Your name:

Paper presentation date:

Paper (author, title, reference):


Write a short (100-200 word) description of the paper.

This paper presents a method for obtaining interprocedural slices of programs from system dependence graphs. The paper begins with a discussion of what a program slice is, as well as past methods of slice computation, particularly in the intraprocedural case. It also discusses the calling-context problem in Weiser's original algorithm for computing slices. In addition, they discuss the basics of program dependence graphs: flow dependence edges, def-order dependence edges, and control edges. The paper then proceeds into the system dependence graph, which is composed of program dependence graphs and procedure dependence graphs. They then add their new graph components, which will allow them to bridge the gap between intraprocedural slices and interprocedural slices. The side reading discusses the computation of summary edges rather than attribute grammars, and then, upon return to the main paper, the authors present an algorithm for the computation of interprocedural slices that account for the calling-context problem.

Answer the following questions about the paper:

What problem is the paper addressing?

The paper addresses the difficulties present in Weiser's slicing approach, involving the context problem and the difficulties of computing interprocedural slices.

What is the contribution of the paper?

On the one hand, the algorithm presented in the paper is a contribution; however the grammar-based algorithm itself is replaced, in the later paper on "Speeding Up Slicing", with a graph-based algorithm that is more general. Thus, he largest contribuion of this paper isn't so much in the algorithm itself, but in its development of the power of system dependence graphs as tools to answer functional questions about source code.

Do you find any drawbacks or technical flaws in the work?

Not anything in the technical sense.

What is your assessment of the presentation style of the paper (consistency, clarity, ease of reading)?

The paper is rather dense. Their authors’ algorithms often seem written in a manner that obfuscates issues that need not be obfuscated. For instance, in the related paper, "Speeding Up Slicing", one of the most important points is the summary edge, and yet it is barely given any discussion. The same goes for the main paper. The authors have a tendency to focus a great deal of attention on less significant details and not give sufficient attention to the foundations. So instead of quickly understanding a rather simple idea, the reader is left to churn through the paper page by page until their meaning dawns.