

Comprehensive Launch Plan: Per Diem Dashboard with Modular Integration

1. Product Vision and Strategic Objectives

The **Per Diem Dashboard** is a browser-based, cloud-native control platform built to streamline the operational, financial, and loyalty workflows for merchants across **retail, hospitality, food service, health & beauty**, and other consumer-facing verticals. Designed as a **modular ecosystem**, the dashboard allows merchants to activate only the functionality they need—such as payment processing, POS integration, and tokenized rewards—while maintaining the flexibility to scale as their business grows.

Key strategic goals include:

- A single pane of glass for operational and financial tools
- No-code onboarding and module activation per business need
- Cross-sector adaptability and localization for global merchants
- Accessibility-first design for blind and low-vision users
- Secure integration of blockchain-based token payments via Solana

2. User Interface Design & Accessibility Framework

The dashboard is developed as a **Single Page Application (SPA)** using **React** and styled with **Tailwind CSS**. A key mission is to ensure **blind-friendly access from day one**. We will **collaborate directly with Freedom Scientific**, makers of **JAWS screen reader technology**, to ensure full compatibility through semantic HTML, ARIA roles, and accessible widget libraries.

Accessibility strategy includes:

- WCAG 2.2 AA compliance as baseline
- Form fields, alerts, and modal dialogs fully ARIA-labeled
- Keyboard navigation for all UI flows with visible focus states
- Screen reader compatibility validated using JAWS, NVDA, and VoiceOver
- Partner testing program with Freedom Scientific for continuous feedback
- Accessibility regression testing included in CI pipeline

3. Modular System Architecture

The Per Diem dashboard's architecture is designed around **dynamic module loading**, enabling users to activate services like **POS integration, payment processing, and tokenized rewards** as needed. Each module operates independently, shares a unified identity and permission model, and interfaces through a common event bus and data layer.

Technical breakdown:

- Modules: POS Sync, Token Payments, Rewards Engine, Analytics
- Built-in module registry to enable/disable services per tenant
- Dynamic import via React.lazy for performance and scalability
- Shared context API for theming, localization, and session management
- Tenant configuration stored in encrypted metadata (PostgreSQL + Redis)

4. POS Integration Framework

POS integration is handled through an **adapter layer** and an **integration orchestration engine** that standardizes interaction across the top 20 POS systems (e.g., Square, Toast, Clover,

Lightspeed, Shopify POS, Revel). Each connector is a modular service, deployable independently, and communicates with a unified internal schema.

Key technical components:

- Adapter pattern with schema translation for each POS vendor
- Real-time sync via webhooks where available, fallback polling support
- Error recovery queue for failed syncs and duplicate detection
- Multi-location POS support with tagging and permissions
- Status dashboard to visualize active integrations and sync health

5. Blockchain Tokenized Payments (Solana Network)

Per Diem's blockchain-based payment functionality is fully integrated through the **Solana network**, enabling tokenized payments, loyalty issuance, and reward redemption. The system is designed for real-time performance, traceability, and zero gas fee friction for users.

Solana integration highlights:

- Wallet management compatible with Phantom, Fireblocks, or in-house custodial service
 - Payment flow supports merchant and customer wallets with on-chain metadata
 - Token minting logic triggered by transaction rules (e.g., spend thresholds, first purchase)
 - Smart contract audit trail for reward issuance and redemption
 - Built-in fraud detection via anomaly checks on token movement
 - Full transaction history and reward status available in user dashboard
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6. Embedded Analytics & Reporting Engine

The dashboard includes an embedded **analytics module** to provide deep insights into transactions, token movement, customer behavior, and POS performance. Reports are dynamically generated and rendered using **data-driven widgets** with both **graphical** and **screen reader-optimized tabular outputs**.

Analytics features:

- Time-series metrics on payments, revenue, token usage

- Solana transaction ledger viewer
 - Merchant-focused KPIs and comparative insights by industry
 - Exportable reports (CSV, JSON, PDF)
 - Screen-reader friendly reports using semantically structured tables with summaries
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7. Cloud Infrastructure & Scalability

The dashboard backend is deployed in a **cloud-native architecture**, using containerized microservices orchestrated via **Kubernetes** or **serverless containers** (e.g., AWS Fargate). Infrastructure is built with high-availability, low-latency, and security in mind.

Infrastructure specs:

- PostgreSQL (multi-tenant schema), Redis (caching/session), and MinIO/S3 (assets)
- API Gateway supporting REST and GraphQL with auth middleware
- Message queue (NATS or Kafka) for decoupled service communication
- Auto-scaling services and database read replicas for load distribution

- CI/CD with testing gates for accessibility, integration, and regression
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8. Security, Identity & Compliance

Security is foundational to the dashboard, especially given the integration of POS systems and blockchain transactions. The platform is built to meet **PCI DSS v4.0**, **SOC 2**, and **OAuth 2.0** standards, with encrypted data at rest and in transit, strong identity management, and robust audit trails.

Security and compliance features:

- TLS 1.3 with mutual authentication for service-to-service communication
 - RBAC and SCIM provisioning for large merchant teams
 - MFA enforcement and SSO via OpenID Connect
 - Token vaulting with encryption using HSM-backed key storage
 - All token and fiat transactions are logged and traceable
 - Built-in audit logging, exportable by compliance teams
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9. Onboarding, Module Activation & Merchant Customization

The onboarding experience is designed for ease-of-use with no-code activation of modules. Users will be able to customize their dashboard based on sector-specific defaults and activate integrations through guided wizards and contextual help. Accessibility support extends to onboarding flow and all configuration steps.

Onboarding flow includes:

- Progressive activation wizard (POS, Payment, Token)
- Business profile selector (Retail, Food, Beauty, Hospitality)
- Tooltips, inline accessibility labels, and JAWS-optimized dialogues
- Theme editor for brand alignment
- Backup/restore configurations with API-first provisioning

10. Launch & Rollout Strategy

The launch will begin with a **targeted pilot** involving key merchants across each sector, followed by a **staged general release**. The pilot will include accessibility users and JAWS testers to validate UI flows and audio cue completeness. Support resources will be prepared in screen-reader compatible formats (e.g., accessible PDFs, ARIA-enhanced help modules).

Rollout plan:

- Pilot cohort: 2–3 merchants per sector with varying POS systems
 - Accessibility validation with Freedom Scientific test partners
 - Performance benchmarking (API latency, token minting speed)
 - Release staged by region and vertical to manage support load
 - Accessible onboarding docs and video transcripts in HTML/ARIA format
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11. Post-Launch Monitoring, Feedback, and Iteration

Post-launch, the dashboard will enter a continuous monitoring and iteration cycle. Usage telemetry will be anonymized and analyzed to identify friction points, while accessibility testing will continue as a standard in CI/CD. Feature requests and issues will be triaged via merchant feedback loops and accessibility partner reviews.

Monitoring & iteration plans:

- Accessibility bug tracking and remediation SLA
- Real-time usage dashboards for POS sync, token flow, API health

- A/B testing of UI variants with feedback channels
- Monthly update cycles with regression and accessibility testing
- Joint roadmap review every quarter with Freedom Scientific and merchant advisory board

Would you like this plan adapted into a formal PRD, investor deck, accessibility report, or modular engineering scope?