

AnyQuest for Windows - AnyPak

Manual for electronic questionnaires

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Revised: 07.09.11 17:51

Contact

AnyQuest for Windows - AnyQuest for Java - AnyQuest Server:

A platform for electronic questionnaires.

AnyPak:

A simple example package with technical demonstrations and a starter set of electronic questionnaires.

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Abstract

This document explains the installation and usage of electronic questionnaires from the AnyPak project. It contains a quick start guide and comprehensive notes regarding the adoption of the system to local requirements.

It is limited to technical and practical aspects; neither content nor scientific background of the questionnaires are addressed in any way.

Exclusion of liability and additional notices

This text describes a possible application of a technical solution. The application is under the sole liability and at the risk of the user. The text has been created in good faith and conscience, but errors cannot be excluded. Please ensure that the information provided is applicable to your own working environment and suitable for your local operating procedures. Please take into account the importance of your computer system, and the possible impact of allowing participants to use it directly, or of its malfunction possibly caused by changes you might apply to it. If in doubt, please obtain locally available competent support.

Users are also responsible for checking the validity of computed results and for using the tools described herein in a way which is adequate for their provision of care. A questionnaire can only add to, but not replace adequate observation and becoming familiar with the personality and circumstances of other people.

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Table of contents

Contact	1
Abstract	1
Exclusion of liability and additional notices	1
1 Quick start guide.....	3
1.1 Expected standard environment.....	3
1.2 Installation of the software and preparation of the system.....	3
1.3 Application	3
1.4 Additional information.....	4
2 Functionality of the software	5
3 System requirements	5
4 Installation	7
4.1 Microsoft Windows 3.x to Microsoft Windows 7 32-Bit	7
4.2 Microsoft Windows 64-bit.....	7
4.3 Wine e.g. under Linux	9
4.4 SoftWindows (Macintosh, Irix), VMware, VirtualPC, OS/2 Warp.....	9
4.5 Alternative option for manual installation	9
4.6 Recommended customization of the system environment.....	9
4.7 Recommended display and colour settings	10
4.8 Enhanced configuration options	10
5 Operation.....	22
5.1 Starting a questionnaire administration	22
5.2 Invitation of participants to fill in a questionnaire	22
5.3 The actual questionnaire administration	23
5.4 Correction of given answers; navigation within a questionnaire.....	24
5.5 Questions that have not been answered, and questions that cannot be answered.....	24
5.6 Aborting, interrupting, and resuming a questionnaire administration session; session-log.....	25
5.7 Data storage and automatically created result printouts	26
5.8 Fast acquisition and scoring of a paper questionnaire	26
5.9 Built in functionality for statistical analyses.....	27
5.10 Data export for statistical analyses	29
5.11 Preparation of backups	33
6 Notes regarding data protection and privacy	33
7 Technical support, additional information and software-updates.....	34

1 Quick start guide

The quick guide provides a fast way to a usable system if you are going to install the software in a standard environment. Please refer to later chapters if your computer system is different, or if you want to prepare a secured configuration, or one specially customized for your local requirements.

In any case, please note the preceding section "Exclusion of liability and additional notes".

1.1 Expected standard environment

PC with x86 CPU, Microsoft Windows 3.x to Windows 7 (32-Bit) or compatible environment, e.g. Wine, SoftWindows, VMware, VirtualPC / XP-Mode for 64-bit Windows. Display with 1024x768 Pixels or more. About 100 MB of space on `c:\` and permissions to create the folder `c:\anyquin`, to write therein, to install software and to configure user accounts.

A real or a virtual printer (e.g. Microsoft Journal Writer or PDFCreator and FoxIt Reader).

Availability of a mouse, touch-screen or stylus/pen (for Tablet-PCs) and preferably, a keyboard (mainly for installation and maintenance of the system).

1.2 Installation of the software and preparation of the system

- If required: Log in to your computer system with administrator rights.
- Run the program `setup.exe` and observe its output on the screen to install the package with the electronic AnyPak questionnaires.
- Ensure that your printer is functional, or install e.g. PDFCreator as virtual printer and FoxIt Reader to display the PDF-documents created by it.
- If possible, create a dedicated *user* account „Participant“. For experienced system administrators: Give it permissions only to read/execute from `c:\anyquin`, and to write into `c:\anyquin\anypak\data`, `c:\anyquin\anypak\jssplash\temp` and `c:\anyquin\anypak\printout`.
- Log in to your system as user „Participant“.
- If you use the PDFCreator:
Please run the program PDFCreator. In "Printers" - "Options" - "General settings" - "General Settings 2", disable „Show an animation during the process“, and set „Check update“ - "Update interval" for updates" to „never“. In "Auto-save", enable the option "Use auto-save" with the filename "<title>" and "Use this directory for auto-save" set to `c:\anyquin\anypak\printout`.
If you want to view each created result immediately after the questionnaire administration on the same computer, enable the option "After auto-saving open the document with the default program".
- Set your real printer of choice or preferably the PDFCreator as default printer.
- If so desired, copy the entry „AnyPak electronic questionnaires“ from the start menu to the desktop, to the quick launch bar, or into the Startup folder of user „Participant“.
- Please briefly review the section „Additional information“ below.

1.3 Application

- If the selection menu is not displayed yet:
 - Log in to your system as „Participant“.
 - If you have not prepared an automatic start of the software: Start „AnyPak electronic questionnaires“ from the start menu (or optionally from the desktop or from the quick launch bar).
 - Note that the menu that appears has buttons for closing (x) and to display the help file (?) in its top right corner.
- Please select the desired language and the desired questionnaire.

- Invite the participant to read the introduction to the questionnaire administration session. Participants shall decide on their own whether they want to use the questionnaire and consequently select one of the buttons "Start" or "Exit".
- On the screen which asks for a participant identification number, the button „Auto“ produces a random number. Who wants to get a course over time printout, must use the same number in follow-up assessments.
- Please instruct your participant to answer all questions and tell him/her that you are around to help in case of any questions or difficulties.
- Please instruct your participant to inform you when he/she has finished the questionnaire (and to return the computer to you, if you use a portable device).
- Depending upon your participant and your setting: please stay around for a moment to see immediately whether the participant can easily handle the system (using the mouse, stylus/pen or their finger).
- Depending on your configuration, the result printout is generated either on paper and/or in PDF documents, the latter may optionally be automatically displayed or accessible across a network.

1.4 Additional information

Please consult the remainder of this manual to obtain detailed information on the following topics, and more:

- Please ensure that special functionality of MS Windows like the screen saver or the sleep mode do not affect the usability of your device. These can be configured separately, and either one may require a password to continue working. A password is less important if you use a dedicated user account with restricted rights for participants. In any case, the difference between a screen saver and the sleep mode (and how to continue working from either of these) must be explained to attending staff.
- If desired, you can configure automatic login for the user „Participant“ after power-on, and also automatic start-up of the language and questionnaire selection menu for the electronic AnyPak questionnaires.
- Other configurations are provided in addition to the language and questionnaire selection menu. These can be accessed via `c:\anyquin\anypak\start` - e.g. for efficient scoring of paper questionnaires, for data export, or to use the software on displays with lower resolution.
- If you want results to be produced on a real printer and also in a PDF document, you can enable this functionality for any selected configuration and type of result.
- If you use a Tablet-PC, pen-computer or a touch-screen, you can configure the system to hide the cursor when the next question is being displayed.
- If you want to collect additional information about your participants, you can change the provided default configuration. In this case, please pay special attention to legal requirements regarding participants' privacy and protection of collected data.
- Collected data can be analysed with simple built in functionality, or exported and then be processed and analysed with third party software (Excel, OpenOffice Calc, PSPP, SPSS, SAS, R, Spida, Xplore...).
- There are various possibilities to create a backup of your configuration and the data you collected. Please don't overlook this point!
- Information about related software components (e.g. AnyQuest for Java, AnyQuest server - a database/WWW environment, AnyQuery - a simple viewer for collected data, SQL and xDT interfaces) and a lot of additional material are available at www.ql-recorder.com.

2 **Functionality of the software**

- Provision of electronic adoptions of the AnyPak questionnaires. These can be filled in by participants themselves, using a PC, laptop, Tablet-PC, touch-screen etc. Anonymous or pseudonymized data storage. Results appear immediately as PDF documents and/or paper printouts.
- Provision of an additional facility for fast input and scoring of questionnaires collected on paper, using the same backend for data storage and result computation.
- Built in functionality for basic analysis of collected data like descriptive statistics, box plots etc.
- Data export for immediate or delayed postprocessing and advanced analysis with third party software (Excel, OpenOffice Calc, SPSS, PSPP, SAS, R, Spida, Xplore...)
- The electronic questionnaires are based upon the software AnyQuest for Windows. The language and questionnaire selection menu is a separate software which calls one AnyQuest for Windows configuration prepared for each questionnaire and language. All of these building blocks can be adopted extensively to local requirements.

3 **System requirements**

- PC with x86 or amd64 CPU, from 80386sx upwards¹.
- Microsoft Windows 3.x to Windows 7 or any compatible environment, like SoftWindows, Virtual PC, VMware, or Wine under Linux.
 - The actual software for questionnaire administration and the language and questionnaire selection menu are 16-bit Windows applications and should therefore work on all true and emulated Windows environments since Windows 3.x.
 - For 64-bit versions of Microsoft Windows, Microsoft provides a preconfigured Virtual-PC / XP-Mode environment for download, wherein the software can be easily used. It is operated exactly the same way as if it would run directly in the 64-bit system; but by default, data storage occurs inside the XP-Mode environment. A different configuration can, however, be easily made, including one that stores data over a network.
- Display
 - Recommended: 1024x768 pixels or more with aspect ratio 4:3; at least 256 colours.
 - On displays with lower or higher resolutions, the actual program for administration of electronic questionnaires will scale the questionnaire content appropriately.
 - The provided menu for language and questionnaire selection however, and certain other parts like e.g. the integrated interactive analysis tools, will require a minimum vertical screen resolution of about 700 lines.
 - If this requirement cannot be met, all provided electronic questionnaire configurations can also be started and used directly via links arranged below `c:\anyquin\anypak\start`.
 - Before using the system in a productive environment, you should check in any case whether the display on any given hardware device meets your expectations.
- About 100 MB of available space on `c:\`
 - The actual software for electronic questionnaire administration requires about 2 MB for all questionnaires in one language version, and less than 20 MB including all language versions, the selection menu, and documentation.
 - The PDFCreator to produce computed results as PDF documents requires about 25 MB.
 - The FoxIt Reader to display generated PDF documents requires about 12 MB.
 - Unpacking the software may additionally require space to hold a temporary second copy of the largest package.

¹ The software requires very little storage and computational power; notably, it has been successfully used on various pen computers since 1996, and on recent netbooks based on Intel Atom CPUs.

- Permissions
 - Minimum requirements to put a usable system onto a new machine e.g. by copying from another machine, or out of a ZIP archive file:
 - Permissions to create the folder `c:\anyquin` and to write therein.
 - Additionally recommended permissions for usage of the more comfortable self-installing archive file, and for securing a system by providing suitably configured user accounts etc.:
 - Permission to install software.
 - Permission to set up and configure user accounts.
 - Permission to install and configure printer drivers.
 - Permission to create network shares or to map network drives to them.
- Output devices: real or virtual printer:
 - Preferably a laser- or colour inkjet printer.
 - Microsoft Journal Writer as virtual printer, produces XPS-documents (often pre-installed on modern MS Windows systems).
 - PDFCreator, FreePDF (both freeware) or Adobe Acrobat or similar product as virtual printer, produces PDF-documents.
 - XPS- or PDF document viewer, e.g. FoxIt Reader (maybe preinstalled on modern systems or available as freeware; in a networked environment only necessary on workstations where results shall be displayed).
- Mouse, touch-screen or stylus/pen (for Tablet-PCs).
- Keyboard (to make the system setup and maintenance more comfortable, and for analysis tasks etc.).
- Optional: network including network printers, network storage, and additional workstations.
- Optional: Third party software like practice- or clinic information systems, data base systems, statistics software packages.

4 Installation

4.1 Microsoft Windows 3.x to Microsoft Windows 7 32-Bit

- If required: Log in to your system with administrator rights.
- Run the program `setup.exe` and observe its output on the screen to install the AnyPak electronic questionnaires package.
- If required or desired: Install a driver for your printer, or preferably install e.g. PDFCreator (freeware) as virtual printer, and e.g. the FoxIt Reader (freeware), to display the PDF documents created with it².
- If possible, create a dedicated *user* account „Participant“. For experienced system administrators: Give it permissions only to read/execute from `c:\anyquin`, and to write into `c:\anyquin\anypak\data`, `c:\anyquin\anypak\jssplash\temp` and `c:\anyquin\anypak\printout`.
- Log in to your system as user „Participant“.
- If you use the PDFCreator, the following configuration is recommended:

Please run the program PDFCreator. In “Printers” - “Options” - “General settings” - “General Settings 2”, disable „Show an animation during the process“, and set „Check update” - “Update interval” for updates“ to „never“.

In “Auto-save”, enable the option “Use auto-save” with the filename “<title>” and “Use this directory for auto-save” set to `c:\anyquin\anypak\printout`.

If you want to view each created result immediately after the questionnaire administration on the same computer, enable the option “After auto-saving open the document with the default program”.

- Set your real printer of choice or preferably the PDFCreator as default printer³.
- If desired, copy the entry „AnyPak electronic questionnaires“ from the start menu onto the desktop, quick launch bar or into the Start-up-folder of user „Participant“. You can also copy additional start menu entries of your choice from the directory structure below `c:\anyquin\anypak\start`, e.g. to bring up the questionnaire selection menu for certain languages or certain data export functions directly.
- If desired, activate an automatic login for the user „Participant“ after power-on, as well as the automatic start of the language and questionnaire selection menu for the electronic AnyPak questionnaires. Suitable registry entries for this task are described below.

4.2 Microsoft Windows 64-bit

The 64-bit versions of Microsoft Windows cannot run 16-bit Windows applications directly. Microsoft however provides a preconfigured Virtual-PC / XP-Mode environment for these systems. Therein, you can install the questionnaire administration software exactly the same way as on a 32-bit Windows system.

Start menu entries from the XP-Mode environment are automatically copied into the start menu of the 64-bit environment. Afterwards, the 16-bit program can be started directly from there. The XP-Mode environment is automatically brought up in advance, and the application appears, and can be operated, just as if it would run directly by the 64-bit system.

The XP-Mode equals a complete emulated PC. By default, it can use storage drives and printers of the 64-bit host PC. A virtual printer like PDFCreator can also be installed in the XP-Mode environment, and configured so that it stores its output (using a different drive letter) on the hard disk of the 64-bit host PC.

An integration of the virtual XP-Mode PC into an existing network is also possible (e.g. to set up a Tablet-PC under Windows XP 32-bit and a workstation under Windows 7 64-bit so, that both store their questionnaire administration results on the same server in the network - the Tablet-PC would be directly used by patients

² You may also install additional copies of the printers to obtain certain printout types in different layouts. See 4.8.5 Automatic result printouts as PDF documents and on paper.

³ Instructions further below describe how you can activate additional types of automatically created result printouts (filled in questionnaire, single result, cumulative result showing the course over time), and how you can get certain result printouts as PDF documents and/or additionally on paper, and how you can get two pages of content on a single sheet of paper.

to fill in electronic questionnaires whereas the workstation setup would be used for delayed processing of questionnaires collected with paper forms.

To achieve this, the network configuration is changed in the menu of the XP-Mode environment so that the virtual computer shares the existing hardware network adapter. In this case, however, you should also review its network settings together with the local IT department (especially, if the preconfigured usage of DHCP is unsuitable), and also „secure“ the virtual XP-Mode PC: setting up a separate user account without administrative rights (allow remote-desktop use!), enable automatic updates and firewall, install Microsoft Security Essentials as virus scanner. The virtual computer will appear in the local network exactly as a real PC while the 16-bit application is running.

- Download of the Virtual-PC XP-Mode environment and additional notes from:
<http://www.microsoft.com/windows/virtual-pc>
- Minimal steps for installation on a Windows 7 64-bit system (English/US-Version), filenames as of 02/2011:
 - Logged in via a user account: Visit the URL shown above and download of:
„(1)“: WindowsXPMode_en-us.exe (ca. 500 MB!)⁴
„(2)“: Windows6.1-KB958559-x64.msu
Only for CPUs without VT support: „(3)“: Windows6.1-KB977206-x64.msu
 - Logged in as Administrator: Installation of:
WindowsXPMode_en-en.exe
Windows6.1-KB958559-x64.msu
Please **do not start XP-Mode as Administrator!** (this would only waste time and storage space)
 - Logged in as the user who shall later on use the 16-bit-application:
 - From the start menu: Run „XP-Mode“ (below the folder „Virtual-PC“).
Thereby, the logged in user receives a Virtual PC of his/her own (!) which is automatically created, preinstalled with Windows XP, and subsequently started. Its harddisk image resides in a single disk file.
 - If starting the XP-Mode environment fails, however, please check whether VT support (Intel Virtualization Technology) is enabled in the BIOS of your (real) 64-bit computer. Should your CPU not have this feature, you need to install the additional update `Windows6.1-KB977206-x64.msu` as Administrator.
 - Define a password for the default user XPMUser (can be chosen freely).
 - The desktop of the Virtual PC under Windows XP appears in a window on top of the desktop of the 64-bit host-system. The storage drives and printers of the 64-bit host-systems can be seen after opening the „Computer“ icon of the Virtual PC.
 - Install the „AnyPak electronic questionnaires“ software as described above; including the installation of a real printer or e.g. the PDFCreator and selection of the default printer.
 - Optionally perform additional installation steps as described below.
 - Close the window of the XP-Mode environment.
 - Afterwards, the start menu of the 64-bit environment will contain:
„Virtual PC“ - „XP-Mode“ - „AnyPak“ - „AnyPak electronic questionnaires“
This entry works as expected; it can also be copied e.g. onto the desktop or in to the quick launch bar of the logged in user.
- Optional steps inside the XP-Mode environment:
 - Only if extended network access is required: Change the network connection of the XP-Mode environment to shared use of the real network adapter of the host PC. In this case, the network settings of the Virtual PC may require additional configuration just like a real PC would.
 - Activation of automatic update and installation of the currently available ones.

⁴ Other language variants are identified by the letters: ...de-de, ...it-it etc.

- Download and installation of Microsoft Security Essentials; download of updates; configuration for daily scanning and disabling of the SpyNet-report-functionality.
- Download and installation of PDFCreator; configuration so that generated PDF documents will be stored automatically on a host drive or on a network share.
- Or alternatively, configuration of PDFCreators so that generated PDFs are automatically displayed. This may require the download and installation of e.g. the FoxIt Reader inside of the XP-Mode environment.
- Activation of the Administrator account in the XP-Mode environment; definition of a password for the Administrator account; login test; reduction of the default XPMUser accounts to a normal user status; allowance of the remote-desktop-functionality for this user (by default, only administrators can log in as remote users, and the usage of the XP-Mode in a window of the surrounding 64-bit host desktop is technically equivalent to a remote-desktop-session).

4.3 Wine e.g. under Linux

Both AnyQuest for Windows and the self installing archive with the electronic AnyPak questionnaires have been tested successfully under Wine (**Wine Is Not an Emulator**) under Linux.

Touch-screen support with AnyQuest for Windows under Wine has been successfully used as early as under XFree86 Version 3.3.6; output of computed test results on a Linux printer including the generation of PDF documents does also work. Please note that the provided AnyPak package is preconfigured to run from drive `c:`; the Wine environment must be set up so that the drive `c:` visible therein can be used.

In modern Wine environments, a folder below `.wine` will be prepared to hold it.

Warning: **Under no circumstances** may this folder be simply redirected to a true partition with an installed Microsoft Windows system, e.g. by replacing the result of Wine setup by a symbolic link. Otherwise, the configuration of this MS Windows system will be left unusable and beyond repair after the first start-up of Wine. Additional information is available in the Wine documentation.

4.4 SoftWindows (Macintosh, Irix), VMware, VirtualPC, OS/2 Warp

AnyQuest for Windows has been successfully used in SoftWindows with Windows 3.x under Irix (!), and in various versions of Microsoft Windows under VMware and Virtual PC, as well as in OS/2 Warp.

4.5 Alternative option for manual installation

If you should not be able to use the installation from the self-installing archive file, you can create a working setup of the electronic AnyPak questionnaires by either just copying another working installation, or extracting the complete directory tree from a simple ZIP archive file.

- First, copy or extract the folder `c:\anyquin`.
- Afterwards, you can copy provided links (shortcuts) from below `c:\anyquin\anypak` or `c:\anyquin\anypak\start` into the start menu, the quick launch bar or onto the desktop of those user accounts who shall use the respective functionality (e.g. questionnaire administration, efficient scoring of paper questionnaires, display of created PDF documents with computed results, interactive data analysis, data export etc.)
- If data files with questionnaire administration results or PDF documents with result printouts have been copied, which shall not be kept in the target system, these can be deleted from the folders `c:\anyquin\anypak\data` and `c:\anyquin\anypak\printout`.
- Afterwards, any optional steps for optional customization steps can be performed as described below.

4.6 Recommended customization of the system environment

Depending upon your local requirements, the following components should be added:

- Separate accounts for administrators and users; preferably separate user accounts for staff and participants.

- Activation of the Windows firewall.
- Activation of automatic updates or regular performance of manual updates for systems without Internet connection.
- Virus scanner, e.g. Microsoft Security Essentials (freeware)
http://www.microsoft.com/security_essentials
- Virtual printer with PDF output, e.g. PDFCreator or FreePDF (freeware)
<http://www.pdfforge.org/pdfcreator>
<http://freepdfxp.de>

If a virtual PDF printer is configured as system default printer, all output can be saved automatically into a given folder. The default recommendation is to use `c:\anyquin\anypak\printout`. Alternatively, a network folder can be used, which may be accessible from the workstation of the therapist. Generated PDF documents can also be imported into a practice- or hospital information system.

A combination of PDF and paper printouts is possible (see: 4.8.5 Automatic result printouts as PDF documents and on paper).

- PDF-viewer, e.g. FoxIt Reader (freeware) and possibly a previewer as well (freeware)
<http://www.foxitsoftware.com/pdf/reader>
<http://timheuer.com/foxit>

Both the FoxIt Reader ([Ctrl]-[Shift]-[F] or [Strg]-[Shift]-[F]) and the Adobe Acrobat Reader include functionality to search a folder with PDF documents e.g. for printouts from a certain participant identification number, or from a certain questionnaire.

4.7 Recommended display and colour settings

The display settings can be reached via click-right onto the desktop and „Options“, or via „Start“ - „Settings“ - „Control Panel“ - „Display“. Recommended settings are:

- Themes / Appearance Windows 2000 or earlier (less prominent title bars than XP, Vista etc.)
- Windows and buttons Windows classic
- Colour scheme Windows classic or Windows standard
- Desktop background RGB 128 128 128 (dark grey)
- Active title bar
 - 1. Colour RGB 128 128 128
 - 2. Colour RGB 128 128 128
 - Font colour RGB 192 192 192 (light grey)

4.8 Enhanced configuration options

The following paragraphs are intended preferably for system administrators or persons with substantial experience with PCs, the used operating system, and networks.

They may be used to change the provided standard functionality, or to add additional security to a computer used for electronic questionnaire administration.

4.8.1 Basics regarding the construction of the provided configurations and changing them

Electronic questionnaires

For every configuration (language x usage variant x questionnaire) of the electronic questionnaire, there is one configuration file:

```
\anyquin\anypak\config\??-??\*\???.ini
```

Selecting any configuration from the provided menu (or running it via one of the provided links (shortcuts) below the folder `\anyquin\anypak\start`) calls the questionnaire administration software, passing to it the name of one configuration file, and thus, all settings applicable to the following questionnaire administration.

A configuration file is a simple text file which can be read by humans and changed if required.

Included configuration files are provided for 3 usage variants or tasks:

- normal** `\anyquin\anypak\config\??-??\normal\?? .ini`
 For participants to directly fill in electronic questionnaires.
 These configurations can be called from the provided menu.
 They can also be reached via links (shortcuts) below:
`\anyquin\anypak\start\??-??\Electronic questionnaires for participants`
 In these configuration files, automatic saving of changes in settings made during a session has been disabled. Permanent changes can be made to them with a text editor.
- fastform** `\anyquin\anypak\config\??-??\fastform\?? .ini`
 For efficient collection of data and scoring of paper questionnaires by staff.
 These configurations *cannot* be called from the provided menu.
 They can however be reached via links (shortcuts) below:
`\anyquin\anypak\start\??-??\Fast input form for scoring of paper questionnaires`
 In these configuration files, automatic saving of changes in settings made during a session has been disabled. Permanent changes can be made to them with a text editor.
- analysis** `\anyquin\anypak\config\??-??\analysis\?? .ini`
 For interactively created result printouts and basic statistical data analysis.
 These configurations *cannot* be called from the provided menu.
 They can however be reached via links (shortcuts) below:
`\anyquin\anypak\start\??-??\Interactive data analysis`
 In these configuration files, the button "Setup" has been left available. Thus you can reach menu options to interactively change many settings. Changes are however only effective for the current session, as automatic saving of changes made during a session has also been disabled. Permanent changes to the configuration files can still be made with a text editor.

Since AnyPak version 0.94 with AnyQuest for Windows version 3.66, the configuration files are split into multiple levels:

- **Level 1: Questionnaire and usage mode specific settings:**
`\anyquin\anypak\config\??-??\????????\?? .ini`
- **Level 2: Language specific settings:**
`\anyquin\anypak\config\??-??\language.ini`
- **Level 3: Common settings:**

<code>\anyquin\anypak\config\common\allowall.ini</code>	Appearance and available functionality
<code>\anyquin\anypak\config\common\allowuse.ini</code>	Appearance and available functionality
<code>\anyquin\anypak\config\common\dirs.ini</code>	Data directory
<code>\anyquin\anypak\config\common\extnapp.ini</code>	External applications interface
<code>\anyquin\anypak\config\common\getidetc.ini</code>	Patient ID data to ask for
<code>\anyquin\anypak\config\common\other.ini</code>	All other settings
<code>\anyquin\anypak\config\common\pointer.ini</code>	System pointer related settings (see 4.8.3)
<code>\anyquin\anypak\config\common\prefx*.ini</code>	Result file name prefixes
<code>\anyquin\anypak\config\common\printout.ini</code>	Printout related settings (see 4.8.5)

It is e.g. sufficient to edit the file `common\printout.ini` in order to change printout related settings for all configurations at the same time.

In a more advanced setup, e.g. in a network, the common configuration files can also be placed at a single logical position whose actual physical representation may vary with the computer being used, or with the user logged in, to automatically bring different settings applicable to different machines or users into effect.

If you should *still* need to edit multiple configuration files in a similar way, you can accomplish this task in a small number of steps using the file search functionality of MS Windows and text editors like PSPad, TextPad or nedit. These offer functionality to search/replace multiple lines in multiple files at the same time.

Changes in a configuration file become effective when it is loaded during the next start-up of AnyQuest for Windows. Settings changed interactively during an AnyQuest for Windows session would usually be written into the currently used configuration file and thereby made permanent - unless the configuration file is protected against writing (either by a configuration setting within the file, or by file system based write protection through the operating system).

Recommendations:

- Please review the comments in the provided configuration files as well as the AnyQuest for Windows on-line help and information available at www.ql-recorder.com
- Please test any changes you make to the provided files on a non-production system first!
- Please make backups before making changes, and ensure the readability of these backups!
- Please document your individual locally made changes in detail!
- If you are unsure, please ask someone with greater experience for support or supervision in advance!
- If you work in a practice- or hospital information system, please ask the responsible system administrator for information and support!

Preconfigured automatic data export

There is a separate program to export collected data into third party software. Several configurations are provided for this as well. The same configurations are used across all language versions:

extract \anyquin\anypak\extract*.ini

To create preconfigured tabular data export files from collected data.

The provided configurations can be called via links (shortcuts) below:

\anyquin\anypak\start\??-??\Preconfigured data export

The batch files and configuration files involved can be changed with a text editor.

Preconfigured start menus

Available components (language versions, questionnaires, data export etc.) can be called via two different ways:

jssplash \anyquin\anypak\jssplash*.ini

A simple menu system which is very easy to use.

It can be used to select language and questionnaire for a questionnaire administration session where a participant completes the electronic questionnaire directly at the computer, and also to display the documentation.

Menu entries either call the same program with another configuration file (language selection), or an external program or an external batch file with a parameter. The parameter passed determines the actual configuration file to be used, and thereby e.g. the language and type of the questionnaire used.

The configuration files for the menu can be changed with a text editor.

Especially, you can easily disable the buttons to display the documentation and to close the menu program.

Moreover, you can e.g. drag a link (shortcut) to bring up a certain language version directly onto the desktop (from the folder structure described below), and thereby reduce one step

when selecting a questionnaire.

start \anyquin\anypak\start

A structured collection of folders and links (shortcuts) within the usual file system.

These provide a very rich start menu giving access to all activities. Most entries call either a program or a batch file with a parameter. The parameter passed determines the actual configuration file to be used, and thereby e.g. the language and type of the questionnaire or details of the data export file to be created.

The folder structure and the contained links (shortcuts) can be changed using the MS Windows explorer or file manager.

Especially, you can e.g. drag a link (shortcut) to bring up a certain language version directly onto the desktop, and thereby reduce one step when selecting a questionnaire.

Documentation

Provided documentation includes a comprehensive manual, an on-line help, and multiple distributed text files or notes in configuration files.

docs \anyquin\docs

This manual in Portable Document Format *.pdf, and in Microsoft Word Format *.doc.

From the provided menu, the PDF version is displayed by calling a batch file which should work with different variants of Microsoft-Windows and with various PDF viewers.

You may adopt content from the MS Word Version to match your local hardware, configurations or operating procedures, as described in the notes regarding Copyright and conditions for use on the title page.

A folder structure for translations of the manual is provided; but currently only an English and a German revision are actually available. If you produce a local (partial) translation, you can replace the respective placeholder PDF document and thereby make your version of the manual accessible from the menu.

others \anyquin\anypak\anyquin.hlp

The context sensitive on-line help for AnyQuest for Windows in the original Microsoft Windows on-line help format *.hlp.

\anyquin\anypak\...*.txt, *.ini, *.bat

Text files with notes and self documenting scripts and configuration files.

4.8.2 Installation of the original Microsoft on-line help file viewer

If the on-line help of the actual questionnaire administration software should not be displayed under a more recent version of Microsoft Windows: please follow the instructions which should appear instead, regarding download and installation of the original Microsoft on-line help file viewer.

Microsoft does not install the original on-line help file viewer any more in newer versions of Microsoft Windows by default, in order to urge users and programmers to move to the newer HTML help format. (Which in turn cannot be displayed by users of older Windows installations, who will consecutively feel urged to upgrade...)

4.8.3 Optimization of the system pointer display for touch-screen or stylus/pen

Systems with a touch-screen or an stylus/pen do not require a visible mouse pointer.

On these systems, you can configure the questionnaire administration program so that the mouse pointer disappears when the next question is shown. This avoids any possible distraction of participants by the mouse pointer.

In order to avoid any impact on the usability of software, which may still require the mouse pointer, it is hidden simply by moving it to the lower right screen corner⁵. On systems with a common mouse, trackpad, trackpoint or trackball, this feature would seriously annoy participants; therefore it is disabled by default in the included configuration files.

- To enable the option you can change the following setting in the configuration file `c:\anyquin\anypak\common\pointer.ini`⁶:

from:	to:
<code>ResetCursorPosition=False</code>	<code>ResetCursorPosition=True</code>

- Links (shortcuts) to the „Reset Cursor Position Setup Tool“ have been prepared below `\anyquin\anypak\start\??-??\Configuration`. This tool asks for the desired setting interactively and subsequently changes the configuration files⁷.
- During a questionnaire administration session, [Ctrl]-[F11] changes the current setting.

The new setting however will become permanent only if the currently used configuration file is not write protected.

Warning: Under Windows 7, moving the mouse pointer to the lower right screen corner may trigger the newly added function “desktop preview”. This Windows-7-function should consequentially be disabled, or the task bar moved, for the user account „Participant“ if `ResetCursorPosition=True` shall be used.

4.8.4 Individualization of the system for multi-site-setups or multi-center-studies

After every questionnaire administration, a result file `qqnnnnnnn.anq` will be created in the folder `c:\anyquin\anypak\data`. In order to combine data from multiple non-networked systems, you can simply copy all of these data files into a common folder. From that folder, you can create global analyses or data exports covering all collected data.

Putting data files from multiple systems into a common folder can be simplified by instructing each center or each computer used for questionnaire administration to use a unique prefix when naming their data files⁸.

However, the included configurations for the AnyPak Projects already use two leading characters to identify the questionnaire used in the result file names.

Consequently, only the succeeding 1 to 3 characters should be used to identify a center or a computer used for questionnaire administration⁹.

- To enable this option, you can change the following settings in all configuration files `c:\anyquin\anypak\common\prefix*.ini`¹⁰, e.g. for study center A, questionnaire computer 1:

from:	to:
<code>anqfilename_leadingchars=a1</code>	<code>anqfilename_leadingchars=alal</code>

⁵ at least until AnyQuest for Windows Version 3.59

⁶ Up to AnyPak version 0.93 (before September 2011), each configuration had this setting in its own individual configuration file.

⁷ Up to AnyPak version 0.93 (before September 2011), this program was limited to processing all configuration files for one language at a time. Since AnyPak version 0.94, the configuration files are structured into multiple levels, and one file with the settings for the system pointer is shared among all configurations.

⁸ Otherwise, you may have to add individual characters to data file names from different centers just before you put them into the common folder - which is not difficult, but after all it's a processing step that can be automated in advance.

⁹ The automatically incremented portion of the file name uses at least the characters 0-9 and A-Z. Consequently, 4 remaining variable characters can identify at least $35 \times 35 \times 35 \times 35 = 1,5$ million result files per questionnaire x study center x computer.

¹⁰ Up to AnyPak version 0.93 (before September 2011), each configuration had these settings in its own individual configuration file.

anqfilename_usedfilename=alusednm.ini	anqfilename_usedfilename=alusednm.ini
anqfilename_leadingchars=sm	anqfilename_leadingchars=smal
anqfilename_usedfilename=smusednm.ini	anqfilename_usedfilename=smusednm.ini
anqfilename_leadingchars=pa	anqfilename_leadingchars=paal
anqfilename_usedfilename=pausednm.ini	anqfilename_usedfilename=pausednm.ini
anqfilename_leadingchars=oh	anqfilename_leadingchars=ohal
anqfilename_usedfilename=ohusednm.ini	anqfilename_usedfilename=ohusednm.ini
anqfilename_leadingchars=nu	anqfilename_leadingchars=nual
anqfilename_usedfilename=nuusednm.ini	anqfilename_usedfilename=nuusednm.ini

The setting for `anqfilename_usedfilename` can usually be left unchanged. This file contains the variable part of the last used file name; normally it is merely of local importance. In case these files should also be accumulated from multiple systems, you can individualize it as well by using the same marker characters for study center and questionnaire administration computer.

- Optionally, you can also individualize the preconfigured setting for the data export filename:

from:	to:
file_export=PA.DAT	file_export=PAA1.DAT
or	or
file_export=ANYQUIN.DAT	file_export=A1.DAT
etc.	etc.

- Preconfigured scripts for data export can also be individualized. Be sure to change both configuration files and batch files below `\anyquin\anypak\extract` consistently:

*.ini file from:	to:
out_filename=ercal.dat	out_filename=ercalA1.dat
etc.	etc.
extrcall.bat file from:	to:
move %1.dat extables\	move %1A1.dat extables\

- A currently available program for changing the site identifiers interactively has not yet been adopted for special requirements of the AnyPak project but can be provided later upon request.
- In the configurations with accessible „Setup“ button, the respective setting is also available interactively via „File“ - „anq output file options“. Any change made here would however only affect the currently used configuration, and only become permanent if the currently used configuration file would not be write protected.

4.8.5 Automatic result printouts as PDF documents and on paper

(See: 5.7 Data storage and automatically created result printouts)

- For each printout type, up to two real or virtual printers can be individually specified. Multiple printer configurations can be employed to obtain differently configured printouts on the same device.

The respective printers are to be installed and configured using the Windows control panel or specific programs (like the user interfaces of PDFCreator or FreePDF etc.).

Name, driver and port of a printer can be obtained via „Start“ - „Settings“ - „Printers and Faxes“ - „Properties“ - ...

Subsequently, these can be written into the configuration files of each provided configuration in the electronic AnyPak questionnaires package.

- In all configurations which keep the „Setup“ button available, you can configure many printer settings via the graphical user interface (GUI) („Setup“ - „Printing“). Especially, there is a dialog to select individual printout targets for the first and second copy of various printout types („Setup“ - „Printing“ - „Printer setup“).

Changes will however only apply to the current session. They would only get permanent if the respective configuration files were not write protected.

Write protected configuration files, however, must be directly edited to obtain permanent changes. If required, multiple files can be edited in the same way, e.g. using the MS Windows function „Find file“ and text editors like PSPad, TextPad or nedit, which offer functionality to search/replace multiple lines across multiple files at the same time.

- If you cannot otherwise find out the correct entries for your desired real or virtual printer device:
 - Start `\anyquin\anyquin.exe` directly without specifying any configuration file.
 - Select your printout targets (and any other desired settings) by using the GUI.
 - Close AnyQuest for Windows.
 - Open the configuration file `\anyquin\anyquin.ini`¹¹ with a text editor, and review the entries named below. These can be copied and pasted to the configuration file that will actually be used for the AnyPak project, also given below.
- Before AnyPak version 0.94 (September 2011), printout settings were defined individually for each configuration (group x questionnaire x language) file `\anyquin\anypak\config\??-??\???.ini`

Now, one configuration file `\anyquin\anypak\common\printout.ini` is shared by all configurations. This file is identified by one entry at the start of each individual configuration file:

```
ConfigFileBeforeCurrent6=c:\anyquin\anypak\config\common\printout.ini
```

You can either change the entries in this common configuration file. Or you can provide and use additional common configuration files of your own. Technically, you could also disable the external reference completely and place printout related entries back into any individual configuration file, but this is not recommended.

- The provided configurations will by default generate one copy of each printout type (QFI, SNG, CUM) on the default printer of the system¹². This behaviour requires no printer specific information at all for the respective configuration file options.
- Alternatively, you might e.g. produce one copy of all printouts (QFI, SNG, CUM) as PDF document, and additionally one copy of the SNG printout on a real laser printer.

To achieve this, a PDF printer (e.g. PDFCreator) would be configured as default printer for the system, and in all configuration files `\anyquin\anypak\config\??-??\???.ini`, a second printout target would be added for the additional SNG printout on paper:

from:	to:
SinglePrnDrv=	SinglePrnDrv=
SinglePrnDev=	SinglePrnDev=
SinglePrnOut=	SinglePrnOut=
CumPrnDev=	CumPrnDev=
CumPrnDrv=	CumPrnDrv=
CumPrnOut=	CumPrnOut=
QFIPrnDev=	QFIPrnDev=
QFIPrnDrv=	QFIPrnDrv=
QFIPrnOut=	QFIPrnOut=
StatsPrnDev=	StatsPrnDev=
StatsPrnDrv=	StatsPrnDrv=
StatsPrnOut=	StatsPrnOut=
TestpagePrnDev=	TestpagePrnDev=
TestpagePrnDrv=	TestpagePrnDrv=
TestpagePrnOut=	TestpagePrnOut=
LayoutPrnDev=	LayoutPrnDev=

¹¹ This is a default configuration file which should by recommendation not be used for productive purposes. So you can use it as a scratchpad for testing or brief interactive use. Usually, this file is not write protected - or if it is, it can be (backed up and thereafter) deleted. And without write protection, changes made through the GUI will be written back to the configuration file as soon as a session ends.

¹² In certain project specific setups, this may be changed to only the single result printout being generated by default, with all other printout types being disabled.

LayoutPrnDrv=	LayoutPrnDrv=
LayoutPrnOut=	LayoutPrnOut=
Single2PrnDev=	Single2PrnDev=HP LaserJet 1012
Single2PrnDrv=	Single2PrnDrv=winspool
Single2PrnOut=	Single2PrnOut=DOT4_001
Cum2PrnDev=	Cum2PrnDev=
Cum2PrnDrv=	Cum2PrnDrv=
Cum2PrnOut=	Cum2PrnOut=
QFI2PrnDev=	QFI2PrnDev=
QFI2PrnDrv=	QFI2PrnDrv=
QFI2PrnOut=	QFI2PrnOut=
Stats2PrnDev=	Stats2PrnDev=
Stats2PrnDrv=	Stats2PrnDrv=
Stats2PrnOut=	Stats2PrnOut=

This causes only the second copy of the SNG printout to appear on the real printer, while the first copies of the QFI-, SNG- and CUM-printouts continue to appear on the system default printer (i.e. the PDFCreator). A second copy is only created when a target is defined - in this example, that isn't the case for QFI- or CUM-printouts.

- If special printer settings are desired for a certain printout, you can install another copy of an already installed printer (real or virtual) as administrator, using a new printer name. This works for most real printers via „Start“ - „Settings“ - „Printers and Faxes“ - „Add Printer“, or in the PDFCreator program via „Printers“ - „Printer“.

For example, if one virtual printer PDFCreator is already installed, you can add another one as PDFCreator2on1. In its „Printing preferences“ you can configure it to produce “2 pages per sheet”.

Afterwards, you can add the new virtual printer to all configuration files for the QFI printout:

from:	to:
.	.
.	.
.	.
QFIPrnDev=	QFIPrnDev=PDFCreator2on1
QFIPrnDrv=	QFIPrnDrv=winspool
QFIPrnOut=	QFIPrnOut=PDFCreator :
.	.
.	.
.	.

Thereby, the first copy of the QFI printout is delivered on the virtual printer PDFCreator2on1, where it appears with two pages of content per sheet.

- Similarly, a real paper printer can be installed a second time and configured to produce QFI-printouts with two pages per sheet.

If the *first* copy of the QFI-printout shall still go to a PDF document, the new and specially configured paper printer would be specified for the *second* copy of the QFI printout:

from:	to:
.	.
.	.
.	.
QFI2PrnDev=	QFI2PrnDev=HP LaserJet 1012 2on1
QFI2PrnDrv=	QFI2PrnDrv=winspool
QFI2PrnOut=	QFI2PrnOut=DOT4_001
.	.
.	.
.	.

4.8.6 Automatic login for a user account

A user can automatically be logged in after powering a computer up.

This can be achieved by adding the following entries to the registry as administrator (Example given for the user name „Participant“, password „Participant“) or by importing a provided registry file via double click:

```
HKEY_LOCAL_MACHINE\Software\Microsoft\Windows NT\Current Version\Winlogon
```

AutoAdminLogon	String value 1	(Autologin On/Off)
DefaultUserName	String value Participant	(User name)
DefaultPassword	String value Participant	(Password)
DefaultDomainName	String value <DomainName>	(Domain - only if locally required at all)

If another user shall be logged in: Either log out after the automatic login, or keep the space bar depressed during the system start-up.

If no password (or an invalid password) is supplied, Windows will reset the value of `AutoAdminLogon` back to 0 after a single login attempt.

4.8.7 Replacing the default shell with the language and questionnaire selection menu

Replacing the usual MS Windows operating environment, the language and questionnaire selection menu, or even the questionnaire administration software can automatically be started after (manual or automatic) login with the account prepared for participants to fill in questionnaires.

In this case, the usual elements of the Windows desktop, the start menu, and all other usual facilities to work with files and programs are unavailable (lest special steps are taken).

Instead, there is only a single colour background and e.g. the language and questionnaire selection menu. This should make any undesired use of the system much more difficult.

This can be achieved by adding the following entries to the registry after logging in with the user account that shall also be used for questionnaire administrations (e.g. „Participant“):

```
HKEY_CURRENT_USER\Software\Microsoft\Windows NT\Current Version\Winlogon
```

```
shell=c:\anyquin\anypak\jssplash\jssplash.bat
```

Please note:

If you want to import this key from a *.REG file, each backslash „\“ must be coded by two backslashes „\\“ inside that file, as shown below:

```
[HKEY_CURRENT_USER\Software\Microsoft\Windows NT\Current Version\Winlogon]
```

```
"shell"="c:\\anyquin\\anypak\\jssplash\\jssplash.bat"
```

In this example `jssplash.bat` is a script that performs the following actions:

- Making a defined folder the active working directory.
- Reliable mapping of a network drive to a share provided by a server using `net map` and `sleep` or remapping of a local drive letter using `subst`.
- Calling the language and questionnaire selection menu (which replaces the common Windows shell).

As soon as the program running as shell ends, the empty desktop background appears (which therefore may be set to dark grey RGB 128 128 128 or purple RGB 64 0 128 colour in advance) - and nothing else.

For some versions of Windows and some system configurations, the MS Windows task manager may remain accessible via [Ctrl]-[Alt]-[Del] (or [Strg]-[Alt]-[Entf]) or a suitably configured key of a Tablet-PC. From there, it is possible to log off, shut down the computer, or to use the button “New Task” to start another program - especially the program `explorer` with the common Windows operating environment.

This configuration offers an easily achievable compromise between protection against undesired actions by most users, and continued accessibility for administrative tasks when required - especially, if no keyboard is provided.

4.8.8 Disabling buttons from the provided language and questionnaire selection menus

Preferably in the first level menu, the button to close (x) the program can be disabled; and in all menu levels, the button for help (?). This avoids participants opening a PDF viewer while unsupervised, which could in turn be used to view arbitrary content of any accessible filesystem, including e.g. questionnaire administration results from other users.

To achieve this, please use a text editor to open the following files below the folder `c:\anyquin\anypak\jssplash`:

- `jssplash.ini` for the first level menu (category)
- `**.ini` for the second level menus (questionnaire/language)

and change the following lines:

- `[Overlay9]` to `[Overlay9-disabled]` for the button Close (x),
- `[Overlay10]` to `[Overlay10-disabled]` for the button Help (?).

Even with the button Close (x) being disabled, a menu can be closed by typing `[Alt]-[F4]`.

4.8.9 Integration of the software in a network

The provided software installation package has been prepared to be used with drive letter `C:`. This is usually the first hard disk of a Microsoft Windows System.

Alternatively, you can use a package prepared for drive letters `F:` or `Z:`. It contains a start script which can reliably map a network drive or substitute a local drive under the respective drive letter. This script can also be called automatically at system start-up.

Individually, the software can be configured so that various components are easily accessible at various computers: e.g. a Tablet-PC with WLAN connection is used by participants to fill in electronic questionnaires directly, whereas a workstation of a secretary is used to efficiently enter data for scoring originally collected via paper questionnaires, a workstation of a therapist is used to display the generated PDF documents with computed results, and a workstation for a scientist is used for interactive data analysis or data export.

4.8.10 Configuration of screen saver, sleep mode and power button

If a screen saver is configured, it should wait 5 minutes at least before its activation. A screen saver appearing too early or a password protected screen saver might hinder the usage of the system especially where staff cannot keep an eye on it in short time intervals.

A recommended screen saver may be „Marquee“ with the following settings:

Dark grey on black, slow, random position, ITC Avant Garde Gothic Demi 24 bold.

The following example text reminds staff of a proven and recommended text for patient invitation¹³:

```
This is a Quality-of-Life-Recorder... "We would like to ask you, how you feel according to your own opinion, and not merely according to the opinion of your doctor!" Additional information is available at www.ql-recorder.com...
```

Or adopted for the AnyPak-Project:

```
The AnyPak-Project... "We would like to ask you, how you feel according to your own opinion, and not merely according to the opinion of your doctor!" Additional information is available at www.ql-recorder.com and www.jsigle.com...
```

If an energy saving or sleep mode is used, it should wait to become active only several minutes after the screen saver.

¹³ Spaces and hyphens have been replaced here by protected spaces and hyphens.

The power button may be configured to local preferences, either shutting down the system or sending it into the sleep mode. As long as a running questionnaire administration session is not interrupted, it is not necessary to close AnyQuest or the provided language and questionnaire selection menu before shutting down.

Staff should be carefully instructed regarding the differences between screen saver, energy saving sleep mode, and hibernation mode - and be able to recognize either of these conditions.

If that cannot be relied upon, staff should be instructed that if the screen is dark, they shall (depending upon the actual hardware) either tap the stylus/pen or finger onto the screen or move the mouse. Only if there is no reaction, should they operate the power button. This should avoid the power button being pressed just because the display backlight is off (but the system not in sleep mode yet), whereupon the system would not *awake* from sleep mode (as desired), but rather *shut down* or *go into sleep mode*, just while a participant would be waiting.

4.8.11 Improving the security of the system

A simple and high priority measure is the provision of a dedicated, limited user account (without administrator or power user rights) for participants to fill in electronic questionnaires directly at the computer.

Beyond that, there are additional possibilities to improve the security of a system. What is reasonable or necessary should be very well considered - after all, the resulting system must remain both usable and accessible for maintenance. A security measure installed by superficially knowledgeable persons, or installed and left to be maintained by less knowledgeable persons, can certainly have undesired effects. Efforts to improve security should not significantly affect usability, or postpone a beneficial project forever.

The following measures may be generally useful:

- Consultation of professionally responsible and knowledgeable persons for design and installation of the system and its application (IT support, data protection, protection of privacy).
- Clean system configuration including MS Windows updates, Microsoft Security Essentials virus scanner, user accounts etc.
- Restricted access to files and folders. Detailed information regarding required write and read permissions for AnyQuest for Windows are available in the on-line help and at www.q1-recorder.com
- Restricted access to network resources.
- Automatic login after power-on.
- Replacing the MS Windows Shell by the provided language and questionnaire selection menu, or by AnyQuest for Windows.
- Restriction of executable programs to the minimum required set, using:
 - An explicit restriction of allowed programs via registry entries, group policies etc.
 - Deinstallation of potentially dangerous programs or system components (a machine that shall be used only for questionnaire administration will not require a PDF viewer - it is sufficient, if that is provided on the therapist's workstation alone).
 - Preference for proven, small, and straightforward tools (i.e. avoiding excessively complex libraries or programs to solve simple tasks).
- Removal or locking away of a keyboard.
- Disabling or abstinence from loading a virtual keyboard, or handwriting recognition software.
- Locking of hardware keys with keyboard-like functionality, depending upon the actually used computer.
- Identification of participants and/or access control via barcode scanner, chip card, RFID reader... (Warning: If a barcode scanner emulates a keyboard, suitably manufactured barcodes will offer many of the possibilities of a keyboard!).
- Disabling or control of external interfaces which could be used to set up network links or to connect data storage or input devices (WLAN, network, serial/parallel interface, USB, Bluetooth, FireWire, IR-DA...)
- Especially: Disabling the auto start functionality upon insertion or connection of data storage devices.

- Disabling or restriction of network connectivity. Warning: Network connectivity may also be available via IR-DA, Bluetooth, USB or Firewire ports.
- Deployment of a hardware firewall or similar means.
- Disabling of unused functionality for network protocols, shares, clients etc.
- Anonymous or pseudonymous data collection.
- Automatically pseudonymized data export (for scientific statistical analysis).
- Encryption of collected data, hiding of storage drives etc.
- Disabling of desktop icons, start menu entries, Internet-Explorer options.
- Storage of collected data, or optionally: all of the questionnaire administration software, in a network.
- Adequate creation of backups.
- Provision of all functionality required by users through comfortable and secure ways.
- Documentation of the created configuration with guides for system administration and -use.
- If in doubt: „Keep it simple, keep it stupid!“ and „Never change a running system!“

Detailed notes regarding these topics are available either upon request, or in the AnyQuest for Windows on-line help, and also at www.q1-recorder.com, especially in the „Docs + Support“ section (e.g. KombiDox manual, templates for project design regarding integration in various environments etc.).

5 Operation

5.1 Starting a questionnaire administration

5.1.1 Selecting a questionnaire via the language and questionnaire menus

- (If automatic login after power-on has not been configured:)
Log in to your system as „Participant“.
- (If automatic start of the selection menu after logging in has not been configured:)
Run „AnyPak“ - „AnyPak electronic questionnaires“ from the start menu, or optionally from your desktop or from the quick launch bar, if you have created copies of the start link (shortcut) there. The same link (shortcut) is also available in the folder `c:\anyquin\anypak\start`
- First, select the desired language.
- Second, select the desired questionnaire.

5.1.2 Displaying the manual or closing a selection menu

- Each menu has a button in its top right corner to display the manual (?). This requires an installed PDF viewer (e.g. FoxIt Reader or Adobe Acrobat Reader).
- Each menu has a button in its top right corner to close (x) it. The usual key combination [Alt]-[F4] has the same effect.
- The selection menu of the previous level remains open behind any program called from it. Consequently, you can have multiple questionnaire selection menus in various languages open at the same time, and change between them e.g. with the [Alt]-[Tab] key combination.
- All programs are automatically closed when the computer is shut down.
- If your computer has been configured so that the language and questionnaire selection menu replaces the normal Windows shell, you will only find an empty desktop once the last menu level has been closed. In this case, you can either log out and back in again, or start up the selection menu again by running `c:\anyquin\anypak\jssplash\jssplash.bat` from the task manager.

5.1.3 Alternative start via provided links (shortcuts)

If your screen resolution should be insufficient to display the language and questionnaire selection menus, you can still start each questionnaire directly:

- Log in to your system as „Participant“.
- Open the folder `c:\anyquin\anypak\start`
- Open the folder for the desired language `cs-cz` to `tr-tr`
- Open the folder „Patients fill in questionnaires directly“ (or „Patienten direkt befragen“) or „Participants fill in questionnaires directly“ (or „Teilnehmer direkt befragen“)
- Run the link (shortcut) for the desired questionnaire.

5.2 Invitation of participants to fill in a questionnaire

- Try to use a reproducible approach for selection of potential participants, and a standardized text for their invitation.
- According to our own experience, patients are regularly very pleased when they hear the following invitation and also happy to fill in a questionnaire:

„We have prepared a questionnaire for you as we would like to learn *how you feel according to your own opinion, and not merely according to the opinion of your doctor!*“

5.3 The actual questionnaire administration

- Invite your participant to read the introduction for the questionnaire.
- Participants shall decide for themselves whether they want to use the questionnaire. Consequently, they shall click one of the buttons „Start“ or „Exit“ at the bottom of the screen.
- First, a question appears asking for a participant identification number:
 - You can enter characters using a real keyboard or the buttons with letters and numbers which appear at the screen. These are especially useful if a real keyboard is not provided for security reasons, or if a Tablet-PC is deployed that has no built in keyboard. A barcode scanner, card-reader etc. can also work here.
 - The button „<<<“ deletes the character left of the cursor (usually the last character entered).
 - The system uses the participant identification number to assign data from multiple assessments to the same participant. This makes it possible to e.g. produce a cumulative course over time plot of results.
 - The system accepts an arbitrary alphanumeric string¹⁴ for participant identification. In this manual, we may still use the term “participant identification *number*” as this might be most commonly used¹⁵.
 - If a pseudonymized or anonymous questionnaire administration is not intended, the participant identification number may equal e.g. the patient identification number from an external system.
 - For pseudonymized or anonymous questionnaire administration, a random string should be used as identification. Clicking the button „Auto“ once generates a random number that has not been used in the system yet.
 - Who wants a cumulative course over time printout must use the same participant identification number in follow-up questionnaire administrations. To this end, participants should either note down their participant identification number, or bring in the result printout from a previous questionnaire administration. The previously used participant identification number is printed onto that.
 - If you have changed your configuration so that additional parameters are collected (name, date of birth, sex...), these must now be entered as well. If activated, the respective questions must not be left unanswered - that notwithstanding the possible use of dummy data if desired.
 - In this case, the button „<<<“ goes back to the preceding parameter (allowing to correct that), if clicked while the cursor is left of the first character of the current parameter, or if the input field for the current parameter is completely empty.
- Invite your participant to answer all questions, and advise him, that you are around for assistance in case of questions or difficulties.

Please instruct your participant to inform you when he/she has finished the questionnaire (and to return the computer to you, if you use a portable device).

Depending upon your participant and setting: stay for a moment to see whether your participant can handle the system (using the mouse, finger, or stylus/pen).

- A question is answered simply by clicking at the desired answer field with the mouse, stylus (input pen - for Pen-Computers, Tablet-PCs) or the finger (for touch-screens).
- A checkmark (cross) appears in the selected answer field (as commonly used with paper questionnaires).
- After a short pause, the system automatically advances to the next question.
- At the bottom right corner, the current position in the questionnaire is shown in a graph (and/or in numbers and text; or in the current set of questionnaires).

¹⁴ Up to 255 characters, at least one digit should be included if usage of the automatic discrimination between names and alphanumeric participant identification strings should remain an option.

¹⁵ ...and „participant identification“ should rather be termed „identification of participants“ in English which doesn't fit in with the abbreviation PID any more, whereas „participant identification string“ would become „Teilnehmer-Identifikations-Zeichenkette“, which appears a bit clumsy in German.

- When all questions have been answered, a screen appears showing the words „Thank you!“ and a button „OK“.
- After this button has been clicked, „OK“, the collected answers are stored, results are computed, and output. Depending upon your system configuration, several types of result printouts may be printed onto paper and/or stored e.g. as PDF documents.
- Depending upon your configuration, created PDF documents may automatically be displayed or postprocessed in another suitable way.
- Afterwards, the questionnaire administration program ends automatically.
- Thereupon, the last used selection menu appears again.

5.4 Correction of given answers; navigation within a questionnaire

5.4.1 Limited navigation: Go back, up to one question at most

- If an answer shall be corrected, the button „<-“ at the bottom right corner can be clicked.
 - This makes the preceding question reappear. The button „<-“ is replaced by a button „->“.
 - Now, the participant can simply check a different answer field,
 - or reset the currently checked answer field by clicking at it again, whereupon this one or any other one can be selected,
 - or use the button „->“ to continue without making any changes.

5.4.2 Free navigation (not recommended for participants)

- The keys [Page-Up] or [Page-Down], [Home] and [End] (or [Bild↑], [Bild↓], [Pos1], [Ende]) can be used to go to the preceding or succeeding question, or to the first or last question in the current questionnaire.
 - These keys should not normally be used.
 - Some Tablet-PCs (e.g. Fujitsu-Siemens Stylistic series) have special keys which provide these functions even when no keyboard is connected.
- If you click 4 x in a row into the middle lower screen area, where there is no other visible object, a “transport bar” with four buttons will appear „|<-“ „<-“ „->“ „|>“. Their functions equal those of the keys described above. At the same time, the button for limited navigation at the lower right corner will disappear.
- If you click 4 x in a row into the middle lower screen area once again, where there is no other visible object, the four buttons „|<-“ „<-“ „->“ „|>“ will disappear. At the same time, the button for limited navigation will reappear at the lower right corner.
- The availability of these screen buttons and functions is configurable.

5.5 Questions that have not been answered, and questions that cannot be answered

- All questions which have been displayed during the course of a questionnaire administration¹⁶ must be answered.
 - If such questions remain unanswered at the end of the questionnaire administration, a note appears.
 - All questions that have not been answered yet will be displayed again.
- If a participant cannot answer a question, or does not want to answer it:

¹⁶ The questionnaire administration software supports formulas to specify conditions that may cause some questions or questionnaires not to be displayed depending upon participant characteristics or previous answers. The most probable way to end up with unanswered questions may be (ab-)using the unlimited navigation functionality described above. This should be an extremely rare exception in real life applications as long as the complete transport bar is not displayed.

- Click 4 x in a row into the lower left screen area, where there is no other visible object.
- This will make additional special answer fields appear:
„I cannot answer this question“ and „I don't want to answer this question“
- Ask your participant to select either of these answers.
- Depending upon your configuration, an additional dialog may appear:
„Why can't you/don't you want to answer this question?“
- Here, an explanation can be entered. This is a completely optional field which can also be disabled; it is primarily intended to be used in field studies during questionnaire development.
- If any text is entered here, the additional symbol of a pencil will appear in the related checked special answer field.
- By clicking at this related answer field again, the text input dialog can be opened again and its content corrected or even deleted.
- Finally, click 4 x in a row onto the lower left screen area, where there is no other visible object. This makes the special answer fields disappear again.
- Technically, the system can be configured so that these special answer fields are visible at all times. Recommendations are however to avoid that setting, as it would add unnecessary complexity to the continuously visible screen content.
- The special answer fields „Cannot / Don't want to answer“ are observed in a special way during result computation. Typically, results are only computed, if a certain minimum proportion of questions contributing to a certain dimension have been answered.
- When „Cannot / Don't want to answer“ fields have been selected, and maybe additional explanatory text has been entered, this information can be included in detail in data exports generated for statistical analysis by third party software. Alternatively, AnyQuest for Windows supports a simplifying data export, where both options are replaced by a simple dot - which is the symbol for „missing value“ expected by programs like SAS, PSCP, or SPSS.

5.6 Aborting, interrupting, and resuming a questionnaire administration session; session-log

As soon as the participant identification number has been provided, a running questionnaire administration session can be interrupted at any time. Thereafter, it can either be continued, saved, or completely aborted. An interruption with saving for later resumption is hardly useful for the AnyPak questionnaires, as these are very short. Nevertheless, here are the respective steps of operation:

- Click at the button Close [x], typically in the top right corner of the Window, or type [Alt]-[F4].
- A dialog appears:
 - Here you can enter an explanatory text (e.g. „Participant wants to continue later on“).
 - Clicking at „Continue“ will continue the interrupted session immediately.
 - Clicking at „Save“ will save the interrupted session, so that it can be resumed at a later point in time.
 - Clicking at „Abort“ will immediately discard the interrupted session. By default, all of its data collected until here are lost, and no result file is generated either. Alternatively, the system can be configured so that a result file is generated. This will contain the data collected up to the interruption, and the computed results as far as possible.
- In contrast its normal behaviour, the program will not end automatically after a manual interruption of a session. The navigation- or start dialog will appear instead for the currently loaded questionnaire(s).
 - At this point, „Start“ will begin a new questionnaire administration session, whereas „Exit“ will end the program and return to the questionnaire selection menu.
- If there are any interrupted and saved sessions available, the navigation- or start dialog will show an additional button „...“ or „Resume“.
 - If this button is clicked, a list of all interrupted and saved session appears.

- Any of these can be selected and, by clicking at „Resume selected session“, continued at exactly the point where it had been interrupted before.
- The resumed session can as well be interrupted again (and continued, saved for later resumption, or ultimately aborted).
- Interrupted and saved sessions can be resumed across all configurations which use the same temporary folder. All configuration settings of an interrupted and saved session will be temporarily restored for its resumption.
- Depending upon the configuration, the interruption, the optionally recorded explanatory text, and the usage of any of the buttons described above can be recorded in the session log and also exported later on. This functionality is disabled for the AnyPak questionnaires by default, but can be enabled by editing the provided configuration files *.ini.

5.7 Data storage and automatically created result printouts

After a questionnaire administration has been completed, the following are automatically created:

- A result file *.ANQ in plain text format, with information about software, participant identification number, point in time and duration of the assessment, questionnaire, individual answers, and computed results.
 - The result file is human readable; it can be directly printed or further processed by computers.
 - It is especially the basis of the simple built in methods for data analysis, and for data export towards enhanced statistical analyses with third party software.
- Printouts on paper and/or in PDF documents:
 - QFI „Questionnaire-filled-in“: equivalent to a filled in questionnaire with participant identification number, date of test, and all answers given.
 - SNG „Single result printout“: provides computed results from the current questionnaire administration in all dimensions of the used questionnaire, with graphical representation and a final assessment in text form.
 - CUM „Cumulative result printout“: provides computed results from one or more questionnaire administrations with the same participant identification number. There is a graphical representation of each numerical result showing its course over time.
 - In graphical representations containing a coloured background:
 - a red background identifies an area of unfavourable results or of evidence of a high risk,
 - a green background identifies an area of favourable results or the absence of evidence of a risk.
 - By default, the printouts are produced on the default printer of the system.
 - An optionally customized configuration can store all three printouts as PDF and additionally produce the SNG printout on a real printer. (See: 4.8.5 Automatic result printouts as PDF documents and on paper)
 - Another configuration is possible, which produces the first copy of the QFI printout on an additional virtual PDFCreator printer set to render two pages per sheet. (See: 4.8.5 Automatic result printouts as PDF documents and on paper)

5.8 Fast acquisition and scoring of a paper questionnaire

If a participant has filled in a paper questionnaire instead of the electronic one, you can efficiently enter his answers into the system.

For this purpose, you can use a single dialog to enter the date of test, participant identification number as configured, and the answers for all questions very fast using either mouse (touch-screen, stylus/pen...) or keyboard:

- Log in to your system as „Participant“.

- Open the folder `c:\anyquin\anypak\start`
- Open the folder for the desired language `cs-cz` to `tr-tr`
- Open the folder „Fast input form for scoring of paper questionnaires“ (or „Schnelles Eingabeformular zum Auswerten von Papierfragebögen“)
- Run the link (shortcut) for the desired questionnaire.
- The current date is preset as date of test, but you can enter a different one from the filled in paper questionnaire.
- Press the [Tab] key to efficiently move the cursor to the next input field, or [Shift]+[Tab] to go back.
- Transfer the participant identification number from the paper questionnaire.

If you have enabled the collection of additional participant related parameters (name, date of birth, sex...) and participant recognition, you can press [Enter] now. If other parameters have been recorded before from the same participant, they will automatically be filled in.

- Press the [Tab] key to efficiently move the cursor to the first question.
- Now, you can enter answers either using the mouse (touch-screen, stylus/pen...), the [Cursor keys], [Tab], [Space], or very fast using digit- [1], [2], [3]... or character keys.

Both digit and character keys are automatically allocated to the individual answers by the program.

The digits equal the numeric values of the individual answer fields which would also be used to score the paper form.

The character keys are allocated by looking for different characters in the leading letters of words from the answer field labels. Therefore, character keys allocated to individual answers may differ for the various language versions.

- As soon as you click „OK“, the answers are checked for completeness, the results computed, stored, and printouts (or PDF documents) produced, exactly as if a participant would have filled in the questionnaire directly at the computer.
- The exact time and duration of the assessment are not recorded when scoring a paper questionnaire.

5.9 Built in functionality for statistical analyses

Basic statistical analyses of collected data can be carried out without any additional software:

- Delayed output of participant related single or cumulative result printouts,
- Descriptive statistics (minimum, maximum, quartiles, median, average, standard deviation etc.),
- box-and-whiskers-plot (minimum, quartiles, median, maximum),
- distribution of results across time and possible result range with configurable resolution for either axis.

Explanations beyond the scope of this manual regarding the built in analysis tools are available in the on-line help (directly via the button „Help“), and on the WWW-site of the QL-Recorder in the sections „Introduction“ - „Examples for printouts“, and „Docs + Support“.

5.9.1 Interactive selection of questionnaire administrations for analysis using definable filters; delayed production of participant related single and cumulative result printouts

To access these functions:

- Log in to your system as „Scientist“. (If you have not configured the system with differentiated access rights, logging in as „Participant“ may also suffice).
- Open the folder `c:\anyquin\anypak\start`
- Open the folder for the desired language `cs-cz` to `tr-tr` (among other things, the language version selected here determines the labels used in generated printouts).
- Open the folder „Interactive data analysis“ (or „Interaktive Datenanalyse“).

- Run the link (shortcut) for the desired questionnaire or for all questionnaires (only data matching the the currently loaded questionnaire definitions will be included in analyses).
- Click the button „Setup“.
- From the menu, select „Analysis tools“ - „Select result files, generate printouts and lists...“
- Enter the predefined password „anq“ and click on „OK“
- In the following dialog, first you can create a list of result files interactively, which you intend to analyse thereafter:

In the lower left area, you can select the kinds of data to be scanned for filtering (namely: identification data, meta data, raw data, computed results). Normally, the presets can be used without change.

In the upper input area, you can define and apply multiple filters:

To achieve this, first use the drop-down list below „Parameter“ to select a parameter (like „date of test“, or from the questionnaires used e.g. „C30V3 Physical Function“). Afterwards, enter a value in the input field below „Value“. You can also use the drop-down list which offers all values found in the available data for the selected parameter (e.g. „.“ or „1“).

Afterwards, you can select a condition (not..., is below, is below or equal to, is equal to, is above or equal, is above, includes). AnyQuest supports comparisons with numbers, strings and dates at least.

By clicking the button „OR“, all result files are selected into the lower table area, which are either there already, OR match the current condition. You can use this button whenever you want to select results by a single stage filter; or if you want to add results matching another condition to your existing selection.

By clicking the button „AND“, all result files are selected into the lower table area, which are already there AND match the current condition. You can use this button whenever you want to keep a smaller set filtered out from your existing selection.

In the lower area of the dialog, you can see the results of all the filtering carried out so far. Using the buttons above the table, or by scrolling with den [Cursor keys] or [Page up] or [Page down] and clicking at individual entries, you can select the result files you actually want to process.

Functions of the buttons: A = select **All** N = select **None** I = **Invert** selection Clear = **Clear** selection

Example: To select all available result files from all questionnaire administrations:

- In the first filter line, select „date of test“ as „Parameter“,
- Enter „.“ as „Value“ (note: every date contains a dot),
- make sure that „INC“ (Includes) is selected as condition,
- click the button „OR“ once,
- click the button „A“ above the result table for “select all”.
- As soon as you have selected the result files you want to process further, you may:
 - By clicking the button „Config pr“: configure a real or virtual (e.g. PDFCreator) printer.
 - By clicking one of the buttons „Pr single“ or „Pr cumul“: immediately create patient related single or cumulative result printouts for all selected result files (as paper printout or as PDF document).

These functions are useful if you want to create a course over time result printout for a given participant, or e.g. when you want to prepare paper copies of all result printouts once a week.

Warning: A printout (or PDF document) is created for each selected result file without any further confirmation being asked for! If you have chosen this option by mistake and many printouts are being printed onto paper, you can interrupt that only via the printer queue controls in Microsoft Windows and your printer.

- By clicking the button „Wr filelist“: write a list of result files into a file which later on controls the input for statistical analyses. The length of the list filename is limited to 8 characters.

Especially you can use the dialog to first create different groups of result files interactively (e.g.: „all“ vs. „all with a risk indicated by questionnaire AnyPak AL“) and later on produce the required further analyses for all groups.

The created file contains a simple list of filenames of the selected result files. It can also be read and processed by external software.

Example: To write the filenames of the currently selected result files into the list file „alle.lst“ as preparation for further statistical analyses:

- Click the button „Wr filelist“,
- As „File name“, enter: „all“
- Click on „OK“

5.9.2 Production of statistical analyses, printouts, and data exports for lists of questionnaire administration result files

While the dialog to select result files is still open, this function can be directly accessed by clicking on „Stats“; otherwise via the menu option „Analysis tools“ - „Use analysis tools with generated result file lists...“ (see the preceding topic).

- In the respective dialog you can select one or more lists of result files which have been created before. Afterwards, you can produce the desired analyses by clicking their respective buttons; details for each of these functions can be configured according to your requirements via the corresponding buttons „...“.

Example: To produce a table with descriptive statistics and two different plots from all questionnaire administration results from „alle.lst“:

- In the left portion of the dialog, select the entry „ALLE .LST“
- In the right portion of the dialog, click on „Basic statistics“
- In the right portion of the dialog, click on „Box and whiskers“
- In the right portion of the dialog, click on „Course over time“
- The analyses are produced on the selected real or virtual printer, either on paper or as PDF documents. The name of the processed list file appears in the top right area of each printout.

As long as you produce PDF documents, you can process their content with tools like the full version of the Adobe Acrobat, or freeware like the FoxIt Reader, or pstools under Linux / Cygwin etc. for further processing (e.g. copy tables via the clipboard, save graphs in vector formats, exporting them e.g. for further manipulation in xfig etc.)

The button „A data export file“ automatically produces one data export table for further processing with third party software. The tables are created according to the settings from the currently loaded configuration file. To do this, the name of the list file is combined with the configured file name extension¹⁷. The resulting tables are placed into the folder configured for data storage.

See: 5.10 Data export for statistical analyses.

Files with lists of result files to be processed can either be generated interactively inside AnyQuest for Windows, or be provided by external programs. It is especially possible to create a list file e.g. by selecting result file names from a complete generic data export in Microsoft Excel, copying the desired portion of the column with filenames, pasting that into the MS Windows notepad/editor and saving it as a text file.

5.10 Data export for statistical analyses

Collected data can be exported as a table. This table can be imported into third party software for further analysis (e.g. spreadsheets, statistics software, or database systems): e.g. Microsoft Excel, OpenOffice Calc, SAS, SPSS, PSCP, Spida, Xplore, Microsoft Access, MySQL.

¹⁷ At least up to AnyQuest for Windows Version 3.59, created on the 24.04.2011, the extension .DIF is invariably used instead (e.g. ALLE.DIF, GROUP1.DIF, GROUP2.DIF etc.); moreover the created table is written into the currently configured data folder, where the processed *.ANQ and *.LST files are also located. Any potentially different setting of `file_export=...` in the current *.INI-file is not honoured here.

5.10.1 Usage of predefined export scripts

The program `extract2` can process data from questionnaire administration result files independently from the questionnaire administration software and transfer a configurable selection of parameters into tables with configurable format. Parameters to be transferred are selected, the format of the resulting table is defined, and several additional functions (see below) are controlled via configuration files.

A batch file is used to call the program, passing the name of the configuration file to be used, to move the resulting table into the folder `c:\anyquin\anypak\data\extables`, and finally to open this folder automatically.

To complete various data export tasks „by pressing a single button“, a selection of configurations have been prepared and links (shortcuts) below `c:\anyquin\anypak\start` provided.

From these, you can derive configurations of your own by copying and adopting the available links (shortcuts) and configuration files to your needs. The batch file and the configuration files can be freely changed using a text editor; they contain comprehensive comments to aid you in the processes. The calling of a data export script can also be automatized using the „Scheduled tasks“ from Microsoft Windows, so that e.g. each day or each week an updated table is created and placed to a specific location.

As a special feature, it is also possible to pseudonymize exported data on the fly during such a data export. To achieve this, the collected identification data are replaced by hash values, and computed ages are rounded. For computation of the hash values, preconfigured strings and/or strings interactively collected during the export process may be used as „cryptographic salt“. As a result, exported data from the same participant can still be assigned to each other - but it is not (realistically, and depending upon the chosen encryption method) possible to reconstruct the original clear text participant identification from the exported data.

Additional configurable functions affect the recoding of data, masks for the selection of source files, formatting and postprocessing of the target file etc. The program can create output files with either fixed or variable column widths, separators and column headings etc. are configurable.

The provided configurations cover the data export performed separately for each questionnaire or for all questionnaires together; with or without coded answers to individual questions („raw data“); with decimal point or decimal comma.

The on-the-fly pseudonymisation described above is *enabled* by default in the provided configurations, so that the participant identification number is not exported as clear text, but the MD5-hash-value of a derived string is exported instead¹⁸.

To use the prepared configurations for data export on the press of a single button:

- Log in to your system as „Scientist“. (If you have not configured the system with differentiated access rights, logging in as „Participant“ may also suffice).
- Open the folder `c:\anyquin\anypak\start`

¹⁸ Should you want to switch from automatic pseudonymisation to clear text data export, you can edit the applicable configuration file(s), e.g. `c:\anyquin\anypak\extract\erpsall.ini`. The alternative functionality has already been prepared - you simply need to add or remove a semicolon to enable or disable the desired lines:

Pseudonymisation, data export as MD5-hash:

```
;column=alpha,group/pid:
```

```
column=alphamd5,group/pid:
```

Data export as clear text:

```
column=alpha,group/pid:
```

```
;column=alphamd5,group/pid:
```

All provided AnyPak configurations do only collect a participant identification number in the field `group/pid`. If you enable the collection of additional identification data (case number, first name or family name, date of birth etc.) in the configuration files for AnyQuest for Windows, you can also use the configuration files for the `extract2` program to define in complete detail whether each of these parameters shall be exported at all, and whether they shall be exported as clear text or automatically pseudonymized via hashing.

- Open the folder for a language version `cs-cz` to `tr-tr` (The selected language version is not important, as collected data from all language versions of the questionnaires will be exported).
- Open the folder for the desired variant „without raw data“ or „with raw data“, depending upon the requirements of your planned analysis. (Here, the term „raw data“ applies to participants' answers to individual questions.)
- Open the folder for the desired variant „with decimal point“ or „with decimal comma“, depending upon the country settings of the system, or the requirements of the software, which you will use to further process the exported data.
- Run the data export script(s) for the desired questionnaire or for all questionnaires.
- The scripts move the created export data files into the folder `c:\anyquin\anypak\data\extables` automatically and open this folder when processing has finished.

From there you can copy the created file(s) e.g. onto a USB-Stick or to a network share, or also drag or import it (or them) directly into a separate program for data analysis (Excel, PSPP, SPSS, SAS...).

5.10.2 Generic functionality to automatically export *all* collected data

This function combines all questionnaire administration results from all questionnaires, which have been stored into a single data directory, into one table. This function can be used to perform a data export even (and especially) when you only have the result files, but not *any* other information about the underlying questionnaires at all. Thereby you can even process result files from different studies and from multiple study centers together.

Before the data export is actually performed, a dialog allows you to chose whether meta data (language, questionnaire revision etc.), raw data (answers to individual questions), additionally collected text information (e.g. explanations for a participant not wanting to answer a question, or entries in free text input fields) and computed results (in the dimensions of the questionnaires adopted) shall be exported.

During the data export, certain format conversions can automatically be performed, e.g. towards a configurable number format or towards configurable codes for missing data.

The data export function built into AnyQuest puts its focus onto easy usability. In order to perform a complete export of all available data, it is typically sufficient to call the dialog and click on „OK“. Advanced possibilities offered by the `extract2` program are therefore not available here (see: 5.10.1 Usage of predefined export scripts).

To use the generic function to automatically export all collected data:

- Log in to your system as „Scientist“. (If you have not configured the system with differentiated access rights, logging in as „Participant“ may also suffice).
- Open the folder `c:\anyquin\anypak\start`
- Open the folder for an arbitrary language version `cs-cz` to `tr-tr` (the language selected here does not have any effect onto the generic data export, as it covers data collected with all language versions of the questionnaires).
- Open the folder „Interactive data analysis“ (or „Interaktive Datenanalyse“).
- Run the link (shortcut) for an arbitrary questionnaire or for all questionnaires (the questionnaire selected here has no effect for the generic data export, as all result files in the currently configured data folder will be processed).
- Click on the button „Setup“.
- From the menu, select „File“ - „Generate data export file from multiple *.anq output files...“
- Review the selected options and if necessary, adopt them to your local needs:
 - Name of the data export file
(preconfigured: `ALL.DAT` in the folder `c:\anyquin\anypak\data\extables`)
 - Column separator character
(preconfigured: Tabulator - this is recognized by many target programs),

- **Decimal separator**

This must reliably match the country settings of the operating system of the target machine especially if you plan to use e.g. SPSS as target software!

- **The default setting is „Auto“**, using the current decimal separator set in the country settings of MS Windows on the system which you are using to perform the data export. The setting found on your current system is displayed next to that option.
- If you want to export data for a target system whose settings differ from those of your own system, with the target system requiring the decimal comma (e.g. in Germany), please select the comma here.
- If you want to export data for a target system whose settings differ from those of your own system, with the target system requiring the decimal point (e.g. in Switzerland, United Kingdom etc.), please select the decimal point here.
- Inclusion of meta-data, raw data, additional text data, computed results, (In the AnyPak questionnaire definitions, answers to all individual questions („raw data“) are completely copied into the domain of „computed results“, in order to let them appear on automatically generated result printouts. Therefore, the inclusion of the section „raw data“ in the data export may be reasonable only in rare circumstances.)
- Automatically performed conversions:
 - Most target programs do not differentiate details with regard to missing values. Detailed text information that can be provided by AnyQuest might rather cause these target programs to automatically classify the resulting column as „text“ rather than „numeric“. Therefore, a simplifying recoding of all missing values to „.“ (dot) is preconfigured. This works well e.g. for Microsoft Excel, SPSS, SAS and PSPP.
 - Most users are not familiar with exponential notation of numbers. Most questionnaires do not require the precision offered by this notation. Therefore a simplifying recoding into a numeric format with 3 decimals is preconfigured.
- As soon as you click on „OK“, AnyQuest actually performs the data export:
 - In a first pass, all available result files are scanned and a table layout is set up which offers columns for all selected sections of all underlying questionnaires.
 - In a second pass, data from all available result files are exported using this table layout.
 - The resulting file `ALL.DAT` is by default located in `c:\anyquin\anypak\data\extables`, i.e. in below the folder that contains the result files which have just been processed.¹⁹

The configuration files provided for the AnyPak Project are protected against writing, so that changes made in the dialog will not become permanent. If you call the program again, the originally provided settings will reappear. If you want to make your own settings permanent, you can either derive a new configuration file from a provided one (recommended), or adopt section `[Export]` of any provided configuration file `c:\anyquin\anypak\config\??-??*.ini` to your requirements with a text editor.

5.10.3 Interactive export functionality as part of the built in analysis tools

See 5.9 Built in functionality for statistical analyses, and specifically 5.9.2 Production of statistical analyses, printouts, and data exports for lists of questionnaire administration result files.

5.10.4 Import of exported data into Microsoft Excel

Depending upon your version of Excel it is usually sufficient, to grab the created data export file (e.g. `EXPORT.DAT`) with the mouse and drag it e.g. onto the title bar of the opened Excel window. Warning: Letting go over the table area may cause the unwanted insertion of one document into another, instead of the desired opening of a new table file.

¹⁹ This is the same place where the provided configurations for the `extract2` program would put their generated data export files (see: 5.10.1 Usage of predefined export scripts).

Otherwise, you may use select „File“ - „Open“ from the menu. In the resulting dialog, it may be necessary to select the display of „all files“ so that files with the used filename extension are (e.g. *.DAT) visible at all.

It may be necessary to confirm the automatically detected file import options or to modify them as desired.

You should make sure that the same decimal separator is used by AnyQuest for Windows or the `extract2` program, and Microsoft Excel. A quick visual check of the imported file can recognize numbers which are usually right aligned, whereas strings are usually left aligned by default.

The built in data export functionality of AnyQuest provides a line of additional information and two separator lines in three rows after the column headings. These rows can either be kept or deleted at your discretion.

5.10.5 Import of exported data into PSPP, SPSS or SAS

Data import works similar to Excel for these programs as well, using menu options like „File / Data“ - „Open / Import“.

Please make sure that both AnyQuest and the target program use the same decimal separator.

A quick visual check of the imported data reviews the data types assigned by SAS, SPSS or PSPP for date fields and numbers.

A comprehensive description for SAS and an example script for PSPP or SPSS which specifies the expected data types in advance, are available at www.q1-recorder.com in section „Docs + Support“.

5.11 Preparation of backups

- A backup of your configuration and all collected data should at least contain the folder `c:\anyquin` and any start menu entries etc. you may have possibly created.
- One possibility is the simple copying of the folder `c:\anyquin` e.g. from hard disk onto USB stick or CD using the mouse. Alternatively you can create a batch file with a suitably prepared call to `xcopy`. Using a compressed archive file as backup target would be more advantageous, e.g. using a ZIP utility. Putting all files into a single archive will typically require much less time than copying each file individually.
- If you should ever need to restore your backup, you should take special care for user accounts and access permissions. Depending upon your system environment, these could be lost, e.g. if you backup the content of an NTFS formatted hard disk onto a VFAT formatted USB-Stick or into a simple ZIP-archive. Please make yourself knowledgeable in advance or use suitable utilities if you have set up detailed user permissions and might be unable to recreate them upon a system restoration.
- A complete backup of a system would cover the embracing system configuration including user accounts and permissions. This would, however, require much more storage space and time. Please also consider whether a complete backup of a given system includes privacy related data possibly stored by otherwise third party applications, and whether such a constellation may require special precautions to be taken with regard to the handling and storage of created backups.

6 Notes regarding data protection and privacy

- Provided configurations of the electronic AnyPak questionnaires collect and store only one parameter for identification of participants, for which an arbitrary alphanumeric string can be entered. Typically, a number composed of multiple digits will be used.
- The participant identification number can be provided by the professional in charge of the data collection, or a random number can automatically be generated on request of the participant.
- At the participants sole discretion, they may use the same number or a new random number for follow up assessments. This enables to participant to control whether subsequent assessments can be assigned to the same person (preferably as agreed upon with the professional in charge of the system).
- If participant identification numbers are recorded and assigned to persons, or if they are related to identification codes used in another system, or that the collection of other parameters like name, date of birth etc. is enabled, any applicable rules regarding data protection, privacy, and information of participants must be observed.

7 Technical support, additional information and software-updates

If you require content related or technical support to use the electronic questionnaires described in this manual, please contact the persons listed on the title page.

Additional comprehensive information is also available at www.ql-recorder.com covering the used software-platform, including documentation, tutorials, and scientific publications, as well as access to a mailing- and discussion list.