

A Comment on the Notation of the Wirfs-Brock et al Object-Oriented Design Method

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I would like to comment on the notation used by Rebecca Wirfs-Brock et al in their object-oriented design Method [1]. In Chapter 6 of their book "Designing Object-Oriented Software," [1], Venn diagrams are used to model superclass-subclass relationships. When a subclass correctly supports the responsibilities defined by its superclasses, its responsibilities completely encompass those of its superclasses. An example of how a hierarchy graph is represented by Venn Diagram is given below.

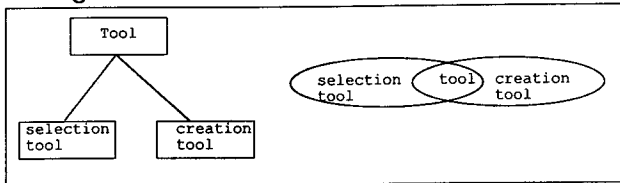


Figure 1: Representation of a hierarchy graph as a Venn Diagram

In the Venn diagram representation, the subclass responsibilities encompass the superclass' responsibilities. The subclass therefore clearly supports a given superclass's behavior.

In Chapter 7 of the same book, collaboration graphs are introduced. Collaboration graphs are used to model superclass-subclass relationships in addition to representing contracts and collaborations. Classes in collaboration graphs are shown as labeled rectangles. Subclasses are graphically nested within the bounds of their parents. An example of the above collaboration graph is given in Figure 2.

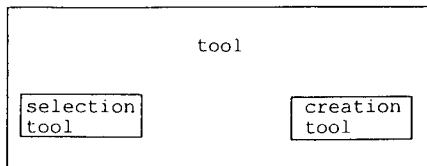


Figure 2: Collaboration graph for hierarchy graph of Figure 1

By encompassing the responsibilities of the superclass, the Venn diagram in Figure 1 clearly shows that the subclasses support the responsibilities defined in the superclass. However, the collaboration graph does not show such a relationship. In Figure 2, the superclass responsibilities encompasses the subclasses' responsibilities. The collaboration graph therefore seems to suggest that the superclass supports all the responsibilities of the subclasses.

The notation used to represent the same superclass-subclass relationship in collaboration graphs is different from the notation used in Venn diagrams. Since both tools, Venn diagrams and collaboration graphs, are used to model superclass-subclass relationships, there is need for consistency. No doubt, when well-designed, subclasses should support all the responsibilities of the superclass. Therefore, the tools for modelling inheritance relationships should readily show this relationship in a consistent way.

References

- 1 R. Wirfs-Brock, B. Wilkerson, and L. Wiener. *Designing Object-Oriented Software*. Prentice Hall 1990.

Editor's Filler

Sigh .. just about all done!

Boy! I sure wish people would send...

SHORT...

SHORT...

SHORT...

papers.

Then I wouldn't have to write stuff like this :-)

Later ...