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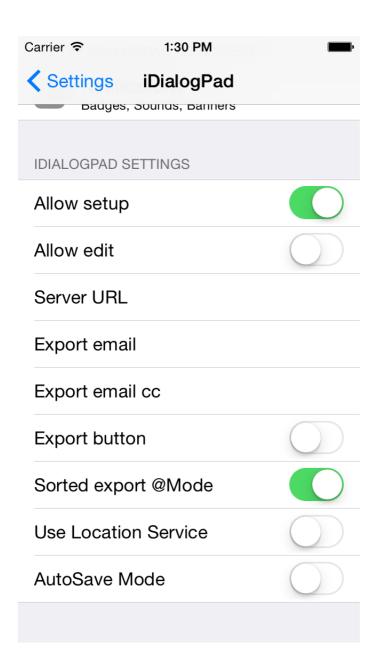
# iDialogPad

EMA & universal questionaire

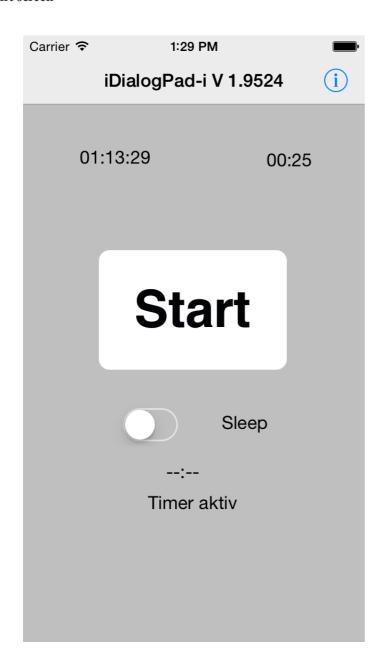
Version 1.9524

## Summary

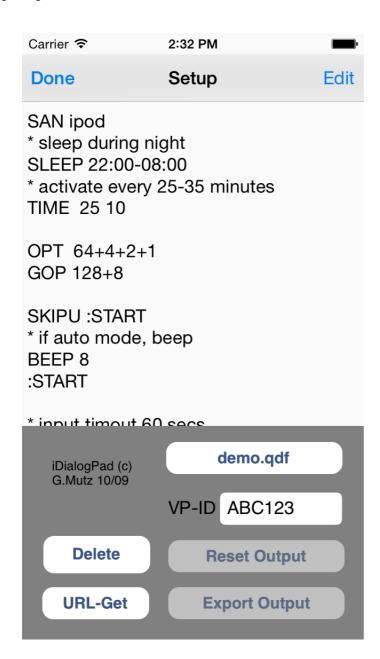
- all iOS devices (iOS version >=6.0) universal program, transforms to landscape view on iPads.
- EMA surveys but also all kinds of questionnaire like clinical surveys (on iPad) and adaptive testing.
- script based programming, easy to learn.
- surveys can be initiated by user, various timers or network signals eg from Varioport TM physiological recorders
- **a** all kinds of items like scales, lists, free text entry, time selectors, picture selector etc.
- special scales like SAM, Affect Grid
- automatic calculation of scale sums and support for norm tables
- special Tests like D2 and Working Memory Task implemented.
- Course of scales over time display of up to 8 scales
- can take pictures, record or play audio.
- on devices with gps can record position.
- exports excel sheets xls, csv and spss value labels either by email or network.
- in use since 2002 (former version on Palm Pilot).
- frequently updated with new features.
- distributed via ADHOC or XCODE7 sideloading (not App Store)
- uVariotest Mac and PC App for editing, syntax checking and simulating script files



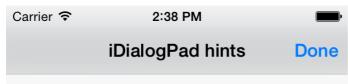
- Allow Setup: Info Button enters setup mode, else presents help screen
- Allow edit: Script can be edited on device
- Server URL: URL of server that holds scripts or storage of outputs for autosave mode
- Export email: email adress to which to export data (or none)
- Export email cc: email adress to which to export data
- Export Button: Show export button on start page. (not recommended)
- Sorted export @Mode: should be on to sort export to Excel sheets.
- Use Location Service: Must be on if GPS shall be used.
- Auto Save Mode: Special mode to store outputs immediatly to server.



- Export Button may appear in the left upper corner. (see global setup menu)
- Info Button in the right upper corner shows help screen or setup menu
- Current day of survey and time of day
- Relative timer minutes to next survey
- Start Button starts a survey
- Optional sleep button suspends alle timers
- **---:** absolute time of next absolute timer or none
- Timer active is shown, when a timer is activ
- The grey background can be replaced by a custom picture



- Done returns to start screen
- Edit allow editing of script
- Current script button allows to select scripts
- VP-ID allows to enter a subject id
- Delete button allows to delete a script file
- Reset Output deletes the current output data (only activ if already exported)
- URL-Get button allows to read multiple script files from a server
- Export Output button exports data via email.



Please recharge your electronic diary every night.

After each survey press the upper left on-off button, to set the diary to sleep. Never switch the electronic diary off by pressing the on-off button for a long time and switching the slider to OFF. Thank you very much for your entries in the electronic diary!

The default help screen can be replaced by a custom help text

# Syntax of scriptfile

(name.qdf = questionnaire definition file)

Scripfiles have to be in UTF8 text file format with linefeed as line ending character. You can use international character fonts.

The file always must start with SAN and end with SE!

All command lines have to end with a new line, only one command per line

Comment lines begin with "\*" or ";"

Labels start with a colon and must have no more than 16 chars and contain no special chars or spaces.

Example:

SKIPU :START BEEP 8

:START

Within a quoted string there may be no newlines. To force a newline you may type \r instead. If a text starts with the "&" char the text will be centered. The whole Text can made bold by preceding the text with "\$1"

All commands that create an output should have an Excel or SPSS embedded label at the start oft he text. This is accomplished be embedding the label between @ chars. This enables the sorted export of the output files, and math with scales.

example:

ASK1 "@guest1@how are you now?" 2 "well" "not well"

"", "quest1" will be the header label of the corresponding excel column.

You can add or subtract numbers from the generated output value:

ASK1 "@quest1+1@how are you now?" 2 "well" "not well"

Will add 1 to the generated output oft he ASK1 command

In a script file you would define Options and Timers first, then the actual query.

## **Commands**

## Options:

**OEXT** "text" this text will be inserted into the name of the exported output file (.txt and .xls)

**OKTXT** "text" this text can replace the "OK" of the OK button.

**ENDTXT** "text" this text is displayed at the end of the survey (default is end input).

**HELP** "file.txt" Sets the help file text to the file "file.txt" This text will be displayed in the help screen.

**PTOUT** NUM sets the timeout of the PRINT command. If timeout is 0 no timeout occurs.

**TOUT** NUM sets the timeout (in seconds) of scales and other input commands. Values below 10 are set to 10. If a label called :TOExit exists, the program jumps to that label. The code at :TOExit should then end with FTO (force timeout)

**RETRY** NUM sets the retry interval after a timeout (in minutes) in case of GOP set to code 4

**RETRIES** NUM sets the number of retries when GOP is set to 4 (default is 10)

**YO** NUM sets an optional year offset in the year values of output files

**OPT** NUM sets a number of options which may be added by the + char, this command can be used repeatedly during the script

1 => shows the current day and time on the start screen

2 => shows the relative timer (TIME) remaining minutes and the next ATIME absolute time on the start screen

4 => not used

8 => list items a left justified instead of centered

16 => text header centered instead of left justified

32 => no "Start" button. Only timer queries possible

64 => a sleep switch is displayed on the start screen to disable all timers by the user.

128 => the buttons of the ASK1, ASKM and ASKS commands are dynamically adjusted in height instead of fixed height (30 pixels)

256 => not used

512 => the OK button at the PRINT command is not shown. You can no longer terminate the print command with the OK button. By setting PTOUT to a fixed time you can display text for a predeterminated time.

1024 => during a relative timer running (TIME,TIMER) you can not manually start a query. There will be an alert box, stating that you have to wait for an automatic query.

2048 => same option than GOP 8 but can be changed during the test.

GOP NUM set some global options, this command can only be applied once in a script.

- 1 => no "Start" button. Only timer queries possible
- 2 => "back" button is not shown. You can not go back to the last item.
- 4 => when a timeout occurs, a new query will be started after 15 minutes (or time set with RETRY)
- 8 => wiht ASK1,ASKS,ASKM a list instead of buttons is diplayed.
- 16 => in case of option 8, auto adjust size of entries.
- 32 => SRH and SRL a switched. (for compatibility reasons with old versions)

64 => reaction time for ASK commands (in milliseconds) is stored in output

128 => PSEL also active with ASK 2

256 => output backup files are not stored in folder OUTPUT, but in root (Documents) folder

512 => in autosave mode output files are not reset after query (incremental backup)

1024 => (only on ipad) in the right lower corner an additional switch is shown. The value of this switch is stored together with the items value in the output. Also with cmd ASKA a percent value is displayed.

2048 => on export also sorted exports will be backuped in OUTPUT folder, else unsorted backups.

4096 => @Labels are not forced. (normally @ must be present)

default value of GOP is 128

**PSEL** NUM sets the preselection of items to position NUM.

PSEL 128 sets the preselection to a random value

PSEL 99 disables preselection. The OK buttons is not shown until an entry was made.

Default value is 99

**FSIZ** NUM sets the font size of header text to size NUM. if NUM is 0 then the default size is used Applies to ASK and PRINT commands.

**BFSIZ** NUM sets the font size of the text in buttons. If NUM is 0 the a default size is used.

IFSIZ NUM sets the font size of the INPUT cmd. IF NUM is 0 the default size is used.

#### RMRK PP FF

Changes the appearance of the next item at random with a probability of PP percent.

1 => center header text

2 => bold header text

4 => capital letters

if appearance was changed, 256 is added to the result of the next item.

#### Timers:

There are 3 independent timer systems available.

Relative Timer:

#### TIME XXXX YYYY

Defines the time between to relative timers

xxxx ist the fixed intervall (1-32767) while yyyy (1-32767) is a random additional part in minutes if xxxx is zero the relative timer is disabled.

e.g. TIMME 20 5 creates a timer event every 20 to 25 minutes

Absolute timer:

#### ATIME D:HH:MM D:HH:MM .....

Starts a query on an absolute hours, minutes (only 24 hours mode supported) You can define up to 128 absolute timers.

D = number of relative day the timer shall fire, if D=0 the timer fires every day.

Optional a random extra time can be define by a trailing -RR define

#### Examples:

ATIME 0:9:00-15 generates a timer every day between 9 and 9:15

or

ATIME 1:12:00-15 1:16:00-15 1:20:00-15 ATIME 2:08:00-15 2:10:00-15 2:12:00-15 ATIME 3:17:00-15 3:18:00-15 3:19:00-15

On the first day the timer fires between 12:00 and 12:15, 16:00 and 16:15, 20:00 and 20:15 On the second day the timer fires between 8:00 and 8:15, 10:00 and 10:15, 12:00 and 12:15 On the third day the timer fires between 17:00 and 17:15, 18:00 and 18:15, 19:00 and 19:15

Additional relative timer to ATIME

#### TIMER XX yy

Defines a extra relative timer in case an absolute timer is activ. (ATIME disables the normal TIME timer) this timer is only used in conjunction with ATIME

#### SLEEP hh:mm-hh:mm

No timer events between hh:mm and hh:mm (hours:minutes)
This option is ignored if the sleep switch is displayed on start screen (see OPT 64)

Absolute event timer:

#### **EVENT** hh:ss "text" p f

Generates an event at hour, minute. The text "text" is diplayed and a sound with the number p (see BEEP) is generated. The Display is terminated by pressing the OK button.

This event is independent of the other timers

```
f = Flag

0 = event off, 1 = event on

2 = set (SETV) Flag to 1, the number of the flag is shifted by 4

=> 3 sets flag 0 to 1

=>19 (16+3) sets flag 1 to 1
```

#### Alerts:

**PRINT** "text" prints the text and waits for the OK button. Is terminated after PTOUT seconds. You can display values of variables in the PRINT command. If you type  $\{x\%d\}$  the variable with the number x is displayed.

example at end of questionnaire:

INCV2

PRINT "you did this query {2%d} times,"

You can also show values of scales or SUMs with the @ indicator

PRINT "your sum value was: {@EXVN@%d}" (EXVN being the @ label of a SUM cmd)

#### **BEEP** p

Generates the follwing sounds:

- 0 = every second a short alarm sound 10 times
- 1 = IOS Alarm sound
- 2 =default
- 3 = default
- 4 = IOS Alert sound
- 5 = default
- 6 = default
- 7 = Vibrate (iPhones only)
- 8 = every 3 seconds an alarmt (Classic), until a button pressed. (maximum 10 times)
- 9 = every 3 seconds an alarmt (Sonar), until a button pressed. (maximum 10 times)
- 10 = every 3 seconds an alarmt (Telefone), until a button pressed. (maximum 10 times)

## **User inputs:**

**SDIALOG** "header" "left button text" "right button text" display a dialog box with the header text "text" and left and right button text provided. (generates no output!)

example:

SDIALOG "Really start survey?" "Yes" "Later" SRE 1 :astart FTO :astart

**INPUT** "header" (T) displays a free text input box

the optional number T selects the used keyboard:

```
0 = UIKeyboardTypeDefault (Default type for the current input)
1 = UIKeyboardTypeASCIICapable (Displays a keyboard which can enter ASCII
characters, non-ASCII keyboards remain active)
2 = UIKeyboardTypeNumbersAndPunctuation (Numbers and assorted punctuation.)
3 = UIKeyboardTypeURL,(A type optimized for URL entry (shows . / .com
prominently))
4 = UIKeyboardTypeNumberPad,(A number pad (0-9). Suitable for PIN entry)
5 = UIKeyboardTypePhonePad,(A phone pad (1-9, *, 0, #, with letters under the
numbers))
6 = UIKeyboardTypeNamePhonePad,(A type optimized for entering a person's name
```

or phone number)

7 = UIKeyboardTypeEmailAddress,(A type optimized for multiple email address
entry (shows space @ . prominently).

8 = UIKeyboardTypeDecimalPad,(A number pad with a decimal point)

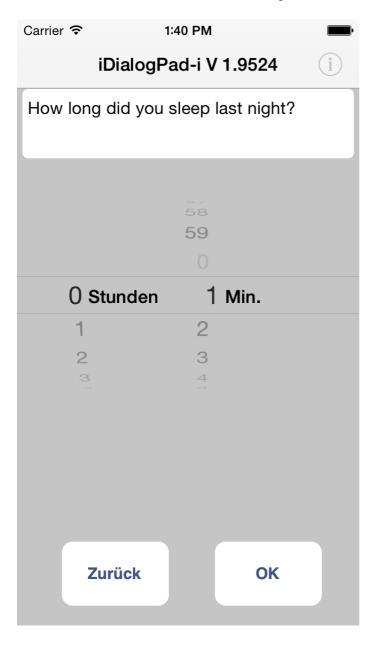
If PSEL 99 then user must type at least N chars before the OK button appears. N is specified together with the keyboard code => (N\*16)+ keyboard code e.g. => 4\*16+0 => 48 at least 4 chars have to be entered (default keyboard)



TIMS "header" FLAG show a number of time selection wheel

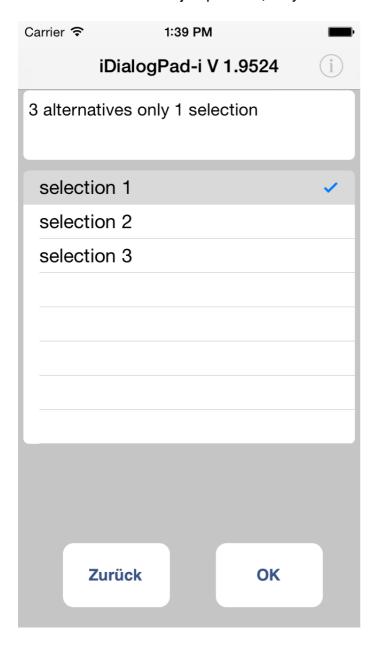
FLAG=0 select minutes and hours time duration,
FLAG=1 select time of day (24 hour mode only)
FLAG=2 select a 4 digit number
FLAG=3 select a 4 digit number
FLAG=4 like 0 but do not force non zero selection
FLAG=5 select a day (1-7) and a number (1-9)

If 16 is added to FLAG on IPAD a larger text field is shown left of the time wheel.



ASKS "header" NUM "answ1":Lbla "answ2";Lblb "answn":Lbln Displays a list with NUM statements and jumps NUM is the number of alternatives (max 16, from 9 on 2 columns, only 8 in listmode) "answ1",-"answn" are texts of the statements:Lbla,:Lblb-:Lbln are labels to jump at selection Result is coded as number (1-NUM) and text

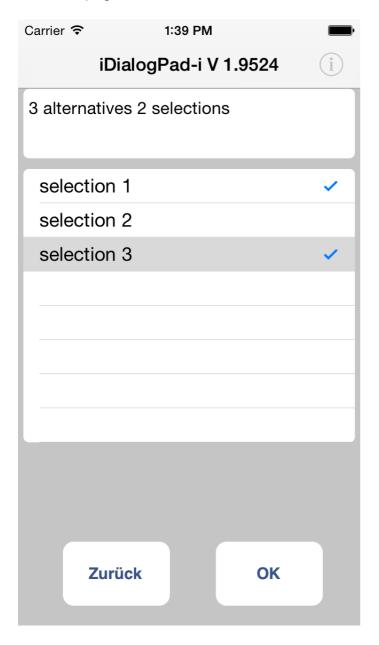
**ASK1** "header" NUM "ants1" "ants2" "antsn" Like ASKS but without jump labels, only 1 selection possible



ASKM "header" NUM MAX "ants1" "ants2" "antsn"
Like ASK1 but you may select more then 1 item. (MAX items)
Result is coded as a bitfield of 16 bits.
If item 1 is selected result is 1, if item 2 is selected result is 2 and so on (powers of 2)
e.g. if item 1 and 2 are selected result is 3

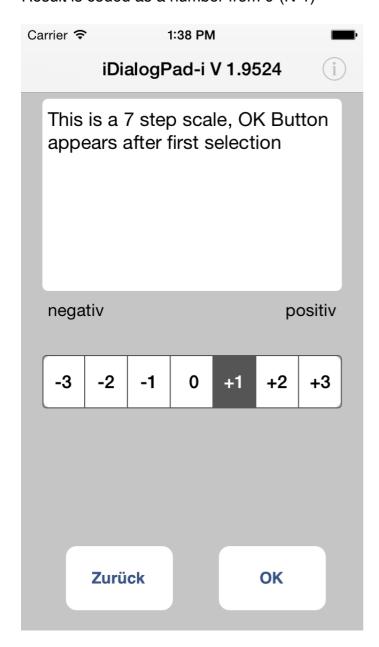
ASKS, ASK1 and ASKM can display on optional image in the header

If you specify !NN at the beginning of the text NN is the number of an image in the subdirectory "picts" of the root directory. The pictures must have the following names thumbNN.png e.g. thumb01.png is selected with "!01header text here"



#### ASK2 "header"

Displays a rating scale item. The scale must have been defined before. Result is coded as a number from 0-(N-1)



## SCALE "scale" "left" "right"

Selects a scale fro subsequent ASK2 commands.

Scale defines the number of steps by counting every 2 chars as an entry.

e.g. "-3-2-1 0+1+2+3" gives a seven step scale with -1 to +3

"left" is the left, "right" the right scale header.

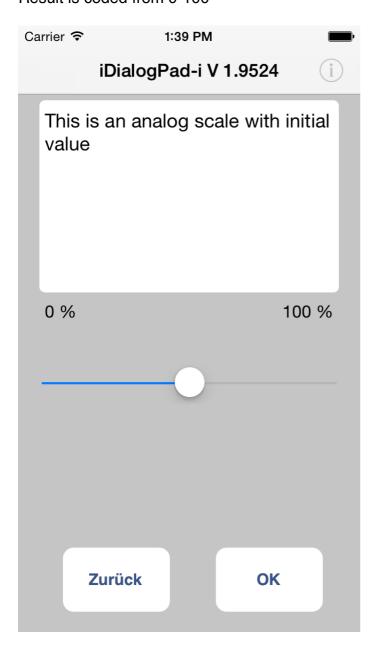
If left or right text contain a colon up to 4 header text are printed

If scale text starts with a colon, colon separated text are displayed as the rating scale itself. In this case no header is used. (header items should be empty strings here)

IFSIZ can set the text size in this mode.



**ASKA** "header" like ASK2 but a visual analog scale is shown. Result is coded from 0-100



## ASKU "header"

Asks for a user ID, the gender and the age.

Result is the USERID, the gender as a number (1=male,2=female) and the age

## Special actions:

#### TP (take picture)

Allows to take a picture with the build in camera. Pictures are stored in jpeg format in a subfolder OUTPUT/pi\_userid (userid being the selected USERID). The file names of the pictures contain a time stamp.

## RA "header" (record audio)

Allows recording of audio messages on devices with build in microphone. Files are stored caf (core audio format) format in a subfolder OUTPUT/ra\_userid (userid being the selected USERID) The file names of the pictures contain a time stamp.

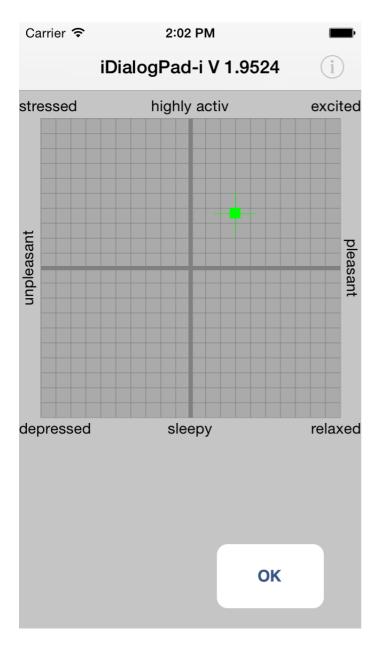
## PA "header" "audiofile" flags (play audio)

Allows playing of an audio file (e.g. mp3). A Start/Pause and OK Button are displayed. You can start audio by pressing Start. The remaining time is also displayed. Audio files must be put into a subfolder named "Soundfiles". If flags =0 no OK button is pressed an hence you must play until the end of audio.

**TEST** "header" 0 CELLS FLAG "lo" "mo" "ro" "lu" "mu" "ru" "ml" "mr" Shows an "affect grid" with CELLS cells in x and y direction. The 8 Texts are 3 upper, lower and 2 left and right mid positions Header is only shown on ipad.

Flag 1 hides the OK button until any selection was taken.

Result is stored in 3 values: x axis selection (1-CELLS), y axis selection (1-CELLS) and the reaction time in milliseconds



#### TEST "header" 1 NN BB TT DD FF

Starts a visual discrimination task of kind d2-test with NN items and BB blocks, a display time per item of TT (in 1/10 seconds), DD percent distribution between "right" and "wrong" items. FF options:

- 1 user percental distribution from DD for selection of items, if DD>0, if DD=0 use random 1 of 17 (3 right, 14 wrong items)
- 2 use fixed table for item selection
- 32 Self pacing mode, new item is immediately presented, else after TT time

In difference to d2-test the items uses x and y.

Right items are: --x, x-and -x-

All other x and y combinations are wrong.

You select with the buttons "==x2" and "!=x2"

Result is stored in 10 variables:

Number of items, number of errors, average and standard deviation of wrong answers, right answers, button ==x2 and button !=x2

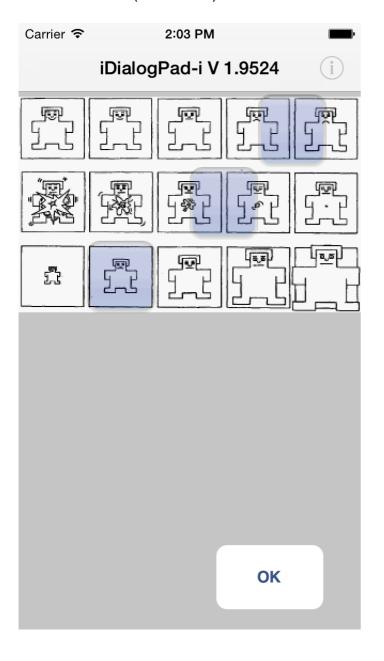
**TEST** "header" 2 TO OPT NU NU NU Shows a SAM (self assessment manekin) scale TO is a timeout in seconds.

#### OPT

1 = OK button appears after answering all 3 scales

2 = 9 step scale, else 5 step

NU = not used (set to zero)



#### TEST "header" 3 TO OPT MINPIC MAXPIC NU

Shows a picture selector with pictures in a subfolder "tpicts".

Pictures must be named pictsxx.jpg (xx=01,02,03 etc)

TO is the timeout in seconds

OPT if 1 hides OK button until selection

MINPIC is the number of the first picture

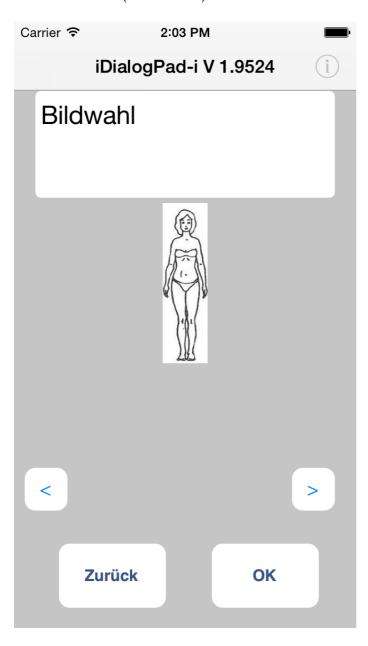
MAXPIC is the number of the last picture

You can select the pictures with arrow buttons.

The first shown picture is randomly selected.

If MINPIC is 0 a default picture set is used (very thin to very thick weman)

NU = not used (set to zero)



**TEST** "header" 4 TO START NUM NU NU

Starts a working memory task.

You must deploy a file in the root directory named wmtask.csv,

TO is the timeout in seconds

START is the number of the start block in the file (1...N)

NUM is number of blocks that shall be used

If START and NUM are 0 then all blocks will be used If START is 0 then NUM blocks will be randomly selected

The file wmtask (Type csv) has 4 different entries:

S;1;2;3;4;5

start of block parameters are the content of the 4 cells and the time in seconds

T;1;2;3;4;5

Task (calculation task) in the 4 cells and time in seconds

R;1;2;3;4;5

Get result for cells, only in one cell should be a question mark (?)

E;1;2;3;4;5

Show result Param5 = display time in seconds

Empty cells are marked by the # char

Results tbd

#### HIST "Label1, Label2, Labeln" TOUT NU NU

Shows a history of up to 6 @variables.

The graph is terminated after TOUT seconds or with DONE button

NU = not used (set to zero)

#### GTS "text"

Generates a time stamp HH:MM:SS

GPS ..text"

Stores the current gps position if the divice supports it. (e.g. devices without gps hardware may only give gps positions if logged into WLAN)

This command should be at the end of the query to give the device the time to find its position,

You must enable this in the global settings of the App.

#### **FILE** name.qdf

Calls a subfile. This command may NOT be nested. Only 1 level is allowed.

The result of all used files are stored in the same output.

The filename must not be quoted here! (no quotation marks)

#### Variables:

#### SETVx v

Sets the variable x to the value v(0-65535). There are 16 variables (SETV0 – SETV9 – SETVA-SETVF).

Variable 7 contains the current day since start of programm (1-N)

Variable 8 is reset to zero at midnight and can be used to start a query only once a day.

Variable 9 is set to 1 if script is started by ATIME timer, set to 2 if started by NETWORK, else zero. In case of NETWORK variable 6 contains network message code.

### GOVx "text"

Generates an output with the value of variable x

#### SNZVx Label

If variable x is not zero, jump to Label

#### SZVx Label

If variable x is zero, jump to Label

#### SEVx Value Label

If variable x is equal to Value, jump to Label

#### **INCVx**

Add one to variable x

#### **TSTV**x

Tests the variable x (0-9,A-F).

The result of this test can be checked with the result check commands (see below)

If x = a-c you can test values in the network buffer (a=1. char, b=2. char etc)

TSTVx gives the result of the X-axis of the Affect Grid

TSTVy gives the result of the Y-axis of the Affect Grid

TSTVd gives a 1, if the day has changed else 0 (only once a day)

#### **ADDRV**x

Adds the result of a previous command to variable x This allows summing of several items.

## Compare and jump cmds:

Result is set after each command that produces an output

#### **SKIP** Label

Jumps to label

#### **SKIPL** HH:MM Label

Jumps to label if current time lower then hour, minute

#### **SKIPH** HH:MM Label

Jumps to label if current time higher then hour, minute

#### **SKIPU** Label

Jumps to label if user started the query

#### **SRA** Label

Jumps to label if program is in retry mode, last query has had a timeout.

#### **SRE** Value Label

Jumps to label if result is equal to value

#### **SRN** Value Label

Jumps to label if result is not equal to value

#### **SRL** Value Label

Jumps to label if result is lower then value

#### **SRH** Value Label

Jumps to label if result is higher then value

#### **SRAE** Value Label

Jumps to label if value is contained in result (this is an AND operation) Used to test ASKM results

#### **SRAN** Value Label

Jumps to label if value is not contained in result (this is an AND operation) Used to test ASKM results

#### **SRTH** Rtime Label

Jumps to label if remaining time in ATIME mode is higher then Rtime (in minutes) If Rtimes is lower next ATIME event will be deleted.

#### **FTO**

Force a timeout

RL: label1: label2: label3: labeln

Defines random labels, all RL commands go into one pool

These label may be selected randomly by the RLJ cmd.

#### **RLJ**:endlabel

Jump to the with RL predefined labels. If all labels are used the command jumps to endlabel Only 1 random label list is allowed per script.

## Special cmds:

SUM "text" "lab1,lab2,lab3 ... " OFFS MAX DIV

Summs the outputs of the labels lab1,lab2 ...

If a label is preceded by a – sign the scale is inverted and then added.

OFFS is an optional additiv offset to all input values

MAX is maximum scale value (needed or negation)

DIV is a divider. If set to 1 the summ will be generated, if set e.g tot he number of scales the average is calculated.

If instead of a label the # sign together with a number generates a constant number.

e.g

SUM "@normavg@" "#23.4" 0 0 1

Generates a contant output with the value 23.4

#### NORM "text" "lab" NUM

Reads a norm value form a table with the number converting the value from the @label "lab"

#### NTAB NUM W1 W2 W2 W4 ...

Defines a norm table with the number NUM

The values W1,W2, ... must be seperated by a space char. There may be no new lines between all the values. For every possible raw value there must be a corresponding norm value W.

## **END**

Ends the query

# Example file: demo.qdf

```
SAN ipod
```

\* sleep during night

SLEEP 22:00-08:00

\* activate every 25-35 minutes

TIME 25 10

OPT 64+4+2+1 GOP 128+8

SKIPU :START
\* if auto mode, beep
BEEP 8
:START

\* input timout 60 secs

TOUT 60

\* print timeout 3 seconds

PTOUT 3

PRINT "This Demo shows only a few examples.\rText is displayed until OK or 3 seconds"

\*TEST "@agrid1@&affect grid" 0 20 1 "stressed" "highly activ" "excited" "depressed" "sleepy" "relaxed" "unpleasant" "pleasant"

\*TEST "@sam2@sam test" 2 30 3 0 0 0

\*TEST "@pic3@Bildwahl" 3 30 1 0 9 0

PSEL 2

SCALE " 1 2 3 4 5" "not" "very"

ASK2 "@Q01@This is a 5 step scale with initial value"

SCALE "-3-2-1 0+1+2+3" "negativ" "positiv"

PSEL 99

ASK2 "@Q02@This is a 7 step scale, OK Button appears after first selection"

SCALE ":not at all:don't know:very much" "" ""

PSEL 99

ASK2 "@Q03@3 step scale with text, OK Button appears after first selection"

PSEL 0

SCALE " 1 2 3 4 5" "0 %" "100 %"

ASKA "@Q04@This is an analog scale with initial value"

```
PSEL 99
ASK1 "@Q05#@3 alternatives only 1 selection" 3 "selection 1"
"selection 2" "selection 3"

ASKM "@Q06#@3 alternatives 2 selections" 3 2 "selection 1"
"selection 2" "selection 3"

INPUT "@Q07@you can input free text here"

TIMS "@Q08@Time or number wheel" 0

*HISTO "Q01,Q02,Q03" 5 0 0

PTOUT 1
PRINT "&\r\rThanks"

END

SE
```

## File: uploader.php

```
<?php
$target = "upload/";
$target = $target . basename( $_FILES['uploaded']['name']) ;
$ok=1;
if(move_uploaded_file($_FILES['uploaded']['tmp_name'], $target))
{
    chmod($target,0604);
    echo "YES";
}
else {
    echo "NO";
}
    ?>
```