

Software Reengineering Assignment 1

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1 Initial understanding

The Alitheia Core tool is an extensible platform for software quality analysis that is designed specifically to facilitate software engineering research on large and diverse data sources. It integrates data collection and preprocessing phases with an array of analysis services, and presents the researcher with an easy to use extension mechanism. Alitheia Core aims to be the basis of an ecosystem of shared tools and research data that will enable researchers to focus on their research questions at hand, rather than spend time on re-implementing analysis tools.

More specifically, Alitheia is the name of a platform, developed by the SQA-OSS project, for the automated objective evaluation of the quality of Open Source projects. By analyzing both the soft and the hard project artifacts (the project source code history is "hard" while the mailing lists, bug tracker entries and other human communications are "soft") the Alitheia software will produce a broader and more comprehensive picture of the quality and viability of each Open Source project than tools that examine only the product of the project.

Alitheia Core can process 3 types of data:

- Revisions from source code management systems
- Emails from mailing lists
- Bugs from bug tracking databases

1.1 Data processing

Alitheia Core processes data from software repositories in two phases:

Metadata extraction phase: Reads data from raw data sources, converts them to relational format and stores them in a database

Metadata association phase: Resolves hidden links across metadata originating from different data sources

What are the main features of the program?

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