Abstract

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APPLICATION OF DIGITAL WATEMARKING TECHNOLOGY
IN JAVA PROGRAMS

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Java is widely used in the Internet. Java programs distributed through Internet are now suffering from program theft. It is because Java programs can be easily decomposed into reusable class files and even decompiled into source code by program users.

In this thesis we propose a practical method that tries to prevent program theft by embedding a digital watermark into Java programs. Embedding a program developer's copyright notation as a watermark in Java class files will ensure the legal ownership of class files. My embedding method is indiscernible by program users, yet enables us to identify an illegal program that contains stolen class files. The result of the experiment to evaluate my method showed most of the watermarks

embedded in class files survived two kinds of attacks that attempt to erase watermarks: an obfuscator attack, and a decompile-recompile attack.

Keywords: *digital watermark, Java, software privacy, software ownership, security*