

# MAXQDA 2018 for Windows & Mac: Distinguishing features and functions

This document is intended to be read in conjunction with the 'Choosing a CAQDAS Package Working Paper' which provides more general commentary of common CAQDAS functionality. It does not provide an exhaustive account of all the features provided by MAXQDA 2018 but is designed to highlight some of its distinguishing elements. The Comment section at the end details our opinions on certain aspects of functionality and usability. See also Silver & Lewins (2014) *Using Software in Qualitative Research: A Step-by-Step Guide*, and Woolf & Silver (2018) *Qualitative Analysis using MAXQDA: The Five-Level-QDA method* and the MAXQDA website. We thank Julia Gerson and Dr. Denise Gider of Verbi GmbH for ensuring the accuracy of this review.

**Background** <http://www.MAXQDA.com> MAXQDA 2018 for Windows & Mac is the latest in a software stream originally developed by Udo Kuckartz ■ It enables analysis of qualitative data including text, pdf, tables, audio, video, focus group transcripts, tweets, websites, surveys, bibliographical data and still images ■ It incorporates good support for mixed methods research and quantitative analyses ■ MAXQDA Plus includes MAXDictio which extends functionality to quantitative content analysis, providing dictionary-based content analysis with Key Word in Context (KWIC) ■ MAXQDA Analytics Pro offers a large range of statistical analyses ■ MAXQDA Reader is a free tool allowing MAXQDA projects to be viewed and searched ■ MAXApp for iOS and Android is for data collection and coding ■ The Mac & Windows versions have identical functionality and use the same project file format ■ All parts of a MAXQDA project file plus specific reports can be exported.

**Minimum System Specifications (recommended by developer)** Microsoft Windows 7 or higher / Mac 10.9 (Mavericks) or higher ■ 2 GB RAM, recommended: 4 GB or more ■ Processor: 1,3 GHz with 2 cores, recommended: 2 GHz or more with 2 cores or more

**The Structure of work in MAXQDA 2018** MAXQDA 2018 functions using an internal database system. Data files are contained within the project, and are moved or saved as part of the project ■ The user interface comprises a tab menu with a short description for each function and can be displayed in 13 languages (English, German, Chinese (simplified & traditional), Czech, French, Italian, Japanese, Polish, Portuguese (European & Brazilian), Russian, Spanish, Thai, & Turkish). The interface consists of four main windows. The Document System lists data files. The Code System houses the coding schema. The Document Browser displays individual documents (multiple tab option) and the Retrieved Segments window displays coded data ■ Windows can be resized, opened, undocked and closed as required.

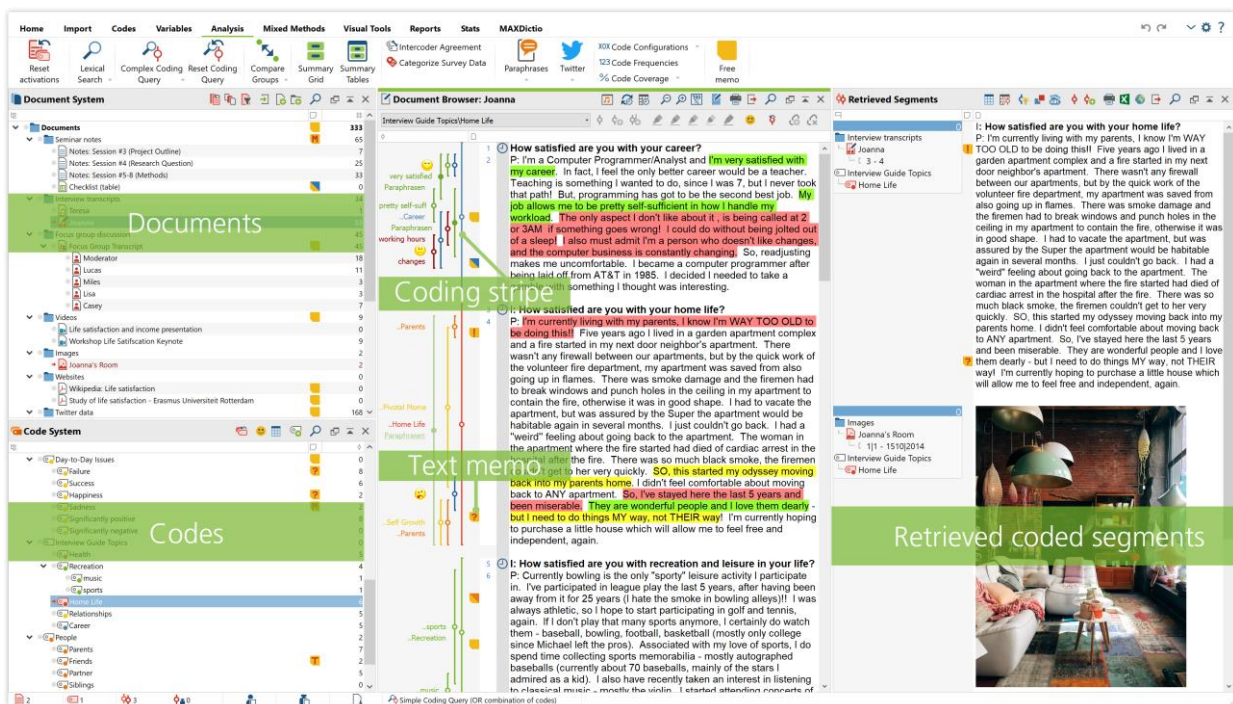


Figure 1. MAXQDA 2018 Interface showing Document System and coded document

**Data types and format in MAXQDA 2018** Textual formats: Rich Text Format (RTF), Word files (.DOC, .DOCX, .ODT), PDF files ■ Table formats: Excel files (.XLS, .XLSX) ■ Graphic formats: JPG, GIF, BMP, PNG and TIF ■ Audio/video formats: standard file formats like MP3, WAV, MP4, MOV and others. Audio/video can be transcribed within MAXQDA 2018 and written transcripts synchronized with corresponding media file ■ Import of interview transcripts with timestamps combined with corresponding audio and video files ■ Bibliographical data in .RIS format ■ Texts can be edited but are safeguarded from accidental changes by read-only properties ■ Import survey data from Excel spreadsheets and SurveyMonkey ■ Connect to Twitter to import, filter, statistically analyse and visualise tweets ■ Text line wraps and paragraphs are automatically numbered ■ Automatic recognition and coding of different speakers in focus group transcripts as part of transcript importation ■ “Web Collector for MAXQDA” is a free browser add-on to capture web-content for import.

**Closeness to data and interactivity in MAXQDA 2018** Windows containing different elements of work can be displayed and worked with simultaneously ■ Seamless interactivity across different aspects of work ■ Tables displaying frequency information are fully interactive and easily exported ■ Retrieval of coded data is viewed in its source context at the same time as being lifted out of context providing a good balance ■ The margin display shows codes, memos, time stamps, paraphrases, and GEOLinks (geographical references), is fully interactive and prints well. It can be filtered in various respects, including by activation, user or colour attribute.

**Coding scheme in MAXQDA 2018** The coding schema can be as hierarchical or as un-hierarchical as required. A hierarchical structure can contain up to ten levels ■ Drag and drop allows easy re-organisation of codes across and within hierarchies and into sets (shortcuts) ■ Assign colour to codes which appear in margin display and in the code system ■ Codes on view can be filtered by colour or author ■ Code definitions can directly be attached to each code in a *code memo* ■ Codes can additionally be re-organized into sets which act as short-cut groupings ■ Emoticode® feature allows quick coding with more than 300 symbols ■ Code system can be created and re-organized in a mind-map layout in the Creative Coding mode ■ The Smart Coding Tool allows the coding scheme to be reviewed and amended ■ Frequency tables and editable diagrams show statistics of sub-codes.

**Coding Processes in MAXQDA 2018** Drag and drop selected segments onto a code or vice versa ■ Assign recently used codes from drop-down menu ■ Assign keyboard shortcuts to frequently used codes ■ Apply weight to coded segments within a range of 0 to 100 ■ Apply comments to coded segments ■ Convert code frequencies into numeric attributes ■ Auto-coding devices based on text searches – including options to code surrounding sentence, paragraph, or set number of words if additional context required. Automatic coding of text based on requested auto-indexing of selected words after using word frequency tools in MAXDictio ■ Categorize and code answers of open ended survey questions in an interactive display.

**Basic Retrieval of coded data in MAXQDA 2018** Activation is the central retrieval principle which is easy to understand and execute. Activation ‘turns on’ combinations of codes and documents to display relevant segments in the Retrieved Segments window ■ Documents can be activated in various ways, e.g. by sets, variable values, weight, or code colour ■ Functional hierarchies allow quick retrieval of data coded at a top level and all its sub-codes together. A subtle variation on this when querying, the *Use Subcodes* option means that a whole hierarchy can be treated as one code for the purposes of finding e.g. co-occurrences of another code anywhere within other activated hierarchies ■ Overview tables of coded segments provide interactive listing of selected parts of coded data ■ Writing Summaries of coded segments and displaying them together with variable values in an overview table grouped by documents and codes ■ Compare coded text segments or code frequencies across different groups ■ Display of the amount data coded.

**Data Organisation in MAXQDA 2018** Descriptive organization according to known characteristics is enabled by applying variables to data ■ Three types of variable: document variables, focus group participant variables and code variables, provide flexibility for organizing different units of analysis ■ Sets of documents provide shortcuts to groups of data ■ Documents can be given colour attributes for visual differentiation.

**Writing Tools in MAXQDA 2018** There are five writing ‘spaces’ in MAXQDA 2018 ■ The Logbook is a central space for keeping notes about the whole research process ■ Memos can be attached to other components (e.g. documents, codes, segments) or be ‘free’. They are displayed with user defined styles, labels and post-it note icons, and can be grouped by type. Memos can be viewed and sorted in a Table Overview, and selected Memos can be

exported into one file ■ **Paraphrases** are displayed next to data in the Document Browser window and can be used to build up a category system with a focused paraphrase table ■ **Comments** are spaces for notes linked to specific coded segments ■ **Summaries** are spaces for summarizing multiple pieces of coded data, displayed in a matrix view of (activated) documents by codes.

### Searching and interrogating the dataset in MAXQDA 2018

Interrogate by simple / complex states of activation

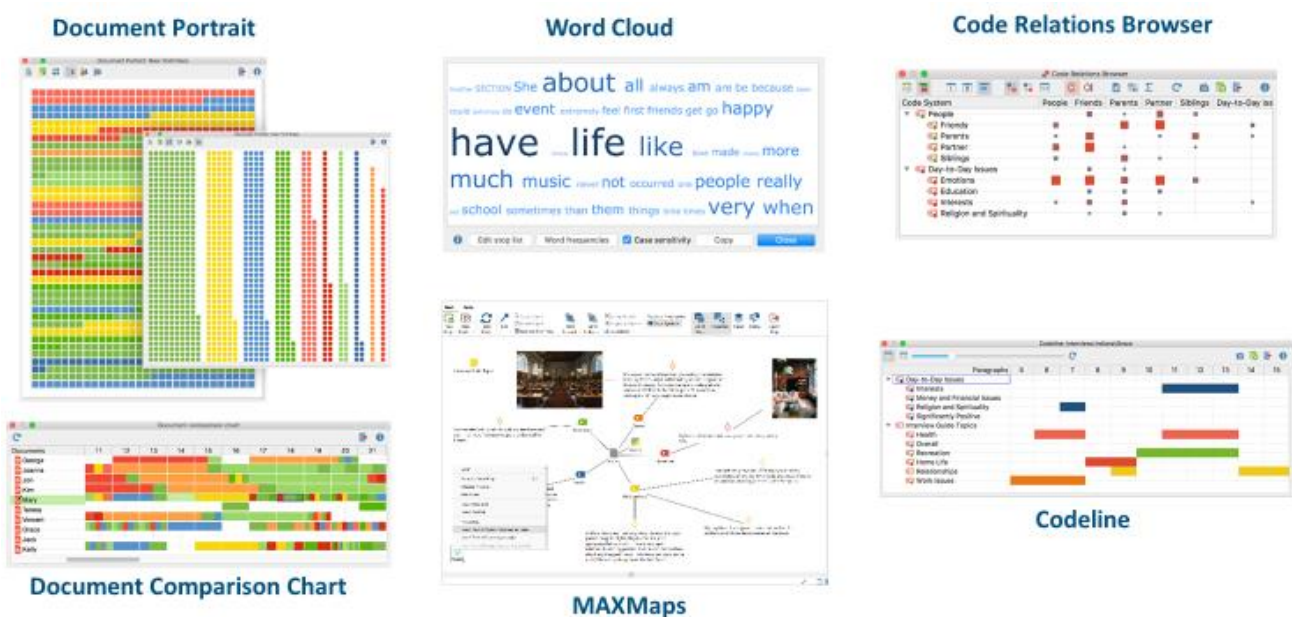
■ Activation by weight adds an extra dimension to searching ■ Interactive Matrix Browsers allow tabular visualization of code co-occurrences and frequency of codes occurring in (groups of) documents ■ Code Configuration displays co-occurrences of codes in up to six dimensions ■ Matrices are interactively connected to source data ■ Code frequency table shows frequency of codes across whole data set or amongst activated documents and codes ■ Usual range of Boolean and proximity operators for retrieving coded text ■ Auto-code text search hits with existing or new codes.

### Linking devices in MAXQDA 2018

Pairs of data segments can be linked ■ External links to websites and local files are possible ■ Link memos to one another in map (visual link only) ■ Link memos to codes (functional link) to enable retrieval of writing accordingly ■ GEOLinks provide direct link from data segments or codes to Google Earth locations ■ Hierarchical links between codes in Creative Coding Maps that can be transformed into the coding schema.

### Visual tools in MAXQDA 2018

Document Portrait provides a visual overview of how an individual document has been coded ■ Document Comparison Chart compares coding across paragraphs within activated documents ■ The Codeline provides an interactive visual map by paragraph showing how an individual document has been coded. A single click in any colour block within all three tools provides in-context retrieval ■ Tag clouds display frequently used words for document(s) in a cloud illustration ■ Charts show sub-code and document variable statistics ■ MAXMaps is a mapping tool which enables the graphic visualization of all aspects of the project and to embed items not existent in the project – such as photographs etc. Full (interactive) integration between objects in a map and the rest of the project. ■ MAXMaps can also be used as a free mind mapping tool completely independently from any project data ■ MAXMaps offers nine automatic templates for focused visualizations, e.g. Case Models or Code Theory Models.



**Figure 2. Some of MAXQDA's range of Visual Tools**

### Output in MAXQDA 2018

Retrieved segments can be exported to an RTF document, EXCEL or HTML (including memos and variables) ■ Smart Publisher tool creates a ready-to-print report for all segments of selected codes ■ Output combinations of memos into one file (all memos, all memos linked to one data file or a set of files, or all memos linked to one code) ■ Any interactive table can be exported to view in a spreadsheet application ■ All visual displays can be saved as an image ■ Code system can be exported as code book with definitions (if are attached as code memos) ■ Print documents including margin view.



**Content analysis features in MAXQDA 2018** MAXDictio (add on module with MAXQDA Plus) allows word frequency across (groups of) texts providing a tabular index with interactive Key Word In Context (KWIC) retrieval ■ Dictionaries can be built to create lists of active words that can govern the functioning of other tools. Indexing options auto-code selected words and surrounding context.

**Mixed methods features in MAXQDA 2018** MAXQDA 2018 provides a selection of tools specifically designed to facilitate mixed methods projects ■ These include activation by variables, the Interactive Quote Matrix, Crosstabs, Quantizing, Typology Table, Similarity Analysis of documents, and Joint Displays ■ Activation by variable allows data files to be activated based on the presence of variables (e.g. socio-demographic characteristics) ■ The Interactive Quote Matrix generates a display of grouped coded segments based on respondents' characteristics ■ Crosstabs allows coded comparisons to be made according to groups of data ■ Quantizing creates a variable based on the frequency of a code in a document ■ Typology Tables allow the visualization of variable values based on qualitative typologies previously created ■ Similarity Analysis analyzes which documents are the most similar based on codes, code frequency and variable values ■ Joint Displays display qualitative and quantitative data and results in side-by-side displays.

**Statistical features in MAXQDA 2018** Stats (add on module with MAXQDA Analytics Pro) offers frequently used descriptive and inferential statistical methods ■ Statistical analysis of MAXQDA project data (codes / variables) or external file (.sav SPSS database): frequency tables, descriptive statistics, crosstabs, one-way analysis of variance, correlation and scales ■ Interactive result tables, in which rows and columns can be moved, deleted or merged while the results are automatically recalculated.

**Reporting and export in MAXQDA 2018** The Smart Publisher is a report generator to create a formatted Word document with selected coded data, including title page, and tables of contents from editable template that can be set up to a company's corporate design. ■ A codebook can be created and exported, which lists selected codes and their associated code definition ■ Table overviews of coded segments, memos, codes, links and summaries (incl. coded segments) can be displayed and exported.

**Teamworking in MAXQDA 2018** Merge parts of projects e.g. coding for individual documents, or a document group, or a whole project's database can be imported into another ■ Code margin displays can be filtered to hide or reveal other researcher's work ■ Intercoder agreement can be calculated to compare coding of the same document done by two researchers ■ MAXQDA Reader enables those without a license to view project data ■ Finely tune access to, and rights over specific functions (coding, editing, etc.) in User Management settings

## Comment on MAXQDA 2018

- **The total equivalence of the Mac and Pc versions of MAXQDA 2018 is welcomed.** This significantly helps collaborative projects that need to share work and makes the teaching of mixed platform users unproblematic.
- **The MAXQDA 2018 user interface is compact, appealing and tidy.** Tables, visual tools and memos provide superb interactive contact with different aspects of work keeping the user close to source data at all times. Auto arranging but resizable windows allow easy customization and isolation of element(s) of work. The user interface could be rather cramped with larger datasets and therefore it is recommended to work with large or multiple monitors if possible.
- **MAXQDA 2018 is intuitive, simple and efficient.** It is easy to learn and to begin working with effectively. It includes some simple yet appealing features which users often request, including the ability to choose from an extensive colour palate for codes and print off the margin display easily and satisfactorily.
- **MAXQDA 2018 makes good use of colour** to visually differentiate various aspects of work. Colour is a powerful means of organisation and MAXQDA provides several unique uses of colour. These are seemingly simple devices, but are valued highly by users and when used systematically can be powerful retrieval and filtering devices.
- **MAXQDA 2018 has excellent writing tools**, including options not provided by other products. MAXQDA has one of the best memo retrieval systems, which is particularly useful in team situations. The varied nature of memo retrieval means it is less important to be systematic than in other software packages. However the ability to code the content of memos as well as to link codes to whole memos would be useful.
- **Activation allows quick and uncomplicated retrieval** without recourse to the search tool. Interrogation of the dataset in this way is easy to grasp and manipulate. Automatically generated Code Relations and Code Matrix

browsers, and the Code Configuration tool, provide easy ways of viewing co-occurrences which are more complicated to generate in other products.

- **Qual-quant integration supporting mixed methods projects is highly developed in MAXQDA** There are several tools specifically designed to support mixed methods analysis, some of which are unique to MAXQDA. For example, converting code frequencies into document attributes, the ability to assign weight to coded-segments and interrogate on that basis.. The Stats module (available in MAXQDA Analytics Pro) also means some quantitative analysis can be undertaken without exporting to another program. However, currently statistical analysis is restricted to descriptive and bivariate inferential statistics (not multivariate inferential statistics).
- **The focus-group import function is powerful and efficient**, resulting in the automatic coding of repeated speaker sections in focus-group transcripts, group interviews and other data where repeated structures exist within data documents. The pre-formatting that needs to occur to make this work is very limited, therefore does not place an extra burden on data preparation. However, it is cumbersome to link responses by the same participant from two different data sources (e.g. a focus-group and a survey, or an interview and observations)
- **Sets of documents and codes in MAXQDA 2018 are very useful** as is the ability to save combinations of states of activations, turning what might be complex multiple step query operations in other packages into simple and intuitive processes in MAXQDA.
- **In the team situation** users can be selective about which items they merge together thereby allowing cumulative comparison of work. The MAXQDA Reader is also a useful way to involve team members who are not using the software directly.
- **Visualisation tools are unusual and easy to operate**, with several options unique to MAXQDA 2018. The visual tools using colour blocks to chart codes in data can be particularly useful if tracking process or the flow of thought in unstructured narratives. Such tools depend on deliberately assigning colours to codes in a logical and consistent way. MAXQDA was the first CAQDAS package to incorporate the ability to link to geographical reference points in mapping tools (e.g. Google Earth™) using GEOLinks.
- **MAXMaps is a useful tool** allowing the user to create layers and graphically enhance the map in various ways. Nine different model templates provide powerful ways to visually interrogate patterns and connections in data based on earlier work.
- **MAXDictio** (available in MAXQDA Plus) has a useful range of content analysis tools not currently available in most other code based packages (apart from QDA Miner). They provide interactive (KWIC) connections to the source context.

#### Further Reading

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