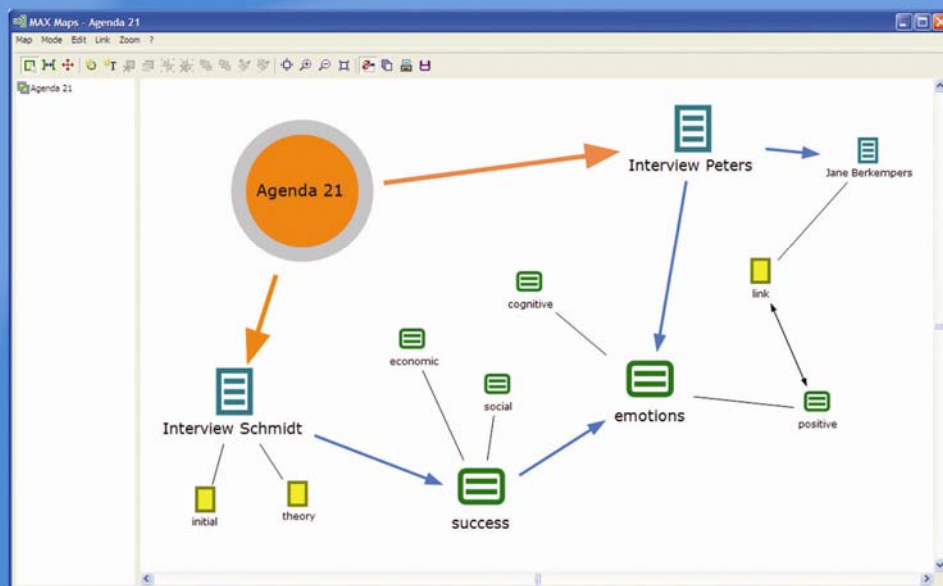


MAXMAPS

VISUAL MODELING FOR QUALITATIVE DATA



MANUAL FOR MAXMAPS

MAX Maps – Visual Representation of Connections

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1 Working with MAX Maps

MAX Maps offers a new perspective on your data and the relationships to it. The primary task of MAX Maps is to give a graphical representation of the different elements of a MAXqda project. These "objects" can be inserted into the MAX Maps drawing pad, and connections can be made in order to visualize a complex graph of relationships. MAX Maps also allows you to design graphical models or networks that are completely independent of MAXqda's data. Because of this MAX Maps becomes a universal graphical software tool not only restricted to applications in qualitative research in the social sciences. All elements of MAXqda, e.g. codes, memos, coded segments, and documents, may be imported into a map. Additionally MAX Maps also allows you to insert so-called free elements (text, pictures, graphics) that can be chosen by the user.

MAX Maps can be used for different purposes. Maps can help to explore and organize data. They allow you to develop your ideas and to communicate them in your research team. Maps can also be a valuable tool for scientific explanation and can help to visualize complex relationships and theories. For instance you can create tables and worksheets to gain a better perspective over the different elements of a project. MAX Maps can also be used for presentations and lectures. The different layers of a map may be displayed in arbitrary order, thus a variety of different options for designing presentations are available.

With MAX Maps it is possible to display

- The relationships between different codes and categories
- An overview over different facts and phenomenon of the research field
- The different memos belonging to a document or a group of documents
- The context or important facts of the research, e.g. photographs of locations or persons
- A graphical overview of the research methods used
- A time schedule of the research
- The research design and characteristics of the sample

During research the use of MAX Maps may have different functions. You may, for instance, use MAX Maps to organize and manage your code system. Or you may link codes, text and memos in hypothetically order to then further test the relationships in a second step.

MAX Maps is not only a graphical tool that works with icons and symbols, in addition all the elements used in a map are interactive, that means they are connected to the MAXqda project. It is only necessary to switch on the "synch mode" to establish this connection to the MAXqda database. This makes an

icon symbolizing a text document not only a passive icon, by double clicking the icon the document will open in MAXqda's text browser, thus allowing you to read and browse through the text. The same is true for memos. As soon as you click on the memo symbol the memo appears and can be read or even modified. In the case of symbols for coded segments one click results in the segment being displayed. This allows different segments of your map to be examined and compared.

MAX Maps allows you to define connections and relationships by yourself. These connections may be hypothetical, and it is not necessarily required for the different maps which you design during your work to be consistent in logic. As a result you are able to "play" with different models and relationships. For example a code "attitude" may appear as a condition of another code "behavior" in map A and appear as the result of the code "behavior" in map B. Constructing different models, testing them and modifying them is an important aspect of analysis, thus making it counterproductive to be consistent with links and relationships right on from the beginning.

MAX Maps not only allows you to define links and relationships, it also offers a way to make links and relationships visible that have already been implemented in your project. Examples are memos that have been assigned to a document: MAX Maps is able to import all the connected memos automatically. These memos are displayed as symbols and may be opened and checked. The same is true for codes: If you have imported a code in your map, all the memos linked to this particular code may also be imported automatically. Moreover all the codes overlapping with a code on your map may be searched and inserted in the map and automatically connected to the code.

These features do not establish new links or new relationships, but they allow for completely new perspectives on your data. Connections that have probably been previously been hidden in listings or tables are now able to come to the foreground. New views and relationships become visually apparent and much easier to understand. The connections between different elements of the diagram are not restricted to hierarchical relationships as with the Code System in MAXqda. In MAX Maps relationships can be represented in a more complex way, for instance as networks or any other type of model.

This visual method of data display is supported by the variety and flexibility that characterizes MAX Maps. All elements used in a map may be designed individually. Codes, memos, and texts are not always displayed with the same symbols and colors. You may select different symbols, colors, fonts and sizes, or even import your own symbols unique to each element of your map. All labels, images and symbols may be managed individually. You may import your own photographs, icons or clip arts.

2 Starting your work: How to create a new map

MAX Maps is available as an option in the new "visual tools" menu of MAXqda. The MAX Maps window is divided in two parts. The left part contains a list of your maps. When you work with MAX Map for the first time the list only has one entry named "new map". The right part of the window is the place where you can create your map. Here the different elements like codes or memos are imported. Here you may also design your model by importing elements of your project, link them, insert labels, headings, graphics, and images.

To create a new empty map select the option "New" from the menu "Map". A new empty map will then be created with the default name "new map". The default name can be modified by selecting the option "rename" in the context menu.

You may create as many maps as desired. All maps are stored in the MAXqda project file. They also can be exported in the form of jpg files or bit-maps, which can then be inserted into text files. The storage of maps in the MAXqda project file takes place automatically. It is not necessary to use an explicit save command.

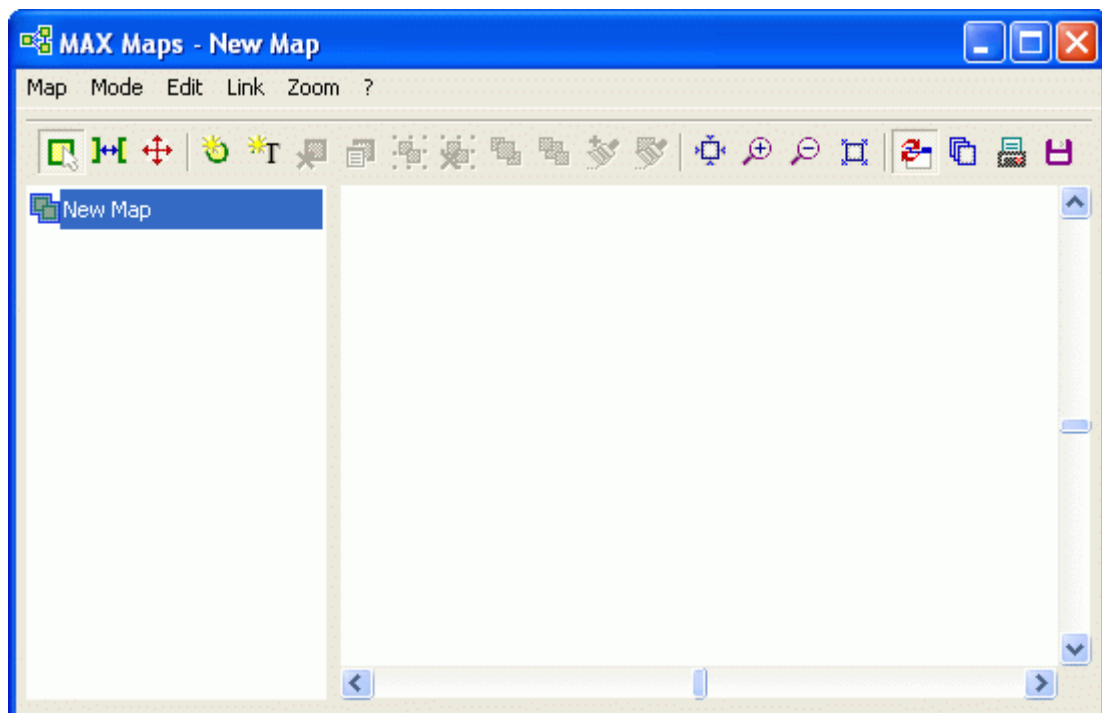


Abb. 1: The MAX Maps window

3 Arranging a Map

3.1 Importing Objects into a Work Sheet

Each object, that is imported into the work sheet – be it a code, a memo, a text, a coded segment, or a so-called free object - consists of two elements:

- a picture and
- a label.

When importing a MAXqda object the MAXqda default symbol is taken over as the picture and the MAXqda name as the label. For example, with the case of importing a code, the colored code symbol from the list of codes as well as the code name are taken.

The following figure shows three inserted objects (a code, a memo and a text) immediately after being imported. Still no positioning on the drawing pad was made.

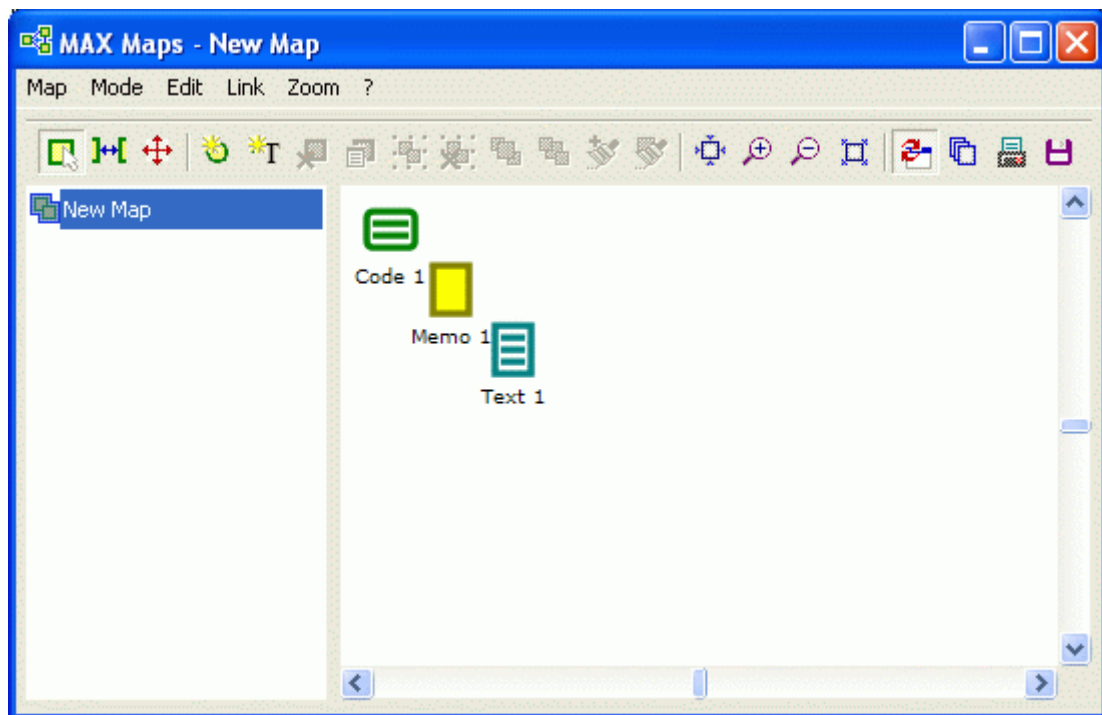


Abb. 2: The MAX Maps window after the import of a code, a memo, and a text

Something similar occurs with a memo. In the drawing pad the assigned memo icon (in MAXqda) appears as a picture of the object and the title of the memo appears as a label. Both the label and the picture can be changed, or a picture, a diagram, or a photo can be imported. The label can also be changed along with the font type, font size, and other properties.

3.2 Working with MAX Maps: three work modes

When working with MAX Maps you are able to switch between three different work modes:

1. Selection Mode

This main work mode serves to select objects from MAXqda and to insert them into the model. In this mode objects can be freely shifted on the work surface.

2. Link Mode

The link mode makes it possible to interconnect different objects, which are in the model. The connecting lines can even be treated like objects, i.e. properties can be modified in any wishful manner. In the selection mode the line type, color, label and other characteristics of a connecting line can be modified (for further details see „xx“).

3. Move Mode

This mode serves to move the entire map on the drawing pad.

Selecting a work mode takes place either over the menu or by choosing the appropriate icon in the symbol bar.

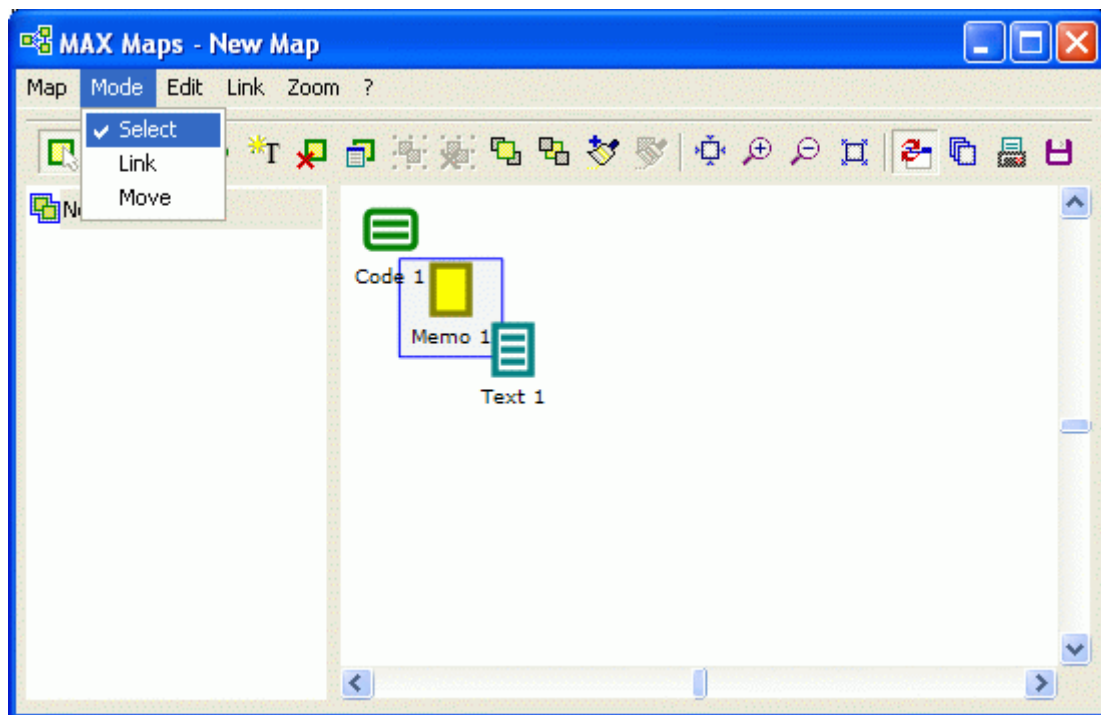


Abb. 3: How to select the work mode

3.3 Objects in MAX Maps

A map consists of three different types of items:

- standard objects
- free objects and
- connecting objects

Standard objects originate from MAXqda, e.g. a code, a text, a memo. Standard objects can be inserted only once into a drawing pad.

A text, a code, or a memo can only be contained in a map once. **Modifications on standard objects have no effects for the MAXqda project.** For instance if one modifies the name of a text imported from MAXqda, then the name in MAXqda's Document System nevertheless remains the same. As well objects removed from the drawing pad are not simultaneously removed from the MAXqda project.

No matter how one arranges an object, connections to the MAXqda data base will always remain preserved. This also means that a text, which is represented only as a picture will open with a double-click in the Text Browser of MAXqda. Free objects are not connected with items of the current MAXqda project. In this sense they are independent of the analyzed data. Connecting objects are lines, which interconnect two objects.

Both standard and free objects consist of an object label and an object picture. Standard objects receive the appropriate icon from MAXqda as a picture and the appropriate name from MAXqda as a label.

For e.g. as with a MAXqda text, the text name will be taken from the Document System. Connecting objects can likewise be provided with a label. The characteristics and type of connecting line can also be selected.

3.4 How to import Standard Objects from MAXqda

To import an element from MAXqda hold down the Alt key and double-click the selected object while in MAXqda.

Alternatively you can select the element with the right mouse button and click the "insert into map" option from the context menu. The chosen object is usually inserted in the drawing pad on the top left.

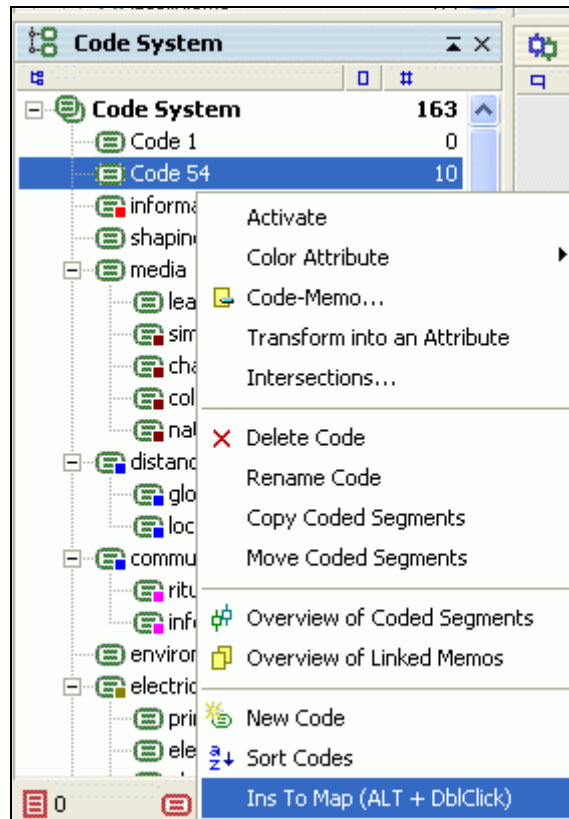


Abb. 4: Choosing an element via context menu

The following MAXqda elements can be inserted, the brackets state where the elements are located in MAXqda:

- a) Text groups (Document System)
- b) Texts (Document System)
- c) Codes and subcodes (Code System)
- d) Code memos (Code System)
- e) Memos, which are attached to text chunks (Text Browser)
- f) Memos, which are attached to documents (Document System)
- f) Memos, which are attached to text groups (Document System)
- h) Coded segments (Retrieved Segments)

All these functions (a to h) are only available if the window "MAX Maps" is open. The object is imported into the currently active map and displayed in the right part of the MAX Maps window. MAX Maps will take on the same color of codes, subcodes, and coded segments that have been assigned in MAXqda. This is also the case for memos and memo symbols. All elements are usually inserted into the upper left corner of the drawing pad if enough room is available.

The fastest way to import objects is by holding down the Alt key and double-clicking on the selected item.

The specific import procedures happen as following:

a) Text groups (Document system)

Select the text group in the document system first, then hold down the Alt key and double-click on the name of the text group. The choice can alternatively be carried out via the right mouse button.

b) Document (Document system)

Select the text in the document system first, then hold down the Alt key and double-click on the name of the text group. The choice can alternatively be carried out via the right mouse button.

c) Codes and subcodes (Code System)

Select the code or subcode in the code system first, then hold down the Alt key and double-click on the name of the code. The choice can alternatively be carried out via the right mouse button.

d) Code memos (Code System)

Select the code memo in the code system first, then hold down the Alt key and double-click on the memo symbol. The choice can alternatively be carried out via the right mouse button.

e) Memos attached to text chunks (Text Browser)

Select the memo in MAXqda's text browser first, then hold down the Alt key and double-click on the memo symbol. The choice can alternatively be carried out via the "Overview of memos" table and use of the right mouse button.

f) Memos, attached to texts (Document System)

Select the memo in MAXqda's document system first, then hold down the Alt key and double-click on the memo symbol. The choice can alternatively be carried out via the "Overview of memos" table and use of the right mouse button.

g) Memos, attached to a text group (Document System)

Select the memo in MAXqda's document system first, then hold down the Alt key and double-click on the memo symbol. The choice can alternatively be carried out via the "Overview of memos" table and use of the right mouse button.

h) Coded Segments (Retrieved Segments)

Select the coded segment in MAXqda's window "Retrieved segments" first, then hold down the Alt key and double-click on the info box on the left side of

the coded segment. The choice can alternatively be carried out via the right mouse button by clicking on the info box in front of the segment. In addition, coded segments can be selected directly from the different overviews which are available e.g. in the document system or the code system.

3.5 How to import free objects?

Elements of a drawing which don't have any relation to objects of MAXqda are understood as free objects. Free objects similarly to standard objects also consist of two parts, namely a picture and a label (name). Since frequently only text fields are required without a picture, such text elements can be inserted with a separate button. Thus a free object can be a text field or a picture with a label (description) underneath it. To insert such a free element, Max Maps must be in the selection mode.

Two possibilities exist to insert a free object:

- the menu option "edit > new free object" and "edit > new text field"
- the corresponding icons in the tool bar.



Abb. 5: The icon "New free object"

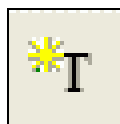


Abb. 6: The icon "New text field"

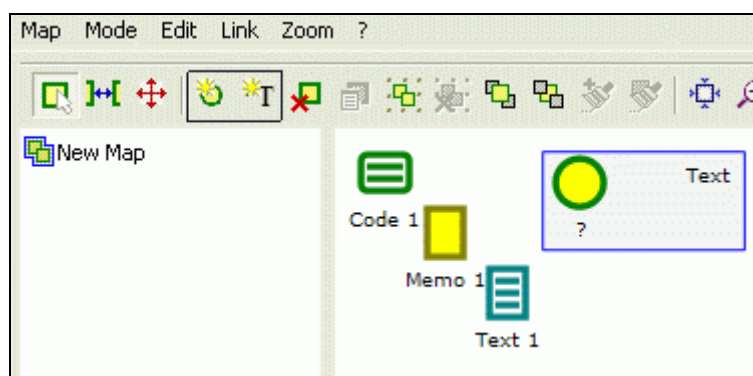


Abb. 7: Click here to insert free objects and text fields

At first every new free object is inserted with a standard icon and a label "?".

This label can be deleted or renamed by using the context menu "properties". Further details can be found in the "qualities of objects" chapter.

3.6 Arranging connections between objects

The connection lines which are drawn between single objects can be edited similarly to standard objects and free objects. The connecting line properties can be determined in the connecting line menu by choosing the selection mode, and double-clicking on the connecting line.

3.7 Deleting Objects

Every object can be removed from the drawing pad. To do this, select the desired object with the mouse. Then press the Del key or click on the Delete button in the tool bar. This will cause the object and all its connections with other objects to be entirely removed.

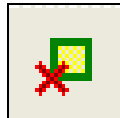


Abb. 8: The symbol "Delete object"

4 Properties of objects

The Properties of objects can only be modified when the selection mode is switched on. Objects can be placed in the desired position in the drawing pad by holding down the left mouse button and dragging the object to its new place.

When selecting an object with the right mouse button a context menu will open which includes the option labelled "properties". Here properties of a single selected object can be determined. If the Synch mode is turned off, the quickest method to access the properties dialogue window is double-clicking on the object in question.

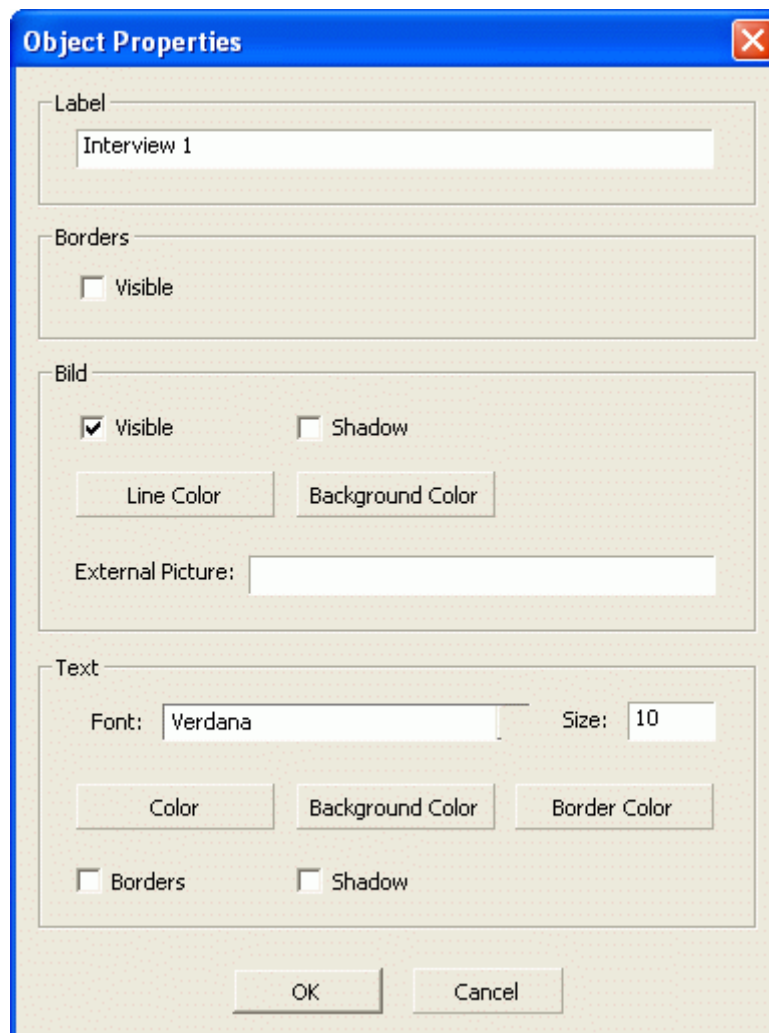


Abb. 9: The dialog window "Object Properties"

The following properties can be chosen:

Label, i.e. the name of the object. This doesn't have any effect on the text name in the MAXqda project. If one changes the name of an object in a worksheet, e.g. the name of a text "Interview1" into "Peter Miller's" then the name of the text in MAXqda will remain "Interview1".

Frame, a frame is drawn around the object.

Picture visible: if this option is not selected, only the label of the object is shown.

Shade: A shadow is drawn around the object. This only applies to standard objects not for imported bitmaps and graphics.

External picture: The file name and pathname of imported pictures are shown here.

Text: Here various properties of an object's label can be defined, e.g. script, type size etc.

4.1 Format Painter to copy Properties

Max Maps permits the transfer of properties of one object to other objects. This permits a more uniform appearance among different objects. The function is applicable to all objects including connection objects, and it also enables you to transfer the colour and line type of one connecting line to a different one.

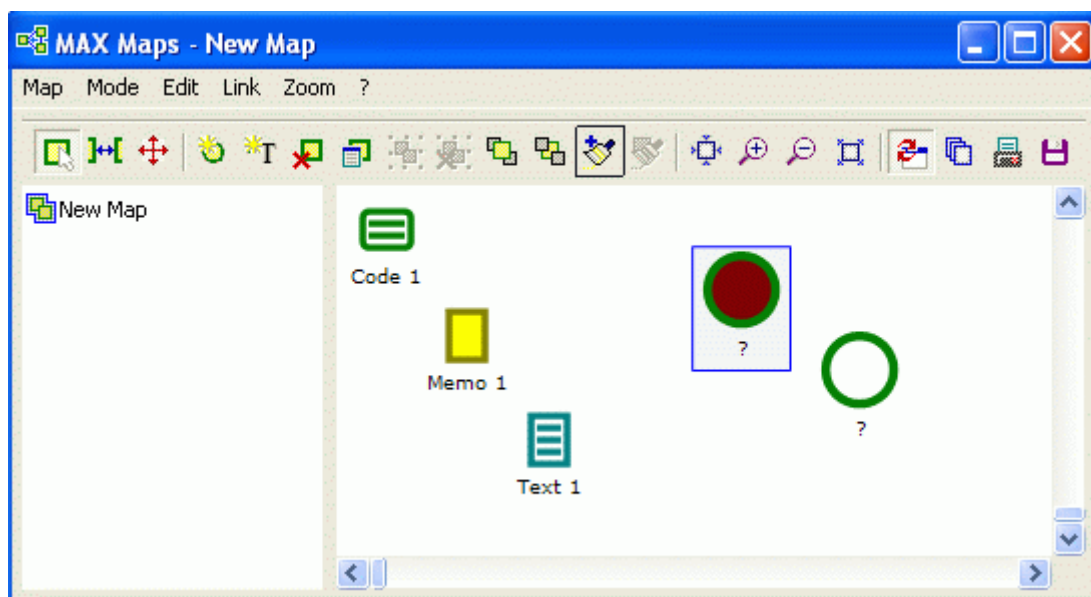


Abb. 10: The "format painter" option (copy format)

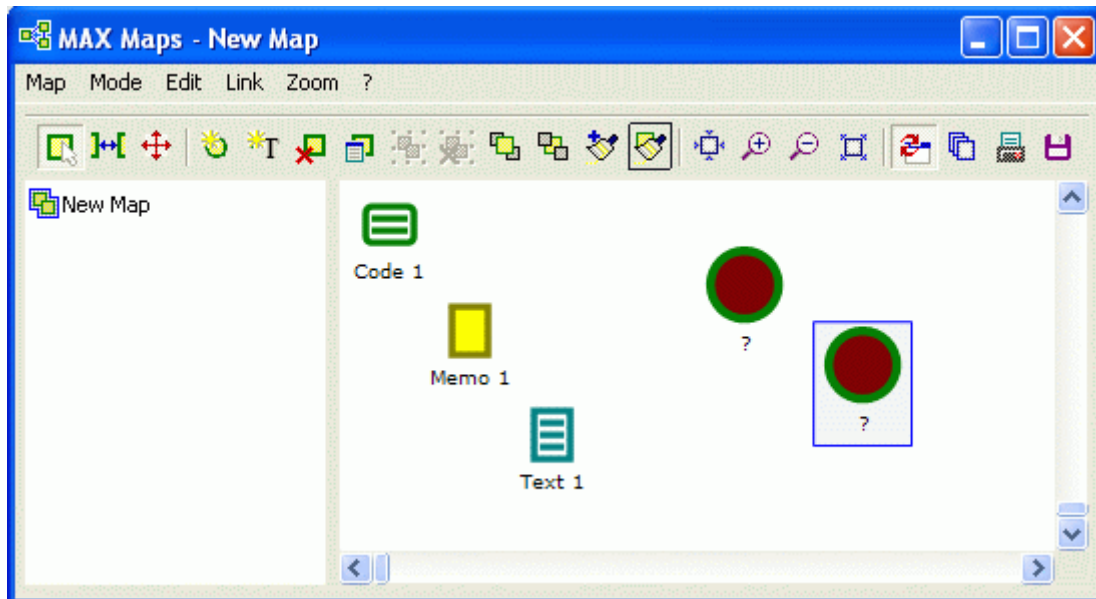
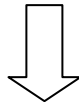




Abb. 11: The "format painter" option (apply format)

How it works:

1. Select the object whose properties wish to assign on to another
2. In the tool bar click on the option "format painter" 
3. Select the target object, i.e. the object to which the format shall be applied
4. In the tool bar click on the option "format transfer" 

Subsequently the same format can be applied to an arbitrary number of objects. This can be done by simply selecting these desired objects and then choosing the "format painter" option. If one wants to transfer the format to several objects at the same time, they must all be selected by using the mouse and holding down the Ctrl key.

4.2 Extending and reducing the size of objects

In the selection mode every selected object can be extended or reduced by clicking on the "+" or "-" symbols found in the tool bar.

In the selection mode objects can also be jointly extended or reduced by simply drawing a frame around the objects with the mouse. One can then change the object size by the method described above. The relation between the size of the picture and the font size can be defined in the properties dialogue window.

4.3 Grouping Objects

Objects can be arranged into groups. To do this, use the mouse to first draw a frame around the object. The same can also be accomplished by holding down the Shift key and clicking on the desired objects one after another, then by clicking on the symbol „Grouping“ which can be found approximately in the middle of the tool bar.

Grouped objects can be separated again in the same way: Select the group and then click on the icon „Resolve grouping“. Within an established group the separate elements of the group can no longer be modified with the individual properties menu. If at any point later on an element has to be modified, then the grouping has to be resolved first.

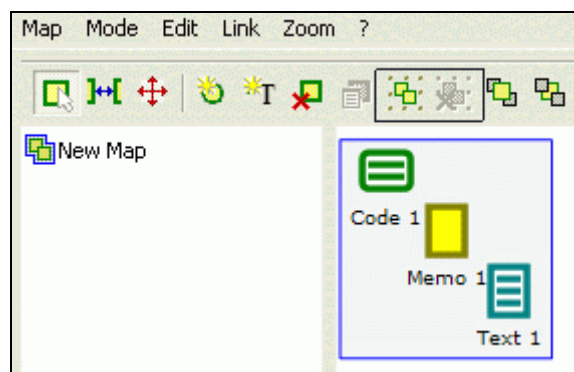


Abb. 12: The buttons "Group objects" und "Resolve Grouping"

4.4 Picture exchange - importing pictures

When importing MAXqda objects, initially the standard icon assigned in MAXqda is transferred. It is then possible though to exchange the picture and to import another picture, clip art, or drawing.

This works as follows:

The desired object is selected with the right mouse button. Then from the context menu choose the option "insert picture".

Instead of the initial standard picture another arbitrary picture can be imported, jpg, bmp, tiff and wmf, are all permitted formats.

Because pictures which are imported in this way can occasionally use a large amount of storage space, they will not be stored in a MAXqda project file (mx2 file) but remain at their original location. It is therefore recommended to create a folder which contains all external pictures. This makes data saving and the exchange of maps easier between the members of a working group.

If only the mx2 file is exchanged by MAXqda between different installations and the pictures aren't found during the import process, consequently, they may remain empty or will be replaced by a standard symbol. However, the entry which refers to the left place will remain unchanged in the properties menu so that one can still see which image file actually belongs there. One can then either still import and put into the right folder the file or change the file indication in the properties window.

4.5 Layer

Objects can be assigned to different layers. By ignoring this option, all newly inserted objects are assigned to the same standard layer "base". The Layer option makes it possible to display or to remove parts of the drawing, so one can for example design a presentation which gradually increases in complexity. One can start building a model with only a few elements and gradually increase the number of elements that are displayed, thus creating a structure which continually gains in complexity.

The dialogue window "layer" shows up when you select the option "layer" from the menu "Map".

As an alternative to it the layer icon can also be selected in the tool bar.

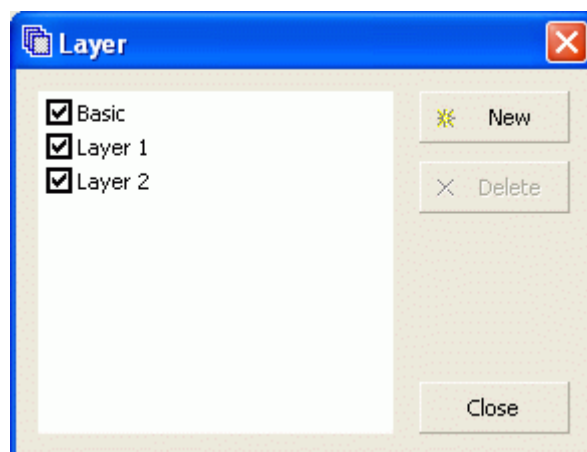


Abb. 13: Dialog window "Layer"

Any object which is on the drawing pad can be assigned to a certain layer. One chooses the option "layer" after selecting the object with the right mouse button and then assigns the object to the desired level.

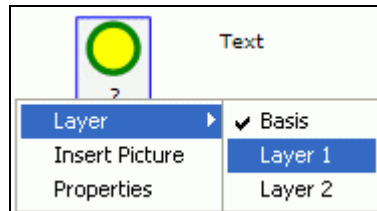


Abb. 14: Assigning an object to a layer

To display a level, simply put a checkmark in front of the desired layer in the dialogue window.

4.6 Moving Objects to the foreground or background

To arrange the objects of a map according to your needs it is necessary to be able to move objects from the foreground to the background and vice versa. The corresponding options are available in the "Edit" menu as well as through the two options "to the foreground" and "to the background" found in the tool bar.

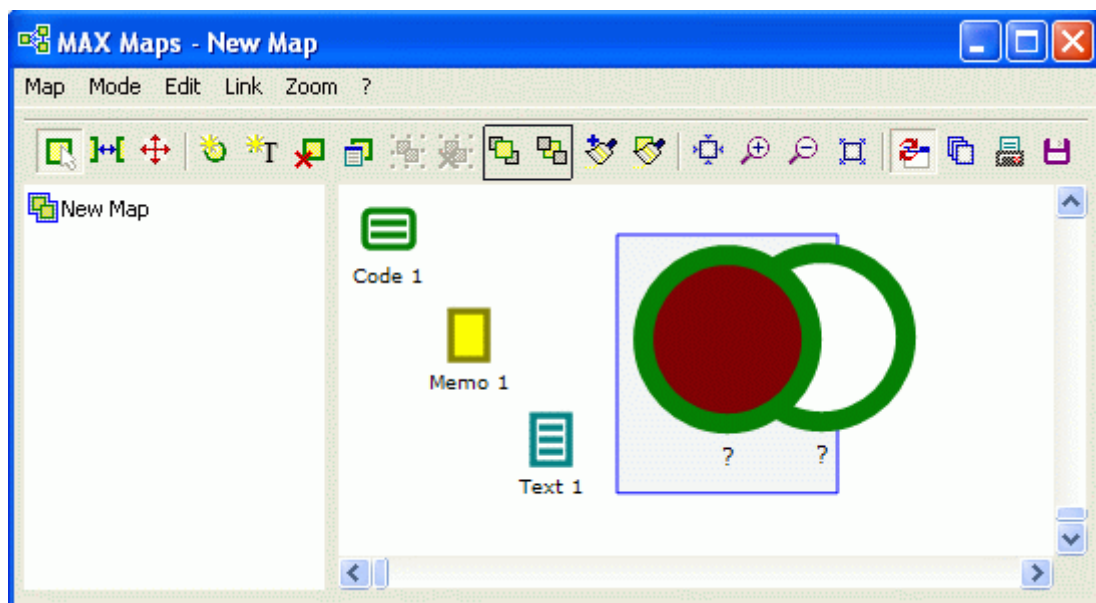


Abb. 15: Buttons "to foreground" and "to background"

This procedure is intuitively arranged:

- Select the object whose position shall be changed

- By clicking on the option "to the foreground" or "to the background" the desired position is achieved.

4.7 Connecting objects with lines

To be able to draw connections between objects one must first switch to the link mode. In the tool bar one can choose between three different link types.

- a simple connection between two objects (no directional arrow)
- a directional connection (a directional arrow)
- a mutual connection (bi directional arrows)

Objects get connected to each other by linking a starting element to a target element. The procedure starts by selecting the starting object and clicking on it. Step two is to select the desired type of connecting line. After that the line is drawn from starting object to the target object. Once connected by moving objects on the drawing pad, the connections remain unchanged and move with the objects. In the selection mode the properties of the connection lines can be determined, e.g. the style and weight, the line color, and the label of a connecting line. Similarly as in the case of standard objects and free objects, the connecting line properties menu is opened by double-clicking on the connection line.

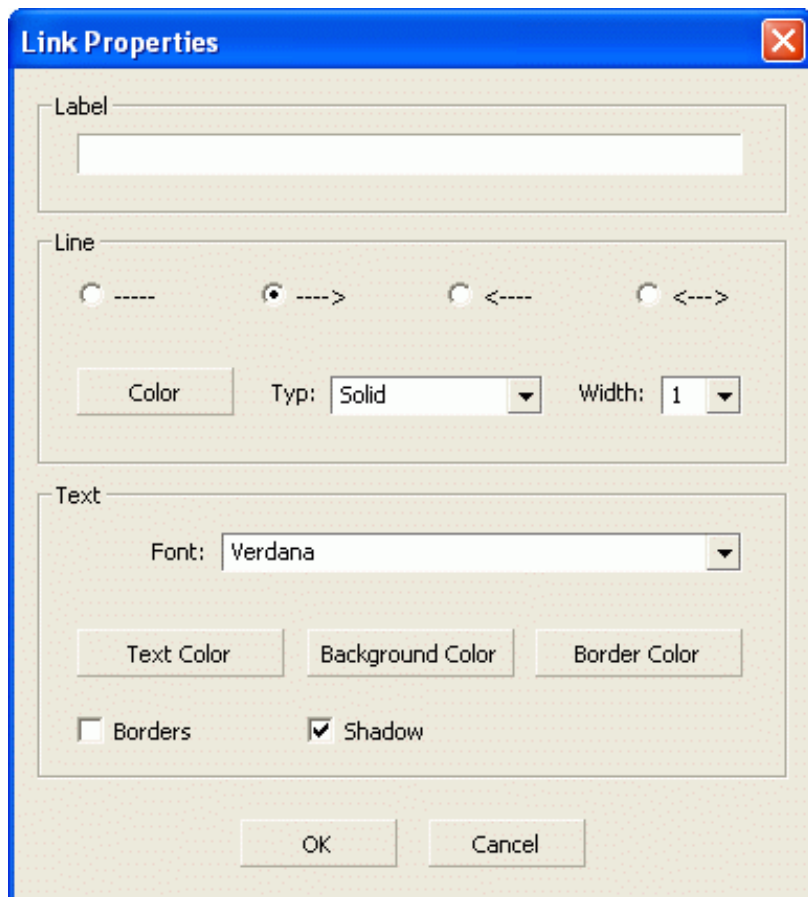


Abb. 16: Dialog window for properties of connecting lines

If one is in the link mode, it isn't possible to extend or to reduce single objects. Only the size of the entire drawing can be changed.

5 The Move Mode

5.1 Positioning a map on the drawing pad

In the move mode it is possible to move the entire map on the drawing pad. This option makes it possible to further add elements on all four sides of a map.



Abb. 17: The "move" button

5.2 How to determine the size of a map

When you are in the move mode, you may determine the size of the entire map by clicking on the "+" or "-" buttons that are located in the tool bar. Furthermore you have the option to scale the whole map to the size of the drawing pad (by use of the scale buttons) or to go back to the original size (by use of the corresponding buttons). In this move mode you can not modify the properties of a single object and there is no connection to the data of the MAXqda project either. This is also the case if the synch mode is switched on.

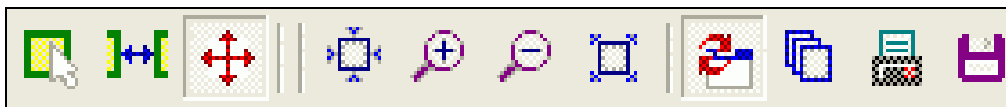


Abb. 18: Buttons in "move" mode

6 How to export and print maps

6.1 Printing a map

Any map created in the MAX Maps module can be printed in high quality. To start the print procedure select the option "print" from the menu "maps".

6.2 Export Maps as a graphic file

Maps can be exported in different formats. They can thus be used by other software like Microsoft Word or PowerPoint. To start the export procedure select the option "save as file" from the menu "maps".

The following two file types are available:

- BMP, which means as bitmap
- JPEG, a compressed graphic format.

It is important to take into account that files in BMP format need much more space for storage on your hard disk than files in jpeg format.

6.3 Teamwork: How to export and import a map

Maps can be exported and imported from one MAXqda installation to a different one. All maps, which you make, will be saved in the MAXqda project file (the file extension is "mx2") together with the other data of your project. But external pictures and graphic files though will not be saved in the mx2-file, they stay at their location on the hard disk. The teamwork function works in a similar way as the other teamwork functions of MAXqda, for instance in the export of memos and codes.

The teamwork options are available in the "map" menu. There you can find the two corresponding options "import map" and "export map". All maps are exported into a file with the extension "mod2".

The external image sources aren't part of this export file but must be transferred separately to the team member. It is recommendable to set up a sub-folder of MAXqda in which all pictures are stored.

The properties menu contains the path name of the assigned picture for every single object so that changes in the file names if necessary are possible.

7 Synchronization with MAXqda

The synch mode connects your drawing with the data of your MAXqda project. Imagine you have imported the symbol of a document that is listed in your document system in your drawing (by holding down the Alt key and double clicking it). If the synch mode is switched off nothing will happen when you move the mouse over this object in your drawing pad. Yet by switching on the synch mode, the connection to your project's data is established. Now by again moving the mouse over the symbol a so-called tool tip with the first lines of the memo assigned to this document will appear. A double click on the symbol opens the memo in MAXqda's text browser.

Switching the synch mode on and off is done by clicking on the corresponding icon in the tool bar.

The synch mode offers the following features:

Moving the mouse over an icon causes the following tool tip to be displayed.

Icon	Displayed as tool tip
Document	Document's memo
Codes and subcodes	Memo assigned to the code or subcode
Text group	Memo assigned to this text group
Memo	Memo – creation date, author preview
Coded segment	Creation date, author

Double clicking an icon causes the following action:

Icon	Displayed as tool tip
Document	Selects the document in the document system and opens it in MAXqda's text browser
Codes and subcodes	Selects code in the code system
Text group	--
Memo	Opens the memo
Coded segment	Opens the document, where the segment originates and jumps in the text to exactly this place.

7.1 Functions in Synch Mode

Beyond the possibilities described above the Synch mode makes even further functional connections possible between the Map and the MAXqda database.

The context menus that are available for codes and documents offer the option to display the overviews previously well known from MAXqda. Thus overviews of coded segments and linked memos can be obtained. These overviews behave in the same way as in MAXqda, which means they are not only simple reports. Furthermore they enable a direct connection to the corresponding data. When you click on an item of an overview the corresponding text chunk appears in the surrounding context.

Another important characteristic of the synch mode is the ability to automatically import elements of MAXqda into the drawing pad.

7.2 Importing all the memos of a document

The option "import memos" which is available in the context menu of a document effectuates the import of all the memos that have been attached to a text. The corresponding memo symbols now appear in the drawing pad. Connection lines link them to the corresponding document.

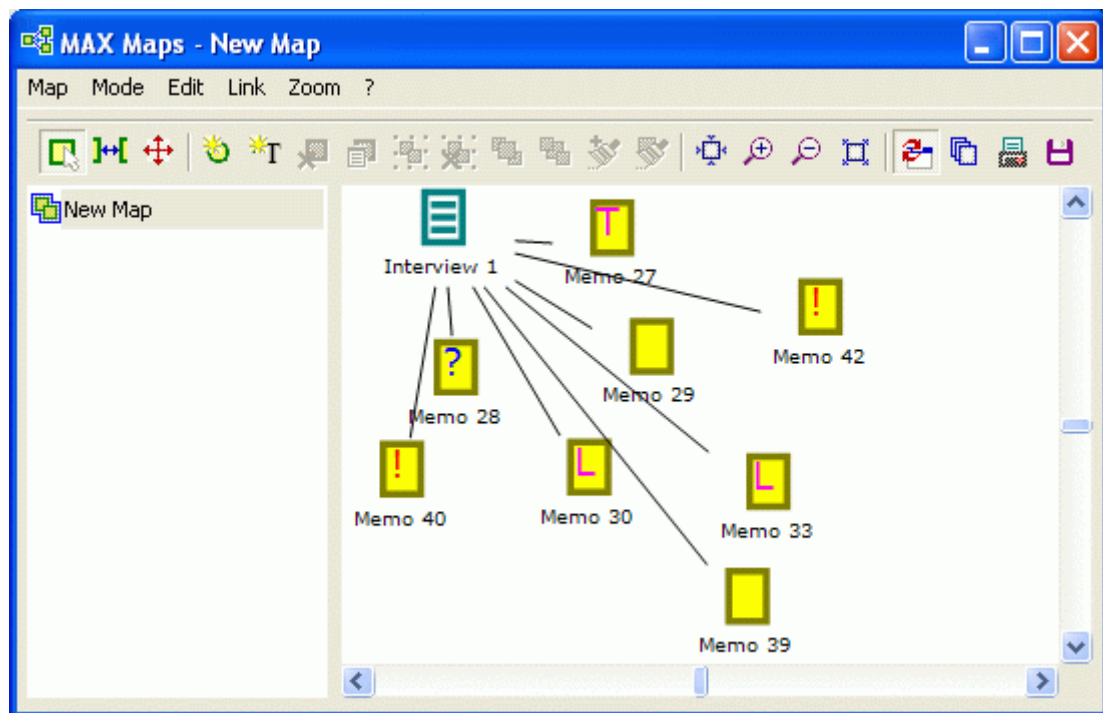


Abb. 19: Memos of a document after the import procedure

7.3 Importing the subcodes of a code

By clicking with the right mouse button on a code displayed in the drawing pad, the context menu pops up. It contains the option "import subcodes" which causes all the subcodes of the selected code to be imported. The symbols for these codes can now be seen in the drawing pad, including the lines linking them to the corresponding parent code.

7.4 Importing co-occurring codes

This is also a function offered in the context menu of each code. All codes that have co-occurrences with the selected codes will be imported into the drawing pad. The procedure uses the same functionality as the corresponding option in MAXqda where you can search for codes that overlap with other codes. For instance, in MAXqda's code system the context menus allow you to display a ranking of all other co-occurring codes. You may use this as a kind of preview. Here you can see which codes will be inserted into the drawing pad if you choose the option "import co occurring codes". Normally you are probably unaware how many codes would be imported, by using this function, it helps you to get an idea of what will happen.

If a co-occurring code is already present in the drawing pad, it will not be imported again. Yet, in any case, a connecting line between this code and the co-occurring code will be drawn. All code symbols will be inserted in the upper left corner of the drawing pad. We therefore recommend to provide enough corresponding space there.

7.5 Importing linked memos

This is another function for the automatic import of relationships that already exist in the MAXqda project. All memos that are linked with the selected code will be imported into the drawing pad. Furthermore, to symbolize the link, lines will be drawn from each memo to the code. To avoid double copies of memos which are already part of the drawing these will not be imported a second time. In this case, only a line from the memo to the code will be newly inserted, provided that it does not already exist.