Orange Apps

myDialog

Version 1.0

User documentation

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History of document versions

version	date	author	Reason for change / Remarks
0.1	01/27/2017	Christian Mayer	first position

Content

1 Introduction

1.1 Target group

This documentation is intended for users with the following skills:

- Knowledge of the software structure of the KUKA robot system

1.2 Representation of information

These notes provide useful advice or specific information for the current topic.

1.3 Terminology used

term	description
HMI	The Human-Machine Interface (HMI) is an interface that a person communicates on a machine.
KSS	KUKA System Software
SmartPad	Robot control terminal
SmartHMI	User interface of the robot controller KRC4
KOP	KUKA Option Package

2 Overview

2.1 Product description

myDialog is used to display user-specific dialog messages directly from KRL.

The dialog messages are given as html pages and then called from the KRL program. To display and close the dialog message simple KRL commands are available.

A dialog messages can display up to seven user-buttons.

2.2 Characteristics

- Displaying images, formatted text and animated GIFs
- Up to seven user buttons can be displayed on a message
- Background color freely selectable
- Modal and non-modal representation
- multilingual

2.3 Delivery

The software is delivered as technology package for direct installation on the robot using the menu option “additional software”. Included are all necessary installation and operational components:

- plugin myDialog
  - myDialog.dll
  - SmartHMI.exe.myDialog.config
  - myDialog.kxr
- User documentation for the installation and operation of the software
- Templates and Examples

To help users getting started, examples of dialog messages are included in the setup package.

2.4 Application / -environment

The software runs on all KUKA robots with KSS 8.2, 8.3 and 8.5 without KUKA.CPC protection.

2.5 CPC

If the software shall be used on robots with KUKA.CPC, a CPC certificate is required before installation. Please contact us in this case for more information.

3 Installation

The installation is done via the *additional software* option. This function is located in the main menu under *start-up*.

3.1 System requirements for running

Minimum Hardware Requirements

- KUKA System Software 8.2, 8.3, 8.5

3.2 Install myDialog or upgrade to new version

Requirement

- User group Expert

For installation on the three systems, real Robot, Office Lite and Office PC follow these steps:

Method

1. Extract the .Zip file
2. Copy the installation folder ***OrangeApps.myDialog*** containing the setup files to a USB stick or directly to a drive on the target system (for example, d: \).
3. If you are already in possession of a valid license file, copy it to the files in the installation folder. The license file is automatically detected and installed during setup. Alternatively, you can manually install the license file after installation.
4. When installing from a USB stick, connect this to the controlling PC or the SmartPad.
5. Choose ***Start-up→ Additional software*** from the main menu.
6. Click the button ***New software***.
7. You'll get a list of available software for installation. If there's no entry ***OrangeApps.myDialog*** in the list, click ***Refresh***. If now the entry appears, go to step 10
8. If the entry does not appear, the drive from where to install must be configured first. To do this, choose ***Configuration***. In the new window you now have the option to select the path where to find the folder ***OrangeApps.myDialog.***
9. Select an empty cell in the ***installation paths for options*** and click ***path selection***. The available drives are displayed. Select the drive on which the folder ***OrangeApps.myDialog*** is located and save your selection with ***Save***. The window closes. ***OrangeApps.myDialog*** should now appear as an entry in the list. If this is not the case, press ***Refresh*** and/or repeat steps 7 to 8
10. Highlight the entry ***OrangeApps.myDialog*** and press ***Install***. Confirm the security prompt with ***Yes***.
11. Read the license agreement carefully. Explain your agreement to the license terms by clicking ***I Accept*** and continue the installation by clicking ***Continue***. If you do not agree with the license terms, please cancel the installation by clicking ***Cancel***.
12. The installation will be prepared now. To perform the final installation the control PC has to be restarted. This can immediately be executed by clicking ***Reboot Control PC now*** or later by clicking ***later***.
13. If you select ***later***, the window is closed. In order finalize the installation proceed with step 14. If you select ***Reboot Control PC now***, a restart of the control PC will be performed. Step 15 is then executed.
14. Perform a shutdown of the control PC by clicking ***shutdown*** in the main menu.
15. During reboot of the control PC myDialog will be installed on the computer.

16. Remove the USB stick from the PC.

3.3 Uninstall myDialog

Requirement

- User group Expert

Method

1. Choose ***commissioning→ Additional software*** from the main menu.
2. Highlight the ***OrangeApps.myDialog*** and click ***Uninstall***. Answer the security prompt with ***Yes***. The uninstallation is prepared. After completion of the preparatory work, a message box appears. To perform the final installation the control PC has to be restarted. To perform the final installation the control PC has to be restarted. This can immediately be executed by clicking ***Reboot Control PC now*** or later by clicking ***later.***
3. If you select ***later***, the window is closed. In order finalize the uninstallation proceed with step 4. If you select ***Reboot Control PC now***, a restart of the control PC will be performed. Step 5 is then executed.
4. Perform a shutdown of the control PC by clicking ***shutdown*** in the main menu.
5. During reboot of the control PC myDialog will be uninstalled from the computer.

3.4 KSS Update

When updating the KSS software within the KSS versions 8.2/8.3 myDialog is automatically reinstalled. The current state of KRL Modules will be saved and automatically restored after the KSS update.

3.5 Installed files

To operate the software, the following files are installed:

folder	files	function
C:\ KRC\SmartHMI	OrangeApps.myDialog.dll SmartHMI.exe.myDialog.config	plugin myDialog
C:\KRC\DATA	myDialog.kxr	Language database
C:\KRC\ROBOTER\KRC\R1\ TP\myDialog	myDialog.src und dat	Handler

These files are installed for the Samples:

folder	files	function
C:\KRC\DATA	myDialogDemo.kxr	Language database for html samples
C:\KRC\USER\myDialog	Several files (html,png,gif etc)	Samples
C:\KRC\ROBOTER\KRC\R1\ Program	myDialogDemo.src	Contains sample calls for dialog messages

The sample messages can fully operate and can therefore be used as a basis for further messages.

4 Licensing

myDialog is subject to licensing. Licensing is done by a license file. Visit our website www.orangeapps.de for more information on licensing.

Reference

- A license is required for each robot.
- To test the software, we are happy to create temporary test licenses.
- Licenses are not required for the OfficeLite and OfficePC environments.
- Date manipulations of the system are detected, myDialog disables the license automatically.

4.1 Robot License

To obtain a valid license, you will need the serial number of the robot. These can be found on the rating plate of the robot or in the control software in the Help menu → ***Info*** → ***Robot*** → ***Serial number.***

Trial licenses can be obtained directly at www.orangeapps.de. Runtime licenses are given after receipt of the license fee.

4.2 License for KUKA OfficePC/OfficeLite

For OfficePC/OfficeLite no license is required.

4.3 Installing a License

4.3.1 myDialog is not installed yet

Before starting the installation of ***myDialog*** copy the license file into the installation folder of the software. During installation the license is installed automatically.

4.3.2 myDialog is already installed

Method 1

- Plug a USB stick, containing the license file, to a USB port of the controller or SmartPad.
- Alternatively, copy the license file to the d: drive of the robot
- During boot of the robot control ore when opening a message the license will be copied automatically into the license folder and then be enabled. Note: A run-time license in the license folder will not be overwritten by a trial license
- Remove the USB stick

Method 2

- Copy the obtained license in the folder c:\KRC\TP\myDialog\Lic

5 Application

myDialog provides the user with specific KRL commands to display and close dialogs. Using optional parameters, up to 7 user buttons can be displayed in the dialog box. The buttons are automatically positioned at the bottom of the dialog box. The labeling of the buttons can be automatically translated to the set HMI language.

5.1 Procedure "myDialogShow"

The procedure "myDialogShow" enables the display of a freely programmable dialog. The dialog is shown asynchronous and the program is continued, if not explicitly, a wait for a response of the dialog message is programed.

syntax

myDialogShow (View []: IN, modules []: IN, button1 []: IN, Button2 []: IN, Button3 []: IN, Button4 []: IN, Button5 []: IN, Button6 []: IN, Button7 []: IN)

About the syntax

element	description	Optional
View []	Type: CHAR [24] Relative path to the HTML page	No
Modules []	Type: CHAR [24] Name the translation file	Yes
Button1 [] ... Button7 []	Type: CHAR [24] Key or labeling of buttons	Yes

return value

-

Example 1, display without buttons

```
myDialogShow ("Demo3")
```

Opens a dialog which includes "Demo3.html" page. This remains open until the "myDialogClose" function is called.

Example 2, display with buttons

```
myDialogShow ("Demo3_en" ,, "OK", "Cancel")
```

Like Example 1, but two buttons labeled "OK" and “Cancel” are displayed. The program continues and the display will remain open until a key is pressed or the command "myDialogClose" is called.

Example 3, display with buttons. Specify a translation file

```
myDialogShow ("Demo3", "demo", "OK", "Cancel")
```

Requirement for translation is an existing file KXR "Demo.kxr" in the folder C: KRC\Data. The file must contain the keys "OK" and “Cancel” and.

5.2 Function "myDialogExists"

The "myDialogExist" function checks whether a current dialog box is open.

syntax

myDialogExists (Answer: OUT)

Return value of the function

BOOL

About the syntax

element	description	Optional
Answer	Type: INT Number of the button that was pressed. Beginning at 1	Yes

example

```
myDialogShow ( "Demo5" ,, "OK", "Cancel"); displaying the message

...

WHILE myDialogExists (Answer); check whether dialogue still open
WAIT SEC 12:01
ENDWHILE

SWITCH Answer
Case 1 ;pressed OK
...

Case 2 ;Cancel pressed
...
ENDSWITCH
```

As long as the dialog is open, the return value of the function is TRUE. If a button is pressed, the function value gets FALSE. The number of the button is assigned to the variable "Answer".

5.3 Procedure "myDialogClose"

The "myDialogClose" function closes the currently opened myDialog.

syntax

myDialogClose ()

return value

-

example

```
myDialogClose ()
```

Closes the currently open dialog.

5.4 Function "myDialogShowModal"

The "myDialogShowModal" function enables the display of a freely configurable dialog. The dialog is shown modal and the program is stopped until the dialog is closed.

syntax

myDialogShow (View []: IN, modules []: IN, button1 []: IN, Button2 []: IN, Button3 []: IN, Button4 []: IN, Button5 []: IN, Button6 []: IN, Button7 []: IN)

About the syntax

element	description	Optional
View []	Type: CHAR [24] Relative path to the HTML page	No
Modules []	Type: CHAR [24] Name the translation file	Yes
Button1 [] ... Button7 []	Type: CHAR [24] Key or labeling of buttons	Yes

return value

-

example

```
DECL INT Answer
Answer = myDialogShowModal ("Demo2" ,, "OK")
```

Opens a dialog which includes "Demo2.html" page, as well as an "OK" button. The program will be stopped until the message was closed again.

6 HTML pages

myDialog retrieves HTML pages on KRL commands and integrated in this optionally up to seven buttons for interaction with the operator.

Required characteristics of the html pages

- compatible with IE Explorer 7 in KSS8.2
- compatible with IE Explorer 8 at KSS8.3
- no Java Script
- html pages can contain images and animated GIFs

In the setup templates and examples are included. These are based on KUKA look & feel and serve as a good basis for creating other html pages. For easy creation of HTML pages, we recommend the Editor "Kompozer". This is a so-called "WYSIWYG" (what you see is what you get) - Editor.

The free editor can be downloaded here: http://kompozer-web.de/

Features of the templates of Orange Apps:

- Tahoma font
- Foreground color black (default)
- Background color gray (RGB (230, 230, 230))
- Font size 13px

6.1 Folder structure

The default directory for the HTML pages is C:\KRC\USER\myDialog

The pages can be stored in this folder in their own subfolders. When called from KRL the subfolders must be specified.

Example 1: The html page "demo.html" is located in the folder C:\ KRC\USER\myDialog

Call in KRL:

```
Answer = myDialogShowModal ("demo" ,, "OK")
```

Example 2: The html page "demo.html" is located in the folder C:\KRC\USER\myDialog\myTechnolgy

Call in KRL:

```
Answer = myDialogShowModal ("myTechnology\Demo" ,, "OK")
```

6.2 Multilingualism

6.2.1 Display of the dialogue in the language of the HMI

Depending on the selected HMI language html pages suitable for the language can be displayed. To identify the language of the html page the abbreviation "_countrycode" is appended to the filename.

Whenever an html page shall be displayed myDialog determines the language of the HMI and searches for the corresponding html page with country codes in the filename. If the page is not found with the appended country code, myDialog will search for a page without country code and displays this. If this site is also not found an error message appears and the program is stopped.

The respective country code can be found in the table below.

When calling in KRL, the country code is not specified.

Example: For the HMI language "English" and "German" a separate page shall be displayed. If the HMI language is switched to any other language, the English version of the html page shall be displayed.

The following html files are needed:

- demo1_en.html for the English version
- demo1_de.html for the German version
- demo1.html for the default display if the HMI language does not "English" or "German" is. Simply copy the file demo1_en.html.

The page is in KRL (modal):

```
Answer = myDialogShowModal ( "Demo1" ,, "OK")
```

or non-modal:

```
myDialogShow ( "Demo1" ,, "OK")
```

country codes

code	language	code	language
cs	Czechisch	tr	Turkish
there	Danish	el	Greek
de	German	ru	Russian
s	English	ko	Korean
it	Spanish	sk	Slovak
fr	French	sl	Slovenian

it	Italian	fi	Finnish
ugh	Hungarian	sv	Swedish
nl	Dutch	tr	Turkish
pl	Polish	el	Greek
pt	Portuguese	ru	Russian
ro	Romanian	ko	Korean
sk	Slovak	zh	Chinese
sl	Slovenian	Yes	Japanese

6.2.2 Translation of the buttons

The labeling of the buttons can be translated automatically depending on the language of the HMI. For this purpose in the KRL commands the parameter "module[]" is available. This parameter specifies the module name of the translation file in the C: to\KRC\Data. The translation is analogous to the normal KUKA language translation.

myDialog checks is the specified key and a translation for the actual language exist in the given file. If the key isn't found the key is displayed on the button. If a key is found but no translation for the actual HMI language is found, the translation for the language "English" is displayed (if available).

Example:

In the "Demo1.html" a button shall be displayed. The text on the button shall be translated when the HMI language is set to "English", "German" or "Spanish". The name of the translation file is: myTech.kxr

The text displayed on the button shall be:

German: **"I speak German"**

English: **"I speak English"**

Spanish: **"Hablo Espanol"**

KRL Code:

```
Answer = myDialogShowModal ( "Demo1", "Mytech", "myKey1")
```

About the syntax

element	description
"Demo1"	Name the html file
"Mytech"	Name the translation file in the folder C:\KRC\Data
"MyKey1"	Key in the translation file

Content of myTech.kxr file:

```
<? Xml version = "1.0" encoding = "utf-8"?>
<Resources xmlns = "http://www.kuka.com/schemas/kxr/2009">
   <Module name = "Mytech">
      <UIText key = "myKey1">
         <Text xml: lang = "en-DEV"> I speak German </ text>
         <Text xml: lang = "en-DEV"> I speak English </ text>
         <Text xml: lang = "it-DEV"> Hablo Español </ text>
      </ UIText>
   </ Module>
</ Resources>
```

For all other HMI languages, the English translation is displayed.

7 Examples

The installation comes with some examples. In order to display this examples the KRL-module „myDialogDemo“ in folder „R1/Program“ has to be selected and executed.

The corresponding HTML pages and the corresponding pictures are located in the folder C:\ KRC\User\myDialog.