QBurst

SIMPLIFYING FINANCIAL
TRANSACTIONS
through Intelligent Inventory & Admin Management

PROJECT
OVERVIEW

Financial organizations that handle large volumes of transactions benefit from automated file processing across business functions. The results serve as inputs for linked applications that handle transaction processing, multi-channel payment information aggregation, payment advice to partner merchants, settlement advice file to bank, fee/commission reports, and so on. Our solution serves as a technology enabler for the client with admin functionalities, integration with external systems for back-office transaction file processing, and terminal inventory management used for middle-office operations.

CLIENT
PROFILE

The client provides a fast, easy, and secure way to make and receive payments. The payment network is owned by Asia's largest banks and is designated as the national payment system of a South Asian country.

BUSINESS
REQUIREMENT

★ Inventory management solution to replace the system used by logistics, warehouse, and field teams.

★ Admin management solution to replace the current payment interface with a centralized system to handle new merchant/service requests, link services with available offline/online channels, consolidate daily service payment transactions, distribute the daily payment amount received from channels to the respective merchants, and generate client's commission to be collected from merchants. The solution had to be scalable and flexible to incorporate additional scheduling actions to meet their growing needs.

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SOLUTION

Terminal Inventory System (TIS)

A Liferay Portlet, built on Java Spring MVC (Model-View-Controller) with EJB (Enterprise Java Beans) and JPA (Java Persistence API) in the backend, tracks and updates various systems upon receipt/delivery of inventory. The system manages delivery, movement, and storage of items ordered by the client for partners. This application is used by logistics, warehouse, workshop, system, and field teams. The application is heavily rule-driven and performs multiple tasks in a single process. TIS is a workflow-based system with the process flows mapped to those in the Red Hat BPM (Business Process Management) system. It also interacts with other external applications such as front-office merchant service and procurement.

Admin Portlet

A Liferay Portlet built on Java Spring MVC with JPA to provide all admin management controls.Admin links with the standalone module via database to pick up new merchant/service requests loaded through the module. Admin verifies, approves, and connects these services to offline/online channels. Using SFTP servers, admin controls scheduling of file output/input from external systems. The system also has a provision for adding new SFTP servers and creating action events to link schedulers with its specific implementation for file generation/processing.

Standalone Scheduler and SFTP External Interface

A generic worker system to execute admin-configured scheduling and SFTP file-processing operations, supporting merchants, channels, and warehousing. The system fetches new merchant requests from the merchant server and pushes these into database for further action by admin. The system also connects to different channels to obtain daily customer transactions, generate output files for merchants/banks, and remit the amount into respective merchant accounts. Finally, a file output is prepared for the warehouse that helps in collection of commission from merchants.

KEY FEATURES

TIS

★ Procurement, delivery, terminal management (scan/tag terminals)

★ Warehousing with scanning and view inventory option

★ Discrepancy check for validation; write-off bad debts

★ SIM card upload/tagging/untagging/searching

★ Trade-in/disposal/repair/maintenance/preparation of terminals

★ Check-in/out and indent request processes

Admin Portlet

★ Merchant/service setup and verification:
  - File generation for settlement/reconciliation
  - Multithreaded transaction file processing
  - Holiday Table; reports; kiosks and schedulers
  - File rejection and re-processing

★ On-screen validation for all entry fields

★ 'Maker Checker Action Summary' displays items awaiting user action

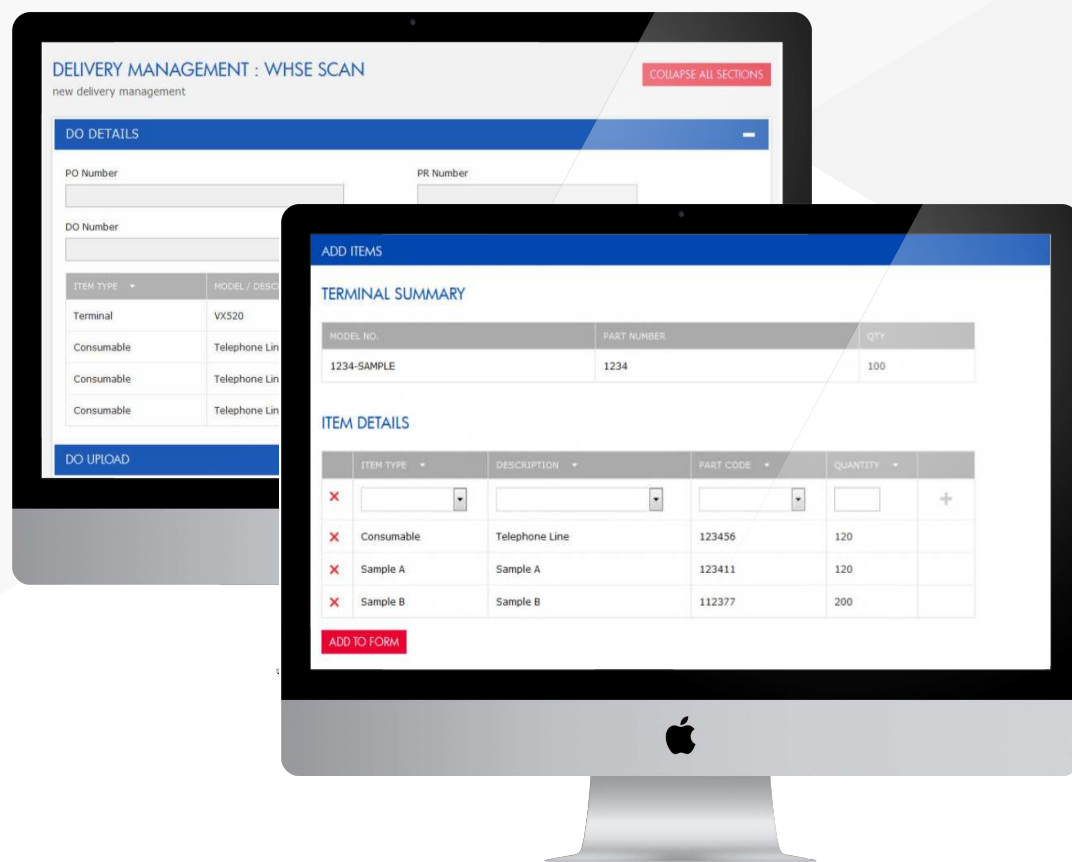★ Authentication and authorization using single sign-on

Standalone Module

★ Scheduler for file generation/processing

★ Interaction with channels, MSS, and BO for file/payment processing

★ SFTP server integration for feed processing and generation

★ Batch processing for bulk file upload

★ Settlement file generation for payment processing

TECHNOLOGIES USED

01 LIFERAY
02 Java
03 spring
04 JPA Java Persistence API | ENTERPRISE Java Beans
05 HIBERNATE
06 JSP | AUI
07 HTML5 | CSS3 | jQuery write less, do more.
08 MySQL
09 JBoss by Red Hat | JSch
10 QUARTZ

- ★ Highly scalable enterprise solution
- ★ Consolidated system for administrative control, financial reporting, and monitoring
- ★ Greater visibility into consumables across entire supply chain
- ★ Better tracking of expenses related to repair and ordering
- ★ Reduced manual intervention