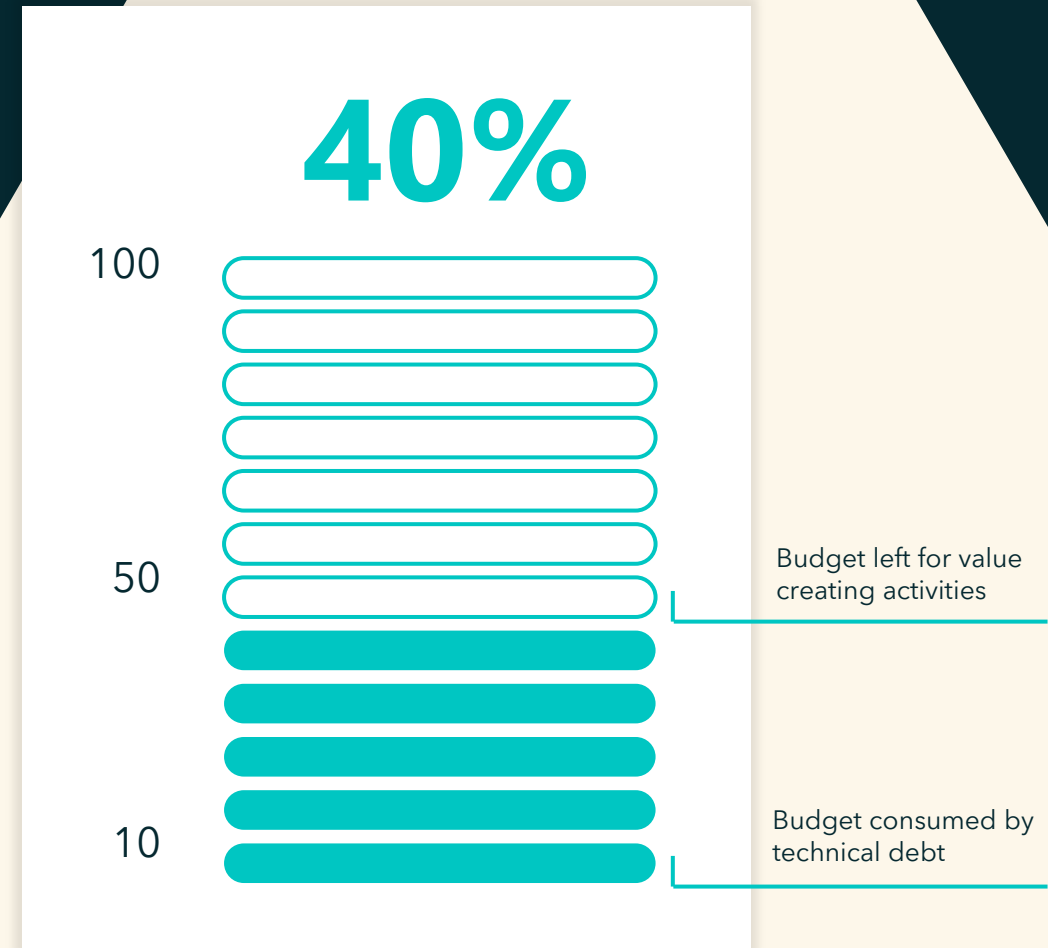# Version 1 Decipher

Derisking Modernisation using Generative AI

Legacy software is eating the world…

40% *of current IT budget will be consumed by 2025 dealing with compound technical debt.*

- Gartner

40%

100

50

Budget left for value creating activities

10

Budget consumed by technical debt

Realigning needs

Successful modernisation programmes look beyond legacy tech upgrades and focus on realigning applications to current and future needs.

Accurate documentation and understanding of the as-is system is key to ensuring a successful outcome

96%

of our customers indicated that a lack of documentation is a blocker to modernisation

VERSION 1

Manually creating documentation is slow and expensive

A real example: **COBOL Modernisation Program for Musgrave**

300K
lines of code which lacked documentation

150
days required to document the as-is before beginning the modernisation

Scale that up and the effort needed to document and thus derisk modernisation is completely prohibitive.

https://www.version1.com/customer-success/musgrave-processing-hub/

Musgrave   VERSION 1

Imagine If..

You had comprehensive and up to date documentation for your systems.
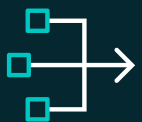
Engineers could be onboarded easily and at low cost to support and extend your systems.

This documentation could be automatically generated directly from the source code.

You could quickly identify the most complex areas of your systems that require most attention.

You could embark upon a modernisation programme with confidence and lower risk.

Your documentation could be queried in natural language using a digital assistant.

VERSION 1

Decipher a Version 1 developed solution

Decipher is a Version 1 developed solution which uses Generative AI to auto document applications.

01 Read legacy code

02 Extract segments

03 AI summarisation

04 Generate documentation

05 Query insights
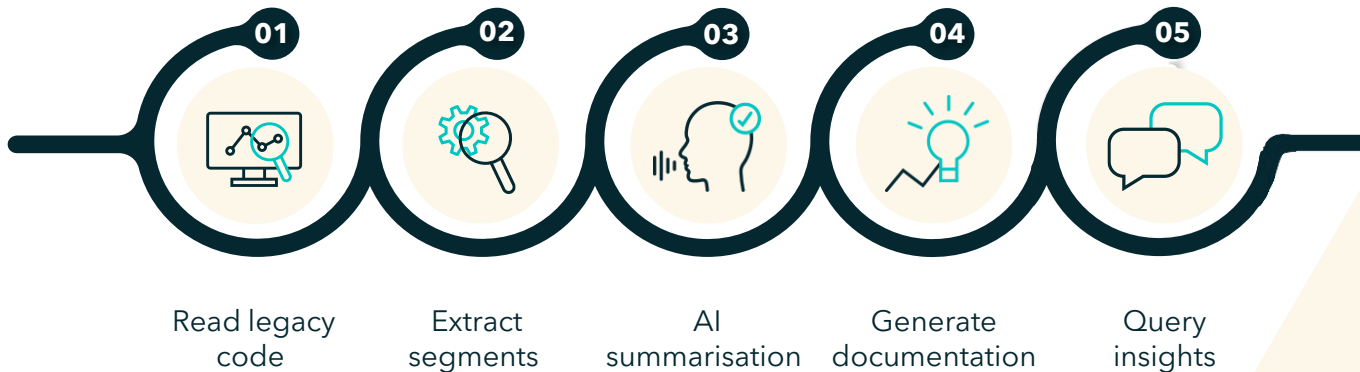
Powered by:

Azure OpenAI

Languages currently supported:

C# Java COBOL

Coming soon:

Microsoft Visual Basic 6.0 ORACLE PLSQL OpenRoad

Decipher

AI powered code insights and documentation

An Azure AI hosted solution that automates the generation of functional and technical documentation to decode legacy codebases and enable efficient, cost-effective application modernisation.

VERSION 1

Effective documentation is a critical enabler of a successful modernisation program

Version 1 Decipher automatically generates code insights and documentation using Generative AI

Derisking Modernisation
Documentation of legacy systems is typically limited or outdated. Coupled with a dwindling number of engineers with expertise in the legacy technology, this results in a system which is poorly understood and hard to support, introducing risk to the modernisation process.

Accelerating Delivery
Accurate documentation enables faster discovery and analysis of the as-is solution, enabling you to accelerate your modernisation process.

Improving Cost Estimation
Quite often, modernisation projects are underestimated due to the complexity and logic of the as-is solution being misunderstood. Effective documentation which enables a deeper understanding of the as-is system is critical to support the estimation process.

Enhancing Maintainability
Maintaining accurate and up to date documentation is a challenge faced by every software development project due to competing demands. This impacts your ability to onboarding and upskill new staff quickly and cost effectively, whilst also providing a supportability issue.

20x faster than a manual documentation approach

90% accurate technical documentation produced

Editable documentation allowing you to extend or modify

Dependency charts, architectural diagrams and code quality metrics provide deep insights

VERSION 1

Deciphering a legacy Java application for a major Irish Public Sector Department

Challenge

A major Irish public sector department faced a significant challenge in maintaining and modernising its extensive legacy IT systems. These systems, critical to the department's operations, lacked documentation and were becoming increasingly difficult to support.

Solution

We deployed Decipher to our customer's Azure tenancy and using Azure OpenAI, we deciphered a legacy Java application. The documentation produced was reviewed by the application SMEs to evaluate the performance, checking against agreed success factors including accuracy and completeness. This review completed with all success factors passing. This has enabled the Department to rapidly produce documentation for a key system, thus enabling and supporting their modernisation objectives.

Outcomes

x20+ reduced effort to produce documentation.	**100%** of success criteria passed.	**90%** accurate technical documentation.

VERSION 1

Decipher features and roadmap

Current

Language Support	Java, C#, COBOL, PL/SQL
Cloud Support	Azure, AWS
Model Support	OpenAI, Bedrock
Repository Support	GitHub, GitLab, Azure DevOps
Deployment Options	Self-Hosted (cloud) or Version 1 Hosted
Documentation Format	Markdown - Documentation as code
Documentation Type	Functional & Technical
Granularity of Documentation	File level plus application summary
Documentation Exportable?	Yes
Intuitive User Interface	Yes
Side by side code compare	Yes
Virtual Assistant	Yes
Secure by Design	Yes

Coming soon

- ▶ Static Code Analysis of the application call stack
- ▶ Improved code summarisation by limiting analysis to relevant code only using GraphRAG approach
- ▶ Application complexity insights
- ▶ Architectural diagrams to depict relationship and call stacks
- ▶ Sonarqube integration for code quality insights
- ▶ Improved performance with load balancing of multiple model instances
- ▶ AI Model agnostic approach

VERSION 1

Summary

We believe the key to successful modernization lies in realigning applications to meet both current and future business needs, rather than merely replacing the legacy technology stack. While Generative AI can facilitate large-scale code conversion, its true transformative potential lies in enhancing our understanding of existing systems to accelerate and derisk the modernisation process.

Decipher addresses these challenges by generating real-time, up-to-date documentation directly from the application's source code. Whilst use of Generative AI in software development is still nascent, we've already proven its effectiveness in producing accurate and comprehensive documentations through customer delivery.

We welcome the opportunity to prove the value of Decipher to you.

VERSION 1