Functional Requirement Document (FRD)

Integrated Production and Service Management Platform.

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Note:This document is an anonymized representation of the real project; to comply with non-disclosure policies, all real names, identifiers, and sensitive data have been changed.

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1. INTRODUCTION.

This Functional Requirements Document (FRD) defines the functional specifications for the **Integrated Production and Service Management Platform**, a centralized system designed to transform #####'s service delivery operations. The platform addresses the organization's longstanding dependency on manual, email-driven workflows that have become increasingly inadequate for handling growing service volumes and meeting customer expectations.

operates across multiple service categories—embroidery digitizing, vector art conversion, image retouching, and custom design—yet all service requests historically entered through disparate email channels. This environment created significant operational complexity, characterized by:

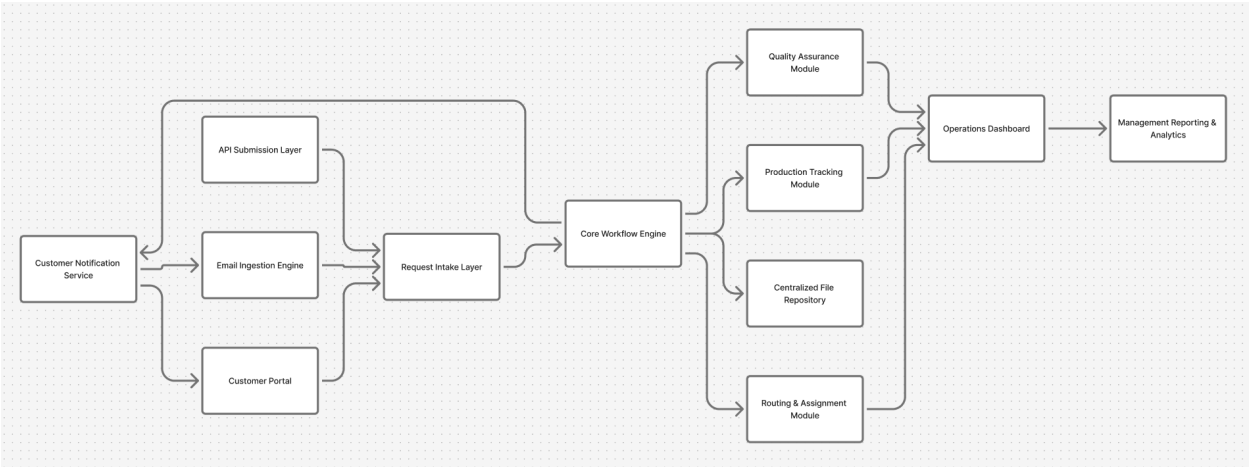
- High manual effort in triaging, extracting, and logging request details
- Fragmented information spread across inboxes, spreadsheets, and personal notes
- Lack of real-time visibility for both internal teams and customers
- Processing delays of **3–5 days** before work reached production

- Elevated customer inquiries and dissatisfaction due to opaque order status

- Increased business risk as top-tier clients sought more transparent digital alternatives

The rationale for this project is to establish a **unified, automated, and scalable platform** that eliminates email dependency, improves operational accuracy, enhances turnaround times, and elevates the customer experience. By introducing structured workflows, automated routing, and a customer-facing portal, the system aims to reduce manual effort by **70%**, minimize errors, and enable Cre8iveSkill to support higher volumes without proportional staffing increases.

2. SYSTEM OVERVIEW.



The Integrated Production and Service Management Platform is a centralized, end-to-end system designed to replace #### #'s legacy email-driven operational model with a structured, automated, and scalable digital workflow. The platform serves as the single source of truth for all service requests—embroidery digitizing, vector art, image retouching, and custom design—enabling efficient intake, routing, production tracking, quality assurance, and customer communication.

Historically, ##### relied on multiple email inboxes, spreadsheets, and manual coordination to manage thousands of monthly customer submissions. This environment resulted in:

- High manual effort for request extraction, logging, and follow-up
- Inconsistent information flow across teams and systems
- Delays of 3–5 days before work reached production

- Frequent errors and missing information requiring re-clarification
- No real-time visibility for customers or internal teams
- Increased operational stress and reduced scalability

The proposed system addresses these challenges through an integrated architecture that supports:

- Structured request intake via web portal, automated email parsing, and API
- Workflow automation for routing, assignment, and status updates
- Role-based dashboards for operations, production, QA, and management
- Customer portal for real-time order tracking and deliverable downloads
- Centralized asset storage for artwork and production files
- Analytics and reporting for SLA performance, volume, and efficiency

3. Functional Requirements

The functional requirements defined in this section establish the capabilities necessary to eliminate #####'s manual, email-driven operations and transition to a centralized, automated production and service management platform. These requirements address the core

challenges identified during the current-state assessment—high manual workload, fragmented information, delayed processing, and lack of visibility—while enabling scalability, accuracy, and a superior customer experience.

3.1 Systems Features.

Centralized Request Intake

- Web portal submission, automated email ingestion, API-based request creation.
- Structured forms with mandatory fields and validation checks.
- Auto-acknowledgment sent within five minutes of submission.

Automated Workflow Engine

- Routing based on service type, SLA, client tier, and team skillset.
- Assignment queue with prioritization rules for rush and complex tasks.
- End-to-end status lifecycle (Received → Assigned → In Progress → QA → Delivered).

Customer Self-Service Portal

- Real-time order tracking and timeline visualization.

- Access to proofs, revisions, and final deliverables.

Reporting & Analytics

- SLA adherence, processing times, error rates, and workload distribution.

3.2 User Functions

User Role	Key Functional Actions
Customer	Submit requests, upload artwork, track status, approve proofs, download deliverables.
Operations Team	Validate requests, manage queues, manually reassign tasks, monitor SLA risks.
Production Team	View prioritized work items, download artwork, upload outputs, update progress.
QA Staff	Review outputs, record approval/rejection, initiate revision loops.
Admin	Configure service types, workflows, user roles, and SLA thresholds.

3.3 Business Rules

- Mandatory fields must be validated before request submission.
- Requests for premium/rush clients must be auto-prioritized.
- Only QA-approved outputs can be delivered to customers.
- Revision loop must track versions and comments.
- SLA breach alerts must trigger after predefined thresholds.
- Users must only access data based on role permissions.

3.4 Interface Specification

Customer Portal Interface

- Dashboard with order list, statuses, timestamps, and action buttons.

- Upload widget supporting artwork files (PNG, JPG, PSD, AI, EMB).

Operations Dashboard

- Kanban-style assignment board, SLA indicators, workload filters.

Production & QA Interfaces

- Task detail view with artwork previews, specifications, notes, and update options.

Admin Console

- Configuration panels for workflows, routing rules, user roles, notifications.

4. User and Business Requirements.

The Integrated Production and Service Management Platform must address the operational inefficiencies, visibility challenges, and scalability constraints currently faced by Cre8iveSkill. The following User and Business Requirements define what the system must deliver to meet stakeholder expectations and resolve existing gaps.

4.1 Business Requirements.

Cre8iveSkill requires a centralized, automated platform to eliminate manual email-driven workflows and support scalable growth. Key business requirements include:

- **BR-01:** Reduce manual request processing effort by at least 70 percent.
- **BR-02:** Decrease average request assignment time from 3–5 days to 4–8 hours.
- **BR-03:** Provide end-to-end visibility for customers and internal teams.
- **BR-04:** Minimize errors and rework by enforcing structured data capture and validation.

- **BR-05:** Strengthen client retention by offering a digital experience comparable to competitors.

- **BR-06:** Enable operations to handle 40 percent additional volume without increasing headcount.

- **BR-07:** Establish real-time monitoring, SLA tracking, and performance reporting.

4.2 User Requirements .

User Role	Key Needs
Customers	Simple request submission, real-time status tracking, proof review, fast communication, downloadable deliverables.
Operations Team	Centralized dashboards, automated routing, accurate information capture, SLA alerts, manual reassignment options.
Production Workers	Clear task details, artwork access, prioritized queues, easy status updates, version tracking.
QA Team	Access to outputs, structured review tools, approval/rejection workflow, revision history.
Management	Real-time performance insights, volume trends, SLA compliance, client-level reporting.

5. Non-Function Requirements.

The Integrated Production and Service Management Platform must meet clearly defined non-functional expectations to ensure reliability, scalability, performance, and a seamless user experience. These requirements reflect the organization's business environment, operational constraints, and the need to support higher volumes while maintaining service quality.

5.1 Performance Requirements.

- The platform must process and route new service requests within **< 30 seconds** of submission.
- Must support **500+ simultaneous requests** without performance degradation.
- Status updates should reflect across user interfaces within **2 seconds**.

5.2 Scalability Requirements.

- Must support a **40% increase in workload** without requiring additional operational headcount.
- Architecture should allow easy expansion of service types, workflows, and new customer tiers.

5.3 Availability & Reliability.

- System uptime must be **99.9%**, excluding scheduled maintenance.
- Automatic failover and backup mechanisms must guarantee no data loss beyond **5 minutes (RPO)**.
- Recovery from system failure must occur within **15 minutes (RTO)**.

5.4 Security & Compliance

- Role-based access control (RBAC) with least-privilege enforcement.
- All customer data must be encrypted **at rest and in transit**.
- Full audit logs for user activity, workflow changes, and file uploads.
- Compliance with relevant data protection policies and secure file handling.

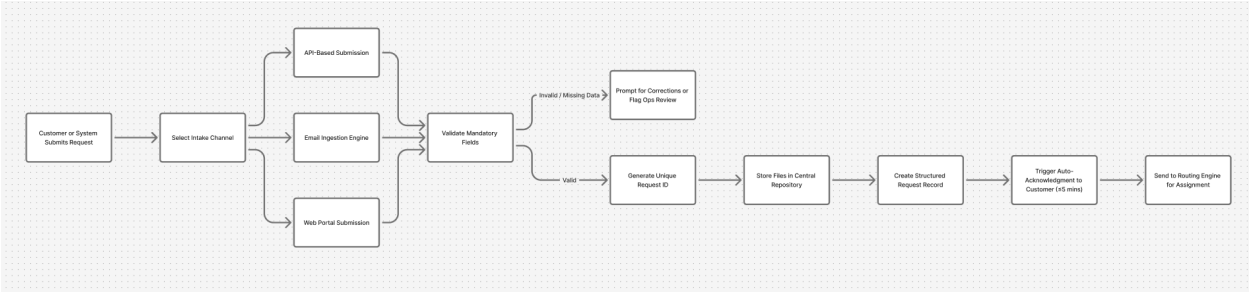
5.5 Usability.

- Interfaces must be intuitive, with users able to complete key tasks (submission, assignment, updates) in **≤3 clicks**.
- Training time for new users should not exceed **2 hours**.

6. Process Requirements.

The Integrated Production and Service Management Platform must support streamlined, standardized, and automated processes to replace Cre8iveSkill's fragmented email-based workflows. These process requirements ensure accuracy, faster turnaround, clear handoffs, and end-to-end visibility across all service types.

6.1 Request Intake Process.



- All service requests must enter the system through **three controlled channels**: customer portal, automated email ingestion, or API.

- Mandatory data fields (service type, artwork, deadline, client details) must be validated before a request progresses.

- Upon submission, the system must generate a **unique request ID** and send an acknowledgment within **five minutes**.

6.2 Routing and Assignment.

- The system must automatically route requests based on **service type, complexity, SLA tier, and team skillset**.

- Operations users must be able to override or reassign tasks manually when needed.

- The platform must maintain a prioritized task queue using rules for rush orders and premium clients.

6.3 Production and QA Workflow.

- Production staff must follow a standardized lifecycle: Received → Assigned → In Progress → QA → Revision → Approved.

- QA reviewers must have structured checklists for each service type and the ability to request revisions with version tracking.

- Status updates must be recorded in real-time and reflected across all dashboards.

6.4 Customer Communication and Delivery.

- Customers must receive automated notifications for key events (assignment, proof ready, revision request, final delivery).

- Deliverables must be accessible in the customer portal with download history.

7. Acceptance and Traceability.

The Acceptance and Traceability framework ensures that all system functionalities delivered through the Integrated Production and Service Management Platform can be objectively validated against documented requirements. Given ####'s previous operational model—where manual processes, inconsistent data capture, and unclear accountability led to errors, delays, and customer dissatisfaction—establishing a rigorous acceptance and traceability structure is essential for achieving predictable outcomes, stakeholder confidence, and long-term system adoption.

7.1 Acceptance Criteria Overview.

Acceptance criteria must ensure that the system:

- Captures all service requests through controlled, structured intake channels.

- Reduces manual effort and errors associated with email-based workflows.

- Provides real-time visibility of request status to internal teams and customers.
- Ensures quality control steps (QA, revisions, approvals) are consistently followed.
- Meets performance benchmarks, including processing, notification, and routing timelines.
- Aligns with defined business KPIs (e.g., 70% reduction in manual effort, 85% faster assignment times).

Each functional requirement will be paired with measurable, testable acceptance conditions to ensure clarity and alignment during UAT and production rollout.

7.2 Request Intake Process.

The RTM links every Business Requirement (BR) to its corresponding Functional Requirement (FR), design components, test cases, and acceptance outcomes. This enables:

- Full visibility of requirement coverage
- Prevention of scope gaps or undocumented changes
- Clear auditability throughout development and testing
- Stakeholder confidence that every requirement is validated

7.3 Requirements Traceability Matrix (RTM).

The RTM links every Business Requirement (BR) to its corresponding Functional Requirement (FR), design components, test cases, and acceptance outcomes. This enables:

- Full visibility of requirement coverage
- Prevention of scope gaps or undocumented changes
- Clear auditability throughout development and testing
- Stakeholder confidence that every requirement is validated

Sample RTM Structure:

BR ID	FR ID	Design Ref	Test Case ID	Acceptance Status
BR-01	FR-INTAKE-001	UI-01	TC-001	Accepted

APPENDIX A - GLOSSARY

Term	Definition
Request Intake	The structured process of capturing service requests through web portal, email ingestion, or API submission.
Workflow Engine	Core logic layer responsible for routing, assignment, status progression, and automation rules.
Routing Rules	Decision criteria used to assign requests based on service type, complexity, SLA tier, skillset, and workload.
Customer Portal	Self-service interface enabling customers to submit requests, view status, approve proofs, and download deliverables.
Operations Dashboard	Internal view for monitoring queues, assignments, SLA risks, and team workloads
Vendor Portal	Self-service web interface allowing vendors to interact with procurement and payment systems.
Production Team	Digitizers, artists, and designers responsible for executing assigned service tasks.
QA (Quality Assurance)	Review function ensuring outputs meet quality standards before customer delivery