SemDiff: Analysis & Recommendation Support for API Evolution

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**Problem:** when methods are removed from a framework during its evolution, client programs must be adapted to the new version of the framework.

**Hypothesis:** calls to broken methods are replaced locally in the same change set.

**Requesting Recommendations**

- **Easy Request:** Just right-click on the broken method and let SemDiff recommend relevant replacements.

- **Many Alternatives:** • SemDiff detects many-to-one changes, • SemDiff recommends potential alternatives.

**Analyzing Source Code History**

- **Fine-Grained Differences:** 1. Files 2. Members 3. Calls

- **Analyze your own framework:** • Easy and Quick Configuration • Support CVS and Subversion

- **Decide which analyses to run:** • All transactions or a subset • Extensible: create your own analysis!

- **You can use SemDiff to analyze a framework’s history and browse through its change sets.**

**Navigating Source Code History with History Explorer**

- **Powerful Search:** Search for all references of a method in the framework’s history.

- **Access the context:** Double-click to open the transaction and see what led to this change.

**An Extensible Research Platform**

Leverage SemDiff fine-grained analyses to mine software repositories and develop your own analyses or history-based tool.