# ****AI Product Requirements Document****

**Product Name:** AutoDescribe – AI Product Description Generator (RAG-powered)  
**Version:** 1.0

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## ****1. Executive Summary****

**Purpose:** This PRD outlines an MVP for an AI Product Description Generator using a Retrieval-Augmented Generation (RAG) pipeline. The tool creates:

* SEO-friendly product descriptions
* Short mobile-optimized bullet highlights
* Variant-specific copy (color/size/material)

The system grounds outputs in merchant product specs to reduce hallucinations and uses a human-in-the-loop editor workflow for quality control.

**Why this matters:** E-commerce content teams spend significant time and budget producing consistent, SEO-optimized descriptions at scale. AutoDescribe reduces manual effort, speeds up time-to-publish, and improves copy consistency and discoverability — enabling smaller teams to manage larger catalogs without growing headcount.

**Success criteria:**

* **Win rate (editor approval):** ≥ 75% for generated drafts.
* **Hallucination rate:** ≤ 5% (incorrect product facts).
* **Time saved per SKU:** ≥ 60% (vs. manual drafting).
* **CTR lift (simulated A/B):** ≥ 10% on sample pages.

## ****2. Market Opportunity****

**Market stage & drivers:**  
The e-commerce content tooling market is maturing, driven by:

* Rising SKU counts
* Omni-channel demands (web, mobile, marketplaces)
* Faster launch cycles requiring scalable content

Example: Shopify Q2 2023 GMV grew 17% ($55B), highlighting e-commerce growth.

**Opportunity & value:**  
Automating product copy lowers content costs, accelerates catalog publishing, and increases SEO-driven discoverability. This addresses a recurring, high-volume pain point with direct impact on funnel metrics (CTR, conversion).

**TAM (qualitative):** Any merchant with a catalog benefits — especially those publishing across multiple channels.

## ****3. Strategic Alignment****

**Company fit:** Supports the strategy of enabling merchants to scale operations with AI while maintaining brand quality. Increases platform stickiness through CMS/Catalog integration and establishes a foundation for broader AI features (e.g., marketing copy, recommendations).

**Objectives supported:**

* Increase publishing throughput
* Improve SEO and conversion
* Reduce cost per SKU

**Strengths leveraged:** Proprietary spec data, CMS integration, and editorial workflows → higher quality than generic copy tools.

## ****4. Customer & User Needs****

**Primary user:** **Content Editor / Copywriter**

* Needs: fast, accurate AI drafts that require minimal edits.
* Jobs-to-be-done: write consistent, SEO-aligned copy across thousands of SKUs.
* Pain points: slow manual writing, repetitive variant tasks, maintaining SEO + tone.

**Secondary user:** **Merchant / Store Owner (economic buyer)**

* Needs: faster product launches, lower costs, improved SEO visibility.
* Pain points: delayed store launches, costly freelancers, inconsistent copy quality.

**Constraints:**

* May need multilingual support.
* Must enforce regulatory/claims rules (e.g., medical/safety).
* Catalog data may be sparse or inconsistent.

**High-value problems solved:**

* Publishable first-drafts that reduce editor workload.
* Minimized hallucinations → reduced risk of returns/legal issues.

## ****5. Value Proposition & Messaging****

**For Editors:** “Create high-quality product descriptions and highlights in seconds — cut drafting time by ~60% while keeping brand voice.”  
**For Merchants:** “Scale publishing without increasing headcount; launch consistent SEO-ready copy across channels.”

**Key capabilities (AutoDescribe):**

* SEO description (80–140 words)
* 2–3 short mobile highlights
* Variant-aware copy (color/size/material)
* Editor UI (accept/edit/publish) with revision logs

**Differentiation:**

* RAG grounding in product specs → fewer hallucinations
* Human-in-the-loop editor workflow with feedback logging → continuous improvement
* Direct CMS integration → authoritative product facts

## ****6. Competitive Advantage****

**Defensibility:**

* CMS/spec integration makes outputs more accurate than generic tools
* Editor revision logs create training data → compounding quality advantage
* Guardrails reduce compliance risk for brands

**Why competitors will struggle:**  
Generic copy tools hallucinate facts and require heavy post-editing. AutoDescribe’s RAG + product-data integration + editor workflow lowers manual correction and risk.

## ****7. Product Scope & Use Cases****

**MVP scope (must-have):**

* **Inputs:** product CSV or CMS feed (title, specs, variants, alt text)
* **Outputs:** SEO description, mobile bullets, SEO title suggestion
* **UI:** lightweight editor for preview, edit, accept/publish
* **Retrieval:** FAISS (pilot), Pinecone (production)
* **Guardrails:** prompt constraints + hallucination checks + editor gating

**Post-MVP (desirable):**

* Multilingual support
* Bulk jobs (1,000+ SKUs/day)
* Analytics dashboard for SEO impact

**Use cases:**

* Bulk drafting for catalog launches
* Variant copy for marketplaces
* Seasonal campaign refreshes

**KPIs / Desired outcomes:**

* **User adoption:** ≥15% WoW usage by day 180
* **Merchant satisfaction:** ≥80% positive feedback
* **Churn reduction:** measurable decrease in “draft state” time-to-publish
* **SEO impact:** lift in organic traffic

**High-risk assumptions & tests:**

* 70% drafts are publishable → validate via 50–100 SKU pilot with editor scoring
* Hallucination rate stays ≤ 5% → validate via manual + heuristic checks

## ****8. Non-Functional Requirements****

**General:**

* Latency: ≤ 5s generation (≤3s with cache)
* Uptime: 99.9% generation API availability
* Throughput: handle 1,000 SKUs/day in pilot
* Security: GDPR compliance, secure log storage
* Localization: Unicode + RTL languages (later phases)

**AI-Specific:**

* RAG with vector DB indexing specs + variants
* Accuracy: hallucination rate ≤ 5% (monthly sampling)
* Monitoring: win rate, hallucination rate, latency, cost dashboards
* Guardrails: block risky claims; fallback to “insufficient info”
* Feedback loop: editor logs for prompt tuning/fine-tuning
* Ethical/legal: ban discriminatory or misleading phrasing

## ****9. Go-to-Market Approach****

**Phase 1 – Pilot (0–4 weeks):**

* Internal teams or 1–2 brand partners (10–100 SKUs)
* Validate win rate ≥70%, hallucination ≤5%, time saved ≥60%

**Phase 2 – Early Adopters (1–3 months):**

* Expand to 100–1,000 SKUs
* CMS workflow integration
* Run A/B tests on live product pages for CTR/conversion

**Phase 3 – Scale (3–9 months):**

* Multilingual support + fine-tuned brand voice
* Automated A/B testing pipelines
* Merchant dashboard with analytics

**Tactics:**

* Pilot incentives (reduced fee/free trial + case study)
* ROI calculator (time saved × cost reduction)
* Training for content teams + prompt templates

## ****Appendix****

**Evaluation plan:** editor scoring + heuristics, 50–200 SKUs per test

**Example prompts:** strict grounding instructions, fallback rules

**Next steps:** Build MVP (7–14 days dev effort), run pilot, measure, iterate