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Building An End-To-End Platform for Auto Body Shop Operations

Project Overview

Every vehicle repair brings together customers, estimators, parts suppliers, insurers, and shop staff. When each person works from different information, a missing update or delayed part can interrupt the entire job. Vaultoniq set out to give repair businesses one place to coordinate that work.

Our team built Vaultoniq from the ground up as a multi-tenant software-as-a-service platform: one application designed to support multiple shop businesses and locations. It connects customer intake, estimates, repair tracking, scheduling, parts, insurance documentation, and communication within a shared operational workflow.

The delivered platform gives shop teams a central record for each customer and job, while managers gain visibility into progress, overdue work, and the actions taken across the business.

The Client and the Opportunity

Vaultoniq is a solutions provider serving the auto body repair industry. Its opportunity was to turn everyday shop processes into a connected software product that could support both individual locations and businesses operating several shops. The platform needed to reflect how repair shops actually work, including the close relationship between estimates, insurance claims, parts availability, and customer updates.

The Business Challenges

- **Disconnected records:** Customer details, repair updates, and vendor information were scattered across spreadsheets, notes, and separate tools.
- **Missed follow-ups:** Teams lacked consistent reminders for new leads, overdue stages, and customer updates.
- **Unclear job progress:** Managers could not easily see which repairs were moving forward and which needed intervention.
- **Parts and scheduling delays:** Manual order tracking and a shared calendar made coordination difficult.
- **Inconsistent estimates:** Quotes varied between staff, complicating discussions with customers and insurers.
- **Insurance complexity:** Customers often coordinated claim documents and adjuster communication themselves.

What We Set Out to Deliver

The goal was to connect the full customer and repair journey, with clear responsibilities and timely information at every step. The platform needed to make daily work easier to manage while providing a foundation for Vaultoniq's SaaS offering.

- **One operational workspace:** Bring customer records, estimates, schedules, parts, messages, and insurance documents together.
- **Consistent processes:** Standardize repair stages, estimate preparation, and follow-up across locations.
- **Timely action:** Use configurable thresholds and notifications to highlight overdue work.
- **Controlled access:** Give organization administrators, location administrators, and staff access appropriate to their roles.
- **Connected customer service:** Capture inquiries directly and keep communication linked to the job.

The Solution

We organized the platform around connected business workflows. Information captured at intake remains available as the job moves through estimating, insurance coordination, repair activity, and follow-up.

1. **Customer Intake and Lead Capture**

Challenge: Website inquiries and campaign leads did not flow directly into shop operations.

Embedded tools: Location-specific appointment, quote, contact, and calendar forms capture incoming requests.

Automatic records: Submissions create customer records, with appointment validation against location business hours.

Business value: A direct handoff from inquiry to an actionable customer record reduces repeated data entry and helps staff respond consistently.

2. **Customer and Repair Lifecycle Tracking**

Challenge: Teams lacked a standard way to track jobs from the first inquiry to final follow-up.

Ten workflow stages: A defined lifecycle tracks progress from Lead In through Follow-Up.

Visible exceptions: Yellow and red status indicators highlight time thresholds, with configurable reminders for overdue stages.

Business value: Staff can identify the next action, while managers can see where jobs are waiting and focus attention on delays.

3. **Standardized Estimating**

Challenge: Repair quotes varied between staff and were difficult to connect with the wider job record.

Itemized calculations: Live calculations organize labor, parts, and miscellaneous costs within a consistent estimate structure.

Shareable documents: PDF estimates are stored centrally and linked to the customer job and insurance claim.

Business value: Customers and insurers receive a clearer explanation of proposed work, and staff have a consistent basis for preparing quotes.

4. **Scheduling Across Three Calendars**

Challenge: A single calendar mixed different activities and made scheduling conflicts harder to recognize.

Separate event feeds: Job timelines, customer appointments, and estimator bookings have distinct calendar views.

Location rules: Business-hour settings support scheduling within each shop's operating hours.

Business value: Teams can interpret the schedule more easily and coordinate different types of work with better visibility.

5. **Parts And Vendor Management**

Challenge: Scattered supplier details and manual order tracking made it difficult to monitor required parts.

Central parts records: OEM codes, quantities, prices, and vendor associations remain in one module.

Order coordination: PDF or CSV orders can be generated and emailed to vendors. Statuses include Pending, Back Ordered, Purchased, Received, and IOU.

Business value: Staff can see what has been ordered, what has arrived, and which outstanding items need a supplier follow-up.

6. **Insurance Documentation and Adjuster Coordination**

Challenge: Customers carried much of the burden of gathering paperwork and coordinating with insurers.

Claim information at intake: The system captures insured names, insurer contacts, claim numbers, and rental days.

Documents and visibility: Photos, estimates, supporting documents, and final invoices stay with the customer record. Dashboard indicators support adjuster coordination.

Business value: Shops gain a central place to organize claim documentation and coordinate information exchange, supporting a less fragmented customer experience.

7. **Email And SMS Communication**

Challenge: Personal phone numbers and separate conversations made business communication difficult to track.

Dedicated shop numbers: Twilio supports number search and purchase, outbound SMS, and delivery-status tracking.

Connected conversations: Inbound messages are associated with jobs using customer phone matches; SendGrid supports email delivery.

Business value: Communication can remain connected to the shop's operational records, giving teams more context for customer follow-ups.

8. **AI Assistance And Reusable Templates**

Challenge: Writing repeated customer updates took time and led to inconsistent messaging.

Assisted drafting: OpenAI-powered assistance helps staff prepare professional email and SMS text.

Reusable content: Stored prompt templates and one-click insertion make common updates easier to prepare.

Business value: Teams have practical support for drafting consistent communication while retaining responsibility for the messages they send.

9. **Reporting And Management Dashboards**

Challenge: Managers lacked a consolidated picture of workload and operational exceptions.

Shared visibility: Dashboards show job counts, stage distribution, overdue work, lead conversion, and parts delays.

Management reporting: Exportable reports support operational reviews and follow-up discussions.

Business value: Managers can locate bottlenecks and prioritize attention using a common view of shop activity.

10. **Audit History and Activity Tracking**

Challenge: There was no dependable way to understand who changed a record or what happened during a job.

Record history: PaperTrail captures changes to core records; custom activity logs track message sends and document uploads.

Searchable activity: Filters help locate history related to customers, parts, insurance documents, and email messages.

Business value: A traceable history supports accountability, internal reviews, and investigation of changes to customer and job information.

Built For Daily Operations and Future Growth

The technical foundation supports the business workflow through role-based access, background processing, centralized storage, and an organization-to-location data structure. The application uses Ruby on Rails with modular service classes, keeping connected workflows in one system while organizing the underlying business logic.

Platform layer	Implementation
Application	Ruby on Rails, ERB, JavaScript, Stimulus, and TailwindCSS
Data and storage	PostgreSQL on AWS RDS; Amazon S3 for documents and images

Access and processing	Devise authentication, optional multi-factor support, Pundit permissions, and Sidekiq background jobs
Delivery and integrations	Heroku staging and production; GitHub deployment workflow; RESTful JSON endpoints; Twilio, SendGrid, and OpenAI

Delivered Business Value

- **Operational clarity:** A common workspace connects job progress, parts, documents, schedules, and communication.
- **More consistent service:** Shared workflows, estimate structures, reminders, and templates support repeatable daily processes.
- **A foundation for expansion:** Multiple organizations and locations can be supported, with API endpoints providing a basis for future vendor and mobile integrations.

The delivered outcome is a production-ready platform. Improvements in turnaround time, conversion, administrative effort, and customer satisfaction can be evaluated through operational data as shops use the system.

Conclusion

Vaultoniq brings the essential activities of an auto body repair shop into one connected environment. From the first inquiry and estimate through parts ordering, insurance coordination, and customer follow-up, teams have a consistent place to manage each job. Staff can find relevant information, managers can identify overdue work, and communication remains connected to the repair record. Together, these capabilities give shops practical tools to reduce repetitive administration, coordinate handoffs, and deliver a more organized customer experience.

For Vaultoniq, the project also establishes a foundation for expanding its software offering. Support for multiple businesses and locations, controlled access, searchable histories, and modular application logic gives the platform room to evolve with customer needs. Future integrations can build on the existing API layer, while operational reporting can guide product improvements. The result is an industry-specific platform positioned to help repair businesses manage daily work with greater clarity and maintain more consistent service as they grow.

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