Week 2

1. Designed and implemented a full Shopify integration architecture, including API client, service layer, custom pixel tracking, webhook management, and backend event processing.

2. Built a robust Shopify Admin API client (GraphQL + REST, v2025-01) with OAuth/private app authentication, rate limiting (bucket algorithm), exponential backoff retries, structured error handling, and full unit test coverage.

3. Developed a ShopifyService business layer handling cart-to-order workflows, draft order conversion, status mapping (Shopify ↔ Internal), tax & discount calculations, inventory validation, and sandbox integration testing.

4. Engineered a privacy-compliant Custom Shopify Pixel (<10KB, async, non-blocking) with session tracking, customer identification hierarchy, event deduplication, retry & queueing mechanism, and GDPR/CCPA consent enforcement.

5. Implemented secure backend Pixel Event Handler (FastAPI + Redis + Celery) with event validation, deduplication, rate limiting per customer, cart snapshot storage, abandonment scheduling, and async WhatsApp/order-trigger workflows.

6. Automated Shopify Webhook registration & verification for order and checkout events, including secret validation, re-registration logic, and environment-based webhook management.

7. Ensured production-grade reliability via CORS hardening, circuit breaker logic, preflight validation, integration tests with Shopify sandbox, performance testing (<50ms pixel execution), and comprehensive technical documentation.

Supervisor's Comments and Signature (with date & time):