Do Developers Care about Code Smells? An Exploratory Survey

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***Abstract*—Code smells are a well-known metaphor to describe symptoms of code decay or other issues with code quality which can lead to a variety of maintenance problems. Even though code smell detection and removal has been well-researched over the last decade, it remains open to debate whether or not code smells should be considered *meaningful* conceptualizations of code quality issues from the developer's perspective. To some extent, this question applies as well to the results provided by current code smell detection tools. Are code smells really important for developers? If they are not, is this due to the *lack of relevance* of the underlying concepts, due to the *lack of awareness* about code smells on the developers' side, or due to the *lack of appropriate tools* for code smell analysis or removal? In order to align and direct research efforts to address actual needs and problems of professional developers, we need to better**

it remains open to debate if code smells are useful conceptualizations of code quality issues from the developer's perspective. For example, the authors of a recent study on the lifespan of code smells in seven open source systems found that developers almost never *intentionally* refactor code to remove bad code smells from their software [14]. Similarly, in our empirical study on the relation between code smells and maintainability [15, 16], we found that code smells covered some, but not all of the maintainability aspects that were considered important by professional developers. We also observed that the developers in our study did not refer to the presence of code smells while discussing the maintainability problems they experienced, nor did they take any conscious