

***The University of Alabama  
Department of Computer Science  
Colloquium Series Speaker***

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## **Maintaining Cloned Software**

**Friday, February 13<sup>th</sup>  
11:00 a.m., EE 110**

### **Abstract:**

When a section of code is duplicated in one or more locations in a program, that section of code and all of its duplicates are considered code clones. The automated detection of code clones has received much focus as seen from the introduction of new techniques and tools in the past decade. A subsequent step deals with the analysis of the code clones reported by these clone detection tools for various purposes, such as categorization, visualization, and evolution observations. An additional purpose for clone analysis is related to the maintenance of clones. The practice of cloning in code often results in maintenance problems at later stages of development. More specifically, changes to one clone that is not propagated to the other clones can result in erroneous code being introduced into the system. Finding opportunities to modularize the code represented by clones through appropriate abstractions can ease future maintenance efforts. In addition to providing a general overview of the field of code clones, this presentation will describe our work related to the analysis of clones and their maintenance through refactoring. We will present the results of an information retrieval process used to cluster clone groups found in the Microsoft Windows NT Research Kernel in an effort to reveal additional relationships among the clone groups. Furthermore, a study of JBoss performed to observe refactoring trends to aid in the development of a process that streamlines the analysis and refactoring of clones.

### **Bio:**

**Robert Tairas** is a Ph.D. candidate in the Department of Computer and Information Sciences at the University of Alabama at Birmingham (UAB) and a member of the Software Composition and Modeling (SoftCom) laboratory. His research interests include code clone analysis and model-driven engineering. He received an MS in Computer Science from UAB.