The University of Alabama
Department of Computer Science
Colloquium Series

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Using Measures and Risk Indicators for Early Insight Into Software Product Characteristics such as Software Safety

Wednesday, November 11th
11:00 a.m., **Room To Be Determined**

Abstract:
Assuming there is a relationship between the processes used during software development and the product's characteristics, a lack of process suggests there is a risk of achieving the proper product characteristics. Analysis of intermediate outputs during development can provide insight into whether appropriate processes are being performed. The accumulation of this kind of project data allows us to build baselines and recognize bounds and ranges for interpreting data. Projects can take advantage of this information to make problems visible through measurement and propose actions that can be taken to keep a project on track for achieving these project characteristics.

Software Safety is one such product characteristic and this approach has been applied to identifying software safety insight areas and goals and developing early software safety measures, models and responses. Although the actual safety of a system cannot be verified during development, measures can reveal early insights into potential safety problems and risks. The approach and the example software measures presented are based on experience working with the safety engineering group on a large Department of Defense program.

Bio:
Victor Basili is a Professor of Computer Science at the University of Maryland, College Park. He holds a PH.D. in Computer Science from the University of Texas, Austin and two honorary degrees. He was a Founding Director of the Fraunhofer Center – Maryland and the Software Engineering Laboratory at NASA/GSFC. He works on measuring, evaluating, and improving the software development process and product.

Dr. Basili is a recipient of several awards including the NASA Group Achievement Awards, ACM SIGSOFT Outstanding Research Award, IEEE Computer Society Harlan Mills Award, and the Fraunhofer Medal. He has authored over 250 journal and refereed conference papers, serves as co-Editor-in-Chief of the Journal of Empirical Software Engineering. He is an IEEE and ACM Fellow. For more information, please see http://www.cs.umd.edu/~basili/.