

Code Explorer: Accelerate Your Codebase Transformation with AI-Powered Insights

Unlock the Full Potential of Your Software Assets with Improving's Code Explorer

Overview

In today's accelerating digital landscape, organizations face mounting pressure to modernize legacy systems, optimize code quality, and accelerate innovation. Code Explorer, an Improving service accelerator, empowers your teams to rapidly analyze, document, and extract actionable insights from any codebase—combining decades of application modernization expertise with the latest in Generative AI.

Whether you're planning a migration, seeking to improve maintainability, or striving for higher development efficiency, Code Explorer delivers a comprehensive, AI-driven approach to code understanding and transformation.

Why Code Explorer?

- **Faster Time-to-Insight:** Rapidly surface technical and business-critical information from complex codebases.
- **Reduce Risk:** Identify refactoring opportunities and anti-patterns before they become costly issues.
- **Boost Productivity:** Generate human-readable documentation and knowledge graphs to onboard teams faster and support informed decision-making.
- **Drive Modernization:** Lay the groundwork for migration, integration, and continuous improvement initiatives.

What's Included?

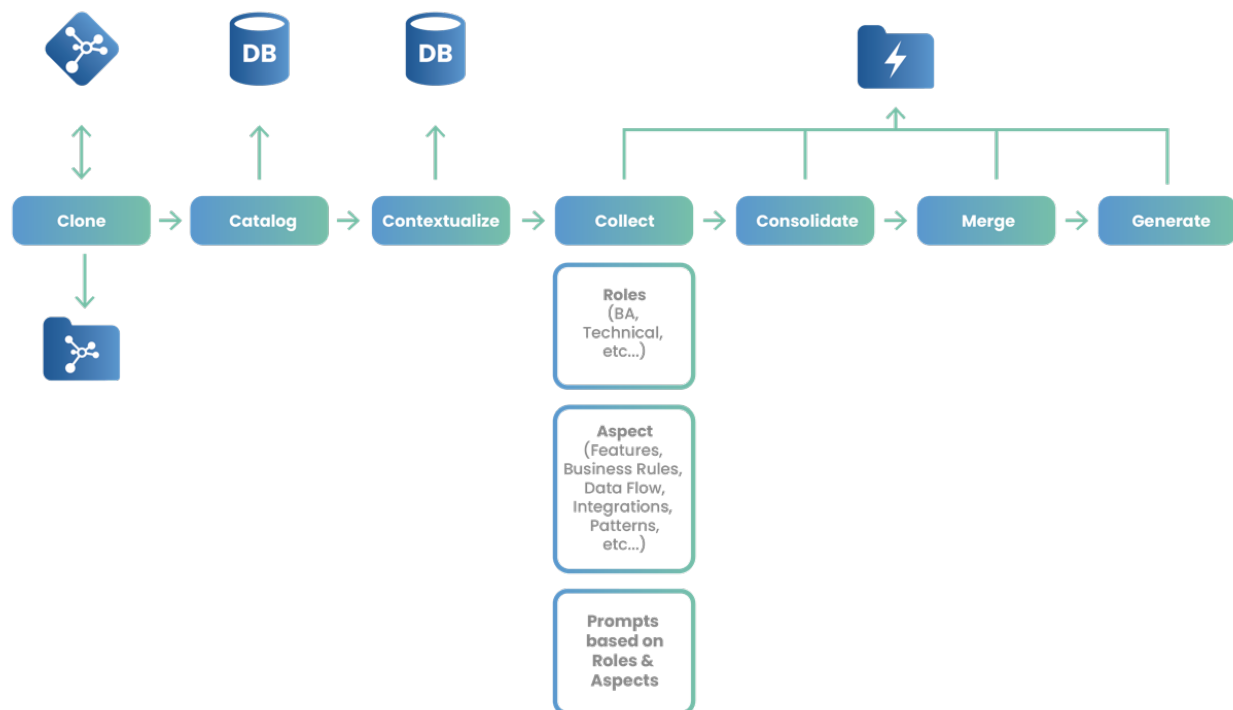
Code Explorer provides three specialized AI-powered pipelines:

Pipeline	What It Does	Key Benefits
Chain of Density Collection	Extracts detailed technical and functional information from source code using advanced LLMs.	- Comprehensive code understanding
	Generates markdown documentation (e.g., Feature Driven Documents) for stakeholders.	- Clear, human-readable documentation
Knowledge Graph Construction	Parses code into Abstract Syntax Trees (ASTs) and builds a navigable graph database.	- Visualize and query code relationships
	Enriches with contextual data for holistic system views.	- Trace dependencies and integration points
ETL Catalog Generation	Documents ETL (Extract, Transform, Load) processes, including data sources, logic, and flows.	- Accelerate data migration and compliance
	Generates process flow diagrams and markdown catalogs.	- Supports Tableau, SQL, and more

How Does It Work?

1. Chain of Density Collection

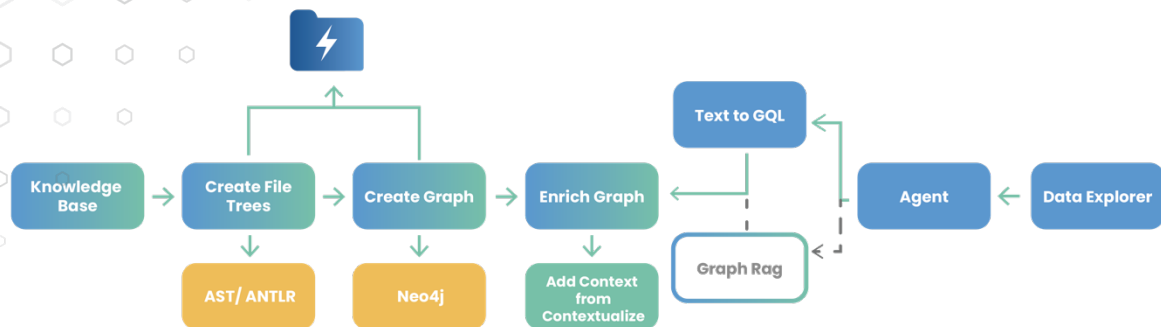
- Analyzes source files for a deep technical and functional understanding.
- Uses LLM-driven prompting to extract and summarize key features, generating easy-to-digest documentation for developers, architects, and business stakeholders.
- Works on traditional code bases, legacy languages, and ETL/Data processes



2. Knowledge Graph Construction

- Converts code into graph structures, mapping relationships, dependencies, and architectural patterns.

- Enables powerful querying and visualization, making it easy to explore system architecture, trace features, and identify integration points.



Transform Complexity into Actionable Insights

Code Explorer leverages advanced knowledge graph techniques:

- **Chain of Discovery:** Systematically uncovers relationships and insights, building a rich, interconnected map of the knowledge contained in your codebase.
- **Chain of Density Analysis:** Simplifies and prioritizes the most impactful elements, reducing noise and focusing attention where it matters most.

This dual approach ensures you move from overwhelming complexity to actionable, business-aligned intelligence—empowering both technical and non-technical stakeholders to make informed decisions.

Who Should Use Code Explorer?

- **CIOs & IT Leaders:** Accelerate modernization and de-risk transformation projects or prepare for (or reverse) knowledge loss from turnover.
- **Development Managers:** Improve code quality, maintainability, and team onboarding.
- **Data & Analytics Leaders:** Streamline documentation and migration of ETL processes.

- **Business Stakeholders:** Gain clear, accessible insights into technical assets for better alignment and planning.

Key Outcomes

- **Accelerated Application Modernization:** Reduce analysis and documentation time from weeks to days.
- **Improved Code Quality:** Identify and address technical debt and security risks early.
- **Enhanced Collaboration:** Bridge the gap between business and technology with clear, actionable documentation and visualizations.
- **Future-Proof Your Investments:** Build a foundation for continuous improvement and innovation.

Ready to Transform Your Codebase?

Contact Improving today to schedule a personalized Code Explorer session and see how AI-powered code analysis can drive your organization's success.

> **Empower your teams. Modernize with confidence. Unlock the value hidden in your code.**

ABOUT IMPROVING

Improving is a leader in digital transformation and application modernization, partnering with organizations to deliver innovative solutions that drive measurable business outcomes.
