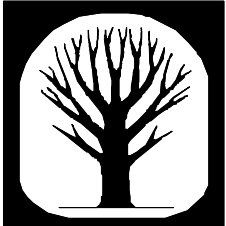


CRITERIUM  
**DECISION**  
 **PLUS**

**The Complete Decision Formulation,  
Analysis, and Presentation for  
Windows**

**Version 3.04**

Guide to Group Decision-Making

## Group Decision-Making

DecisionPlus supports three approaches to Group Decision-making. Bear in mind that DecisionPlus is a *not* a group-ware product, i.e., DecisionPlus can not accept simultaneous inputs from multiple participants.

### **Facilitated, Consensus Group Decisions**

The basic approach for which DecisionPlus was designed is to run the software on a large overhead screen in a group meeting room. A facilitator keys in all information to the system while leading the meeting. The facilitator needs considerable knowledge of DecisionPlus and the decision process it supports. Other participants need no knowledge of DecisionPlus or decision analysis.

The facilitator walks the group through brainstorming, rating the model, analyzing the outcome, and refining the model. Because brainstorming is an inclusive process, it rarely poses difficulties as long as the facilitator can type quickly. Scoring the alternatives and analyzing the results are also, in general, straightforward.

Bringing a heterogeneous group to consensus regarding the relative importance (weight) of the various criteria is usually the greater challenge. However, the process of bringing the group through the brainstorming, scale creation and hierarchy structuring steps often allows people to better understand the fears and concerns of others. In addition, the structured nature of the model tends to focus discussions on the relevant issues, enabling consensus weighting more often than might otherwise be expected.

### **Facilitated Multi-Voiced Group Decisions.**

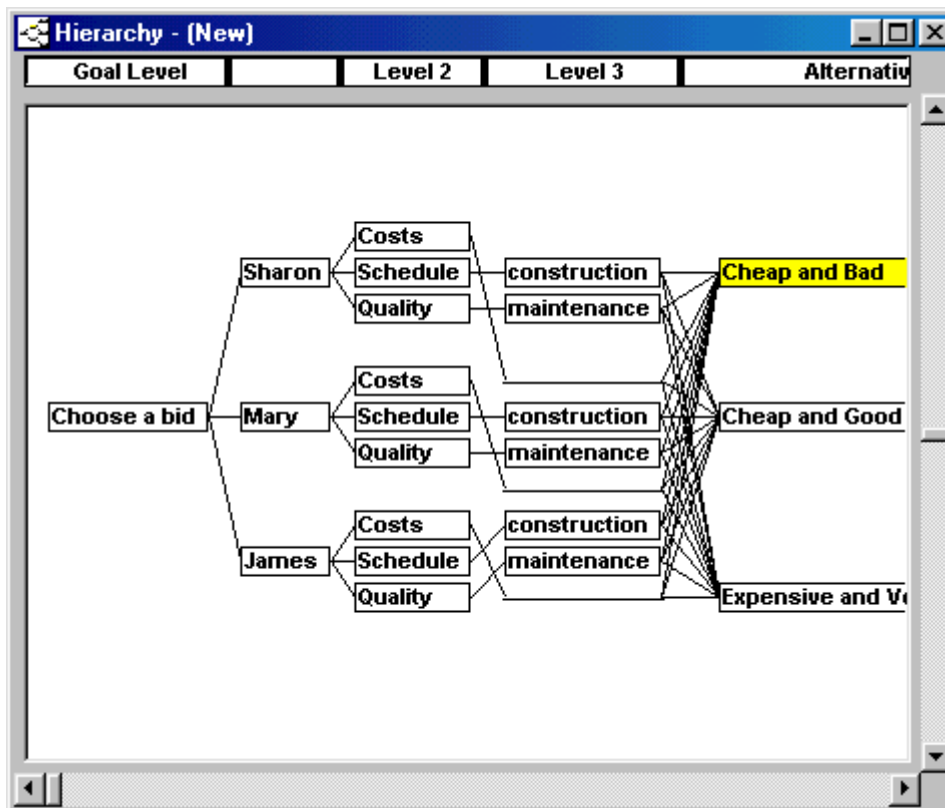
At times consensus in weighting can not be achieved or there might be other reasons that the various groups or individuals should have their inputs directly recorded in the decision model. In this case a *multi-voice* decision model can be very effective.

In the *multi-voice* decision model approach, the structure and scales of the model are first agreed upon by all. Then the entire model is duplicated within itself (see below), with each distinct voice given its own copy to rate as it sees fit. The voices are combined, usually with equal weight, so that they essentially vote on the outcome.

### **Distributed Group Meetings**

In some cases, the difficulty in achieving consensus in the decision group arises not from contention so much as from differing areas of expertise. In that case you may want to create completely separate models that individual groups, e.g., engineering, financial, etc., would rate. The individual models may then be *linked* as described in the section "Linking Models" below.

## Creating a multi-voiced decision model



When analyzing multi-voiced models, the Tag Level Functionality (see the section “Viewing Contributions by Criteria” in Chapter 13 of the Criterium DecisionPlus 3.0 User’s Guide) will allow you tag each criterion name with name of the appropriate voice (e.g., Engineering, Admin., etc.). The Contributions by Criteria analysis will help you understand differences between the voices and how they affect the over all decision scores.

To create a multi-voice decision model, proceed as follows:

1. Brainstorm and generate a hierarchy in the usual manner (no consideration to voices).
2. Score all alternatives and assign scales to all criteria. (See chapter 10 of the Criterium DecisionPlus 3.0 User’s Guide for more information on scoring and scaling alternatives).

3. Select the Level immediately to the right of the Goal level, in this example it is labeled “main criteria”, by clicking the Level Bar where it says “main criteria.” From the Level menu, choose Insert Level. A new level appears between the “main criteria” level and the Goal level. Click the Level bar of the new level twice and type “Voices”.
4. Each criterion in the “main criteria” level has a corresponding criterion in the Voices level. Select all but one of the criteria in the Voices level, and delete them by pressing your Delete key. Click the remaining Block twice and enter a name of one of the Voices, e.g., James.
5. Connect all criteria in the “main criteria” level that are not connected to the remaining block in the “Voices” level (in this case, “James” is the remaining block), and connect them.
6. Branch Select the single Voices Block, “James”, by holding down the Shift key when selecting the block. Choose Duplicate Branch from the Block menu. Repeat this step as many times as there are voices less two. Name each block in the Voice level, e.g., Mary, Sharon, etc.
7. Have the various voices independently weight their branches.
8. When you open any results or analysis window, immediately select Tag Level from the Analysis menu, and choose the Voices level. It will then be clear with which sub-model a given criterion or weight is associated.

## Linking Models

When the decision problem involves the expertise specific to particular group members or groups, you can partition the problem and assign specific areas of the model to the appropriate groups as sub-models. For example, when the decision problem involves financial, engineering, and management issues, instead of working the entire problem with the whole group, you can have each department work their respective issues. Once each sub-model is constructed and rated, you can integrate it into the master model.

DecisionPlus provides a model linking capability. You can link other models and aggregate the results into one decision score. The results of your master model are aggregated by including the results of the linked model into the master model at the criterion level where you locate the link block.

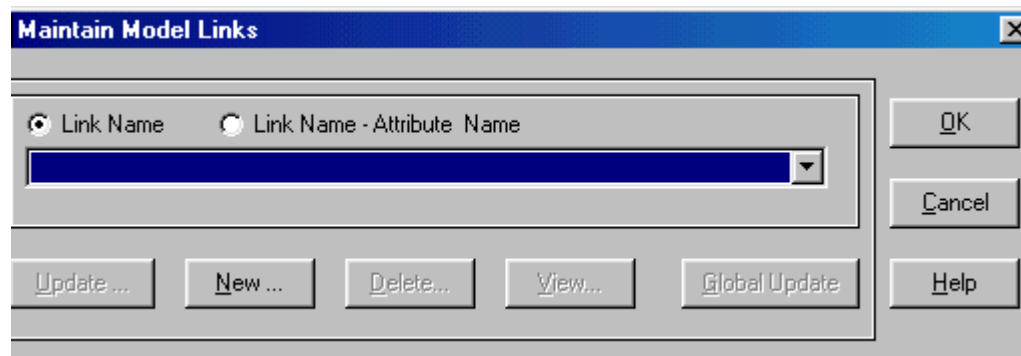
**Note:** Uncertainty results are not transmitted through links.

### To Link Other Models

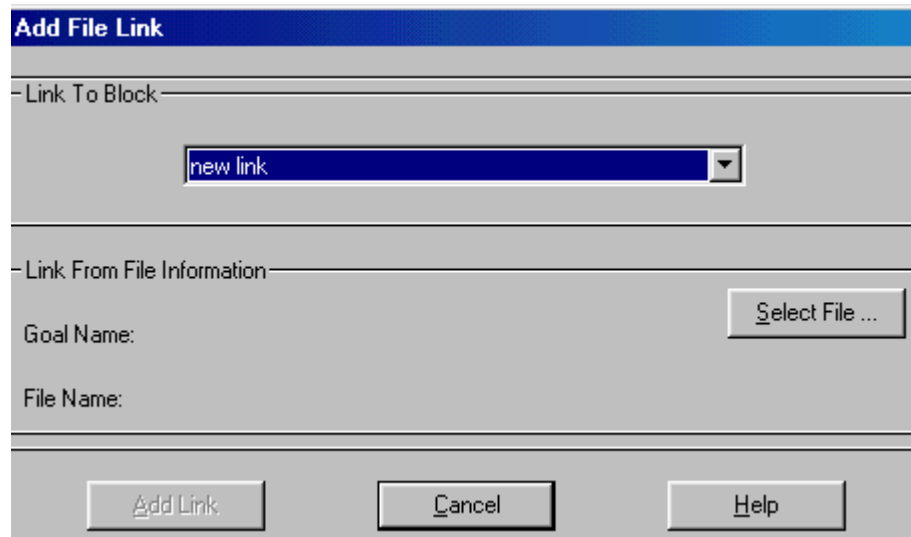
1. First, create a new block in the model on which you are working, to create a linking point. In the Hierarchy window, double-click on a blank space in the hierarchy to create a “Link to Blocks” block.

The block can be at any level in the master model, but you should decide where the appropriate place is before you create it. A new block appears with the word “Name” and a number highlighted. You can type in any name you want.

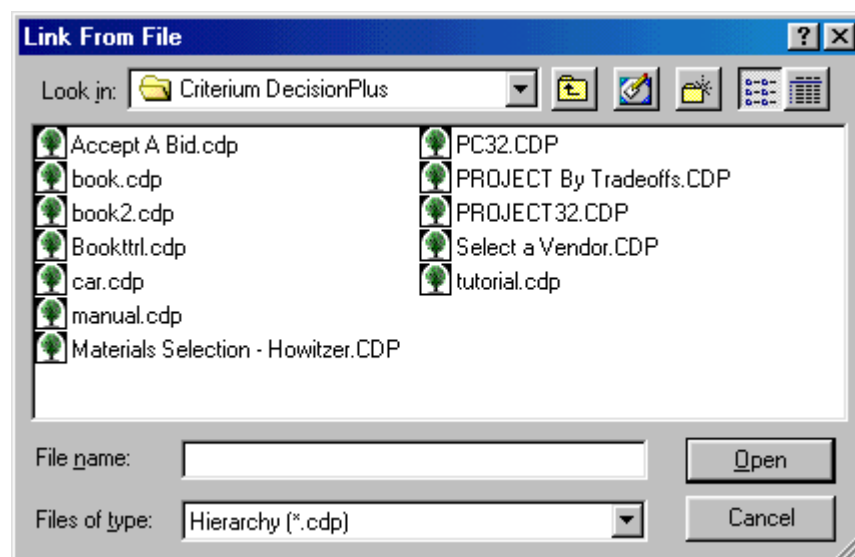
2. Select Link Block from the Block menu. A message appears “No links on file. To establish a link, select New.”
3. Select OK. The Maintain Model Links window appears.



4. Select New to display the Add File Link window. Select your “Link to Blocks” block from the Link to Block list box.



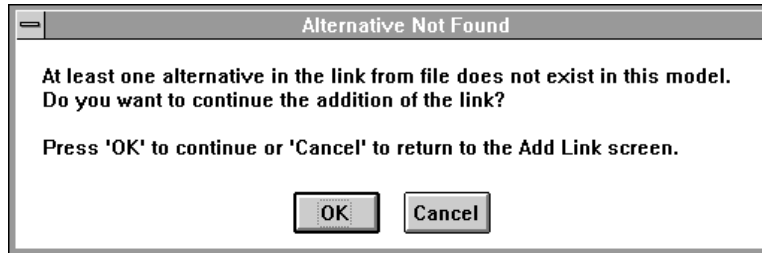
5. On the Add File Link window, click the Select File button to display a list of files.



6. From the Link From File window, select the filename of the file you want to link.
7. On the Add File Link window, click the Add Link button.

After you select the Add Link button, two messages may appear.

If you are linking models that are dissimilar, where at least one alternative in the new model does not already exist in the master model, you see the message below.



If you choose OK, all un-matched Alternatives in the linked model will be added to the current (Master) model.

When the link is complete, the new "Link to Blocks" block you added is no longer available and you see the message below. You would need to create a new "Link to Blocks" block in the Hierarchy window to link another model.



On the Maintain Model Links window, select OK to link the file, or select Cancel to cancel the link. Assuming you choose OK, you will see that your Link Block is now connected to all the Alternatives, and it has a new name: "Link - *Link Goal Name*", where *Link Goal Name* is the name of the Goal of the linked model. You may change that name if you wish.

### To Connect Your Linked Model

- To complete the link, click and drag your linked block to the appropriate criterion level.

## To Update Linked Models

If models that are linked to the master model have been updated, you can bring those updates into your master model in one of two ways. You can update a single linked file, or update all files linked to the master model.

### Updating a single linked file

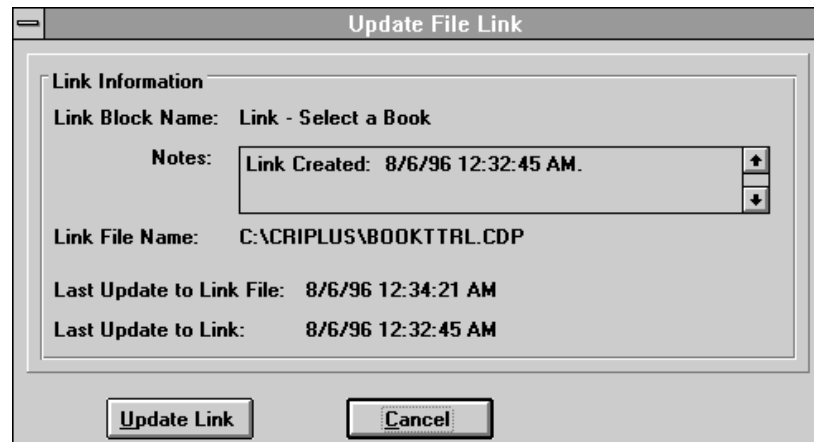
1. Select Link Block from the Block menu to display the Maintain Model Links window.
2. From the Link to Block list box, select the linked block whose updates you want included.

Note: In addition to listing links by Goal name of the linked Model, you can choose to list them both by Goal name and the name of the Link block in the Master Model. This is useful if you have edited the names of the Link criteria in the Master model to make them more identifiable.

To have the Model Link List in the Maintain Model Links dialog show linked Criterion names also:

Click Link Name - Criterion Name option

3. Select the Update button. The Update File Link dialog appears.



4. If the Last Update to Link File is later than the Last Update to Link, date (as it is above), the information in your current (master) file is out of date and you should Click the Update Link button.

### **Unable to Access “Link from” File**

In step 3 above, clicking the Update button on the Maintain Model Links dialog, you may encounter the message titled Unable to Access "Link from File." A common cause for this error is that the linked file has been moved or is otherwise unavailable. A file browse button is added in the Update File Link dialog above to allow you to manually locate a valid copy of the linked file.

4. Click OK to close message. You will find yourself in the Update File Link dialog.
5. Click the Find File button. A standard Browse dialog appears.
6. Locate the file and press OK. The link will immediately update.

### **Updating all linked files**

1. Select Link Block from the Block menu to display the Maintain Model Links window.
2. Select the Global Update button.

### **To Delete Linked Models**

- In the Hierarchy window, select the blocks one at a time and press the DELETE key, or select Delete Selection from the Edit menu, or select Delete Block from the Block menu.

### **To Edit Linked Models**

You can change the ratings of the linked files, or delete and add alternatives.