

**IST 035**  
**Improving Software Development Technology**

**Michael W. Bigrigg**

Research Scientist, Institute for Complex Engineered Systems, Carnegie Mellon University, Pittsburgh, PA

**David Allison**

Graduate Student, Carnegie Mellon University, Pittsburgh, PA

**Kevin Kibbler**

Graduate Student, Carnegie Mellon University, Pittsburgh, PA

**Industry Participants**

Rick Kephart, Emerson Process Management, Pittsburgh, PA

Amy Timmins, Mellon Financial Corporation, Pittsburgh, PA

J. Stephen Adamczyk, Edison Design Group, Pittsburgh, PA

**Abstract**

Software program analysis can be used to provide additional feedback to the programmer. Much research is being done into the automatic detection and fixing of programs for reliability; this project's aim is to instead provide 90% of the approach knowing that as an aid to the programmer, he/she is able to take it the rest of the way. Making use of the programmer helps mitigate the impact of false positive reporting.

There are many formal method techniques that can be applied after the identification of characteristics are made. This work would naturally work with formal method techniques that the companies may use to further aid in the creation of more reliable software. But in order to apply formal methods, characteristics about the programs need to be known such as will be uncovered by this project.