Sphere-UI-SDK (interface)

This SDK offers all the great features of sceye-Sphere, integrating a unique document viewer and scanner application right into your own application.



Basics

Type:	.Net component
Component name:	SceyeSphere_Ctrl
Support for:	Visual C++, C#, VB.Net
Demoproject:	SceyeSphereGuiDemoApplication.zip VB / VS2010
Redistribution pack:	SceyeSphereGuiRedist.zip

Download and unzip the Demoproject. More details - see ReadmeFirst in Projectfolder.
The Redistribution package is needed for debugging and finally also for the setup of the own application.

Features:

- Files & Formats
  - PDF (with image content and native)
  - Tif (single or multipage PDF)
  - JPG, PNG
  - All pages can be mixed and matched across different formats within sceye.
- Viewing / Navigating
  - Multidocument viewer
  - Multipage support
  - Navigation using keyboard, mouse or touch input
  - Seamless zoom - from overview position to tiny details
  - Autoresharpening - depending on zoom position
  - Move page (when mouse changes to hand-symbol) - depending on zoom level
- Editing
  - Rotating pages clockwise / counter clockwise
  - Split documents at any position
  - Merge documents (regardless of initial file format)
  - Move pages within a document
  - Move pages across different documents (regardless of initial file format)
  - Cut / Copy pages - using the internal clipboard
  - Paste pages from the internal clipboard into any document (no matter which format)
  - Delete pages - using the internal trash (incl. restore feature)
- Import
  - Manual import of PDF, Tif, JPG, PNG
  - Direct sceye integration (sceye software version 5.8 or higher required)
  - TWAIN integration (use any twain scanner with sphere)
  - Hotfolder (autoimport of any file in the specified folder)
- Export
  - Single or batch export into PDF, PDFplus, Tif or JPG format
  - Autoname feature to create consistent filenames based on definable rules

Sphere-API

The interface offers just a single method and a single event (see end of document). With the following list of commands you are ready to go within minutes. The integration couldn't be easier.

Simple-API:

Public Function SendCmd (ByVal Cmd as String, ByRef RetInt as Integer, ByRef RetIntString as String) as Integer

Parameter:
Cmd - name of command
RetInt - int value if command is supposed to give int information back. in all other cases 0.
RetString - stringvalue if command is supposed to give string information back. in all other cases 0.

Return Value of function error code:
value >= 0 no error
value < 0 error

Example-Code:

```
'Drop the Sphere-component on your form and call it sphere
Dim retInt as Integer
Dim retString as String
dim errorCode as Integer
errorCode  = sphere.SendCmd( "basic.license.myname, mynumber", retInt ,
retString ) 'initialize

if (errorCode  >= 0)

sphere.SendCmd( "basic.load.default")          'load default archive
sphere.SendCmd( "doc.open")                    'open selected document
sphere.SendCmd( "page.rotate.left")            'rotate selected page
sphere.SendCmd( "page.zoom2fit")               'zoom to perfect fit position
                                               'respharp happens automatically
sphere.SendCmd( "sceye.scan.color")            'set sceye to color mode
sphere.SendCmd( "sceye.scan.300dpi")           'set sceye to 300dpi
sphere.SendCmd( "sceye.scan.now")              'perform a scan
```

- Most of the functions are already built-in and are available via mouse and touchscreen.
- Connect the navigation commands with keyboard events - also check the example project.
- All functions can be controlled this way which makes this SDK a very powerful tool.
- Beside the core features like scanning and document management you can also take control of the navigation. This way you can have a full remote control over the application - just in case you need it.

Basic Command-List

Command	*Description*	*Answer*
basic.licence.name.number	name and number are placeholders for the licence	valid / invalid
basic.deinit	have to be called to deinitialize the component	
basic.load.default	loads the default archive	none
basic.nav.left	select left document / page	none
basic.nav.right	select right document / page	none
basic.nav.up	select above/prev document	none
basic.nav.down	select below/next document	none
basic.sidebar.left.show	shows the sidebar with the import options	none
basic.sidebar.left.hide	hide the left sidebar	none
basic.sidebar.right.show	shows the zoom / scroll sidebar	none
basic.sidebar.right.hide	hide the right sidebar	none
basic.settings.twain.show	opens the twain settings dialog	none
basic.settings.general.show	opens the general settings dialog	none
basic.exportprogress.show	shows the export status dialog	none
basic.archive.cleanup	removes the unused pages from current archive	none

Edit Command-List

Command	*Description*	*Answer*
edit.copy	copies current object to the clipboard	none
edit.cut	cut current object to the clipboard	none
edit.paste	paste of last object from clipboard	none
edit.delete	deletes current object and moves it to the trash	none
edit.trash.clear	clears trash	none
edit.clipboard.clear	clears clipboard	none

note: object can be a page or whole document based on context

edit.trash.show	show content of trash	none
edit.trash.hide	hides content of trash	none
edit.clipboard.show	show content of clipboard	none
edit.clipboard.hide	hides content of clipboard	none

Document Command-List

Command	*Description*	*Answer*
doc.new	creates new doc at the end	none
doc.import	shows the import dialog	none
doc.open	opens the cur. document to show pages	none
doc.close	close the cur document	none
doc.pin.all	select all documents	none
doc.pin.none	deselect all documents	none
doc.pin	marks cur. document for multiselect	none
doc.export	opens the export dialog	none
doc.mail	opens the mail dialog	none
doc.print	opens the print dialog	none
doc.split	splits the current document	none
doc.merge	merges the current document with predecessor	none

Page Command-List

Command	*Description*	*Answer*
page.zoom2fit	zoom to the perfect fit level	none
page.zoomout	zoom to the overview level	none
page.rotate.right	rotates the page 90° clockwise	none
page.rotate.left	rotates the page 90° counterclockwise	none
page.move.start	lift current page for moving	none
page.move.left	move page to the left	none
page.move.right	move page to the right	none
page.move.up	move page to the prior document	none
page.move.down	move page to the following document	none
page.move.end	release current page at cur. position	none

sceye Command-List

Command	*Description*	*Answer*
sceye.laser.on	turns on the laser beam	none
sceye.laser.off	turns off the laser beam	none
sceye.laser.state	returns the state	0/1
sceye.light.on	turns on the light	none
sceye.light.off	turns off the light	none
sceye.light.state	returns the state	0/1
sceye.colormode.colour	switch to colour mode	none
sceye.colormode.greyscale	switch to greyscale mode	none
sceye.colormode.bw	switch to black&white mode	none
sceye.colormode.getvalue	returns the cur. value	colour,greyscale,bw
sceye.resolution.100dpi	set scanresolution to 100 dpi	none
sceye.resolution.200dpi	set scanresolution to 200 dpi	none
sceye.resolution.300dpi	set scanresolution to 300 dpi	none
sceye.resolution.400dpi	set scanresolution to 400 dpi	done / not supported
sceye.resolution.getvalue	returns the cur. value	100,200,300,400
sceye.scan.now	perform a scan with sceye	
sceye.textfilter.on	enhance textual content	none
sceye.textfilter.off	normal image processing	none
sceye.textfilter.state	returns the cur. state	0/1
sceye.autocrop.off	no cropping	none
sceye.autocrop.on	normal autocrop enabled	none
sceye.autocrop.intellicrop	intellicrop = autocrop with border removal	none
sceye.autocrop.getvalue	returns the cur. value	off,on,intellicrop
sceye.brightness.auto.on	enable auto-brightness	none
sceye.brightness.getvalue	returns the cur. value	0-27
sceye.brightness.setvalue.x	x=value between 0-27	none
sceye.contrast.auto.on	enable auto-contrast	none
sceye.contrast.getvalue	returns the cur. value	0-100
sceye.contrats.setvalue.x	x=value between 0-100 (20=recommended)	none
sceye.mode.manual	manual scan mode	none
sceye.mode.autoscan	enabled autoscan mode	done / not supported
sceye.mode.multiscan	enabled autoscan mode	none
sceye.mode.bookmode	enabled bookmode	done / not supported

sceye.rotation.left	manual scan mode	done / not supported
sceye.rotation.right	enabled autoscan mode	done / not supported
sceye.rotation.landscape	enabled autoscan mode	done / not supported
sceye.rotation.getvalue	returns the cur. value	left,right,landscape

sceye.connected	returns the connection state	0/1
sceye.type	returns the type of the connected sceye	A4,A3
sceye.armstatus	returns the status of the arm	0/1
sceye.snr	returns the serialnumber of the sceye	xxxxxxxx (8 digits)

Twain Command-List

Command	*Description*	*Answer*
twain.source.getlist	return a list of all sources	s1;s2;..
twain.source.set.name	set the source name = source name	none
twain.source.acquire	opens the selected source dialog to scan.	none

Hotfolder Command-List

Command	*Description*	*Answer*
hotfolder.setfolder.path	path = path to target folder	none
hotfolder.on	sets the hotfolder feature active	none
hotfolder.off	disables the hotfolder features	none

Touch Command-List

Command	*Description*	*Answer*
touch.3d.activate	activates touch for the 3d panel	-
touch.3d.deactivate	deactivates touch for the 3d panel	-
touch.3d.state		0/1

Touch Description

The reason for being able to activate and deactivate the touch feature for the 3d panel is because of the feature of sphere to handle touch and mouse input simultaneously. For this to work we handle touch and mouse input methods separately. But this inherits the problem that touch input doesn't work with standard dotnet objects like buttons. We use a workaround for this purpose. When a touch event coordinate isn’t in the 3d panel the event is converted into mouse events. The problem is that external components outside our component which overlay the 3d-panel have to be taken into account. For this reason you can disable 3d-panel touch so that all touch events are redirected properly to the overlayed object. You can see this in our sample application. Every time a menu strip opens, touch for the 3d-panel is disabled and reenabled when closed.

Any unsupported command - no matter if there’s a typing error or a version difference - is answered with errorCode = -1.

Simple Event

```
Public Event SphereNotify(ByVal notification As String)
```

Event-List

Notification	*Description*
init.done	is fired when the init of the component is finished
viewmode.changed.overview	is fired when entering overview
viewmode.changed.docview	is fired when entering doc view
sceye.connected	is fired when sceye camera gets connected
sceye.disconnected	is fired when sceye camera gets disconnected

Errorcodes

Basic

Errorcode	*Description*
-1	Not Supported Command
-2	Not Initialized
-3	Param Error
-4	Licence Error
-5	Internal Error