvals and verifications
* Subscription management for restaurant owners (free, premium, enterprise plans)
* Platform revenue tracking (commission-based earnings, subscription payments)
* Fraud detection and dispute resolution system for order complaints and refunds
* API management and third-party service integration
* Content moderation for restaurant listings, menu updates, and customer reviews
* Platform-wide performance analytics and system health monitoring

**2.2 Non-Functional Requirements**

* **Scalability**: Support for thousands of restaurants and millions of customers simultaneously
* **Security**: OAuth authentication, end-to-end encryption, PCI-DSS-compliant payment gateway
* **Performance**: Fast-loading UI with caching, high-speed data retrieval, and real-time updates
* **Usability**: Responsive design optimized for web and mobile apps
* **Reliability**: 99.9% uptime, robust error handling, and disaster recovery plan
* **Compliance**: Adherence to GDPR, PCI-DSS, and local food delivery regulations
* **Accessibility**: WCAG-compliant design to support users with disabilities

**3. SaaS Flow Diagram**

**3.1 Customer Flow:**

1. **User Registration & Authentication** (Email, Social Media, OTP, Two-Factor Authentication)
2. **Browse & Filter Restaurants** (Location-based recommendations, cuisine filters, user ratings)
3. **Select Items & Checkout** (Add to cart, customize preferences, apply promo codes)
4. **Payment & Order Confirmation** (Multiple payment methods, secured transactions)
5. **Live Order Tracking** (Push notifications, delivery partner tracking, estimated arrival time)
6. **Order Completion & Feedback** (Delivery confirmation, review submission, loyalty points)

**3.2 Restaurant Owner Flow:**

1. **Business Registration & Approval** (Admin verification, document submission, compliance check)
2. **Menu & Storefront Management** (Real-time updates, seasonal menu changes, photo gallery)
3. **Order & Staff Management** (Task assignment, delivery status tracking, automated workflows)
4. **Payment & Analytics** (Revenue breakdown, transaction reports, payout scheduling)
5. **Marketing & Customer Engagement** (Automated promotions, email campaigns, customer retention tools)

**3.3 Admin Flow:**

1. **Dashboard Overview** (User statistics, restaurant performance, revenue insights)
2. **Subscription & Monetization** (Plan upgrades, commission tracking, financial reports)
3. **Platform Moderation & Disputes** (User reports, refund requests, compliance checks)
4. **Advanced Analytics & System Settings** (Data trends, operational efficiency metrics, AI-driven insights)

**4. Risks & Mitigation Strategies**

| **Risk** | **Impact** | **Mitigation** |
| --- | --- | --- |
| High server load | Slow performance | Use scalable cloud infrastructure, load balancing, and caching |
| Data breaches | Security threats | Implement strong encryption, OAuth authentication, multi-layer security policies |
| Payment failures | Customer dissatisfaction | Integrate multiple payment gateways with fallback mechanisms |
| Poor UX/UI | Low user engagement | Continuous A/B testing and user feedback-driven improvements |
| Restaurant churn | Business loss | Provide value-added services, competitive pricing, and exclusive marketing tools |
| Order disputes | Negative user experience | Implement a transparent refund policy and AI-driven fraud detection |

**5. Cost Estimation**

| **Component** | **Estimated Cost** |
| --- | --- |
| Development (Backend, Frontend) | $20,000 - $35,000 |
| Cloud Hosting (AWS, DigitalOcean,Hostinger) | $500 - $1,000/month |
| Third-party APIs (Maps, Payments, AI) | $300 - $1,000/month |
| Security & Compliance(Optional) | $2,000 - $7,000 |
| Marketing & Ads | $5,000 - $15,000 |
| Maintenance & Support | $10,000 - $20,000/year |

**6. Timeline & Milestones**

| **Phase** | **Tasks** | **Duration** |
| --- | --- | --- |
| Planning | Requirement gathering, wireframes, UX/UI design | 3-4 weeks |
| Development | Backend (Laravel, Inertia.js), Frontend (React), API integration | 10-16 weeks |
| Testing | Unit, integration, security, performance testing | 4-6 weeks |
| Deployment | Cloud setup, security audits, initial launch | 2-3 weeks |
| Marketing & Go-Live | Beta testing, promotional campaigns | 6-8 weeks |
| Ongoing Maintenance | Continuous improvements, feature updates | Continuous |

**Conclusion**

This **SaaS restaurant platform** will provide an efficient and scalable solution for multiple restaurants while ensuring a seamless customer experience. The use of **Laravel, Inertia.js, and React** will enable high-performance operations with a user-friendly design. With a structured development plan, cost estimation, and risk mitigation strategies in place, the project is poised for long-term success.