AI-Assisted Underwriting

Supplier document analysis with human oversight

workMETHODS
FASTER, BETTER, SMARTER BUSINESS PERFORMANCE

Background

A government financial agency needed to explore how AI could assist underwriters reviewing supplier submissions against defined eligibility criteria. Each recommendation had to include verifiable evidence and a clear reference to its source. Final decisions remained with underwriting personnel.

Challenge

Supplier information arrived in PDF and Word files, with relevant evidence spread across sections. Reviewers needed to assess competitive conditions and technology alignment, identify missing information, and explain the basis for each recommendation. A credible pilot had to make the reasoning understandable to non-technical stakeholders.

Our Solution

workMETHODS developed an AI-assisted underwriting pilot that combines document processing, Retrieval-Augmented Generation (RAG), and a large language model. Users upload one to five supplier documents per case. The system extracts text, divides it into searchable sections, and stores embeddings in a vector database.

A predefined evaluation retrieves relevant sections, then assesses the case against the eligibility criteria. The result combines a recommendation, a 0–100% confidence score, a short explanation, and evidence excerpts linked to document names or sections. Reviewers can check the source material before making a decision.

Scope

- Assess competition evidence, product overlap, and competitive impact separately from alignment to defined technology categories. Classify the case as meeting either, both, or neither set of criteria.
- Identify missing data, ambiguous evidence, and information that needs manual verification. Flag confidence below 60%, conflicting evidence, and insufficient documentation.
- Apply a confidence framework weighted by evidence strength (40%), source reliability (20%), criteria coverage (30%), and data completeness (10%).
- Keep the document pipeline, retrieval layer, and AI reasoning modular. Pilot deliverables include the application, source code, and operating and demo documentation.

Business Value

The pilot supports a consistent review format with source references and explicit information gaps. Underwriters retain final authority. It demonstrates the approach with sample documents before considering a wider rollout.

Key Benefits

- Recommendations backed by source evidence
- Consistent criteria across cases
- Clear gaps for follow-up review
- Human control of final decisions

Key Features

- 1–5 PDF or Word files per case
- Automatic extraction and chunking
- Evidence snippets and references
- Confidence scores and risk flags
- Pilot response target of 10–15 seconds

Key Technologies

- Angular
- Java with Spring Boot
- Amazon Web Services (AWS)
- RAG and vector database
- Large language model integration

Why workMETHODS

workMETHODS provides AI and custom application development services for document-heavy business processes, helping cut project costs by 40%. We combine document analysis, evidence retrieval, and AI evaluation to help teams assess information against defined business criteria.

Our solutions link recommendations to source documents and highlight missing or conflicting information. We design the review process around your requirements, with your team retaining control over final decisions.

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