How can we identify inconsistent class names inside projects?

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ClassName Distribution Visualization

Consistent Hierarchy: Uses one suffix identified by the color gray

Class or trait: belongs to no hierarchy, colored in white

Possibly Inconsistent Naming: A hierarchy using more than one suffix identified by an attracting color

ClassName Distribution of the packages containing the hierarchies on the left

Concrete Case:

Confetti: Multiple hierarchies use the same suffix in the same package

Scattered-Vocabulary: One hierarchy uses several suffixes in the same package

Blob: a hierarchy which uses more than one suffix but makes the most use of the ‘Tests’ suffix in this case

Evaluation:

Project Experts, Tool non-experts

- Reading the tool guide
- Detecting misnamings by using the tool
- Taking notes of the misnamed classes
- Screen recording the experiment
- Ad-hoc feedback while screen recording
- Discussing the findings/Making pull requests

Tool Experts, Project non-experts,

- Detecting misnamings by using the tool
- Taking notes of the misnamed classes
- Making pull requests

232 Validated Renamings of 6 projects

- Supports both Pharo and Java projects.
- Supports suffix analysis, prefix analysis and both of suffix and prefix mixed to chose the most accurate.
- Implemented in Pharo and is available here: https://github.com/NourDjihan/ClassNameAnalyser.
- The link to the demo video is in the readme of the project repository.

50 Java Projects

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About the tool