3 Dimensional Visualization of Code Smells

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Declaration

We declare that this is our own work and has not been submitted to another degree or diploma at a university or other higher education institution. Information obtained from published or unpublished work by third parties is acknowledged in the text and a list of references is provided.

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Abstract

Bad code smells are symptoms of design flaws in source code. Several tools and approaches have been proposed for detecting and visualizing code smells. To maintain the software quality, prioritizing the identification and removal of code smells are required. Identifying the code smells using visualization will helpful developers to understand and refactor the code. This study proposes a novel 3D metaphor to detect and visualize code smells by using a combination of the code city and island metaphor visualization techniques. Proposed model identifies and visualizes the code smell at different abstraction levels in a proper understandable aspect. This model evaluates by using several open source software projects and visualizing the detected code smells in abstraction levels such as classes, methods.

The proposed model will allow for more research into code smell visualization and it will keep better focus on the needs of developers.

Index Terms—code smells, code smells detection, software visualization, code smells visualization

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