Chapter 8
Forensics with the POSAR Test

ABSTRACT

This chapter introduces and explores the POSAR test, a recent forensic procedure for establishing software copyright infringement cases. Firstly, there is an overview of the 3-stage, linear sequential AFC test. By introducing the 5-phase, cyclic POSAR test as AFC’s logical extension, the chapter then presents the POSAR test in detail in its five different phases and then explains the POSAR test algorithmically for the benefit of forensic practitioners and researchers. The chapter concludes with a juxtaposed comparison of the POSAR and the AFC tests and a discussion on the advantages, disadvantages, and caveats in the use of POSAR, with suggestions for further customization of the POSAR test.

POSAR AS AFC+

The previous two chapters dealt with the forensic importance, procedural aspects, advantages, and the limitations of the AFC test. Also, the need for a new protocol (as a modified form of the AFC protocol) has also been addressed. This chapter introduces and tries to explain the POSAR test, a recent forensic procedure for establishing software copyright infringement cases. The new forensic protocol, POSAR, offers something more to the legal and the judicial domain than what the AFC test offers even while taking into account...
all the strong basic legal and technical principles and useful functionalities of the AFC test. The POSAR test offers some added features and additional facilities. These additional features and facilities make the test more sensitive to the pieces of evidence and the other technical and legal requirements which have been discussed in the previous two chapters. Overall, the POSAR test is an extension or an enhancement of the AFC test.

OVERVIEW OF THE AFC TEST

Before getting into the core of this chapter, a quick recall of the basics of the Abstraction-Filtration-Comparison (AFC) test will help. The AFC test, a 3-phase forensic test (See Figure 1) for establishing copyright infringement cases, was first enunciated in 1992 by the Second Circuit of the US judiciary, in the case Computer Associates v. Altai (USCA2C, 1992). This test is sensitive to both the literal elements and the non-literal elements of the software and also to both literal and non-literal copying of software elements. Also, this test has a strong base in the copyright law. Ever since it has been legally validated in the Altai case, the AFC test has been put to use for evaluating copyright infringement claims involving computer software in several appeal courts in the United States, including the fourth, tenth, eleventh and federal circuit courts of appeals (ESALab, 2007; Raysman et al, 2006; USDCM, 2010).

The procedural approach of the AFC test draws on familiar copyright doctrines such as merger, scènes à faire, and public domain. These three doctrines define three categories of programming elements. The AFC test procedurally filters out and excludes these three categories of programming elements from both the plaintiff’s and the defendant’s software before the two sets of software are compared (Walker, 1996).

The AFC test requires the investigator (1) to abstract the software by breaking down the plaintiff’s as well as defendant’s program into their constituent structural parts; (2) to examine and filter out the three categories of programming elements defined by the three doctrines mentioned previously and also some other unprotectable elements, all from both the software packages with the ultimate goal of preparing a set of two comparable kernels of creative expressions; and (3) to compare the remaining kernel of creative expression, if any, of the plaintiff with that of the suspect program, at each level of abstraction.
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