



# DecisionPad 3

Helps organizations get decisions *made*

## Reference Guide

## *DecisionPad3 Reference Guide*

*November 20, 2008*

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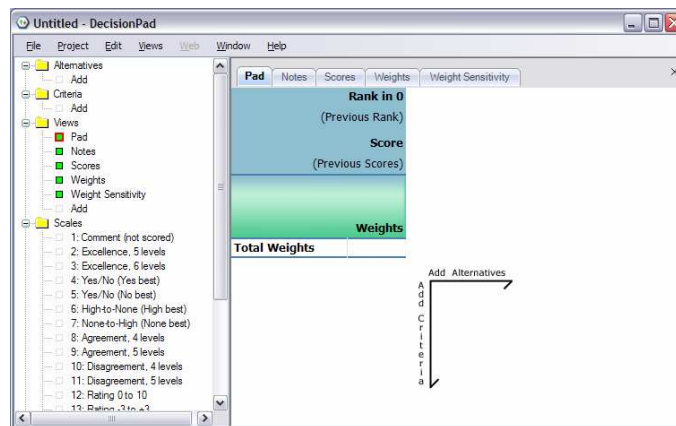
# Section 1: Main Screen Operations

## Startup

This is the startup screen. It gives you two options to begin a new decision pad file: New Decision, or Open an Existing Decision.

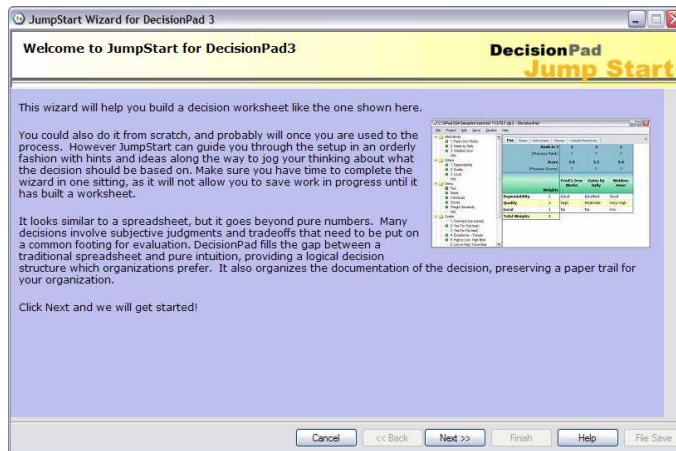


For a new decision project you can open a 'New Blank Decision' that will begin with an empty matrix screen like this:



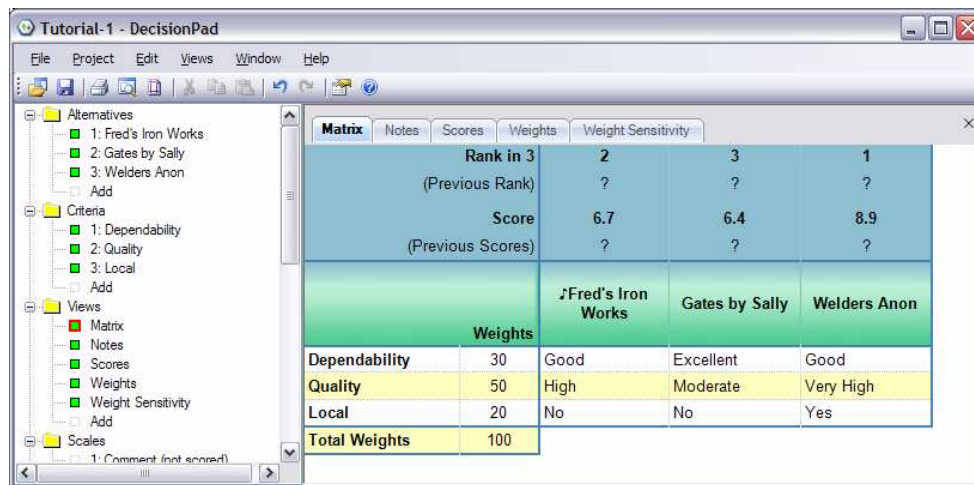
Note: For more about the matrix screen see p. 5. If you are new to DecisionPad you might want to read through the Tutorials.

Or you can begin your DecisionPad file with a 'Decision Jumpstart'. A Decision Jumpstart allows you to go to a self-explanatory Wizard to help you quickly build your first draft of the decision structure. The Jumpstart option begins like this:



If you want to open an existing file, click 'Open File' to open one of the sample files or your own. Or click 'Open Last' to open the last file you worked on in DecisionPad.

## Main Screen Matrix

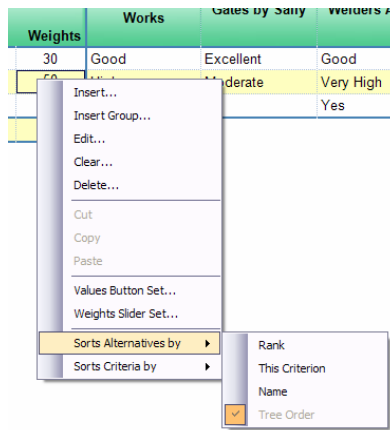


The *Matrix* view is the heart of the structures for DecisionPad. This is where alternatives are evaluated against weighted criteria. Referring to the screenshot above, criteria are the rows in the matrix. Such as "Quality" or "Dependability". Alternatives are the columns, like "Gates by Sally" or "Welders Anon". The cells of the matrix show your assigned values like "High" or "Good". At the top are the current and previous rankings. Weights are listed in a column between the criteria names and the values.

When you start all the cell values will be listed as question mark (?). As you go through your alternatives criteria, the question mark will be replaced by values. As long as there are question marks in the matrix the scores listed along the top will show a range of possible scores; the ranking is based on the average scores. As more values get set the ranges narrow. Often, at some point, a winner emerges regardless of what the remaining question marks might be. For example if there are still question marks (?) remaining for "Fred's Iron Works", this may lead to a score range that cannot beat "Welder's Anon".

Items in the matrix with notes attached, like Fred' Iron Works above, are indicated by the ♪ symbol. You can hover the mouse over the item showing the ♪ to see it pop-up, or use the right-click menu following to attach or edit a note.

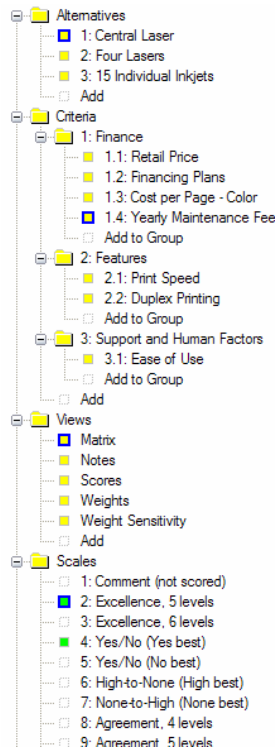
If you right-click on the Matrix you will get this popup menu.



The first ten items are the same as the main Edit menu starting on p. 14.

*Sorts Alternatives* and *Sorts Criteria* set rules for how the matrix is sorted with a flyout menu. The flyout menu view is re-sorted every time something in the decision model changes. Here the alternatives are currently unsorted, in the same order as the tree at the left of the screen. They could also be sorted by rank, by the selected criterion's scores or alphabetically. To find more detail about these options see the View Properties topic on p. 23.

## Tree View



The tree view shows all the components of the decision. There is an *Add to Group* at the end of each group, and an *Add* at the end of everything for top level items. Note the optional outline structure for *Criteria* which can be nested as deeply as you like.

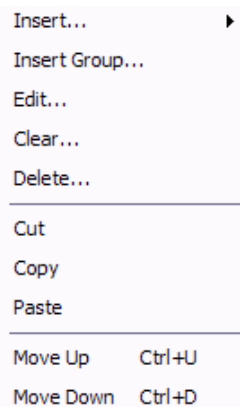
You can double-click on items in the tree to edit their properties. With the exceptions of *View > Matrix*, *Scale > Comment* and the four default *Text Styles* you can drag-and-drop items within a list, such as reordering the alternatives or moving a criterion to a different group level.

When a report is displayed instead of the matrix, all the editing is done through tree selections. You can make selections in either the tree or the matrix for editing.

The squares and folders next to the items in the tree give you clues to aid navigation and editing. *Alternatives*, *Criteria* and *Views* show yellow squares. The groups for *Criteria* have yellow folders. *Scales* and *Text Styles* show a green square when they are used in this decision or an empty square when defined but unused. *Add items* also have empty squares.

If you select an item in the tree it will get a red border. If you make a selection in the matrix, all the tree items associated with it will be marked with blue borders. In the example above a matrix cell was selected. If you are working with a large matrix, it is sometimes faster to select an item in the tree that is off-screen rather than scrolling through the matrix.

If you right-click on a Tree item you will get this popup menu:



The first eight items are like the main Edit menu starting on p. 14. The last two provide an easy way to move items up or down the tree.

The Tutorial Guide has a section on using criteria groups which shows how to use these “outline editing” features.

## Toolbar Buttons

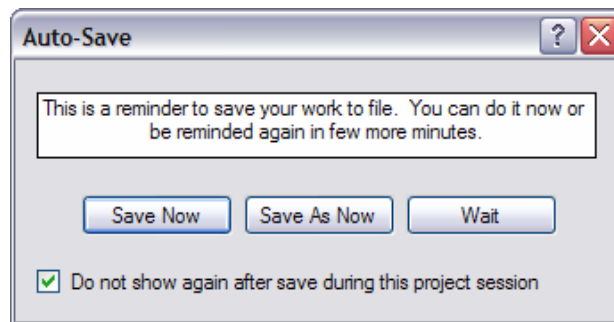


The buttons from left to right are:

**File Open** and **File Save**  
**Print**, **Print Preview** and **Page Setup**  
**Cut**, **Copy** and **Paste**  
**Undo** and **Redo**  
**View Properties**

## Auto-Save Files

After about 15 minutes of making changes to a new or just opened file you will get the Auto-Save dialog:



You can click the *Save Now* button to save this project to disk, which acts like a File > Save if the file already has a name or like a File, Save As if it is a new one.

The *Save As Now* forces a new file name for your edited decision project.

The *Wait* button is like a snooze alarm. It does nothing now but waits about 5 more minutes and reminds you again.

The *Do not show again* checkbox applies only if the file is actually saved. If you press *Wait* it is ignored. If you were to click one of the *Save* buttons with and check *Do not show again*, after the next 15 minutes of changes the file would simply be saved without asking again.



## What if it “doesn’t make sense?” Checklist

DecisionPad is a communication tool that helps organize the reasoning behind a decision and explain it to the rest of the organization. When a decision “does not make sense” to you then it is time for a little troubleshooting – until it explains the reasoning clearly to you it certainly will not be clear to anyone else. Here is a checklist to review for any decision before it gets distributed:

- (1) Check the scales for the criteria – have the right ones been applied? Is the best-worst sense correct? Do the number or date scales have appropriate end points that do not overstate or understate the usefulness of the alternatives?
- (2) Open the weights report – do the weights look correct?
- (3) Open the Weight Sensitivity report and scroll to the end. Do the criteria score ranges reflect the differences in the alternatives?
- (4) Are there too many unknowns in your decision? Does the amount of unknowns cause a wide range in scores which makes the ranking not useful?
- (5) Turn the impact arrows on – do any of them surprise you? They might indicate a weight or scale issue missed earlier.
- (6) Is a criterion missing?

The last one happened to us putting together a model for our business. When we got “done” it came up with a very non-intuitive answer. After some thought, we realized that a criterion had been left out. After we added the missing criteria our decision fell into place. Imagine trying to explain that recommendation, with or without DecisionPad, before realizing we had forgotten one of the critical factors?

# Section 2: Main Menus

## File Menu

### **New Blank Decision:**

Provides an empty decision matrix to which you add criteria and alternatives directly.

### **Decision JumpStart:**

JumpStart is a self-explanatory Wizard to help you build a matrix following the instructions on each screen. Think of JumpStart as a way to develop a rough draft. You choose a decision type which is followed by several screens of typical criteria. These suggestions can be used verbatim but are really intended to stimulate your own thinking about criteria for your own decision. Then JumpStart helps with scoring, scales, weighting and the addition of alternatives.

At the end you have a matrix to begin the detailed thinking. If some information is not available or controversial you can leave it for later.

### **Save, Open and Close:**

DecisionPad files are xxx.dp3 with the most recent automatic backup as xxx.dp3.bak. Selecting *Close* from the file menu closes the entire DecisionPad file. Closing a .dp3 is not the same as selecting *File > New Blank Decision*.

Also see the Autosave rules on p. 8.

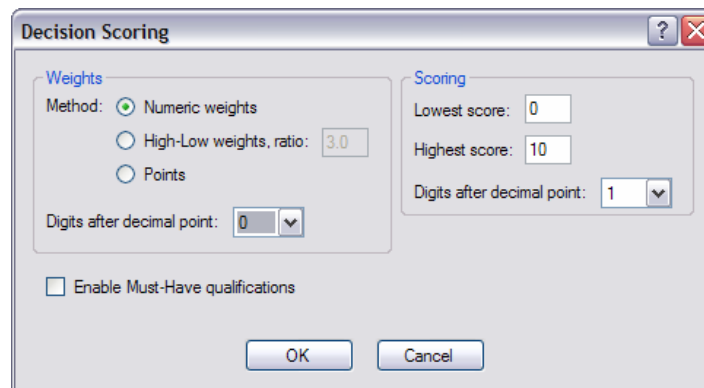
### **Printing:**

When printing from the Decision Pad file the matrix or report view active on the main screen is the one that will be printed. Your DecisionPad printing layout can be formatted by using the *File > Page Setup* and/or *View > View Properties* for layout instructions and to adjust page margins.

The *Print Preview* screen has a print button that sends the entire document to your default printer. For control of which pages will print and to what printer, use the *File > Print* menu.

While in Demonstration Mode a “watermark” will print over the pages. The watermark will disappear in licensed installations.

## Scoring:



The choices here determine how the values for alternatives and criteria will be evaluated to provide the rankings:

**Weights** → How *important* each criterion is

**Scoring** → How *useful* the criterion's entry for an alternative is

For weights there are three approaches:

*Numeric weights* are assigned to each criteria and then sub-totaled through groups to a grand total at the bottom of the matrix. Numeric weights must be positive numbers or zero. After setting the relative weights you can force the total so your weights can be expressed in parts of 100 or 1000 for ease of human understanding, although only the relative weights matter in the analysis. The weights are applied to the scores for each cell to produce the alternative's total score in a weighted-score analysis, or in full PhD-speak a "multivariate weighted utility analysis".

*High-Low Weights* use words instead of numbers. Internally the evaluation algorithm converts them to numbers using the *Ratio* specified. The *Ratio* is set to 3 by default as this seems to fit people's expectations but you are welcome to change it to anything between 2 and 10. Generally speaking word weights are best with no more than one grouping level; for deeper nesting like Analytic Hierarchies use numbers or points.

*Points* assigned to each criterion are also sub-totaled and totaled. The difference from the two methods above is that the Total Points will be shown instead of the Total Scores at the top of the matrix. The evaluation for a scale's answers says how many of those points are given and is expressed as 0 to 100%. For example if 'Good' is 60% and the criterion gets 20 points then that alternative receives 12 points net. Negative points are allowed in the point totals although these should be avoided if possible because the subtotalling process can become confusing.

Mathematically, except for roundoff differences, these methods all produce the same rankings. However the people in your organization may be familiar with an evaluation method that adds up to 250 points or does scores from -5 to +5, so the DecisionPad matrix will be clearer if it uses these instead of the default 0-10 scores. One less impediment to getting the decision made.

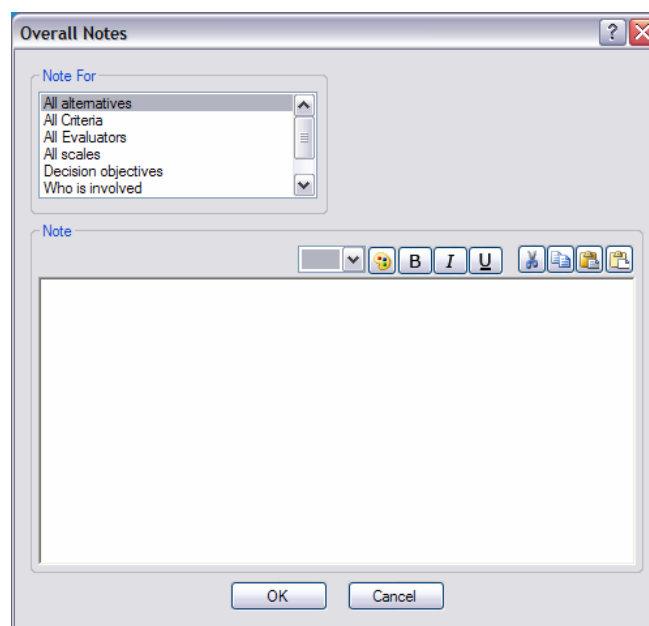
If you select Numeric or High-Low weights then the next choice is the *Scoring*. The default range is 0 to 10 but you can use any range you like so long as the low score is numerically less than the high score. The absolute numbers do not matter in the ranking analysis; only the relative scores.

The conversion of a criterion's entries to scores or point percentages is set by the *Scale* assigned to each criterion. For more on Scale scoring see p. 27 or the Tutorial Guide *Scales and Scores*.

*Enable Must Have Qualifications* adds a column to the matrix where a minimum acceptable value can be set for one or more rows. Any alternatives whose value is unknown or scores less than the *Must Have* will be marked *DSQ* for *Disqualified* in the rankings and with a red X next to its value in the matrix. The total score or points will still be computed. Sometimes you will find a disqualified option scores well otherwise, which might suggest renegotiating that requirement. *Must Haves* cannot be applied to scales that do not consistently get better or worse.

It is important to separate a *Must Have* from *Scoring* to avoid skewing the analysis. For example, say you were looking for office space and your theoretical requirements were 5000 square-feet, with anything up to 8000 square-feet being better (to be balanced against the cost and other factors in DecisionPad of course). You would setup the scale to rate the sizes over a larger range to accommodate some options at 4500 square-feet or 9000 square-feet, then set the *Must Have* at 5000 square-feet which would disqualify the 4500 square-feet property. However you might discover that if you told DecisionPad to ignore that limit the 4500 square-feet property would become the clear winner. Now you have the option to be creative to see if there is a way to make 4500 square-feet work (like paying for offsite storage) instead of blindly accepting what may have been an arbitrary assessment originally.

## Overall Notes:



*Overall Notes* capture information about the decision structure, the documentation process and to clarify elements of your reports to your audience.

Select the note category from the list and then type into the Edit box. The color, bold, italic or underline settings within the note will be applied to what Text Style is selected in the View Properties for a particular report. There are *Paste* and *Paste Unformatted* buttons for a choice of whether to paste with text formatting or without. Generally the *Unformatted* one is best coming from another software product to give you DecisionPad global text style control.

You can also attach notes to alternatives, criteria or value cells in the matrix. Any of the notes can be shown in the report views.

## Text Styles:



Changes to the Text Styles are saved as the changes are made, so this selection dialog only has a Close button. The first four names are built-in. These four may be copied or edited but not deleted.

The buttons above the list specify the editing action: pencil point to add a new one, pencil body to edit the selected style, pencil eraser to delete an unused style or camera to copy the selected one.

Editing will be with the Text Style definition dialog described on p. 33

## Logo:



Your logo image is available for printing with any report or matrix. To replace the “your logo” placeholder we supplied, click either the File or Paste buttons. Either way a copy is made into the DecisionPad project file, so if you change a logo image file you need to return here to re-import it. The image is shown here at full-size; you can adjust the size in any View where it used.

## Edit Menu

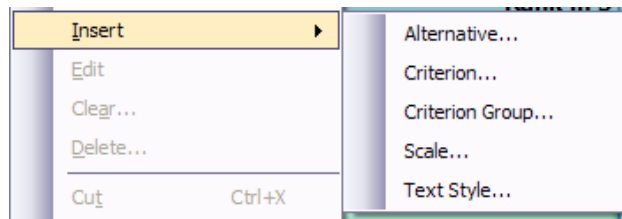
These items apply to the tree or to the matrix view. Generally speaking the Report views are not editable directly, only through their *View Properties*. The Matrix also has *View Properties*.

### Undo and Redo:

Each time you edit something a snapshot is taken of the decision structure. The most recent dozen snapshots are kept and you can undo or redo within that set.

### Insert:

This has a flyout menu for what to insert:

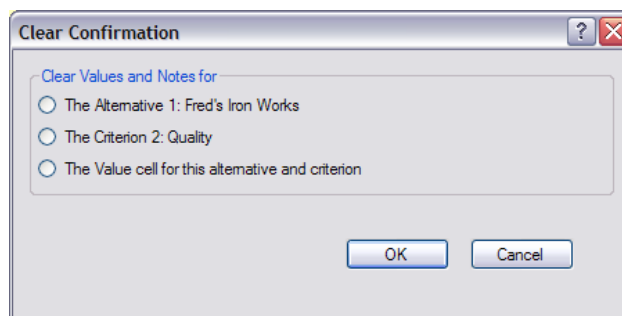


These may not all be enabled, depending on what you last selected in the matrix or tree. They will bring up an empty definition dialog appropriate to each type. See the *Definition Dialogs* section.

### Edit:

Brings up the definition dialog for whatever is selected in the tree or matrix. See the *Definition Dialog* section about them.

### Clear:



This is the way the dialog would appear if a matrix cell was selected, giving you a choice of clearing the value and note for that cell, or its alternative, or its criterion. If the selection was on an alternative or criterion label in the matrix or tree only one choice would be available.

Only the Values and the notes attached to the Values will be cleared. The alternative, criterion or any notes that are attached to them will not be cleared.

### **Delete:**

The Delete menu option pops up a confirmation dialog for whatever was selected before removing it. You may not be able to delete certain built-in items like the Comment scale or any scale or text style in use.

### **Cut or Copy:**

Puts the object selected on the clipboard in DecisonPad format, and when appropriate with a text version. If you cut or copy an Alternative, its description and all of the values in its column go to the clipboard as text.

### **Paste:**

Paste uses the selection in the tree or matrix as its insert point if there is a compatible object on the clipboard. If you cut or copied an alternative the paste function will insert the alternative and all of its data. If you copy and paste an alternative the name will be changed to “Copy of” and a new alias given. Similarly for criteria, scales or text styles.

If there is just text on the clipboard when you paste to alternatives or criteria, that text will name new alternatives or criteria, separating the names at line breaks or tabs in the clipped text. For example, if you already have a list of alternative names in Excel, you can block copy and paste them into DecisionPad to quickly create the alternatives. With Criteria they would be named without scales which you would assign by editing in the usual way.

### **Values Button Set:**

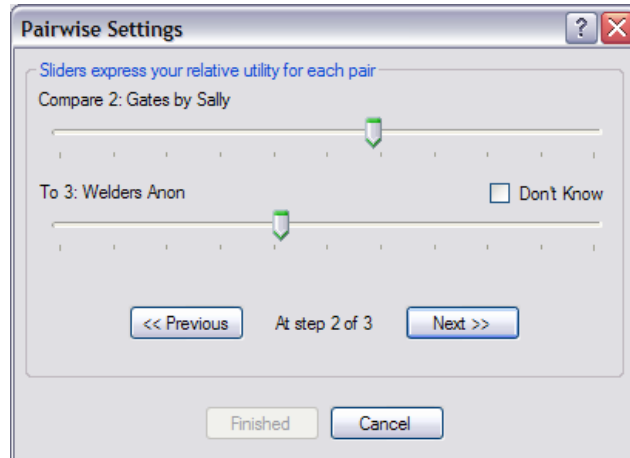
When a criterion’s scale has discrete values – keywords, ratings or rankings – they can be set using an array of buttons:



Each row is an alternative, and the buttons are labeled with the possible values. The [?] button means no value, an unknown.

The three *Sort* buttons at the top let you reorder the rows as much as you wish. A common practice for subjective values is to quickly make some settings, then click *Sort* and see if they are in the order and with the profile that makes sense to you. This is particularly helpful in meetings as the participants talk through each criterion.

*By Pairs* lets you set relative values for criteria two at a time.



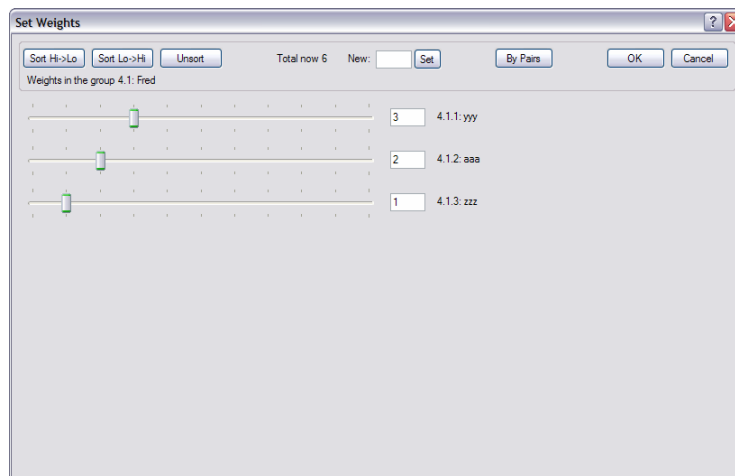
Moving the sliders lets you reflect the relative usefulness of the alternatives for this criterion. As soon as you set at least one comparison for each alternative the *Finished* button becomes enabled. You can then do as many more as you wish; more will refine the relationships all the way up to the maximum which compares every alternative against every other.

Paired settings help make a good first draft, by being the easiest way to get a first cut at the values with a modest number of alternatives. Generally you will want to fine-tune the results in the button setting screen so the profile reflects your evaluations rather than just accepting the paired results.

The *Next Button* allows you to easily navigate through your alternatives to adjust value settings without having to return to the matrix screen each time.

### **Weight Slider Set, Point Slider Set or Weight Button Set:**

For numeric weights or for points you will set a sliders screen like this:



The sliders are a great way to set the relative importance of a set of criteria. You can quickly set your first impression, click *Sort* for the profile, adjust, *Sort* again, until it represents your requirements.



The total within this group is shown along with a *New* entry and *Set* button to force the total. Generally this is the last step after the relative importance has been set.

*By Pairs* operates the same as for Button Values on p. 16.

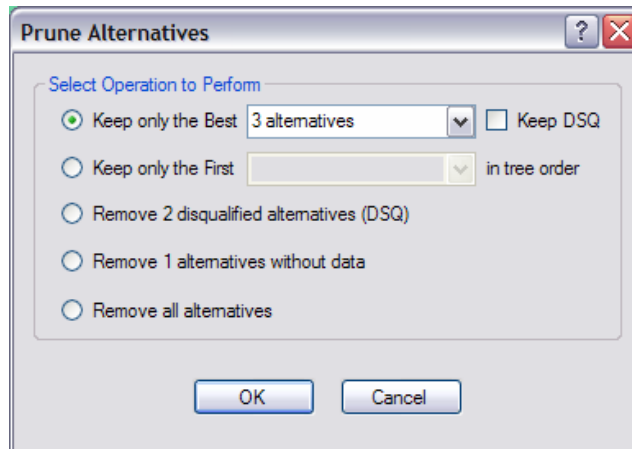
When the criteria are grouped each setting screen is either at the top level or within one group such as the example here. It works at that selected level which may be all criteria, all groups or some mix of them. This will be clearer if you look at the criteria groupings in the Tree View. Each weight screen is for a node of the criterion tree.

If the weighting uses words instead of numbers it will present a button screen that operates as described for values starting on p. 15.

### **Add to Experiment:**

This is used to take Snapshots of what-if changes for a tracking report. To start this process see *Views, New Experiment Report* on p. 18.

### **Prune Alternatives:**



Prune Alternatives provides a way to remove alternatives according to a rule. Which rules are enabled will depend on the current state of the matrix. For the example above, the Must Haves were enabled in *Project > Scoring* so some alternatives were disqualified, otherwise those DSQ choices would be disabled.

The *Best* selection will keep at least as many as selected and allow for decision ambiguities due to unknown variables. In other words it keeps all those which could be part of the top number. You may ask for the top three but find several more are kept because they could also be in that top three, depending on how the unknown (?) values turn out.

The *First* selection simply takes alternatives top down in the tree. Rather than delete a lot of items one at a time it may be faster to drag the keepers to the first part of the tree and prune it.

# View Menu

## View Properties:

Brings up the View Properties dialog for the currently selected matrix or report view. See the definition dialog on p. 23 for more.

## New Matrix:

Brings up the *View Properties* dialog to define a different matrix view than the built-in one. You will have flexibility in the rows and columns that are visible and their order.

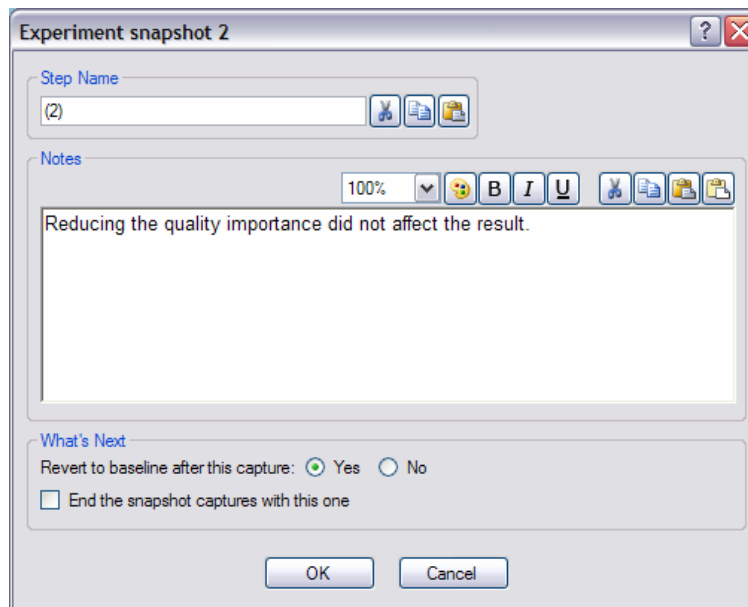
## New Report:

First pick the type of report you want from the flyout menu which brings up the *View Properties* dialog. Then you can refine its appearance.

## New Experiment:

This is a special kind of report which starts a “what-if” recording process by capturing the current state of the decision as a *Baseline*: all of the weights, values and scoring. Then as you make changes their effect is tracked for you and displayed in the Experiments report. This can be helpful in showing the decision thought process -- such as dealing with controversial items -- when explaining the recommendations.

Once you have created the Experiments report, which starts out empty, you make what-if changes to the decision. When you get to a new configuration of interest, use *Edit*, *Add to Experiment* or the F11 key to capture it which brings up this dialog:



DecisionPad will take a snapshot to show any changes from the *Baseline* in the Experiments report when you click OK.

The *Step Name* is required because it will head the changes column in the report. The *Note* is optional. Keep the *Step Name* short – often the suggested “(1)” is enough – and use the *Note* for more commentary since the exact changes will be tracked for you

In the *What’s Next* section you can elect to have DecisionPad *Revert to the Baseline* after this step or keep on with a progression of changes. You can also indicate when you want to *End the Snapshot Captures*. This gives you the option when done with the captures to return to the baseline or not.

After each capture, the Experiments report will update to show what you have done so far.

Ranks and Scores:

Alternatives	Baseline	(1)
Welders Anon	1 (8.9)	1 (8.6)
Gates by Sally	2 (6.4)	2 (6.5)
Fred’s Iron Works	3 (4.4 to 7.4)	3 (3.8 to 7.3)

Weight Changes from Baseline:

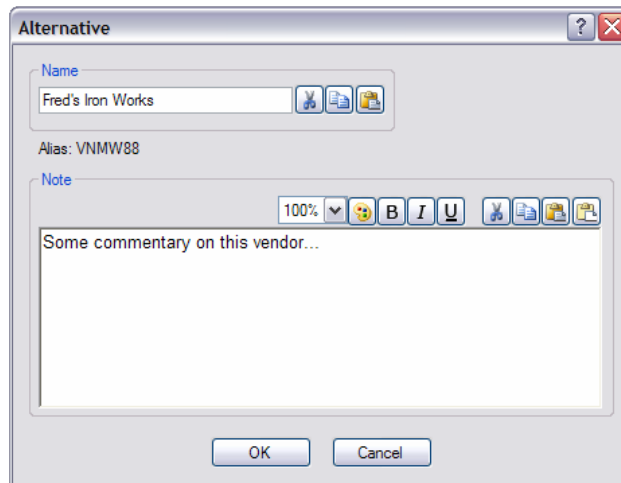
Criteria	Baseline	(1)
Quality	50	35

**Open Window for View:**

If you have closed the window for a View but have not deleted it, then this lets you re-open the window.

# Section 3: Definition Dialogs

## Alternative Definition



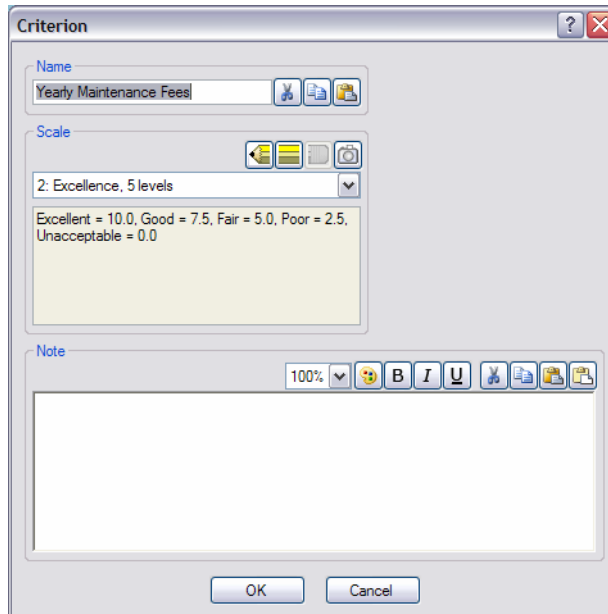
When defining an alternative the *Name* field is the only thing that is required. The *Notes* field is for optional comments on each alternative that can be displayed in various reports.

*Tip:* It is best if you keep the alternative name short and put descriptive details in the note.

The *Alias* is a way to publish anonymous reports, like showing vendors how they ranked without revealing who their competition was. The Alias name is automatically generated with random characters that do not match any other alternatives.

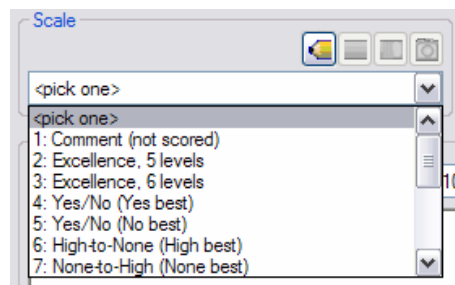
The buttons next to the name allow you to *Cut*, *Copy* and *Paste* in the *Name* field. The buttons above the *Note* allow modifications of the font. Also displayed are the *Cut*, *Copy*, *Paste* and *Paste Unformatted* buttons. The latter two give you a choice of whether to paste with formatting or without. Generally the *Unformatted* one is best coming from another software product because it gives your DecisionPad file global text style control.

# Criterion Definition



When defining a criterion the *Name* field and the *Scale* Field are required and the *Note* field is optional. It is best if you keep the criterion name short and put any descriptive details in the note. The bold, italic, etc buttons apply to the notes field not the name, and will apply to whatever *Text Style* the criterion has been assigned.

Criteria require a *Scale* selection in order for the criteria to become active in the decision. Scales convert the evaluation words into a score or point percentage. If you pull down the scale list you see the built-in ones plus any you have added:

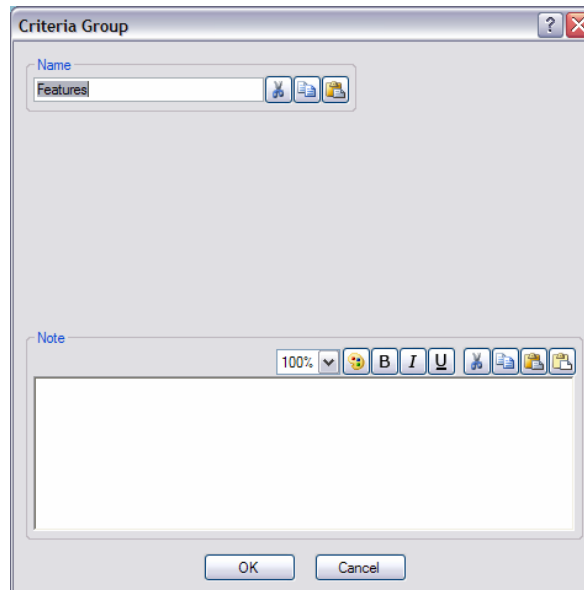


Pick a scale from the list or use the buttons above the list. There is a *pencil point* to add a new scale, a *pencil body* to edit the selected scale, a *pencil eraser* to delete it or the *camera* to copy the scale. You cannot delete a scale in use by other criteria but you can modify it. Remember when you make modifications to a scale that is shared with other criteria will affect all the criteria using that scale. The built-in comment scale cannot be edited.

Normally you would set a scale when the criterion is created but you can defer this. DecisionPad will remind you on Ok that the scale is not set though you have the option to save it anyway.

For more on the role of scales see the Tutorial Guide and the Scale definition dialog below.

# Criterion Group Definition

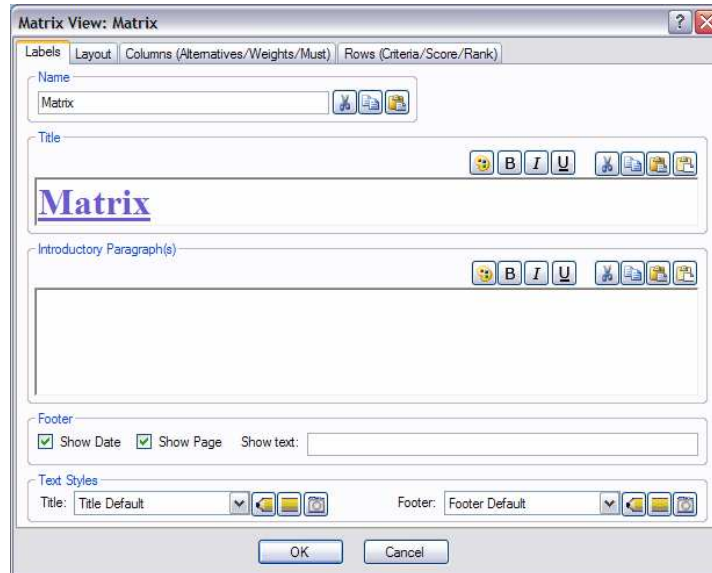


Groups allow you to build a hierarchy for criteria or other groups in an outline-like format. They can be nested as deeply as you wish, in effect creating what some call an Analytic Hierarchy.

When defining a criterion group the *Name* field is required and the *Note* field is optional. It is best if you keep the criterion name short and put any descriptive material in the note. The bold, italic, etc buttons apply to the *Note* field not the *Name* field, and will apply to whatever *Text Style* the group's note has been assigned

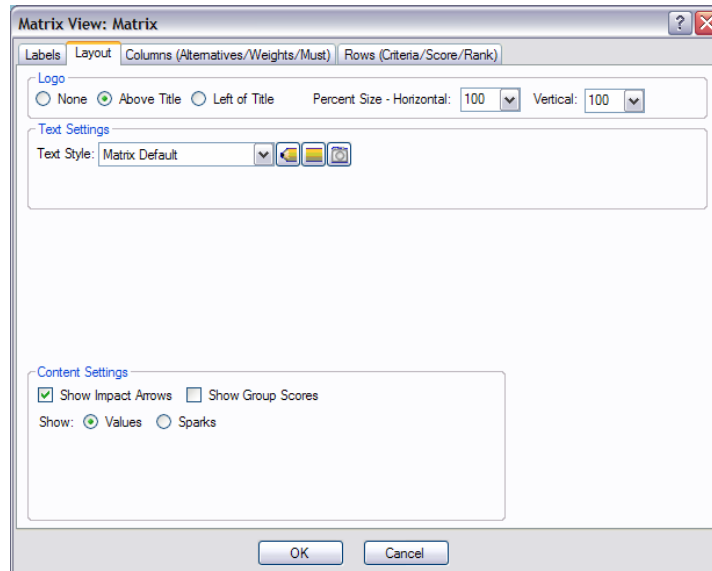
# View Properties Definition

This is a multiple-tab dialog with many similarities between the matrix and report views, though some tabs or controls will come and go depending on the view.



## Labels:

The first tab covers the labeling of the view with optional title, a paragraph of explanation and footer. These will show in any printout, but will only show for reports on the editing screens. The buttons for text styles are *pencil point* adds, *pencil body* edits and *camera* copies.



## Layout:

The layout tab places the logo, if desired, selects the text style to use for the body and some settings that will vary depending on the view type.

### Matrix Layout:

Here the matrix type allows selecting *Show Impact Arrows* for the up/down arrows to mark the cells most affecting the decision (see the Tutorials) and/or *Show Sparks* which shows a small bar graph of the score for each cell.



### Report Layout:

For any of the reports you can choose which notes to show:

Notes

Overall  Alternative  Criteria  Value  Scales

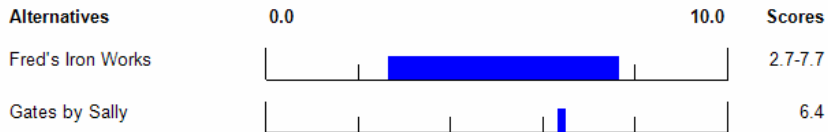
Scores:

For the *Scores* report you can also select whether to show them as *Bars* or as *Scatterplots*:

Figure Style

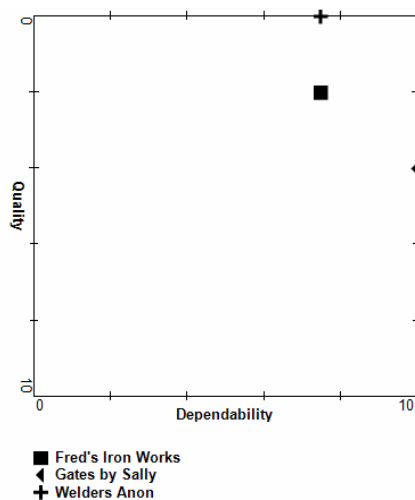
Bar Graph  Scatterplot

The bars show the values for each criterion and alternative as the values convert to scores and then for the total scores:



By showing the ranges that result from uncertainty you can see when an alternative has come to dominate regardless of the question marks. Here Fred' Iron Works overlaps Gate's by Sally. Until some of the unknown criteria are resolved you do not know which is best.

The scatterplot option can be a good way to quickly show the strengths and weaknesses of the options on pairings of criteria:

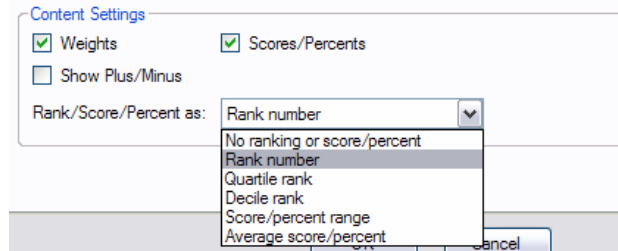




Unknowns cause the markers to plot outside the score range square. If both criteria are unknown the markers plot off the upper right corner. If one is unknown it will plot at the other criterion's value just outside its known axis..

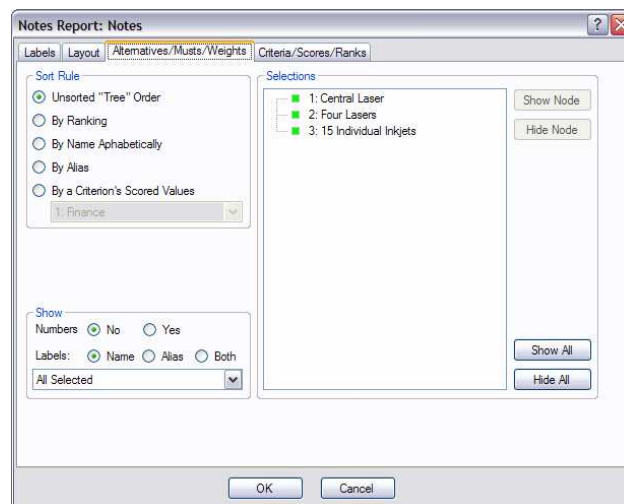
#### Individual Alternatives:

The *Individual Alternatives* report shows the results on a page or two for each alternative, which might be used to discuss the evaluation with each vendor or employee. It is controlled by:



#### **Alternatives/Musts/Weights:**

For control of alternatives in the report or matrix go to the Alternatives/Musts/Weights tab. This tab give you control over how the alternatives appear in the report or printed matrix, how they are sorted and numbered.



The alternatives tab will often contain controls for weights and/or must haves.

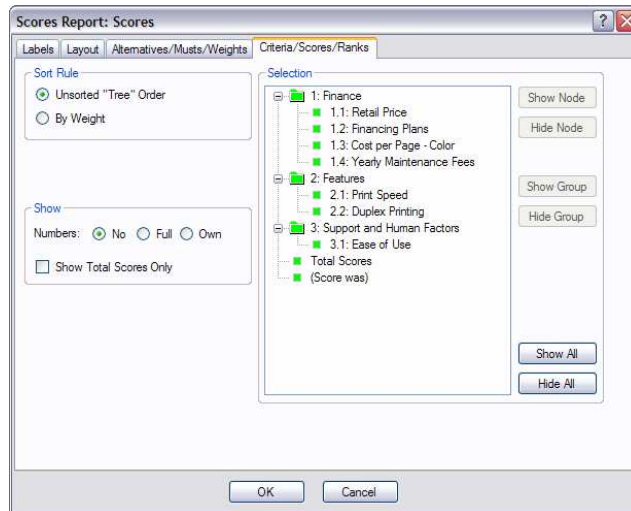
The *Sort Rules* are listed in the upper-left corner, including *Sort by Criteria* which uses the scored values of that criterion as the sort basis. The sort rules are also controllable from the right-click pop-up menu inside the Matrix.

The *Show* area controls how labeling is done, such as with numbers or labels.

The *Selection* areas have a list of the items which the Matrix or Report can present. In general there will be a list of the possibilities. Any with a filled-in green marker are going to be shown; those without a marking square will be hidden. The buttons on the right let you either show or hide everything, or selectively change the item selected.

Note that the selection list works like an “opt-out”. In other words when you add an alternative it will be shown in all views unless you explicitly say otherwise.

## Criteria/Scores/Ranks:



The Criteria/Scores/Ranks tab gives you control over which items appear in the report or printed matrix, how they are sorted and numbered. The criteria tab will often include the score and/or rank items.

The *Sort Rules* in the upper-left are self-explanatory.

The *Show* area controls how labeling is done, such as with numbers or not. Without criterion groups your numbering choice is *Yes* or *No*. With criterion groups you can choose to show the *Full* outline-number like 1.2.3 or just the criterion's *Own* number within its group like (3).

The *Selection* areas have a list of the items which the Matrix or Report can present. Any with a filled-in green marker are going to be shown; those without a marking square will be hidden. The buttons on the right let you either show or hide everything, or selectively change the item selected.

The selection list works like an “opt-out”. In other words when you add a criterion it will be shown in all views unless you explicitly say otherwise.

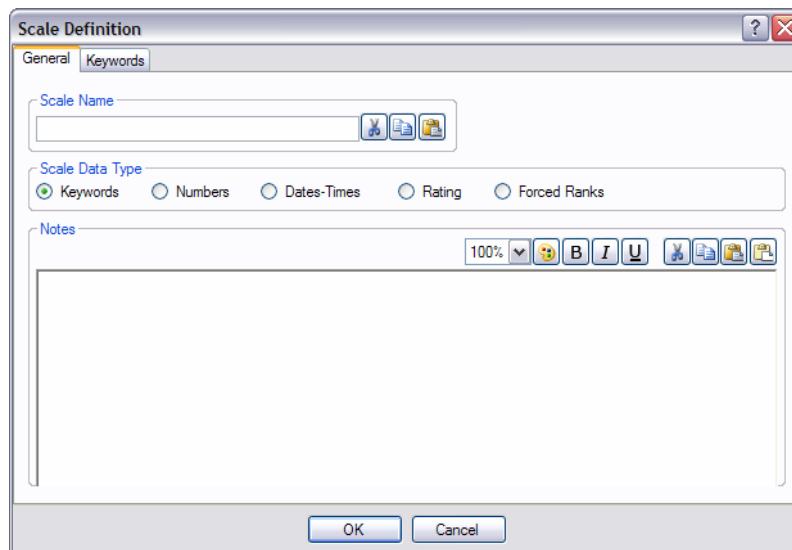
The *Scores Report*, non-scatterplot, is a special case in that it has a *Show Total Scores Only* option. This overrides the selection and the opt-out nature of new items. Combined with sort alternatives by ranking, this makes a nice summary of the decision conclusions.

If you bring up the *View Properties* for the default Matrix, view number 1, you will see that the selection options are not available. This base matrix is the primary way of interacting with the decision structure which becomes confusing if things are hidden; it always shows all the rows and columns. To show subsets make a new matrix view and use the selection tools for it.

The *Tutorial Guide* has examples of using these controls.

# Scale Definition

Scale definitions use a two-tab dialog. The first tab *General* applies to any scale:

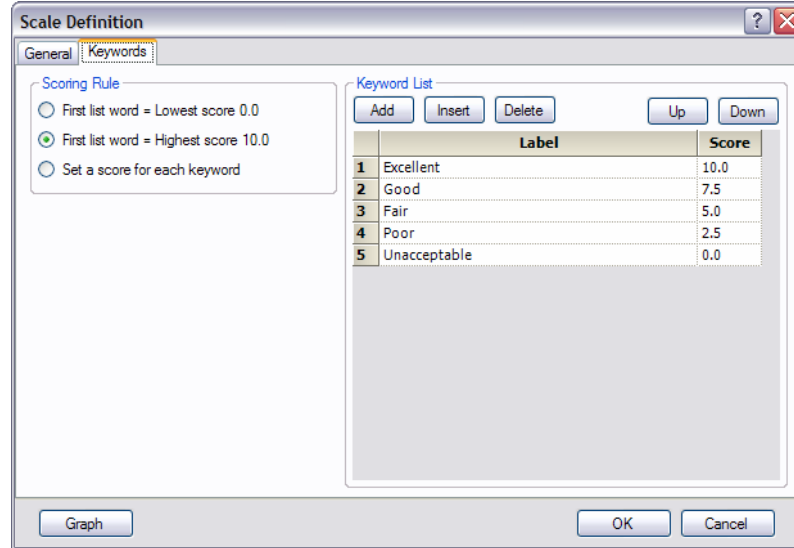


The *General* tab has fields for a required unique *Name* and an optional *Note*. It is best if you keep the scale name fairly short and put any descriptive details in the note. The bold, italic, etc buttons apply to the notes not the name, and will apply to whatever *Text Style* the scale's note has been assigned.

The *General* tab also allows you to define the Scale Data Type. There are 5 basic types of active scales *Keywords*, *Numbers*, *Dates-Times*, *Rating* and *Forced Rank* (the Comment scale is built-in, un-scored and not editable). Each of these has its own tab which will appear when you chose that *Scale Data Type* radio button when in the *General* tab.

The screens for each Scale Data Type shown below utilize the default 0-to-10 scoring range. If you want to change the default score range go to *Project > Scoring*. If you decide to use points instead of number or word weights then the dialogs below would show the percentage of the criterion's possible points to be given each value.

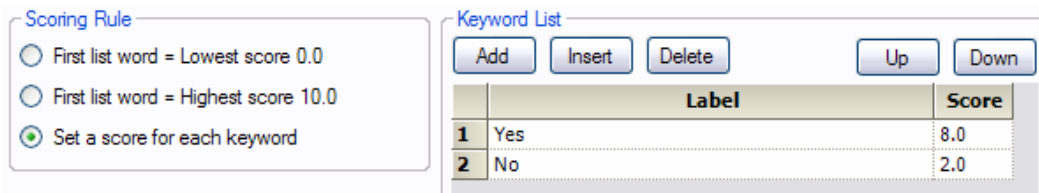
## Keyword Scales:



*Keywords* are like the Excellence scale shown here. On the right side you have the *Keyword List* in the order they will appear in matrix pulldown lists. Above the keyword list you have Add, Insert, Delete, buttons that allow you to add new words to the end, insert in the middle or delete them. You can also move the words up or down in the ordering with the Up and Down buttons. Edit the labels by typing directly into the label column.

On the left you chose the *Scoring Rule* for this scale. Here the *First Word Highest Score* is selected and the score range is automatically spread across the other boxes with the first word in your list being the highest score. As you edit the *Keyword List* the scores will remain with the first word in the list being the highest score. The same idea applies to the *First Word Lowest Score* option.

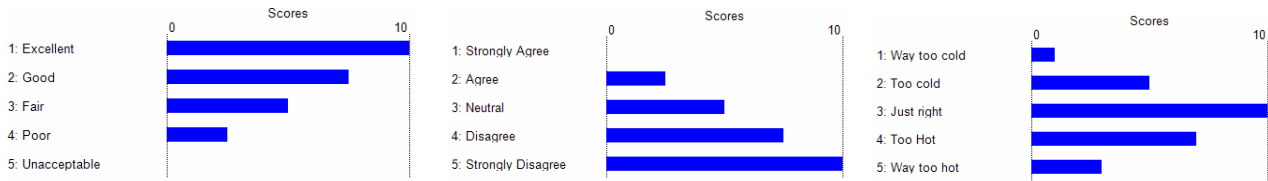
The third choice, *Set Score for each Keyword*, let's you set scores individually by typing values into the *Score* column of the list. The values must be within the overall range but otherwise can be whatever you wish. For example, the built-in Yes/No scales do not use the whole score range:



Typically when people set up subjective scales they do not use the full range in practice – we generally avoid saying “unacceptable” -- hence the 2 and 8 for the Yes-No built-in scale above.

There are also times when you do not want equal steps, a “non-linear” utility curve, so you need to set the steps directly. The last use is where the middle is better or worse than the ends, what might be termed a “Goldilocks” scale.

The *Graph* button provides a quick check on the scale settings. Here are some samples of what will pop up for Excellence 5 levels, Disagree 5 levels and a 'Goldilocks' scale:



## Number Scales:

With *Number* scales the *Set Scores* choices determine the scoring. How this looks depends on the setting in the *Scoring Rule*.

*Set Two End Points* says what number gets the highest score and which the lowest. The numbers can be fixed, like the 0 above, or floating with Max or Min.

Selecting the *End and Ratio* rule gives this structure:

This scale might say something like “the fastest number is best, whatever it turns out to be, and half of that gets the lowest score”. Remember that importance of a criteria in the decision is another matter, expressed by the weights in your decision matrix.

The third *Scoring Rule* lets you set breakpoints for a shaped relationship.

**Scoring Rule**

Set two end points

Set one end and a ratio

Set a table of scoring points

**Format**

**Set Scores**

Values and their score:

	Number	Score
1	-15	8
2	3	5
3	12	1
4	15	0

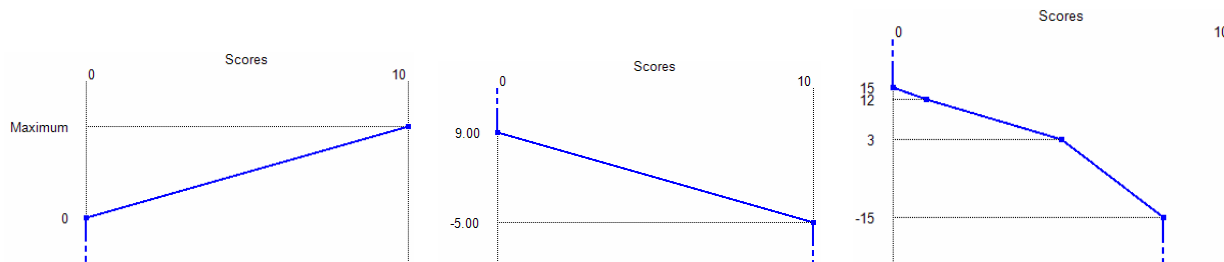
This draws a rough curve of score or utility versus number. For numbers between -15 and 3 the score would be a declining straight-line between 8 and 5, and so forth.

For any scoring rule, when a number is above or below the ends, then it gets the end's score. Thus if 1200 was assigned the highest score of 10 then anything above 1200 would also be scored 10.

You should set-up number scales carefully to properly represent the utility of various numbers, with special caution using Min and Max.

The *Format* section controls how the numbers will be shown, such as \$1,234.56 set above, or 23% or (432) €. The Symbol/Units entry can be with or without one space. You can either type number values into the matrix as a plain number or with the formatting; other combinations will be rejected. Remember that Windows has a utility called Character Map that will help you find special characters not on your keyboard.

The *Graph* Button shows the scoring; here are some examples:

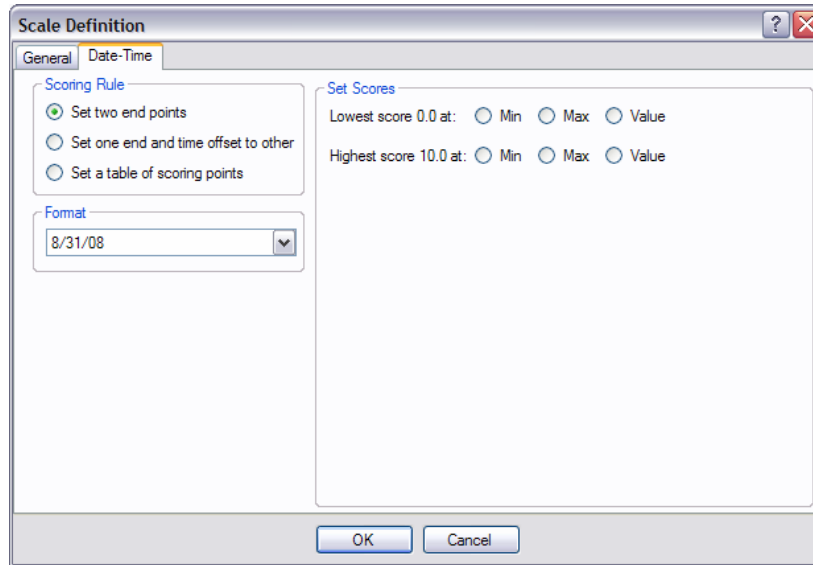


When the scoring ends on a particular value then the graph reminds you that values above or below that value will be assigned the ending score. Thus an 11 gets a score of 0 and a -6 gets a score of 10 in the middle 9 to -5 example. The last example is for the non-linear scale.

Minimum and Maximum are very handy but should be used with care as they can understate or overstate the utility differences between alternatives. This is particularly true when there are unknown values that you may want to leave in if the decision otherwise seems settled. These issues are covered in the Tutorial Guide with examples.

## **Date-Time Scales:**

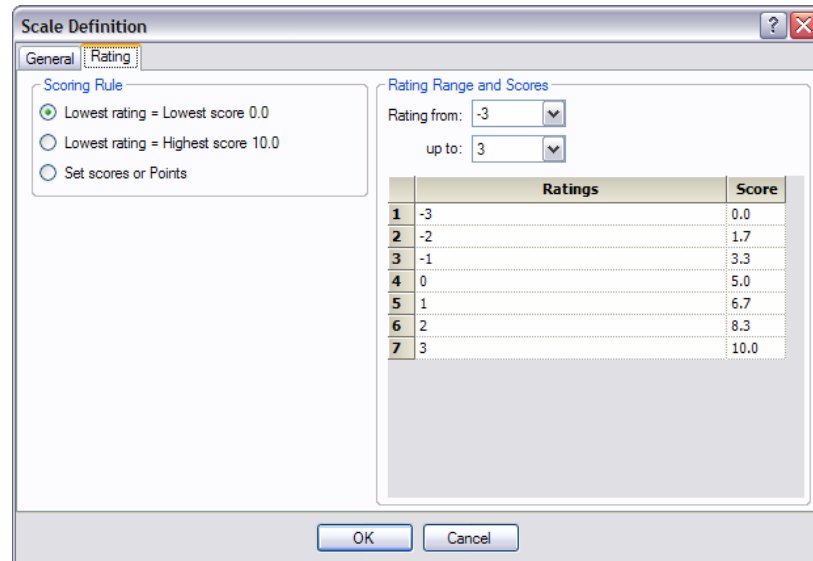
*Date-Time* scales follow the same idea as the Number scales above.



These are straightforward, basically taking the time differences in seconds. When the dates are listed as month and year, the 1<sup>st</sup> of the month is automatically used for the computations.

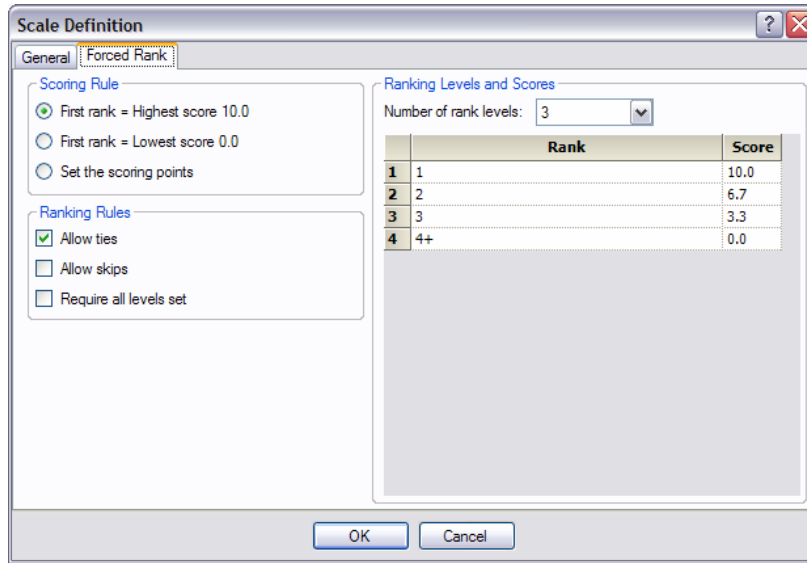
## **Rating Scales:**

A *Rating* scale has fixed end points like the -3 and +3 here. It is very similar to the Keyword scale and has the same approach to *Scoring Rules*.



## **Forced Rank Scales:**

The *Forced Rank* scale sets the *Number of Rank Levels* and some optional *Ranking Rules*.



DecisionPad will apply the rules in several ways:

- If the rank values for a criterion do not follow the rules then all the alternatives will be scored as if they were unknown.
- In the Matrix view a criterion with rule violations will have a colored row label. Hovering over that criterion will popup a note of which rule(s) are not met.
- The *Value Button Set* screen will show whether the values are in compliance, which makes this screen the most convenient way to set rankings for a lot of alternatives (for more information on *Value Button Set* see p. 15).

Otherwise ranking is very similar to the Keyword scale with the same approach to *Scoring Rules* and similar caveats about setting appropriate scores. With forced ranks, give some thought to whether alternatives that are not in the top rankings deserve a 0 score, the 4+ case above. Perhaps the scoring should be set for a narrower range instead of using the automatic assignments.



# Text Style Definition

Text Styles are reusable descriptions of fonts to be applied in the various views. If you edit a Text Style, all the places that use that Text Style will change appearance. 4 styles are built-in: Matrix Style, Report Style, Title Style, Footer Style. These styles can be edited but not removed.

Here is the default setup for the footers, a 9-point italic Arial font.

