

Preventing Piracy, Reverse Engineering, and Tampering

Naumovich and Memon
Polytechnic University



Abbreviated Abstract

- **With the advent of networked appliances, mobile code, and pervasive access to the Internet, software protection has gained increasing importance.**
- **The authors survey current and promising new techniques designed to reliably preserve and protect software data vital to our privacy and security.**



Software Protection

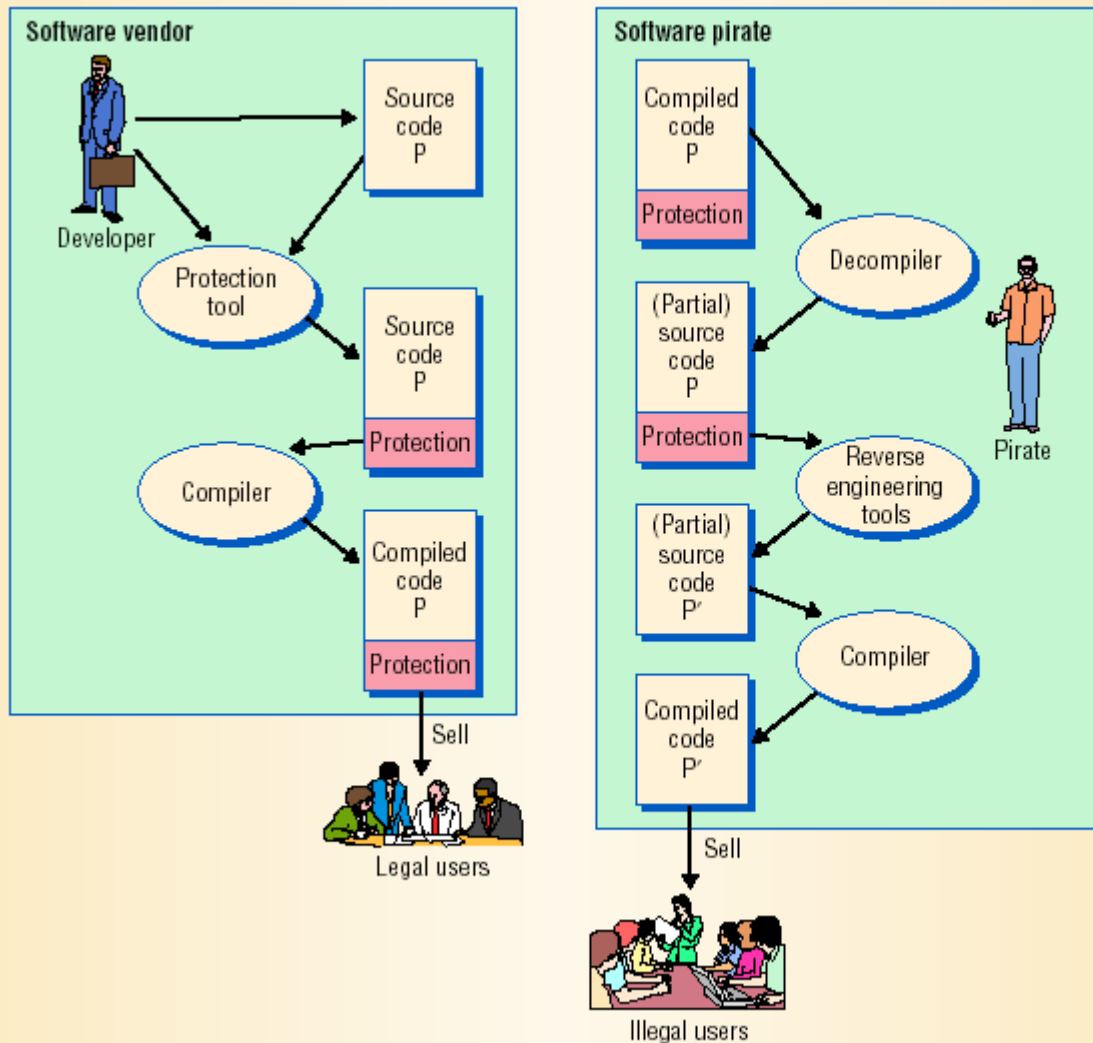


Figure 1. Software protection. To prevent illegal distribution of software by pirates, the developer places some form of protection on the program. A pirate seeks to remove this protection.



Piracy Prevention

- **Application Server**
- **License Files**
- **Hardware-based Solutions**



Tamperproofing

- **Checksums**
- **Guards**
- **Assertion Checking**
- **Software Aging**



Obfuscation

- **Lexical**
- **Control**
- **Data**
- **Layout**
- **Tool-Assisted Attacks**



Watermarking

- **Watermarking Properties**
- **Static Watermarking**
- **Dynamic Watermarking**
- **Tamper Protection**
- **Fingerprinting**
- **TCPA**

