

Overview

An AI-assisted content review platform that lets creators paste or upload drafts, runs automated checks (brand voice, quality, SEO, compliance, accessibility), and returns a multi-dimensional score with actionable fixes. High-scoring drafts can auto-approve; others route to reviewers.

Target audience: Healthcare marketing agencies first (HIPAA awareness), expandable to other sectors (finance, legal, retail). Delivery as a React dashboard with an n8n-powered AI agent and pluggable sector policies.

Goals & Non-Goals

Goals - Cut approval cycle from 5 days → same-day via automated scoring + suggestions. - Enforce brand voice consistency per client. - Catch compliance and accessibility issues early. - Provide explainable feedback (citations to rules violated, examples to fix). - Support multi-client, multi-sector deployments with tenant isolation.

Non-Goals - Replacing legal review in high-risk assets. - Creating SEO strategy; we evaluate execution against provided strategy.

Personas & Primary User Story

- **Content Ops Manager:** Configures brand, policies, and approval thresholds.
- **Content Creator:** Submits drafts, iterates with AI suggestions.
- **Reviewer/Compliance Officer:** Reviews flagged items.
- **Client Admin:** Owns brand guidelines and sector policy selection.

Primary Story: “As a content ops manager, I want automatic checks for HIPAA compliance, brand consistency, and SEO so we publish confidently the same day.”

Scope (MVP vs. Phase 2)

MVP (Hackathon) - Tenant React dashboard (login, create draft, paste/upload doc/URL). - n8n workflow: analysis pipeline → returns JSON scores + suggestions. - Brand Voice training from 5–20 sample articles per client (few-shot + embeddings). - Compliance rule checks (HIPAA baseline) with pattern rules + LLM reasoning. - SEO checks: keyword presence/density, title/H1/meta, length, internal links. - Accessibility checks: headings, alt text presence, reading level. - Multi-dimensional score + auto-approve threshold. - Activity log and downloadable report PDF.

Phase 2 - Continuous learning loop (compare post-publish metrics to scores). - A/B feedback: accept/decline suggestion to fine-tune weights. - Multi-language support. - Plagiarism/ originality check integration. - Real-time editor plug-ins (Chrome/Word/Notion).

High-Level Architecture

- **Frontend:** React (Vite) + Tailwind + TanStack Query; role-based routes.
 - **Backend API:** Azure Functions (HTTP) for auth, jobs, storage, and webhook handler.
 - **Orchestration:** n8n (cloud/self-host) runs analysis workflows; exposes webhook.
 - **Model Services:** Azure OpenAI / OpenAI for LLM; Vector DB (Pinecone/Azure AI Search) for brand voice memory.
 - **Storage:** Azure Blob (drafts, reports), Azure SQL/ Postgres for metadata.
 - **Auth:** Azure AD B2C or JWT with per-tenant API keys.
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Integrations & Data Flow

1) Submit Draft

React → `POST /api/content` with body text + metadata → creates record → `POST /n8n/webhook/analyze` with contentId.

2) n8n Analysis

Webhook → Retrieve content + client config → Pre-checks → LLM prompts (brand/quality/SEO/compliance) → Aggregate → `POST /api/analysis/callback`.

3) Dashboard Update

API persists results, computes status (auto-approve vs. needs-review), emits notifications.

Scoring Model

Weighted composite score (0–100): - Brand Alignment (0–25) - Content Quality (0–20) - SEO Optimization (0–20) - Engagement Potential (0–15) - Compliance (0–15) — hard gate; if critical violation → status "Blocked" - Accessibility (0–5)

Auto-approve ≥ 85 AND no critical compliance flags.

Needs Review 60–84 OR minor flags.

Blocked < 60 OR any critical compliance flag.

Weights adjustable per client/sector.



Checks & Rules (MVP)

Brand Voice - Match tone attributes (professional, friendly, authoritative, conversational). - Vocabulary/terminology vs. approved glossary; restricted topics list. - Style: sentence length, passive voice %, paragraph structure.

Quality - Grammar/spelling, readability (Flesch-Kincaid), structure (H1/H2), clarity.

SEO - Primary/secondary keyword density windows, title/meta presence, URL slug hints, internal link count and anchor quality.

Engagement - Headline strength, CTA presence, intro hook, scannability (lists, subheads), visual suggestions.

Compliance (*general guidance; not legal advice*) - HIPAA: remove PHI unless authorized; avoid implying diagnoses; disclaimers. - GDPR/FTC: cookie/consent mentions for landing pages; avoid misleading claims.

Accessibility - Alt text for images, heading order, link text clarity, plain language use.

Data Model (Relational)

clients(id, name, sector, domain, status, created_at)

brand_guidelines(id, client_id, tone_json, glossary_json, style_json, restricted_json)

sector_policies(id, sector, rules_json)

training_corpus(id, client_id, title, url, embedding_vector_ref, quality_score)

content_items(id, client_id, author_id, title, body, source_type, status, created_at)

analyses(id, content_id, version, overall_score, verdict, raw_json, created_at)

violations(id, analysis_id, category, severity, rule_id, message, snippet, fix)

users(id, email, name, role, client_id, password_hash)

api_keys(id, client_id, key_hash, scopes, created_at)

webhooks(id, client_id, url, secret)

API Contract (Azure Functions)

`POST /api/content` → {contentId} - body: { title, body | fileUrl, clientId, keywords[], targetPersona, pageType }

`GET /api/content/:id` → content item

`POST /api/content/:id/analyze` → triggers n8n webhook

`POST /api/analysis/callback` (from n8n)
- body: { contentId, overallScore, verdict, scores: {...}, violations: [...], suggestions: [...], seo: {...}, accessibility: {...}, brand: {...} }

`GET /api/analysis/:contentId` → latest analysis

`POST /api/clients/:id/brand` → upsert brand guideline JSON

`POST /api/clients/:id/policies` → select sector and policy packs

`POST /api/reports/:contentId/pdf` → generates a PDF summary

n8n Workflow (MVP)

Workflow: `ContentAnalysis` 1. **Webhook (POST /webhook/analyze):** receives {contentId} 2. **HTTP Request:** fetch content + client config from API. 3. **Function:** pre-parse (extract headings, links, images, word count). 4. **Code:** compute heuristic metrics (readability, keyword density, link counts). 5. **LLM (OpenAI/Azure OpenAI):** Brand Voice evaluation (few-shot with client exemplars). 6. **LLM:** Compliance reasoning (HIPAA baseline + sector rules_json). 7. **LLM:** SEO suggestions + meta draft (title, meta description, FAQ, schema.org outline). 8. **LLM:** Engagement rewrite suggestions (headline options, CTAs, hooks). 9. **Merge/Set:** Aggregate scores → composite; attach violations + fixes. 10. **HTTP Request:** POST results to `/api/analysis/callback`. 11. **IF:** If verdict=Auto-Approve → **HTTP Request:** mark approved + notify (Slack/Email).

Workflow: `BrandVoiceTrainer` - Input: URLs/files of exemplary content. - Steps: Fetch → Chunk → Embed → Upsert to Vector DB tagged by client.

Workflow: `PolicyPackUpdater` - Maintains sector policies; versioned downloads into `sector_policies`.

Prompt Templates (LLM)

Brand Voice Evaluation Prompt (system)

You are a strict brand-voice and style auditor. You analyze text against client-specific tone, vocabulary, and style rules. Return JSON only.

User

```
CLIENT_BRAND = {{brand_guidelines_json}}
TEXT = """
{{content_body}}
"""
Return JSON:
{
  "brandAlignment": {"score": 0-25, "evidence": ["..."], "mismatches":
[{"rule":"...", "snippet":"...", "fix":"..."}]},
  "style": {"avgSentenceLength": n, "passiveVoicePct": n, "readability":
{"fleschKincaid": n}},
  "restricted": [{"topic":"...", "severity":"minor|
critical", "snippet":"...", "action":"remove|rewrite"}]
}
```

Compliance Prompt (HIPAA baseline)

You are a compliance checker. Identify any PHI or risky claims in healthcare marketing content. Cite rule names. Output JSON with fields: issues[{rule, severity, snippet, rationale, suggestedFix}], riskGate: "pass|block".
Context: {{sector_policies.rules_json}}
Text: {{content_body}}

SEO Prompt

Goal keywords: {{keywords[]}}
Analyze coverage and propose: improved title, meta description (<=155 chars), H1/H2 outline, 3 internal link anchors, FAQ (3-5 Q&A), and structured data type. Return JSON with score 0-20 and suggestions.

Engagement Prompt

Rate headline strength, hook quality, CTA clarity. Return 3 alternative headlines and 2 CTA lines. Score 0-15 with reasons.

Example Analysis JSON (from n8n → callback)

```
{
  "contentId": "c_123",
  "overallScore": 87,
  "verdict": "Auto-Approve",
  "scores": {
    "brand": 22,
    "quality": 18,
    "seo": 17,
    "engagement": 14,
    "compliance": 15,
    "accessibility": 5
  },
  "violations": [
    {"category": "Compliance", "severity": "critical", "rule": "HIPAA-PHI", "snippet": "Patient John Doe...", "fix": "Remove name; use de-identified phrasing"}
  ],
  "seo": {"title": "...", "meta": "...", "faq": [{"q": "", "a": ""}]},
  "accessibility": {"missingAlt": 2, "headingOrder": "H1>H2>H3"},
  "brand": {"mismatches": []},
  "suggestions": ["Rewrite intro for clarity", "Shorten sentences in paragraph 2"]
}
```

React Dashboard (MVP)

Pages - Login / Tenant Switch - Create Draft (Paste, Upload .docx/.md, or URL import) - Analysis Result (scores, violations, one-click fixes, download PDF) - Brand & Policy (upload examples, edit tone/glossary, select sector pack) - Activity / Approvals

Component Tree (key) - `ContentEditor` (textarea + file drop + keyword field) - `ScoreCard` (radial/stack bars by dimension) - `ViolationsTable` (severity, rule, snippet, fix → "Apply Fix") - `SEOPanel` (meta drafts, internal link suggestions) - `AccessibilityPanel` - `BrandConfigForm` (tone sliders, glossary terms, restricted list)

State/Networking - TanStack Query for `content`, `analysis`, `clientConfig`. - Webhook polling or SSE for job status.

Security & Compliance (baseline)

- Tenant isolation by `client_id` on all resources.
- Data at rest: Azure Blob/SSE; in transit: HTTPS.
- PII/PHI handling: store drafts without real PHI in demo; mask logs.
- Role-based access: creator, reviewer, admin.
- Signed n8n webhooks with HMAC secret.

Note: Compliance checks are assistive; final responsibility remains with the client's compliance officer.

Success Metrics & Telemetry

- Approval rate ↑, time-to-publish ↓.
 - Brand consistency score ↑ over time.
 - Post-publish SEO lift vs. baseline.
 - Compliance violation prevention rate.
 - Creator satisfaction (CSAT) in UI.
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Project Plan (Hackathon-friendly)

Day 1: Schema + React shell; n8n webhook + one LLM check; sample client seed.

Day 2: Full scoring + PDF report + brand trainer; polish UI.

Day 3: Sector policy toggle; demo dataset; auto-approve flow + notifications.

Sectorization Strategy

- Policy packs per sector (healthcare, finance, legal) as versioned JSON.
 - Brand voice embeddings stored per client; prompt routing includes sector pack.
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Sample Policy Pack (Healthcare/HIPAA) JSON

```
{  
  "name": "HIPAA-Baseline",
```

```
{
  "version": "1.0.0",
  "criticalRules": [
    { "id": "HIPAA-PHI", "desc": "Do not include PHI.", "patterns": ["patient name", "MRN", "DOB", "address"]}
  ],
  "advisoryRules": [
    { "id": "CLAIMS-SUBSTANTIATION", "desc": "Avoid unverified claims; add citations or qualifiers." }
  ]
}
```



Webhook Contracts

To n8n `POST /webhook/analyze`

```
{ "contentId": "c_123", "clientId": "c1_1" }
```

From n8n `POST /api/analysis/callback`

```
{ "contentId": "c_123", "overallScore": 87, "verdict": "Auto-Approve", "scores": { "...": 87 }, "violations": [ "...", "..." ], "suggestions": [ "...", "..." ] }
```



Tech Stack

- React + Vite + Tailwind + TanStack Query
- Azure Functions (Node/TS) + Azure SQL/Postgres + Blob Storage
- n8n (cloud/self); Azure OpenAI/OpenAI; Pinecone/Azure AI Search

Risks & Mitigations

- **LLM drift** → cache prompts, test corpora, eval suites.
- **False positives** → rules weights adjustable; human override.
- **Latency** → parallelize checks; early heuristics before LLM.

Eraser.io Diagram Prompt

Copy-paste into Eraser's AI Diagram:

Create a system diagram titled "Content Quality & Brand Alignment Checker" with these components and flows:

Users: Content Creator, Reviewer, Ops Manager.

Frontend: React Web App (Pages: Editor, Results, Brand & Policy, Approvals).

Backend: Azure Functions API (Auth, Content, Analysis Callback, Reports), Azure SQL DB, Azure Blob Storage.

Orchestration: n8n Workflows (ContentAnalysis, BrandVoiceTrainer, PolicyPackUpdater).

Model Layer: LLM (Azure OpenAI), Vector DB (Brand Embeddings), Policy Packs (JSON per sector).

Integrations: Slack/Email Notifications.

Flows:

- 1) Creator submits draft → API stores content → API triggers n8n webhook.
- 2) n8n fetches content + brand config → runs heuristics + LLM checks (Brand, Quality, SEO, Compliance, Accessibility) in parallel → aggregates scores.
- 3) n8n posts results to API callback → API updates analysis + computes verdict (Auto-Approve | Needs Review | Blocked).
- 4) Frontend polls/SSE to show results; reviewer can approve/reject; PDF report generated on demand.
- 5) Ops Manager uploads exemplars → BrandVoiceTrainer embeds into Vector DB.
- 6) Sector Policy Pack selected per client and versioned.

Add trust boundaries around Tenant (client_id) and HMAC-signed webhook between API and n8n.

Annotate storage: drafts/reports in Blob; metadata in SQL.

Include weights table for composite scoring.

Nice-to-Have Demo Touches

- One-click "Apply Fix" that rewrites selected paragraph using suggestion.
- Before/After diff view.
- Score sparkline per iteration.



Compliance Disclaimer

This tool provides assistive guidance only and does not constitute legal advice. Clients must validate outputs with qualified compliance professionals.