Optio Object Reader

1. Why?

When you have created some documents using Design Studio 1.x and need to go forward using 7.x you soon become aware of the changes that are made in the handling of variables, this means you have to check every Code before/code after, runtime property and external file for references to the variables. Doing this can be tedious and you are always left with the feeling you forgot something. Something that is probably right but is almost impossible to find.

Or this might happen: After creating a Design Studio project you eventually have to part with it, or someone would like to be able to change something. In general this is easy using Design Studio itself. Until you use more advanced features like runtime values, code before/after, parameters and the like. It can be very hard for someone else to find your carefully placed code. If you have used code before/after in a field and someone removes this field, there will be some sad people around.

This seems to get down to documenting the code, but this is quite a lot of work and error prone. This should be done easier.

To my delight I got the 'Optio Stub finder' from Optio France when attending a course there. After using it for a while I found that some information did not show up, and this made the tool a 'bit' less useful to me.

Instead of asking Brian to change his tool, I created my own one (that's the kind of guy I am, shoot me) and the result is the Optio Object Reader, OOR for short.

2. What

The Optio Object Reader is a tool capable of reading Design Studio 1.x and 7.x files and show them like a DS user sees them in the property/all window.

I also created an Export function to save the information in the property window to disk. The last feature is extremely handy for creating documentation on your Design Studio files.

You can also configure the program further yourself by changing the txt and cfg files.

3. What not

Because Optio Objects within the DS files are complex I have not found the meaning for every property in the objects, some will show up as numbers, some will show up as a string of 0's and 1's, and some will not show in the property window. Also some objects are complex themselves and are not yet fully shown (i.e. the conditions of the one of many layout statements).

Also the configuration has to be changed by hand, but if you take the time you can fully customize the output, layout of the output, translations of properties, naming of selections, just name it.

There are also other things missing that you as user might need and I would like you to tell me that by sending mail to info@oor.snaaijer.nl.

This program has nothing to do with Optio Software accept for the ability to read files created by one or two of their products. You should not expect support for OOR by Optio Software. This also means that if you get a different version of Design Studio, and OOR does not work properly, you should not call Optio Software for support, you may send e-mail info@oor.snaaijer.nl. If you are a paying customer you can check for an update. Any similarities to items created by Optio Software are based on coincidence.

4. How

After you installed the tool it is run for the first time, you can select a few options to make immediate exports, open the documents in a text editor, or open it in OOR to take a look inside. You can also run it by selecting it from the Start menu (programs,Optio,OptioObjectReader), and open a Design Studio file by selecting File, Open from the menu.
A Design Studio file is almost any file that was created by Design Studio (not only dcl, but also fun, fmt, seg etc.)
When you select Tools, Config you can change the way OOR behaves and also (re-) connect OOR to these types.
This means you can open a DS file in OOR by double clicking it in the Windows Explorer. If you check the second box you can also export it directly to the default export type from the explorer. See the picture of the config screen below.

5. Packager

The Packager is a powerful feature when sharing Optio files between companies, departments or developers. The Packager distils information from the current document (by reading specific properties, parsing 'code before/after' and other fields) to create a list of files needed for testing, support or distribution.

When you press the Packager button (🏠) the current document is searched for relevant indicators. The files are seperated in five groups :
· Documentation, when this is checked OOR will add documentation to the package (an export)
· Devices, when this checkbox is checked OOR will add the Device (DEV) files found in the document.
· Mandatories, this will make OOR include all the files DesignStudio needs to open the document.
· Sample files, OOR will look for the used sample files, both for design and testing. Beware of sending classified information over unsecured channels.
· Specials, OOR will search the document for function calls and LOAD commands. The specials can find 'functions' that do not exist for several reasons. OOR will gracefully ignore those.

After this search these files are shown in the list (see picture on page 6).
All files from this list are searched from the base directory ('basepath') down, all the directories that are under the basepath are searched.

OOR assumes that all the files belong to the same version as the main document, so the path of the main document is used to guess a base path. When the option Guess Basepath is set, the packager will go up the directory tree and look for three directories (doc, fun and dev) when these three directories are available the packager assumes this is be the BasePath. When It can not find these directories, the basepath shown in de editbox is used.

When the option 'Preserve path in archive' is selected, the packager will put the directory names relative to the BasePath in the Package.
The files are automatically selected depending on the 'Quick include' check boxes at the right. You can individually select specific files to include in or exclude them from your package. There can be files in the list that are not available below the base directory, these will not be included in the package. (e.g. OOR found functions that are based in a library).

Currently OOR looks for the LOAD command and for programming structures that use an opening bracket ('(').

When not all files are available in the list you can use the Add button to add more files to the list (Remember that the files must reside under the base directory).

When done you can press the Package button. OOR will ask where to place the cab or zip file, this can be anywhere you have the right to write a file.
OOR packages are native windows Cabinet files or multi platform zip files. Almost all windows decompression tools can handle cab files, and they have the added benefit that they can be decompressed with the Windows command line tool EXPAND. (this is a default OS program). Non Windows platforms may not always be able to handle cab files. Zip files on the other hand are bigger, but zip files can be decompressed on any platform Optio runs on.

The packager also can be run from Explorer (like Export can). The settings that will be used are the same as the ones set when you made the last package.

6. EMF preview printer
The Optio Object reader makes a long requested feature that DesignStudio does not have possible. When you click on the Printer button in the button bar (or press F5) you can select the pages from the preview in order to print them. You may select all pages on the left by pressing Ctrl+A and start printing by pressing Ctrl+P. If you have installed a tool capable of creating PDF files like Adobe Acrobat or the free PDFCreator (see the credits window for a link) you can even send your preview by mail.
The installer will create a 'DS Preview print' icon in the windows start menu.

Note: The EMF printer will scale all pages to the default page size as setup in the printer dialog; check the settings for portrait or landscape.
Note: The documents created with the EMF printer will not exactly match the real output of the server.

7. More about views
The views are configured in the OptioObject.cfg file, there is a section Documentation with the fields that will be shown in the 'Documentation' view. These fields are numbered like in the ObjectProperties.txt.
The fields now chosen are those I personally want to see in documentation like Code before/after, runtime values, printer queues etc.
By selecting the 'complete' view you will see all the fields the program by it self found.
In the View menu you can also change the 'order' of the objects. The default order is the 'Semantic order' this is the order almost like the one seen in Design Studio itself.
The 'File order' is the way the objects are found in the file itself, this is the order Brian's Stub finder uses, so this can be handy if you are used to it.

8. More about configuration
The different files contain information I gathered by matching the 'bare property list' with settings I made in Design Studio. By opening the files in Notepad you can change the names of properties, and add new ones.
The syntax of ObjectProperties.txt is

```
<Property number>=<Property name>
```
Like :
```
0001=Name
0002=Comments
```

```
0003=Code Before
0004=Code After
```

The numbers show up when you select the complete view in the 'Property' column.
The syntax of OptioObject.cfg is a normal ini-file (like windows.ini) with the following
mandatory section (with the [ ] around the name)
```
[Settings]
```
this section has the following fields, which in turn activate new sections :

Runtimes	Fields that may have runtime values
Specials	Fields that has enumeration values, the fields put here must be in the [Specials] section, comma separated
MultiLine	Fields that have multiple lines
IntValues	Fields that have an integer value
Views	The names of views you will see in the menu, for every item there must be a section created.
OutPuts	The names of Export types, for every item there must be a section created.
DS1xCodePages	Names of Codepages that original DS1.x documents are de in. Possible values in Appendix A.

The [Translations] section

TransTableFormat	Gives a string that is used to show the Translation Table object property 'Translation list'. The underscores are replaced by spaces, spaces will be translated to zero's. (2 params *)
ExternalFile	Some properties refer to an external file, to fully translate the export to an other language you can change this.
<other fields>	Reserved

The sections derived from the values above have the following format
The [Specials] section

Property	Values of this property. Keep in mind that Windows automatically removes " and ' if they are around the value, this can give strange results.

The Viewtype section (like [documentation] or [complete])

Info	The type of information the program must show 0 : Show runtime if available otherwise Design time from list 1 : Filter only Design time from list 2 : Show runtime and given fields
Fields	Fields that belong to this view
MandatoryFields	Fields that always show up in this view type even if the runtime property is blank. (note: if the static information is also blank it will be left out)
HideObjects	Which objects should not be shown (see ObjectTypNum.txt to match numbers with objects)
HideChildrenOf	Don't show the children of numbered objects (see ObjectTypNum.txt to match numbers with objects)

The Export type section (like [HTML] or [XML])

TranslateXMLStyle	Translation of special characters to HTML like codes (drawn from XMLCodes.txt). Because of UTF-8 support this almost became unnecessary.
NewLine	How to translate CR/NL combination
StartDocLine	The First line of the export file

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TitleLine	The second line (3 params *)
PreBody1..n	Lines between Title and Body (unparsed +)
StartBody1	First line of body
StartBody2	Second line of body (3 params *)
StartBody3	Third line of body (3 params *)
StartLevelx	The Start of objects on level 'x' as in the tree.
LevelObjectStartx	The Start of an object on level 'x' as in the tree. (3 params *)
LevelNamex	The name of an property on level 'x' as in the tree. (1 param *)
LevelValueStrx	A String Value of an property on level 'x' as in the tree. (1 param *)
LevelValueIntx	An Integer Value of an property on level 'x' as in the tree. (1 param *)
LevelObjectEndx	The End of an object on level 'x' as in the tree.
EndLevelx	The End of objects on level 'x' as in the tree.
EndBody	The for last line of the output
EndDocLine	The last line of the output

* Some of these fields can have %s and/or %d parameters hidden in them. By using %n:s you get the n'th string from the list given to the string. It is ok to remove %s codes, but if you place too many, the program will not accept it.
+ The PreBody lines will be inserted as is and are optional.

9. What do I see
On the next page is a picture of the OOR with an explanation of the items on the dialog. The second picture is the configuration dialog that allows the user to select the default settings that will be used with immediate export and the view of the tree. It is not possible to select the File order as default.
If you deselect the radio boxes the connection between DS files and OOR will be removed, this will also happen if you remove OOR.

Tree that shows the relation between objects

Quick bar explanation next page

SampleDSdd.dcl - Optio Object Reader

File   Edit   View   Tools
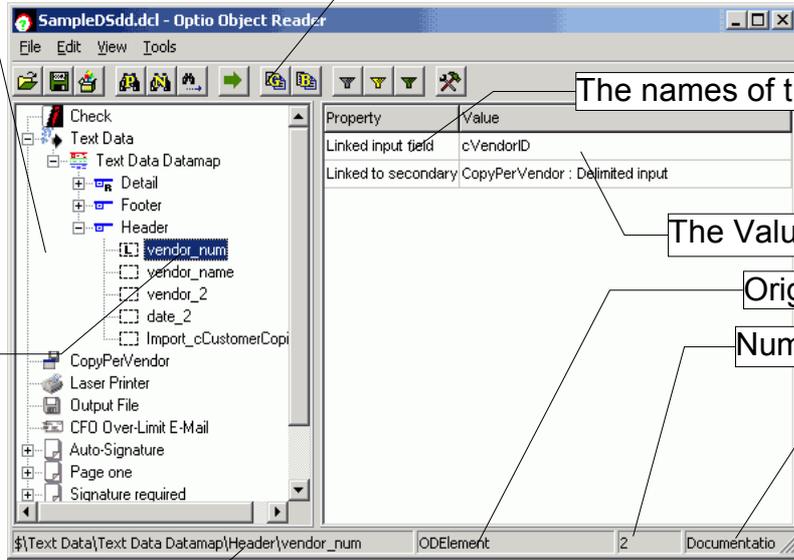
The names of the property

Property	Value
Linked input field	cVendorID
Linked to secondary	CopyPerVendor : Delimited input

Object tree:
- Check
- Text Data
  - Text Data Datamap
    - Detail
    - Footer
    - Header
      - vendor_num
      - vendor_name
      - vendor_2
      - date_2
      - Import_cCustomerCopi
- CopyPerVendor
- Laser Printer
- Output File
- CFO Over-Limit E-Mail
- Auto-Signature
- Page one
- Signature required

$\Text Data\Text Data Datamap\Header\vendor_num   ODElement   2   Documentatio

The Values of these properties

Original DesignStudio type

Number of properties

Current view type/ Busy indicator

Object name from DS

Current selected object

Set 'Default' option when Doubleclick file in Explorer

Add option 'Open in OOR' to Explorer popup

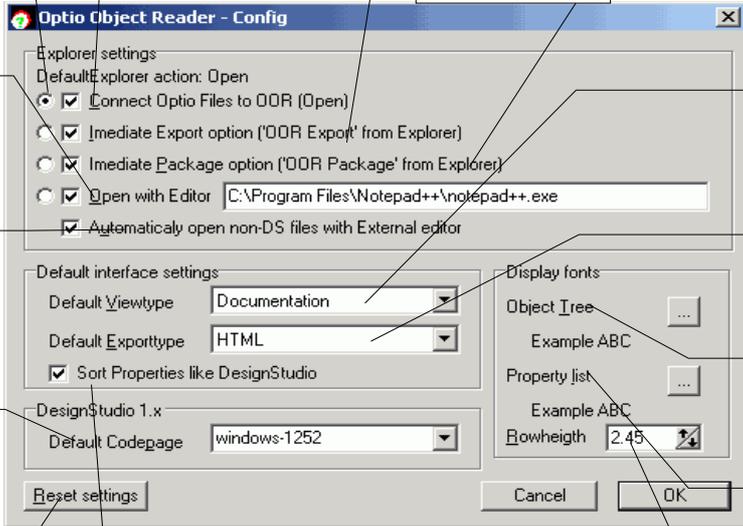Adds option 'OOR Export' to Explorer popup

Adds option 'OOR Package' to Explorer popup

Editior used in Exporer popup 'Edit in Textedit'

Use External Editor when there are no objects

Select the Code page used for DS1x documents

Remove all remembered dialog positions

Optio Object Reader - Config

Explorer settings
DefaultExplorer action: Open
- ○ ☑ Connect Optio Files to OOR (Open)
- ○ ☑ Imediate Export option ('OOR Export' from Explorer)
- ○ ☑ Imediate Package option ('OOR Package' from Explorer)
- ○ ☑ Open with Editor   C:\Program Files\Notepad++\notepad++.exe
- ☑ Automaticaly open non-DS files with External editor

Default interface settings
- Default Viewtype   Documentation
- Default Exporttype   HTML
- ☑ Sort Properties like DesignStudio

DesignStudio 1.x
- Default Codepage   windows-1252

Display fonts
- Object Tree   [...]   Example ABC
- Property list   [...]   Example ABC
- Rowheight   2.45

Reset settings   Cancel   OK

Default detail setting, also used for immediate export

Export type used for immediate export

Font properties for Object tree (left)
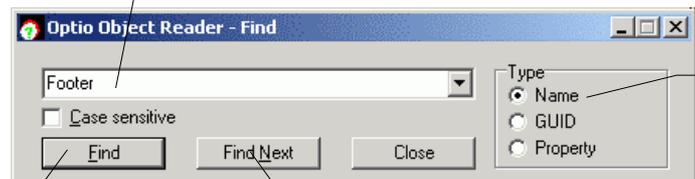
Font properties for Property list (right)

Rowheight correction
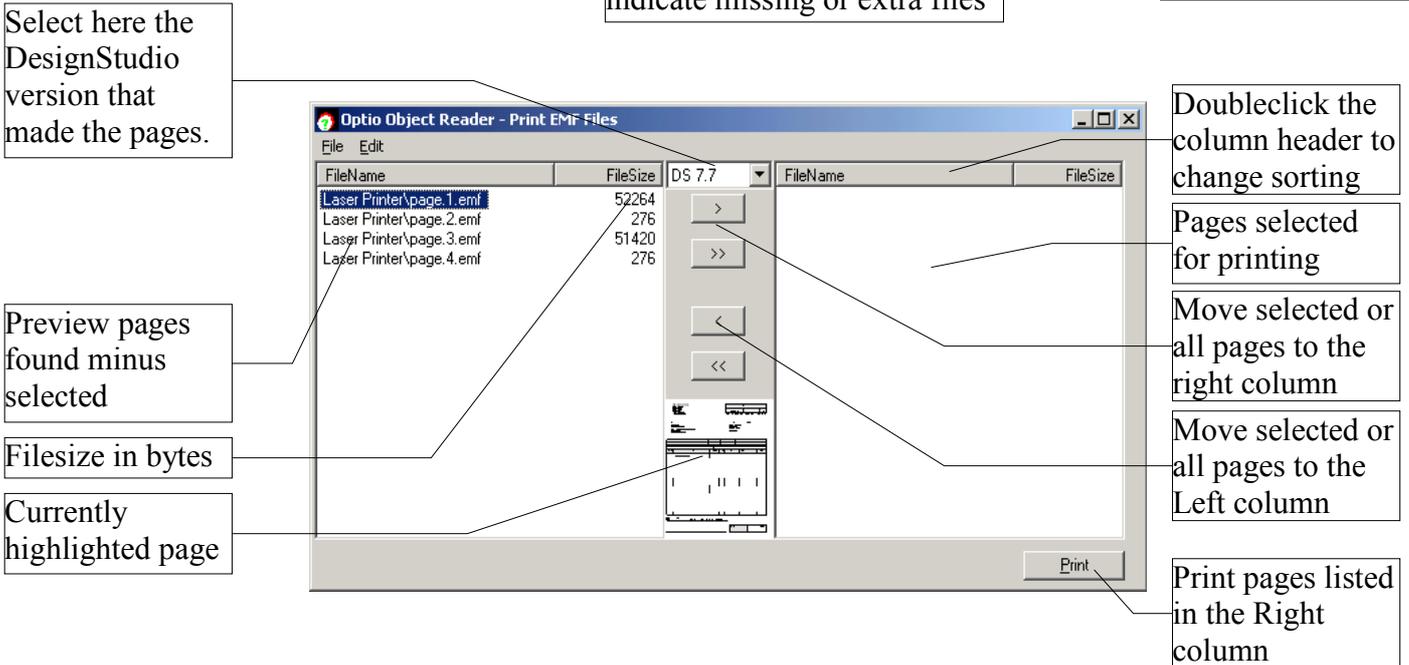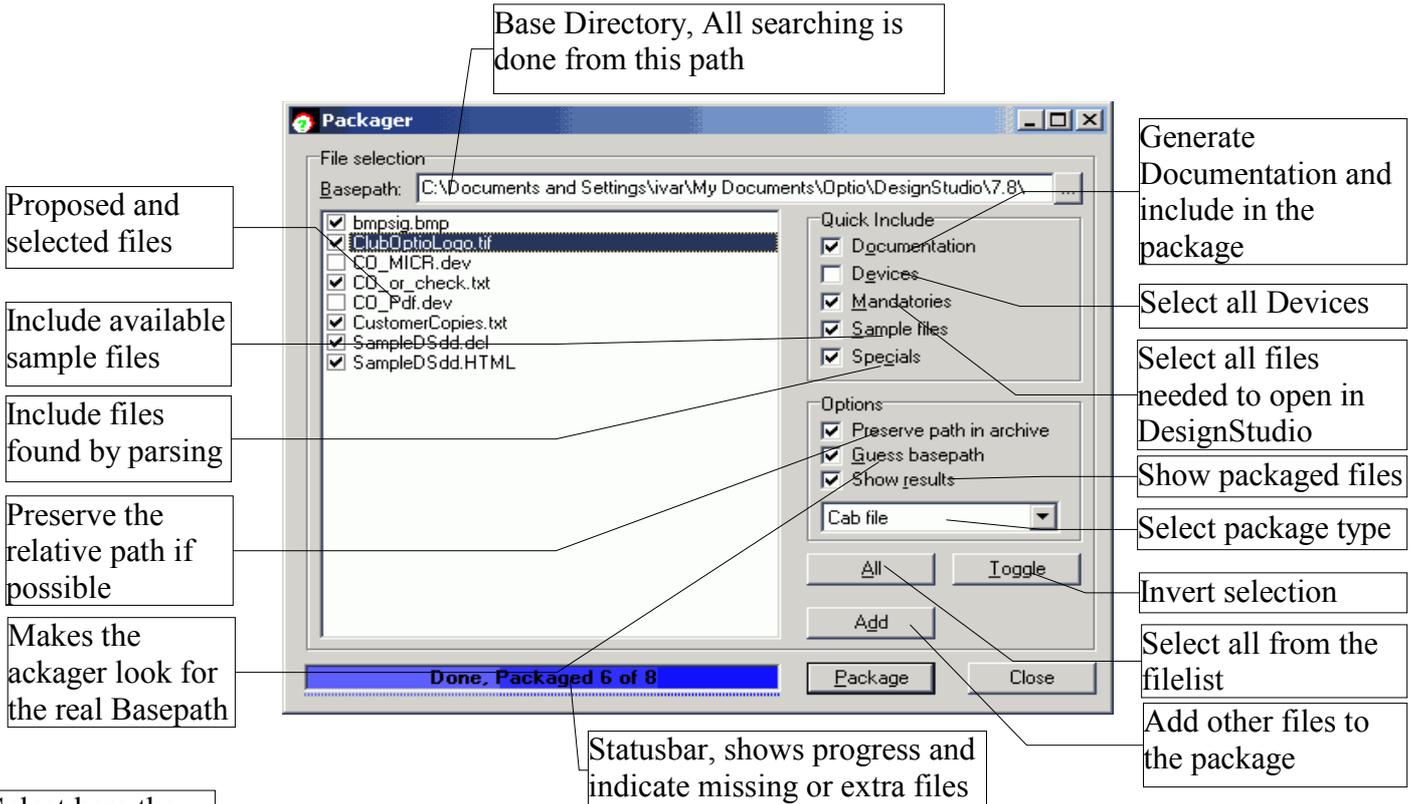
Display order of found properties

Text to search for

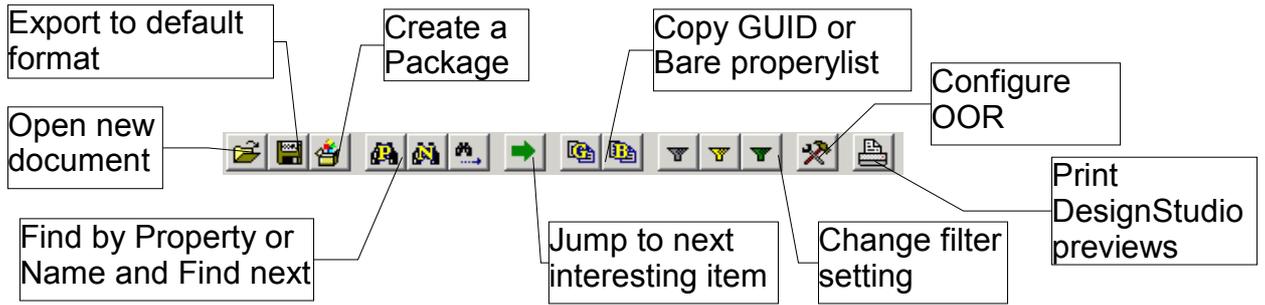Type of object searched

Optio Object Reader - Find

Footer

☐ Case sensitive

Type
- ● Name
- ○ GUID
- ○ Property

Find   Find Next   Close

Find from the start

Find from currently selected object

Export to default format

Create a Package

Copy GUID or Bare properylist

Configure OOR

Open new document

Find by Property or Name and Find next

Jump to next interesting item

Change filter setting

Print DesignStudio previews

Base Directory, All searching is done from this path

Packager

File selection

Basepath: C:\Documents and Settings\ivar\My Documents\Optio\DesignStudio\7.8\

Proposed and selected files

- ☑ bmpsig.bmp
- ☑ ClubOptioLogo.tif
- ☐ CO_MICR.dev
- ☑ CO_or_check.txt
- ☐ CO_Pdf.dev
- ☑ CustomerCopies.txt
- ☑ SampleDSdd.dcl
- ☑ SampleDSdd.HTML

Include available sample files

Include files found by parsing

Preserve the relative path if possible

Makes the ackager look for the real Basepath

Quick Include
- ☑ Documentation
- ☐ Devices
- ☑ Mandatories
- ☑ Sample files
- ☑ Specials

Options
- ☑ Preserve path in archive
- ☑ Guess basepath
- ☑ Show results

Cab file

All   Toggle

Add

Done, Packaged 6 of 8   Package   Close

Generate Documentation and include in the package

Select all Devices

Select all files needed to open in DesignStudio

Show packaged files

Select package type

Invert selection

Select all from the filelist

Add other files to the package

Statusbar, shows progress and indicate missing or extra files

Select here the DesignStudio version that made the pages.

Optio Object Reader - Print EMF Files

File   Edit

FileName	FileSize	DS 7.7	FileName	FileSize
Laser Printer\page.1.emf	52264			
Laser Printer\page.2.emf	276			
Laser Printer\page.3.emf	51420			
Laser Printer\page.4.emf	276			

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Print

Doubleclick the column header to change sorting

Pages selected for printing

Move selected or all pages to the right column

Move selected or all pages to the Left column

Print pages listed in the Right column

Preview pages found minus selected

Filesize in bytes

Currently highlighted page

10.How to get rid of OOR

You can deinstall OOR with the add/remove programs dialog in the control panel.
I want to urge you to send me an e-mail what you dislike about the tool, so I may improve it.

11.Who made OOR

I am Ivar, a consultant, with a programming background. Through the day I'm responsible for Pre-sales, technical implementations and Support of other things besides Optio. In the remaining time I have to divide my time between my Wife and two sons, and some hobby's, one of which resulted in the Optio Object Reader.

12.Support

Support for OOR will be done by e-mail and as I read my mail on a regular basis, it will be rather quick (days rather than weeks). By sending bugs, remarks, additions etc. to info@oor.snaaijer.nl you may even be added to the list of 'supporters' If your addition is added to the program. You can also subscribe to the OOR users mailing list to keep up to date on the latest releases by sending an email to users-request@oor.snaaijer.nl. You can always surf to http://oor.snaaijer.com to see if there is a new version.

13.FAQ

Q: When I connected OOR to the Optio Files, some (or all) are still connected to my text editor.

A: You probably connected the file using 'Open with'. You have to remove this connection as this personal setting overrides OOR. This can be done in the 'Folder Options - File Type' dialog. This Windows feature lets you connect extensions (like dcl, fun and map) to programs. Find DCL in the list and press the 'Restore' button. (the caption changes to 'Advanced' if done)

Q: Why are the the Export, Packager and 'Green arrow' buttons not working (disabled) ?

A: This is by design, the temporary license has ended. Send an email to info@oor.snaaijer.nl to request a temporary or permanent key.

Q: Why is the 'Save button' and the 'Next filled object' button grayed out ?

A: This is by design, the temporary license has ended. Send an email to info@oor.snaaijer.nl to request a temporary key.

Q: Why are some properties marked with numbers (e.g. 0001) instead of a name ?

A: I tried to find every property depending on it's function in DesignStudio, because there are quite a lot of features, I probably missed some. Send the number and the property you think it represents to info@oor.snaaijer.nl and I'll investigate. See also paragraph 8.

Q: Why does '*interesting field for documentation*' does not show in the export?

A: Either I missed it, was not aware of its particular benefits or I just ignored it and was not put into the 'documentation' list. Send me an e-mail and it probably will end up in a next version, or add it yourself as shown in paragraph 8.

Q: Why can't I change the program file path to OOR ?

A: I used a small default installer of windows, this does not allow for questions, it is always installed in <programfiles>\OptioObjectReader. You can Install OOR anywhere, just run it in the new location and press 'F8' to reconnect the files to it.

Q: On what platforms is OOR supported?

A: On Win32 and partially on Wine platforms. If you think anything is wrong on your platform, send a mail to info@oor.snaaijer.nl.

Q: The dialogs do not show when I start OOR.

A: The Dialog position retention might be mistaken. Start OOR, Press 'F8' and then Press 'Alt+R'. OOR will ask to be restarted, click 'Yes'.

Q: After Packaging the Statusbar reads 'Packaged 10 of 8' (or similar)

A: While searching for the files below the base directory the packager found multiple files with the same name (in separate directories). These are mostly misplased, remove one and create a new package.

Q: After Packaging the Statusbar reads 'Packaged 8 of 10' (or similar)

A: The Packager did not find all the files you selected in the directory below the base directory. Only the files still selected after packaging is completed are in the package.

Q: Not all the expected files are in the package (the messagebox shows me less files than I expect)

A: The answer is related to the two answers above, only files that are located under the basepath are included in the package.

Q: The Packager did not include my external FORMAT/SEGMENT/CHANNEL etc. I CALL/DRAW/OPEN in a Code Before/After.

A: Pre-load the file using the LOAD command in the Code Before of the Document. This way the OOR Packager will know to include it.

Q: The EMF printer dialog does not show any files

A: You probably have installed OOR on an older windows platform, please contact support@oor.snaaijer.com

14.Supporters

Jerome	For pointing out the need for a way to create a report like in the Stub finder
Erwin	For pointing me to the find by name bug
Jay	For early testing
Andreas	For sending suggestions for improvements
Guido	For the *crash* course CSS / HTML
Wim	For beta testing
Charles	For coming up with the sorting option, Finding a bug in the packager

15.History

V1.6.1	Recognition of functions in flow tools
V1.6.0	Cleanup of 1.5 branch
	Added sort feature to reflect DesignStudio better
V1.5.5	Improved function searching (again)
	Added row hight correction feature
V1.5.4	Changed handling of Non-DS Files (OOR is closed)
	Configuration screen remembers Texteditor
V1.5.3	Added MRU list
	Made entering Registration key easier
V1.5.2	Fixed file type selection in 'Save package as' dialog
	Changed resizing code of EMF printer window
	Changed resizing code of packager window
	Made DS selection a bit more visible
V1.5.1	Included an improved version of the EMF printer
	Remade the installer using NSIS
	Updated the Credits dialog
V1.5.0	Added feedback from packager
	Added zip option to packager
	Removed Size retention from package window (it broke on XP)
	Added 'Copy Object name' and 'Copy Object path'
	Added popup menu to the treeview
	Updated 'Credits' window
	Internal changes to better use Components
	Improved function searching
V1.4.2	improved finding of functions in 'When to execute' and 'Custom formatting' fields
	Added certain DRAW statements (that draw segments or formats)
V1.4.1	Added 'When to Execute' and 'Custom formatting' to packager checked fields
	Possible fix for large fonts

V1.4.0	Improved Packager 'filefinder'
	Added 'Preserve path' feature
	Added 'default action' radio buttons in configuration
	Added 'Immediate Package' feature
	Added Guess Basepath feature
	Improved user interaction Wait dialog
	Changed About dialog a bit
	Improved speed about 25% over memory usage
	Post beta :
	Removed bugs introduced with speed-up
V1.3.0	Added Packager
	Included DesignStudio version as property
	Changed Hinting behaviour
V1.2.0	Added go to next filled object button
	Added font selection for property list and object tree
	Added Drag and Drop functionality
	Changed resizing algorithm
	Made dialogs multi byte to show UTF-8 codes
	Added properties to documentation view
V1.1.2	Reintroduced <pre> tag in HTML
	Fixed fatal error in document processing
	Added a CodePage feature for DS1x documents
	Updated internal temporary key to 20/04/2004
	Fixed broken icon connections (explorer icons)
V1.1.1	Fixed a Mozilla incompatibility in the generated HTML
	Fixed the Object type recognition algorithm
V1.1.0	Improved section recognition (normal or repeating)
	Added Button bar
	Fixed Error message on broken Optio files
	Fixed strange property occurrences in document object
	Added properties
	Added object pictures
	Improved handling of translations object
	Added object type field in export
	Update of this documentation
V1.0.6	Fixed erroneous 'linked to external file' messages
	introduced in 1.0.5 'Fix for external channel reference'
V1.0.5	Fixed crash on empty/truncated file
	Fixed section recognition
	When changing view type the current object was not
	updated
	Fix for 'Secondary Input' External channel reference
V1.0RC4	Added RDI recognition
	Added RDI icons
	Added RDI Child recognition
	Fixed Repeating Section recognition
	Fixed 'MandatoryFields' related update bug
	Added properties to 'documentation' view type
	Initial dialog caption changed
	Added names of properties
	Removed duplicate properties
	Improved speed (slowdown introduced since RC2)
	Lessened memory usage

V1.0RC3	Added Wait indicator
	Added 'Finished' sound when using 'OOR Export'
	Annoying repositioning of Find dialog fixed
	Auto resize of Value field fixed
V1.0RC2	Changed caption Find dialog
	Improved handling of select in stringgrid
	Improved handling of doublebyte files
	Added 'Case sensitive' setting in Find
V1.0RC1	Added dialog position retention
	Added dialog position reset button
	Updated find dialog
	Added find property
	Updated Tempkey to work until 31-12-2003
V0.22	Added some property values
	Improved tree icon handling
V0.21	Added tree icons for easy recognition
V0.20.1	Saved Doc as OpenOffice Document
	Changed program title for XP
	Updated generated Html to accommodate Mozilla
V0.20.0	Improved (fixed bug in) installation
	Improved About box
	Improved documentation
	Migrated to new programming environment
V0.19	Properties on work sheet objects that look more interesting than original properties are copied to the lined object (e.g. paper type property of the format)
	Updated temp key handling.
	Added a plethora of properties, runtime values and 2 specials.
	Included extra fields in 'Documentation' view
	Improved CSS code (smaller report) with help of Guido. (He does not agree with the colors, anyone else?)
V0.18	Documentation updated
	Added PreBody1..n to export generator
	Updated some field names
	Updated some runtime properties
	HTML export uses CSS for layout
V0.17.3	Fixed XML tag replacements
	Changed Pop up menu tags
	Made Config window show up at install
	Changed email and web addresses
V0.17.2	Fixed minor bug in external files
	Improved documentation
V0.17.1	Inner handling of objects more improved
	Changed handling of 'Process flow' objects
	Named more properties (HELP!)
	Named more objects
	Added OoML
	Improved handling of 'External files' object
	Bit faster loading
	Improved handling of lined fields
	Hidden more GUIDs if not in 'Complete' view
	Removed property 101 from documentation
	Added properties for documentation

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V0.16	Changed formatting of multi line elements
	Added some flow tools (OoMD and IF)
	Changed HTML layout (HTML coder needed!)
	Internal handling of objects improved
	Removed some detail if not in 'Complete' view
	Added properties to documentation view
	Named more properties (HELP!)
V0.15	Fixed an export bug (parents with 'uninteresting' children, did not show up)
	Added shortcut key's
	Added Find again
	Changed search by name a bit
	Added fields and properties
V0.14	Fixed 'View type selection update'
	Fixed 'Find by name'
	Connect EDIT to any editor
	Expands filename to long filename
	Added some fields for 'Documentation'
	Added some new property names
V0.13	Added this documentation
	Added install/de-install
	First announced Beta release.
V0.12	Created new about box
	Added 'license code'
	Added Property fields
V0.11	Fixed crash on not DS files
	Created configuration screen
	Added XML translation
Pre V0.11	First draft versions, never send to general public

16. Known issues

Medium	Not all properties show up in 'Documentation' view. This can be fixed by changing the cfg file; see chapter 8, the [viewtype] section, please keep me posted
Medium	Handling of child/parent relations in segments are not shown in the object tree.
Low	Check for update functionality
Discarded	Do specific 1.x 7.x checks on field names
Low	Some dialogs do not work with 'Large fonts'. should be fixed now...
Low	Installation on XP causes headaches, need testers, should be fixed with new installer. Some stuff remains, not sure why.

15 August 2006

Appendix A

Possible Code page names for DS1xCodePages property in configuration file. (see also chapter 8). The first one is the official name and the translation used. The names in the group are valid names to use for this translation.

USASCII :
      'ASCII', 'US-ASCII', 'us', 'ANSI_X3.4-1968', 'ANSI_X3.4-1986', 'iso-ir-6',
      'ISO_646.irv:1991', 'ISO_646.irv', 'ISO_646', 'ISO-646', 'ISO646', 'ISO646-US',
      'IBM367', 'cp367', 'csASCII', 'IBM891', 'IBM903'

 ISO8859_1 :
      'ISO-8859-1', 'ISO_8859-1:1987', 'ISO_8859-1', 'iso-ir-100', 'latin1', 'l1',
      'IBM819', 'cp819'

ISO8859_2 :
      'ISO-8859-2', 'ISO_8859-2:1987', 'ISO_8859-2', 'iso-ir-101', 'latin2', 'l2'

ISO8859_3 :
      'ISO-8859-3', 'ISO_8859-3:1988', 'ISO_8859-3', 'iso-ir-109', 'latin3', 'l3'

ISO8859_4 :
      'ISO-8859-4', 'ISO_8859-4:1988', 'ISO_8859-4', 'iso-ir-110', 'latin4', 'l4'

ISO8859_5 :
      'ISO-8859-5', 'ISO_8859-5:1988', 'ISO_8859-5', 'iso-ir-144', 'cyrillic'

ISO8859_6 :
      'ISO-8859-6', 'ISO_8859-6:1987', 'ISO_8859-6', 'iso-ir-127', 'ECMA-114',
      'ASMO-708', 'arabic'

ISO8859_7 :
      'ISO-8859-7', 'ISO_8859-7:1987', 'ISO_8859-7', 'iso-ir-126', 'ELOT_928',
      'ECMA-118', 'greek', 'greek8'

ISO8859_8 :
      'ISO-8859-8', 'ISO_8859-8:1988', 'ISO_8859-8', 'iso-ir-138', 'hebrew'

ISO8859_9 :
      'ISO-8859-9', 'ISO_8859-9:1989', 'ISO_8859-9', 'iso-ir-148', 'latin5', 'l5'

ISO8859_10 :
      'ISO-8859-10', 'ISO_8859-10:1992', 'ISO_8859-10', 'iso-ir-157', 'latin6', 'l6'

ISO8859_13 :
      'ISO-8859-13', 'ISO_8859-13', 'latin7', 'l7'

ISO8859_14 :
      'ISO-8859-14', 'ISO_8859-14:1998', 'ISO_8859-14', 'iso-ir-199', 'latin8', 'l8',
      'iso-celtic'

ISO8859_15 :
      'ISO-8859-15', 'ISO_8859-15', 'latin9', 'l9', 'latin0', 'l0'

KOI8_R :
      'KOI8-R'

MacLatin2 :
      'MacLatin2', 'Mac', 'Macintosh'

MacRoman :
      'MacRoman'

MacCyrillic :
      'MacCyrillic'

CP437 :
      'IBM437', 'cp437', 'DOSLatinUS'

Win1250 :
      'windows-1250', 'cp1250', 'WinLatin2'

Win1251 :
      'windows-1251', 'cp1251', 'WinCyrillic'

Win1252 :
      'windows-1252', 'cp1252', 'WinLatin1'

UTF8 :
      'UTF-8', 'utf8'