

Technical Architecture & Developer Handover

Version 1.0 | Target: Desktop-First (1440px) & Fluid Mobile | Prepared for Technical Lead

1. Executive Summary & Brand Identity

ValueChainCFO (VCFO) is an executive-grade financial advisory and AI tool platform designed for CFOs, Group Financial Controllers, and Board Directors in UAE, GCC, and European enterprises. The platform bridges strategic CFO advisory with deterministic, local-first finance automation tools.

- **Design Tone:** Editorial, institutional, restrained, and executive-ready. Zero AI hype or gimmicks.
- **Color Palette:** Obsidian (#07090E, #050608), Card Navy (#0B0F19, #121A2B), Gold Accent (#C5A059), Warm White (#F5F3ED), Slate (#94A3B8).
- **Typography:** DM Serif Display for hero titles and major headers; Inter for body and data tables; JetBrains Mono for metrics and codes.
- **Architectural Philosophy:** Local-First & Deterministic AI. No transaction data leaves client devices; models run locally or via air-gapped runtimes with SHA-256 verification.

2. Technical Stack & Runtime Architecture

- **Frontend Framework:** React 19 (Functional components, hooks, typed state).
- **Language:** TypeScript 7.0 with strict type definitions in `/src/types.ts`.
- **Build Tool:** Vite 8 with path aliases (`@/ -> ./src`).
- **Styling:** Tailwind CSS v4 with custom executive theme tokens.
- **Icons:** Lucide React (hairline, institutional icons).
- **AI Integration:** `@google/genai` TypeScript SDK with server-side proxy route (`/api/chat`).
- **Full-Stack Server:** Express.js running with `tsx` (`server.ts`) mounting Vite middlewares in dev and serving static build in production.

3. Feature Audit: What is 100% DONE and Built

- 1. Homepage & Value Realisation Pathway:** Executive dark header, 6-stage value pathway (Learn, Try, Buy, Implement, Measure, Scale), founder credentials, training tiers, and value assurance.
- 2. Live Zoom AI Webinar Section & Modal:** High-visibility homepage placement featuring "How to Start Using AI at Work", instant "Join Zoom Webinar" (Meeting ID, Passcode, Launch) and "Register for Next Webinar" modal.
- 3. Expanded Practical Tool Vault (10+ Tools):** Fully catalogued in `/src/data/vaultToolsData.ts` including AI Readiness Checklist, E-Invoicing Scorecard, Month-End Closing Checklist, Working Capital Tracker, Cash Flow Forecast Template, AI Prioritization Matrix, Prompt Library, and Automation Idea Bank.
- 4. Interactive Checklist Modal:** Interactive checkpoint runner with completion progress bar, implementation notes, and sample templates.
- 5. Comprehensive Tool Store & Licensing:** Searchable, filterable catalogue by value category (A/B/C) with reactive AED/USD toggle, coupon validation (VCFO-VIP, CFO2026), and local runbook instructions.
- 6. Corporate AI Training Matrix:** Three distinct training tiers (Tier 1 Half-Day, Tier 2 Full-Day, Tier 3 Multi-Day Transformation) with syllabus and proposal request.
- 7. 12-Control Fiduciary AI Readiness Audit:** Weighted assessment covering statutory compliance, deterministic subledger controls, and air-gapped compute, calculating an aggregate readiness score.
- 8. Confidential Discovery Call Booking:** Intake pipeline capturing ERP core (SAP, Oracle, NetSuite, Dynamics), turnover tier, audit score pre-fill, and bilateral NDA dispatch.
- 9. Webinars Hub & Replay Vault:** Flagship live briefing countdown, 4-part agenda, and gated video replay vault.
- 10. Gemini AI Advisor:** Available in dual modes: full dedicated page view and persistent floating widget with streaming multi-turn chat and executive prompts.

4. Detailed Gap Analysis: What is PENDING for Backend Integration

- 1. Enterprise Authentication & Protected Routes:** `SignInModal` currently provides simulated role authentication. Production needs Firebase Auth, Google OAuth, or corporate SAML/Azure AD with HTTP-only session cookies.
- 2. Live Zoom API & Automated Calendar Invites:** Connect `ZoomWebinarModal` registration form to Zoom Webhooks and automated `.ics` calendar invite dispatch (via SendGrid, Postmark, or Resend).
- 3. Downloadable Asset Storage & Expiring Links:** Upload actual downloadable Excel spreadsheets (`.xlsx`), Python scripts, and PDF workbooks to cloud object storage (GCS/AWS S3) and issue 60-second time-expiring signed URLs.
- 4. Payment Gateway Integration:** Connect the tool purchase panel to Stripe or a GCC payment gateway (Telr / Checkout.com / Network International) for real AED & USD card/wire transactions.
- 5. CRM & NDA Signature Automation:** Wire `DiscoveryBookingView` into HubSpot or Salesforce CRM, and connect DocuSign

or automated PDF signing for mutual bilateral NDAs.

6. Static Legal Routes: Publish static legal documents for /privacy, /terms, /disclaimer, /refund-policy, and cookie preference management.

5. Instructions for Running, Testing, and Deployment

- **npm install:** Installs all required dependencies from package.json.
- **npm run dev:** Launches Node/Express server on port 3000 mounting Vite in middleware mode.
- **npm run lint:** Executes TypeScript compiler check (tsc --noEmit) to ensure 0 type errors.
- **npm run build:** Creates the optimized production bundle in /dist.
- **Required Environment Variables:** GEMINI_API_KEY (for AI Advisor streaming) and APP_URL (for hosted domain).