MedChain Avitabile Deliverable

Enrico Pezzano

October 2025

Abstract

Provide a concise summary of the project, its goals, and key outcomes. Highlight the most important implementation achievements and documentation artifacts.

Contents

1 Introduction

Introduce the MedChain project context, the real-world needs it addresses, and the scope covered by this deliverable. Provide background on relevant industry standards, compliance requirements, and prior art that influenced the system design.

Summarize the MedChain project objectives, the problem space, and the overall solution. Include key achievements, limitations, and the value it brings to stakeholders.

2 Documentation Overview

Outline the existing documentation set, including architecture descriptions, API references, user guides, and compliance materials. Note where the documentation resides in the repository, how it is maintained, and any pending updates.

2.1 Architecture Documentation

Describe how the system architecture is communicated, the diagrams in use, and the update cadence.

2.2 Developer Documentation

Summarize onboarding notes, coding standards, and technical references that support contributors.

2.3 User-Facing Documentation

Detail manuals, tutorials, or demonstrations prepared for end users or operators.

3 Implementation Details

Describe the system modules, critical algorithms, and integration points implemented in this project.

3.1 System Architecture

Summarize core components (smart contracts, services, zero-knowledge circuits, etc.) and their responsibilities.

3.2 Data Flows

Explain how data traverses the system, highlighting privacy, security, and compliance considerations.

3.3 Technology Stack

List major technologies, frameworks, and third-party services used, including their roles.

4 Results and Evaluation

Report experimental findings, benchmarks, or demos that demonstrate project effectiveness.

4.1 Validation Scenarios

Document the scenarios used to validate functionality and compliance requirements.

4.2 Metrics and KPIs

Capture quantitative or qualitative measures that indicate project success.

4.3 Lessons Learned

Reflect on what worked well, encountered challenges, and mitigation strategies employed.

5 Project Management

Summarize planning, milestones, and collaboration practices adopted during the project.

5.1 Timeline

Outline major phases, deliverables, and their completion status.

5.2 Team Roles

Define key contributors, responsibilities, and communication channels.

5.3 Risk Management

List identified risks, their impact, and mitigation actions.

6 Future Work

Identify enhancements, technical debt, and roadmap items that extend the current implementation.

6.1 Short-Term Priorities

Detail improvements that should be tackled in the next iteration.

6.2 Long-Term Vision

Describe strategic directions and research opportunities for the project.

A Appendix

Add supplementary material such as configuration snippets, extended tables, or survey instruments that support the main text.

References

[1] Vincenzo Botta, Vincenzo Iovino, and Ivan Visconti. Towards data redaction in bitcoin. *IEEE Transactions on Network and Service Management*, 19(4):3872–3883, 2022.

[2] Giuseppe Ateniese, Bernardo Magri, Daniele Venturi, and Ewerton R. Andrade. Redactable blockchain – or – rewriting history in bitcoin and friends. In *Proceedings of the IEEE European Symposium on Security and Privacy (EuroS&P)*, pages 111–126, 2017.

[3] Gennaro Avitabile, Vincenzo Botta, Daniele Friolo, and Ivan Visconti. Data redaction in smart-contract-enabled permissioned blockchains. In *Proceedings of the 6th Distributed Ledger Technologies Workshop (DLT)*, Turin, Italy, 2024. CEUR-WS.org.