

***CODE SMELL DETECTION IN PYTHON
PROGRAMMING LANGUAGE USING SOFTWARE
METRICS APPROACH ON ABSTRACT SYNTAX TREE
STRUCTURE***

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Abstract

Code smell can take the form of design flaws or bad practices in program code, leading to various deficiencies that are detrimental to software development projects. These deficiencies include a decrease in code quality that can result in difficulty understanding, increased project complexity that increases the potential for bugs, obstacles in code maintenance, decreased developer productivity, and increased risk of errors. This research aims to create a code smell detection application in the Python programming language. The development method used is the waterfall development method. The system involves converting Python programs into AST, developing code smell detection logic using the software metrics approach, and testing using blackbox testing. The results show that the system is able to detect several types of code smell in Python programs, namely long method, lazy class, feature envy and provide information about code complexity. Blackbox testing proves that the system functionality runs well.

Keywords: *Abstract Syntax Tree (AST), Code Smell, Python, Software Metrics*