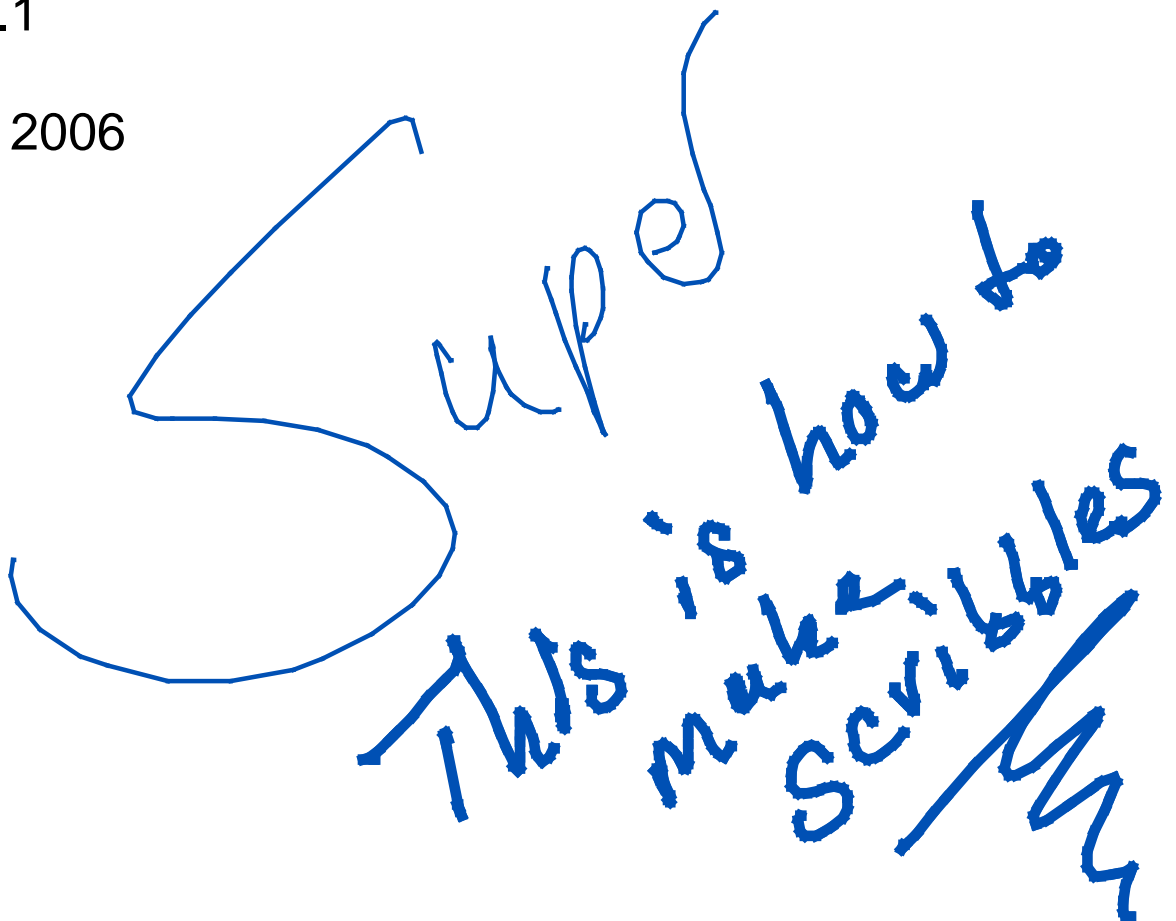


How to make content for your iLiad

Version 1.1

August 1, 2006



All rights reserved
(c) 2006 iRex Technologies

Content

1	Content formats	3
1.1	Hyper Text Markup Language (HTML)	3
1.2	Portable Document Format (PDF)	3
1.3	Which format to use?	4
2	How to create PDF documents	4
2.1	The PDF printer	4
2.2	Paper size	5
2.3	Printing A4 based documents	6
	In Microsoft Word	6
	In Microsoft PowerPoint	11
2.4	Create optimized content	18
	In Microsoft Word	18
2.5	Generate your content	20
	Attention points	20
	Print your document	21
3	How to create HTML documents	27
3.1	HTML source	27
3.2	Navigation	27
	The overview pages	30
	The alternative view pages	31
3.3	The manifest file	32
	Metadata element	33
	Index element	35
3.4	Colours	37

1 Content formats

The iLiad supports both HTML and PDF documents.

1.1 Hyper Text Markup Language (HTML)

The benefit of HTML is that the text can be enlarged on the iLiad and you can make links in your documents to other locations in your document. However, detailed formatting of your layout is no longer feasible since the amount of text depends on the size of the font the user of the iLiad has selected.

1.2 Portable Document Format (PDF)

PDF has been developed to transfer documents from editing software to printing installations keeping the exact layout on a pre-defined paper size. Although the iLiad will scale the document so it will fit the display it will mean that all text and images are decreased in size with the risk that it can no longer be read.

The advantage of using PDF is that you are in full control on how your content is presented on the iLiad. The disadvantage is that you cannot apply any structure; the PDF

viewer used on the iLiad does not yet support bookmarks or links in the content.

1.3 Which format to use?

If you need structure (menu, links) than HTML is the right choice, if you need layout control than PDF is the right choice.

2 How to create PDF documents

2.1 The PDF printer

In order to create PDF documents you will need to install a PDF printer on your PC that provides you with a "virtual" printer that creates PDF documents instead of paper output. This printer will work the same as any other physical paper printer, after installing any program that can print to paper can than also generate PDF documents.

There are many commercial and free PDF printers that can be used, for example the PDFCreator from pdfforge that can be downloaded using the Internet Explorer on a PC from their web-site at

<http://www.pdfforge.org/products/pdfcreator>

Select the download menu in order to locally store the setup application on your harddisk.

After the download and installation of the printer you will see that a printer has been installed with the name PDFCreator. This printer will be used in the examples that are presented in this chapter.

2.2 Paper size

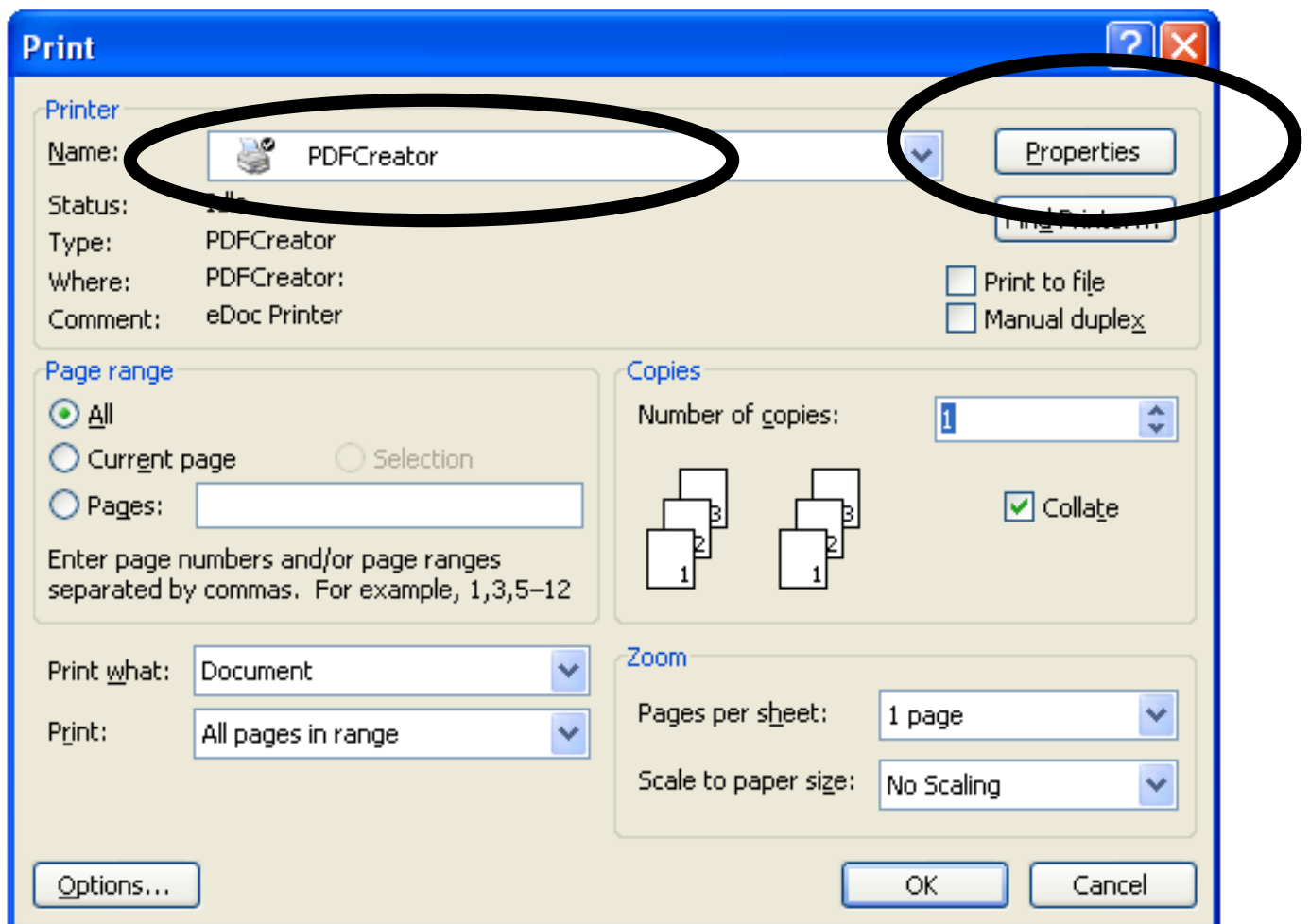
The area for displaying content is 124x152mm (close to A6) while most office documents are generated in A4 or letter paper size. The iLiad can handle A4/letter sizes (or any other size) by resizing this automatically so it fits the display size, for an A4 paper this results in decreasing the height of text and images by 50%. Due to the high resolution and brightness of the iLiad display in many cases the resizing the A4 to an A6 size will still be readable, but an original 11 point height text will result in an 7 point height text on the iLiad.

This can be prevented by using a custom paper size for the document, however, existing documents will require a full editing of the layout size the paper size has changed. This document explains how to optimize the printer settings so A4 documents are represented optimal and how to create optimized content using a custom paper size.

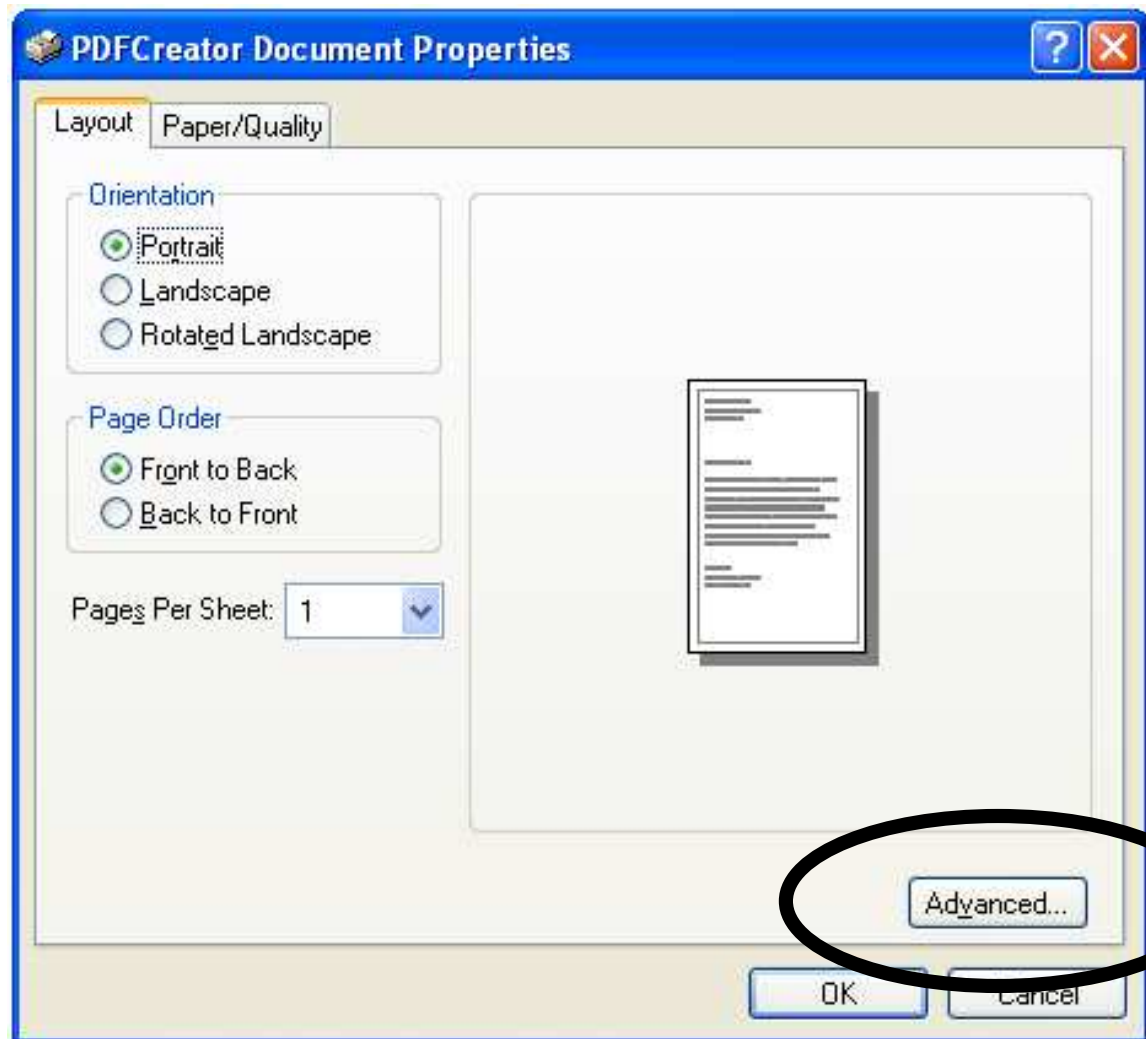
2.3 Printing A4 based documents

In Microsoft Word

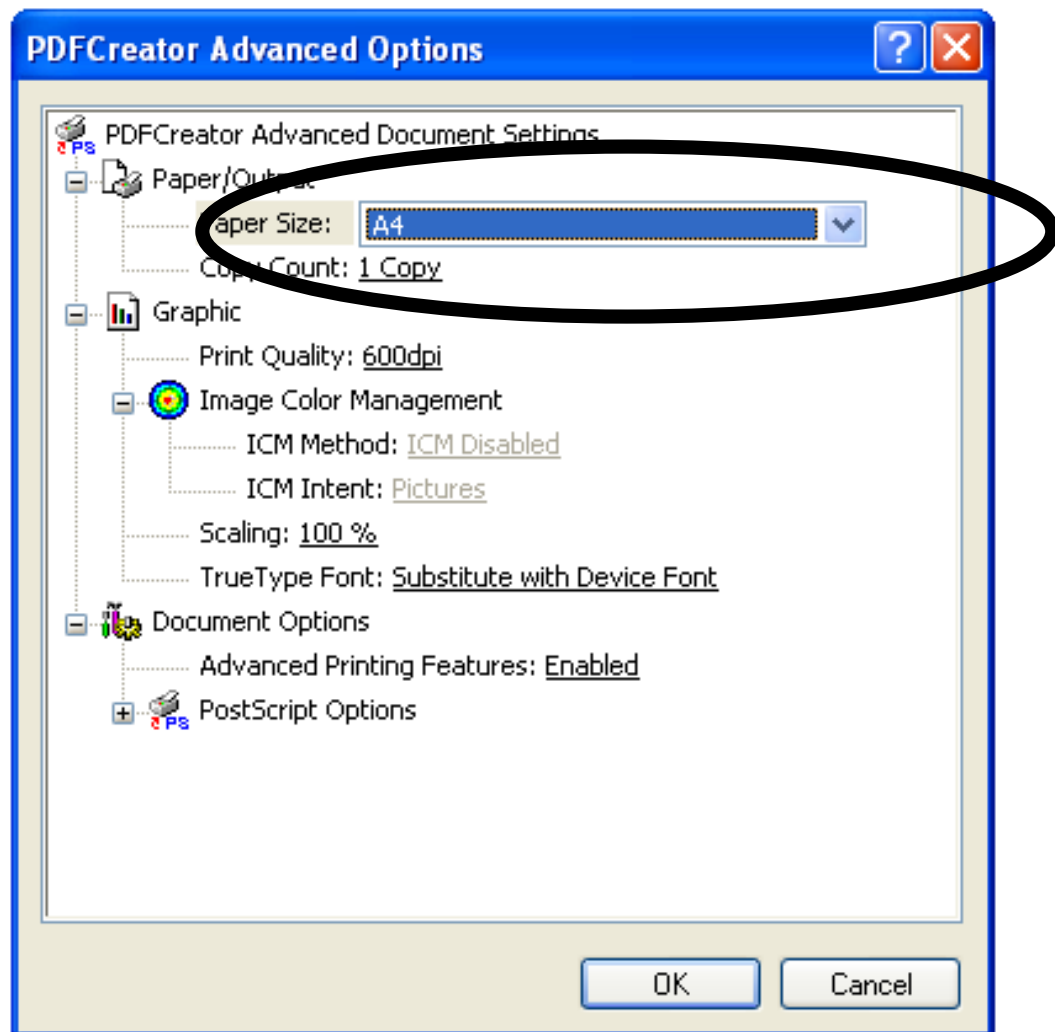
- Select the *print* command in the file menu
- Select as printer the PDFCreator printer
- Click the *properties* button to setup the PDFCreator printer



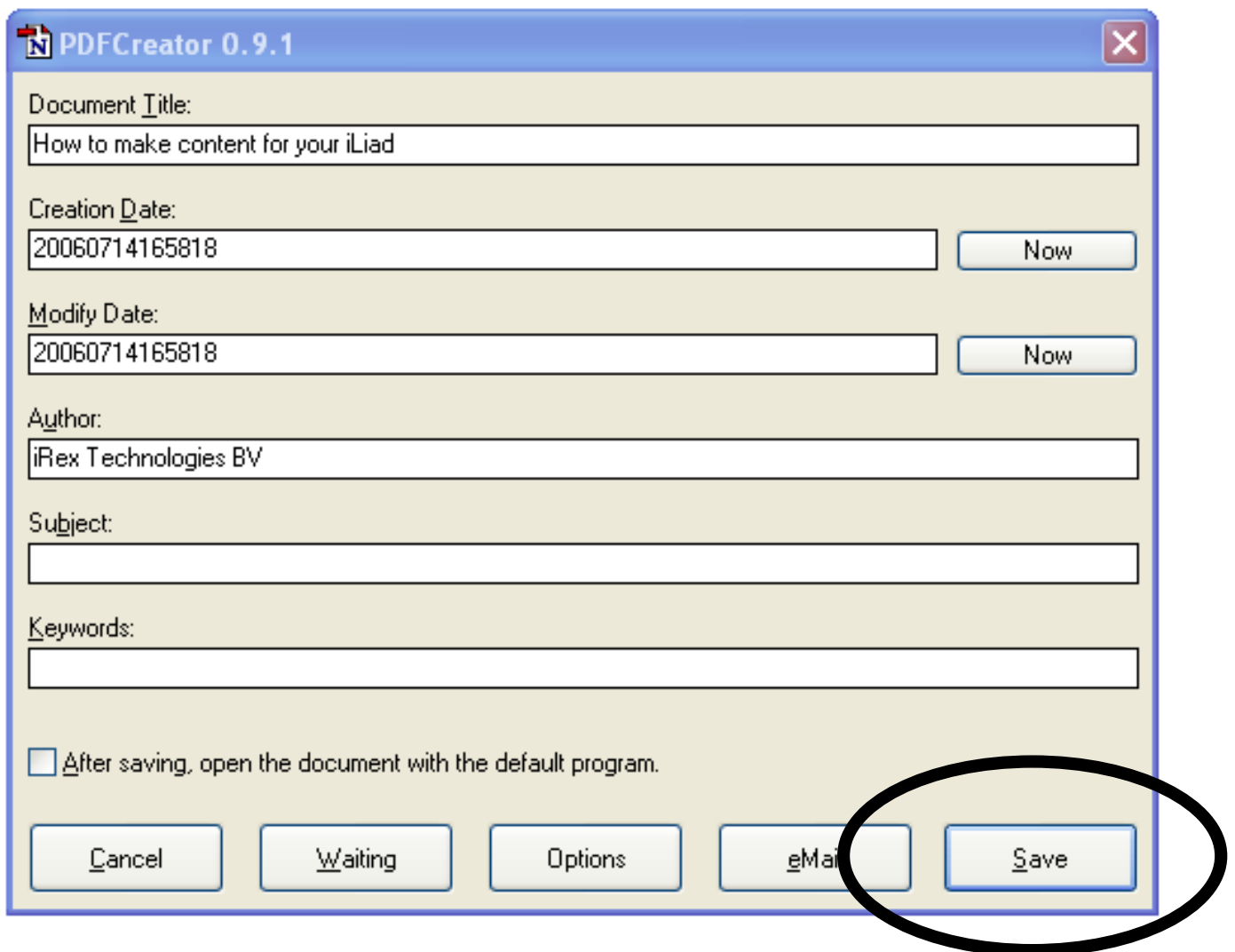
- Click the Advanced button to setup the PDFCreator printer



- Select the matching paper size of your document, in this example A4.



- Press the OK button to close the PDFCreator Advanced Options dialog
- Press the OK button to close the PDFCreator Document Properties dialog
- Press the OK button to start printing in the Printer dialog, this will start the PDFCreator

The image shows a screenshot of the PDFCreator 0.9.1 application window. The window has a blue title bar with the text 'PDFCreator 0.9.1' and a close button. The main area is a light beige color and contains several input fields and buttons. The fields are labeled 'Document Title:', 'Creation Date:', 'Modify Date:', 'Author:', 'Subject:', and 'Keywords:'. The 'Document Title' field contains the text 'How to make content for your iLiad'. The 'Creation Date' and 'Modify Date' fields both contain the text '20060714165818'. There are 'Now' buttons next to the 'Creation Date' and 'Modify Date' fields. The 'Author' field contains the text 'iRex Technologies BV'. The 'Subject' and 'Keywords' fields are empty. At the bottom left, there is a checkbox labeled 'After saving, open the document with the default program.' which is currently unchecked. At the bottom right, there are five buttons: 'Cancel', 'Waiting', 'Options', 'eMail', and 'Save'. The 'Save' button is circled with a thick black line.

PDFCreator 0.9.1

Document Title:
How to make content for your iLiad

Creation Date:
20060714165818 Now

Modify Date:
20060714165818 Now

Author:
iRex Technologies BV

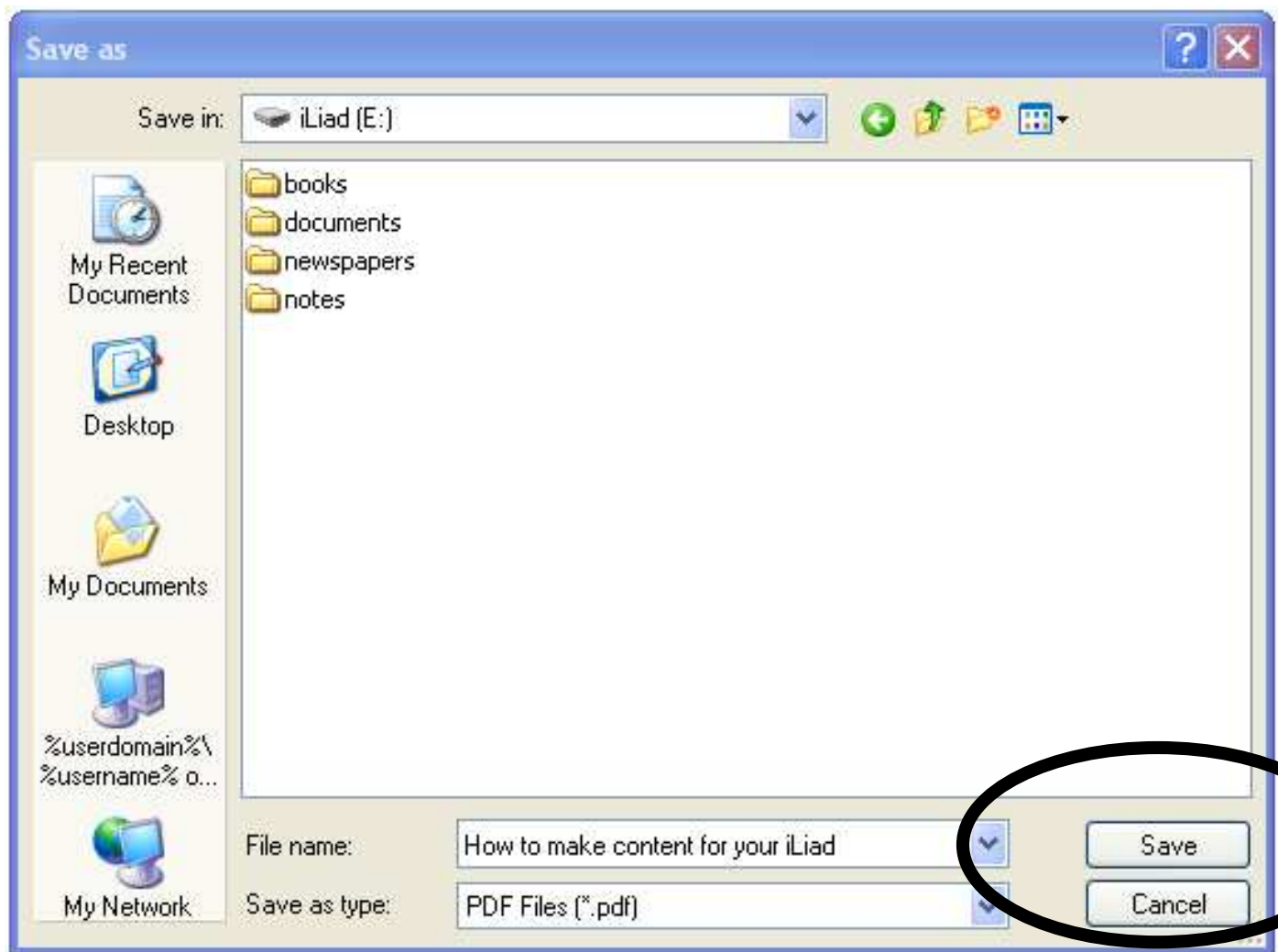
Subject:

Keywords:

☐ After saving, open the document with the default program.

Cancel Waiting Options eMail Save

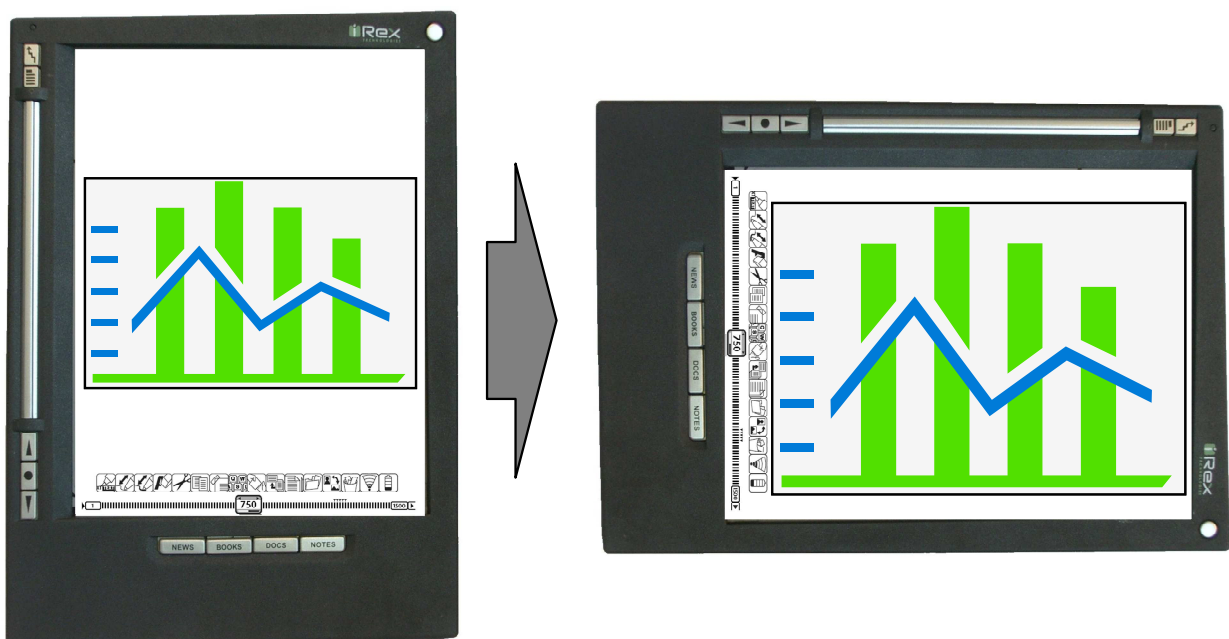
- Fill in any details you think are needed, these are not visible on the iLiad but stored as part of the PDF document that can be displayed in Acrobat Reader on the PC using the document properties option in the file menu.
- Press the Save button to start generating the PDF document.
- If your iLiad is connected to your PC using the USB cable than you can directly print to a folder on the iLiad. Select the correct location and press the Save button.



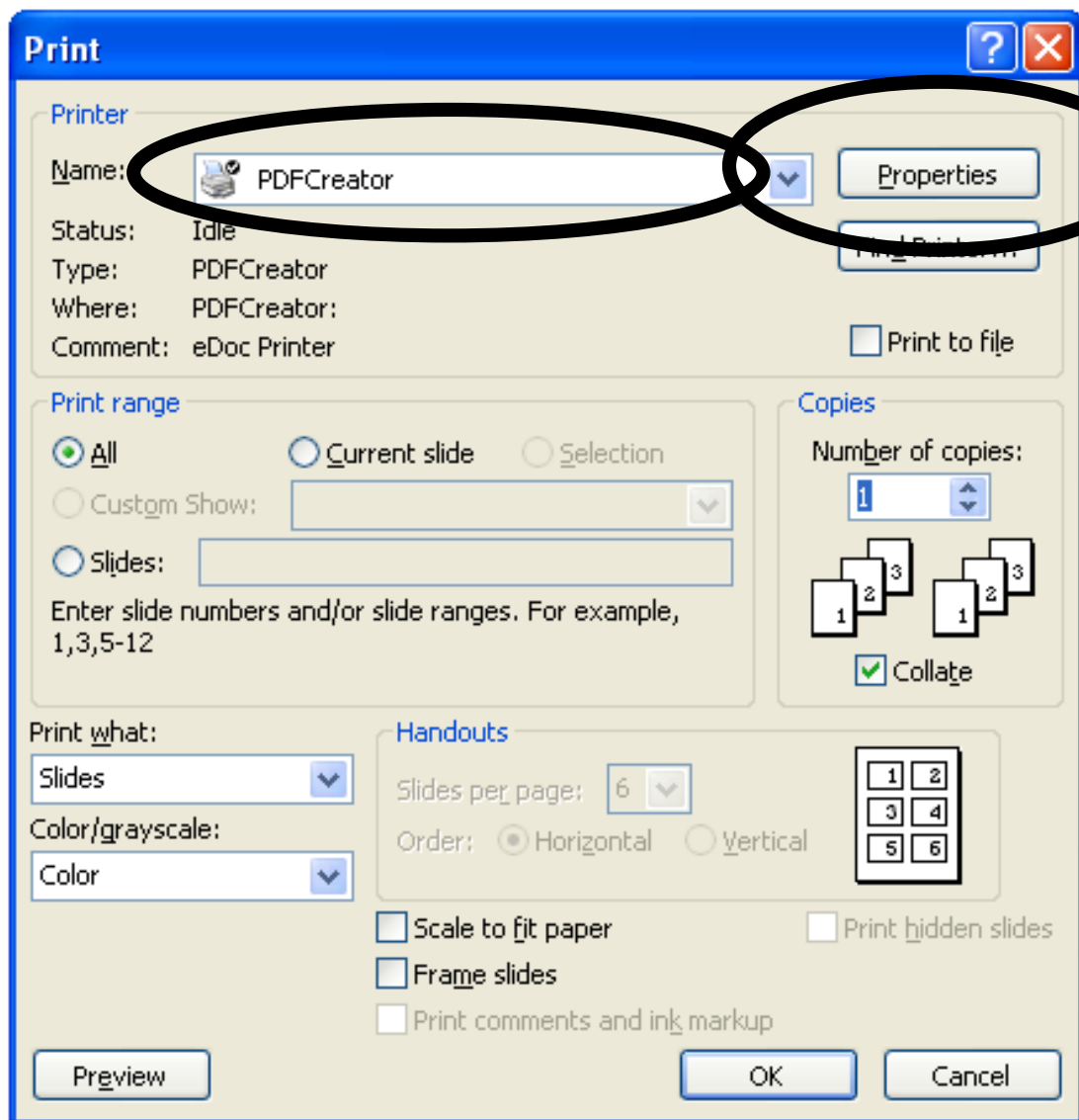
- After disconnecting your iLiad you can open the document and enjoy your own content.

In Microsoft PowerPoint

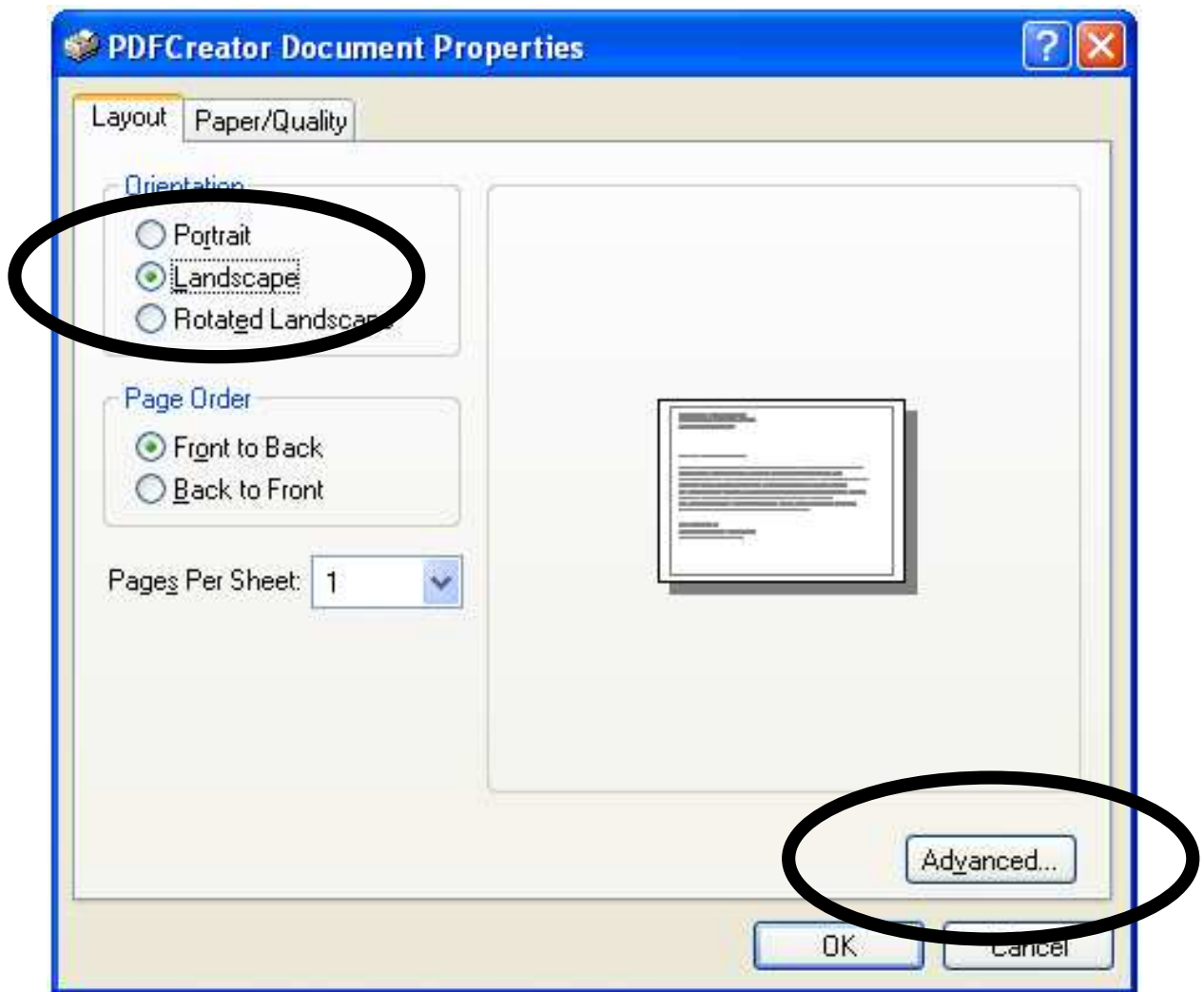
In many (or most) cases presentations are made in landscape mode using a page size that is defined for "On-Screen Show". This is no problem for the iLiad, it resizes the page size so it fits the display size of the iLiad. To maximize the area of the display used, PDFCreator can rotate the landscape pages and print them in portrait mode. In this case the iLiad can be used in landscape mode as indicated in the image below.



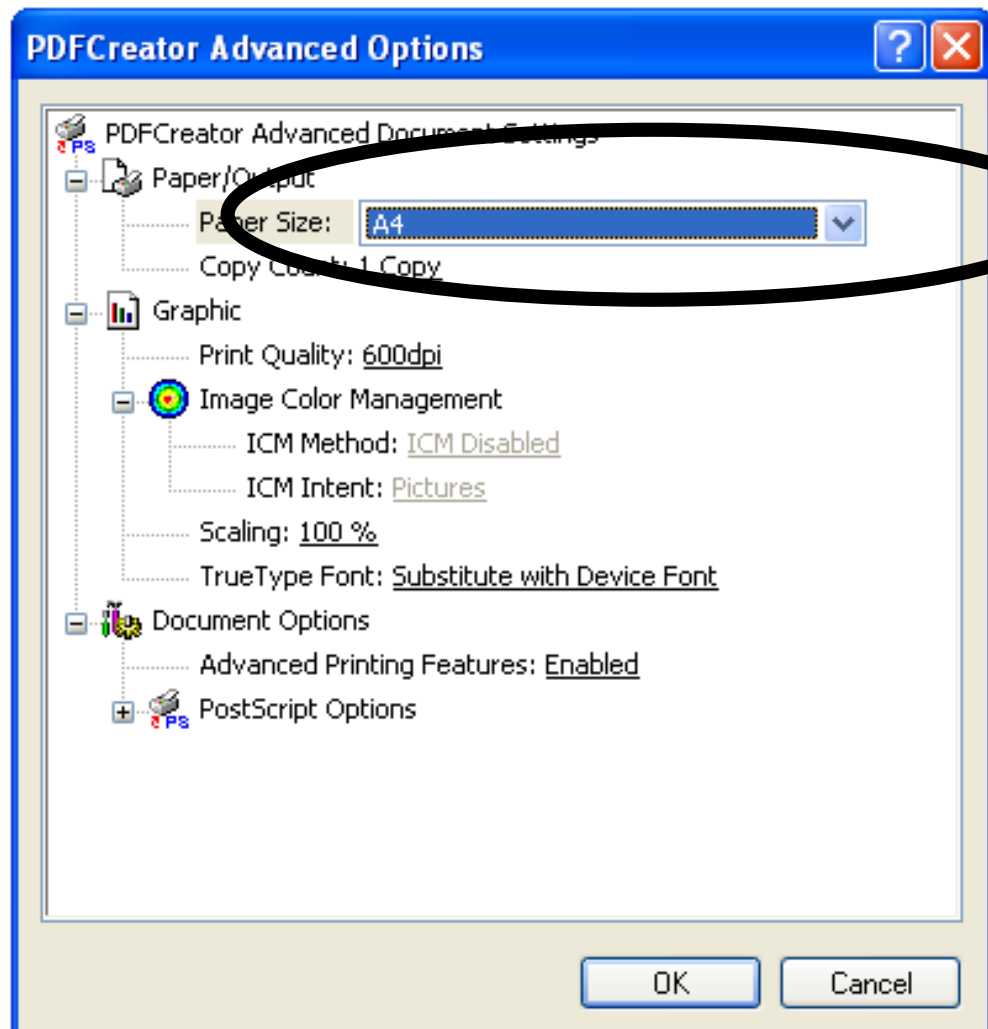
- Select the *print* command in the file menu
- Select as printer the PDFCreator printer
- Click the *properties* button to setup the PDFCreator printer



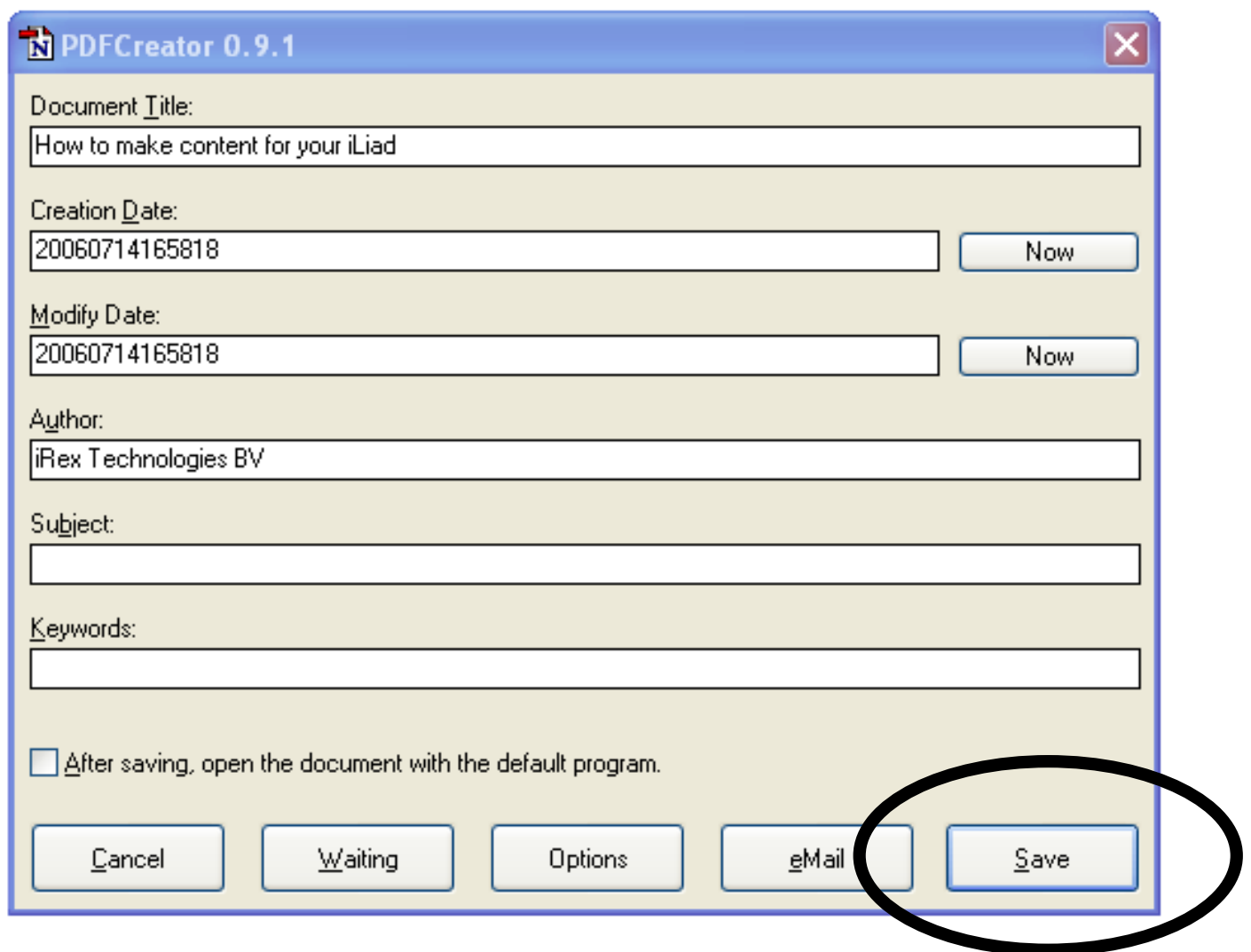
- Select the Landscape orientation, rotating will be done later in PDFCreator
- Click the Advanced button to setup the PDFCreator printer



- Select the matching paper size of your document, in this example A4.



- Press the OK button to close the PDFCreator Advanced Options dialog
- Press the OK button to close the PDFCreator Document Properties dialog
- Press the OK button to start printing in the Printer dialog, this will start the PDFCreator

The image shows a screenshot of the PDFCreator 0.9.1 application window. The window has a title bar with the text 'PDFCreator 0.9.1' and a close button. The main area contains several input fields and buttons. The 'Document Title' field is filled with 'How to make content for your iLiad'. The 'Creation Date' and 'Modify Date' fields are both filled with '20060714165818', each with a 'Now' button to its right. The 'Author' field is filled with 'iRex Technologies BV'. The 'Subject' and 'Keywords' fields are empty. At the bottom, there is a checkbox labeled 'After saving, open the document with the default program.' which is unchecked. Below the checkbox are five buttons: 'Cancel', 'Waiting', 'Options', 'eMail', and 'Save'. The 'Save' button is circled with a thick black line.

PDFCreator 0.9.1

Document Title:
How to make content for your iLiad

Creation Date:
20060714165818 Now

Modify Date:
20060714165818 Now

Author:
iRex Technologies BV

Subject:

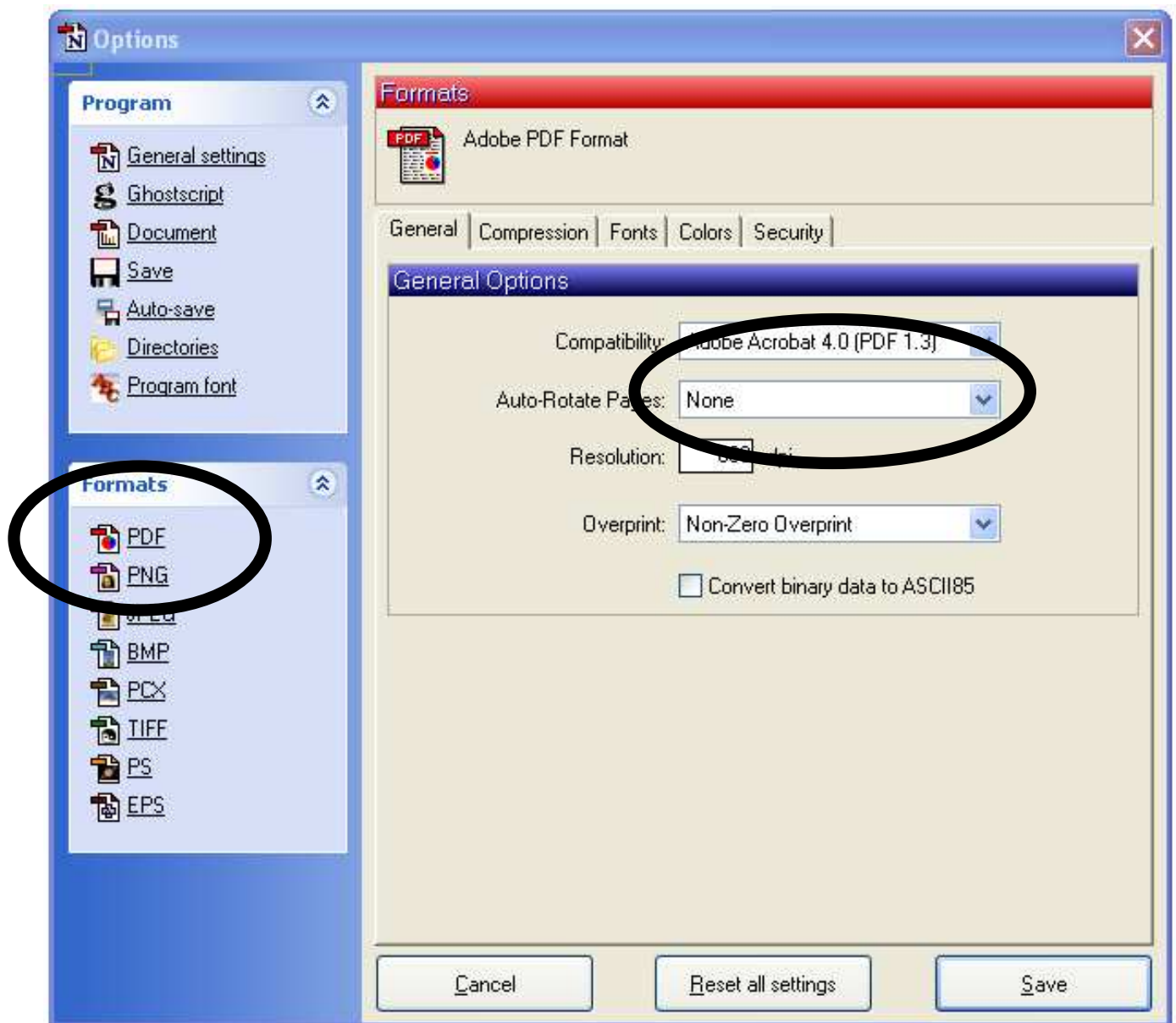
Keywords:

☐ After saving, open the document with the default program.

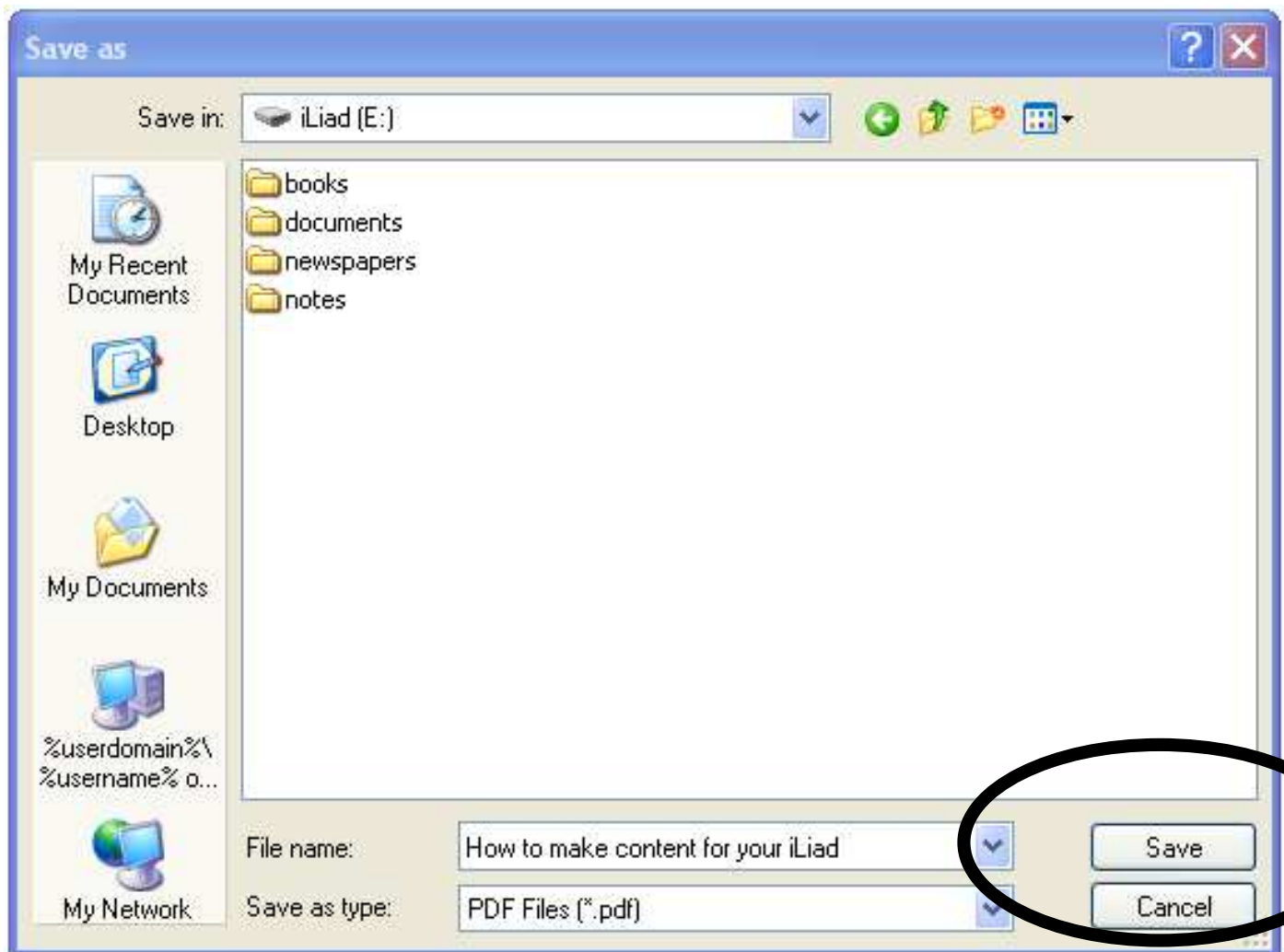
Cancel Waiting Options eMail Save

- Fill in any details you think are needed, these are not visible on the iLiad but stored as part of the PDF document that can be displayed in Acrobat Reader on the PC using the document properties option in the file menu.
- Press the Options button to setup the rotation of the document.

- Press the PDF button and set the Auto-Rotate Pages to None
- Press the Save button to close the Options Dialog. Remember to set this back to Single Page when printing portrait based documents!



- Press the Save button to start generating the PDF document.
- If your iLiad is connected to your PC using the USB cable than you can directly print to a folder on the iLiad. Select the correct location and press the Save button.

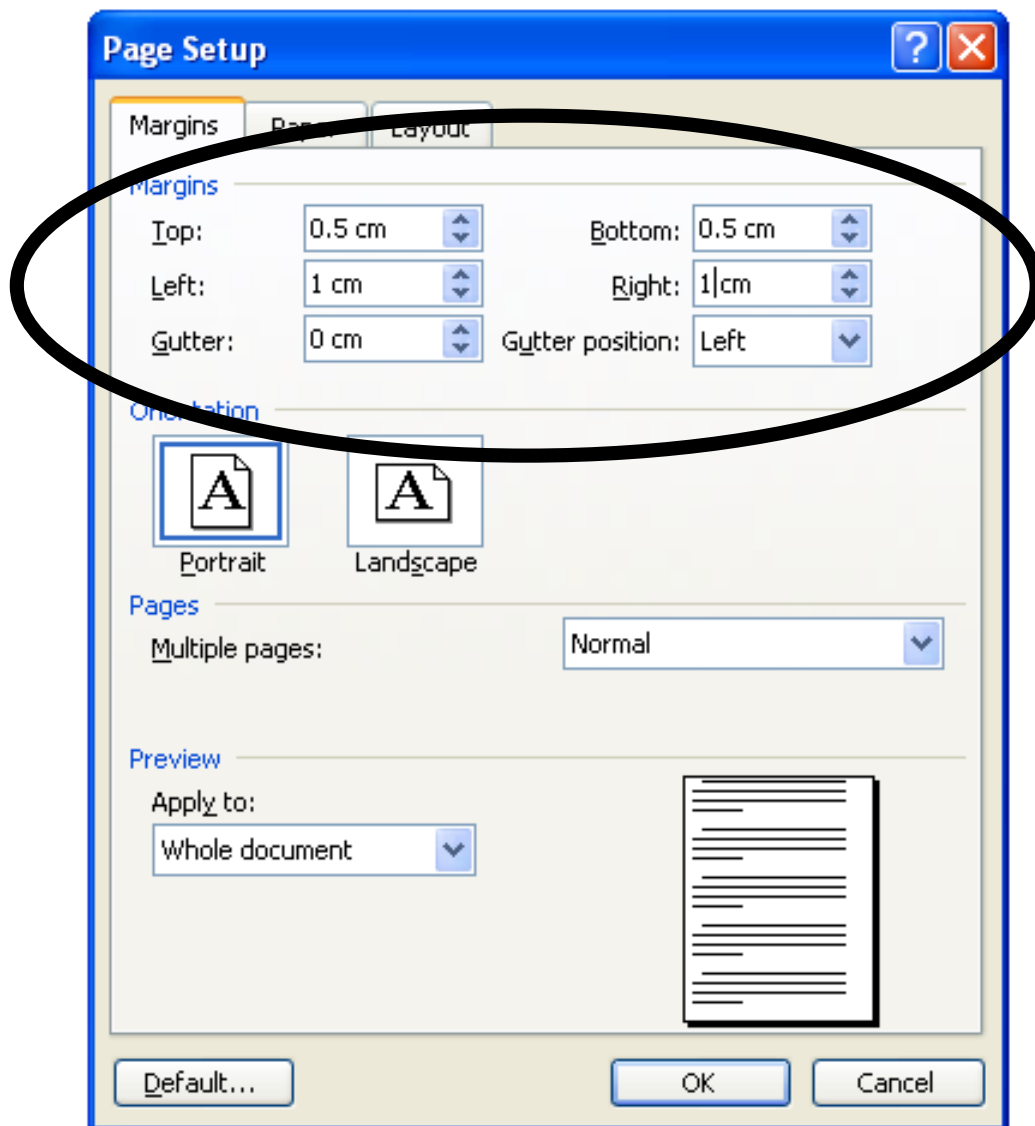


- After disconnecting your iLiad you can open the document and enjoy your own content.

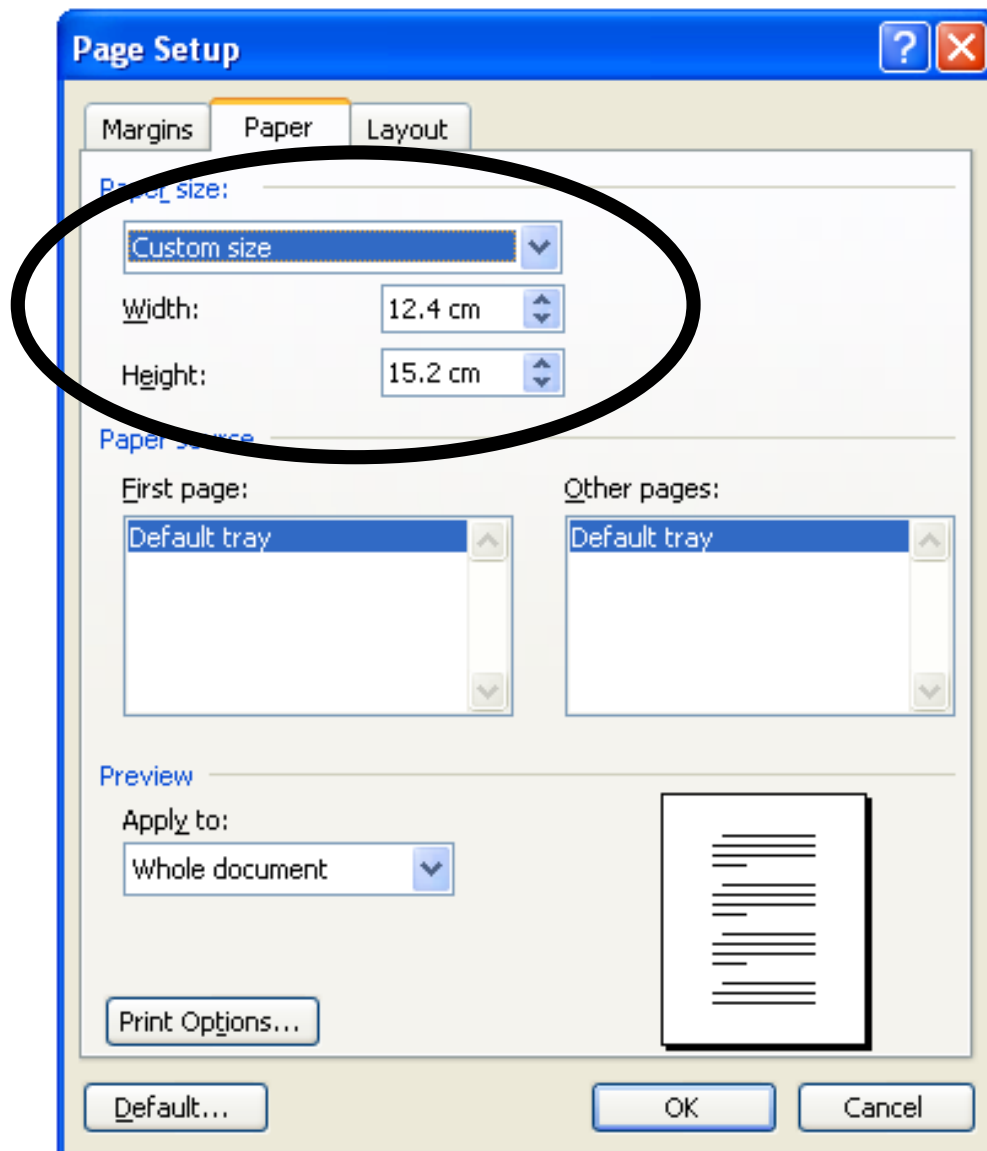
2.4 Create optimized content

In Microsoft Word

- Start a new document
- Set the paper margins by selecting the *Page Setup* command in the *File* menu. Set the margins as shown in the next image



- Define a custom page size and set the dimensions to 124x152mm



- Press the OK button to accept the settings and return to your document

2.5 Generate your content

After clicking the OK button you will return to the document and you can start editing your text, all functions of Word can be used as you would normally do. You can use all the fonts and styles that are available on your PC, below some examples to illustrate the size on the screen.

Arial, 8pt, normal

Arial, 11pt, normal

Arial, 14pt

Arial, 8pt, italic

Arial, 11pt, italic

Arial, 14pt

Arial, 8pt, bold

Arial, 11pt, bold

Arial, 14pt

Times NRoman,
11pt, normal

*Times NRoman,
11pt, italic*

**Times NRoman,
11pt, bold**

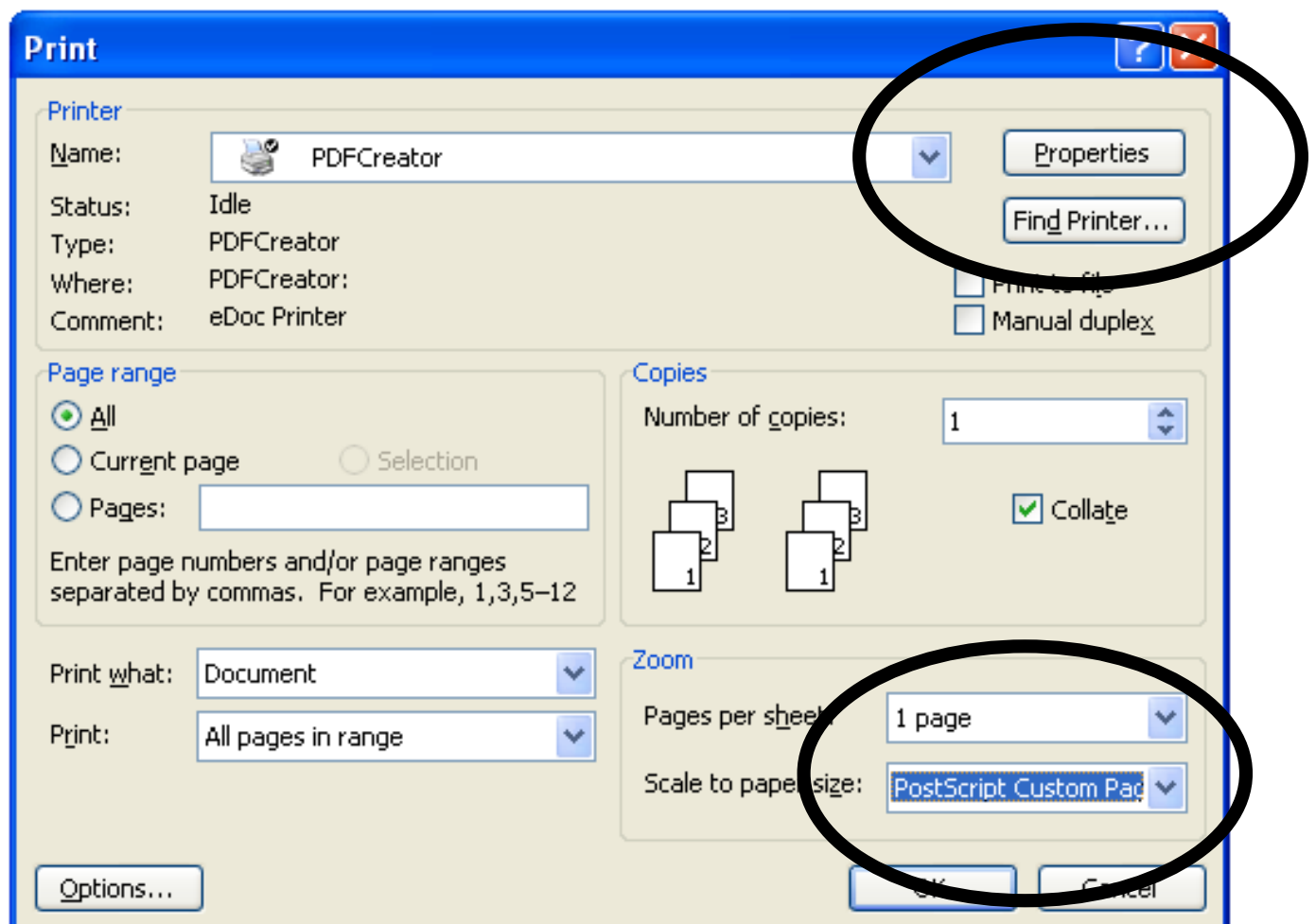
Attention points

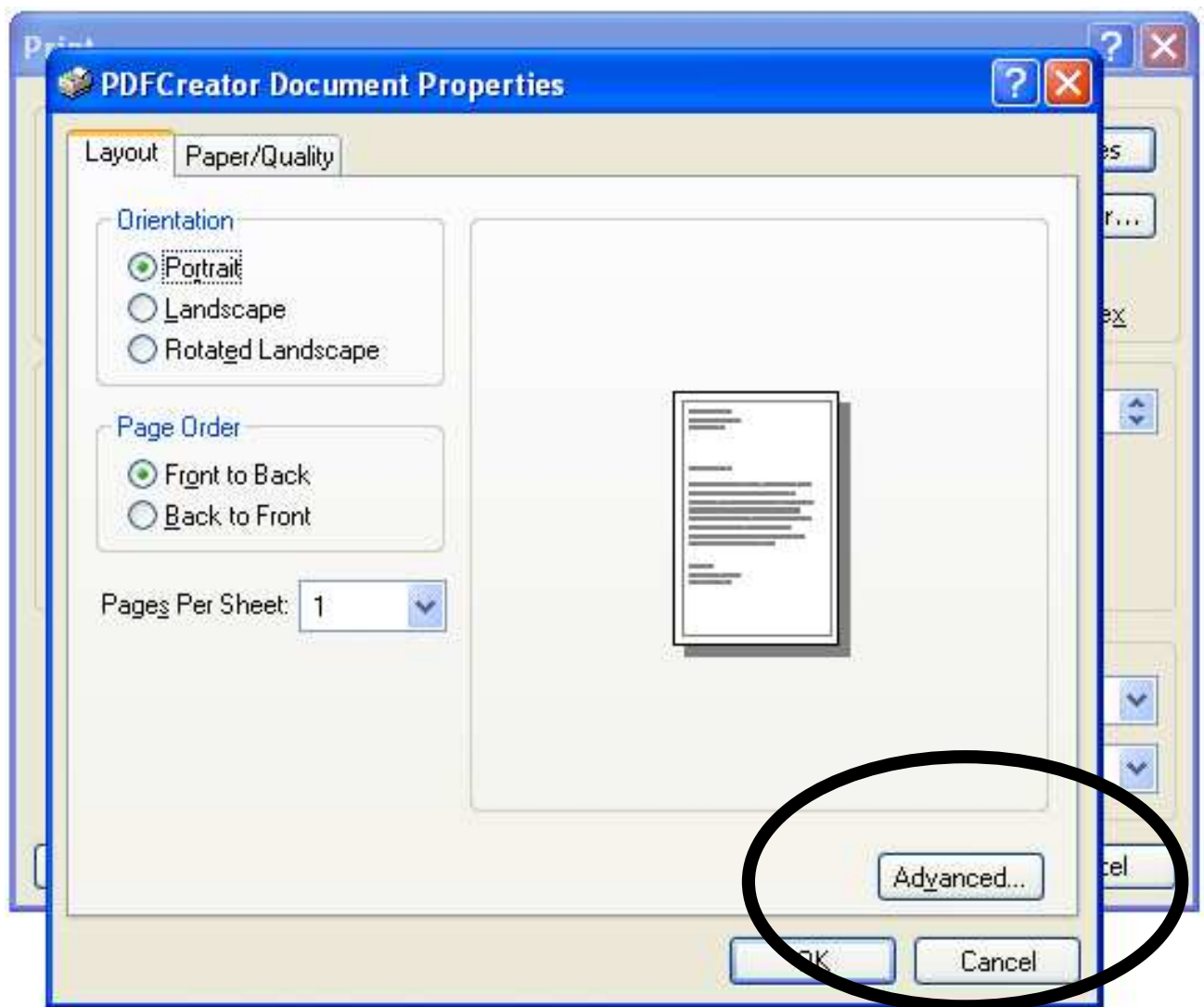
Page numbers : The iLiad automatically adds page numbers to your document; there is no need to include them in your document.

Images : The iLiad automatically converts all the colour images into the correct grey level images.

Print your document

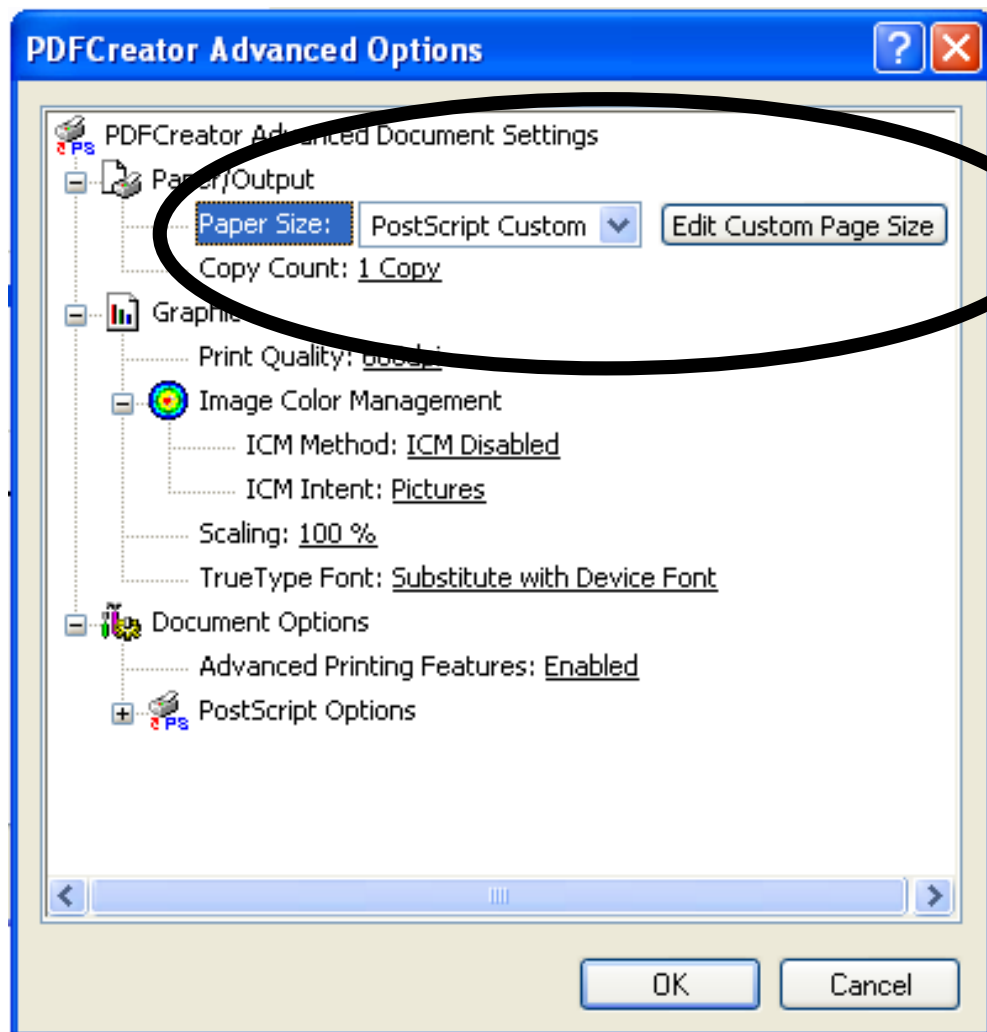
When you have completed your document you can generate the PDF document by selecting the *print* command in the *File* menu and select the PDF Creator as printer. Select the *Postscript Custom Page* option in the *Scale to paper size* and click on the *properties* button to setup the PDF Creator.



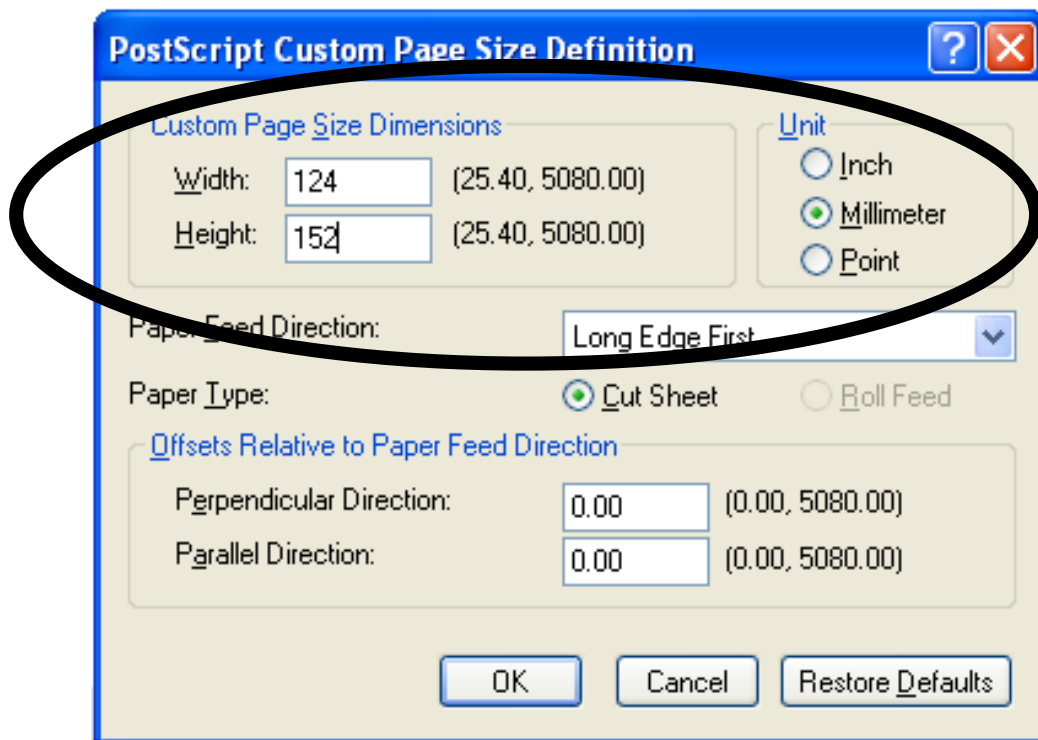


Click on the *Advanced* button for more detailed settings.

Select the PostScript Custom size in order to setup the paper size.

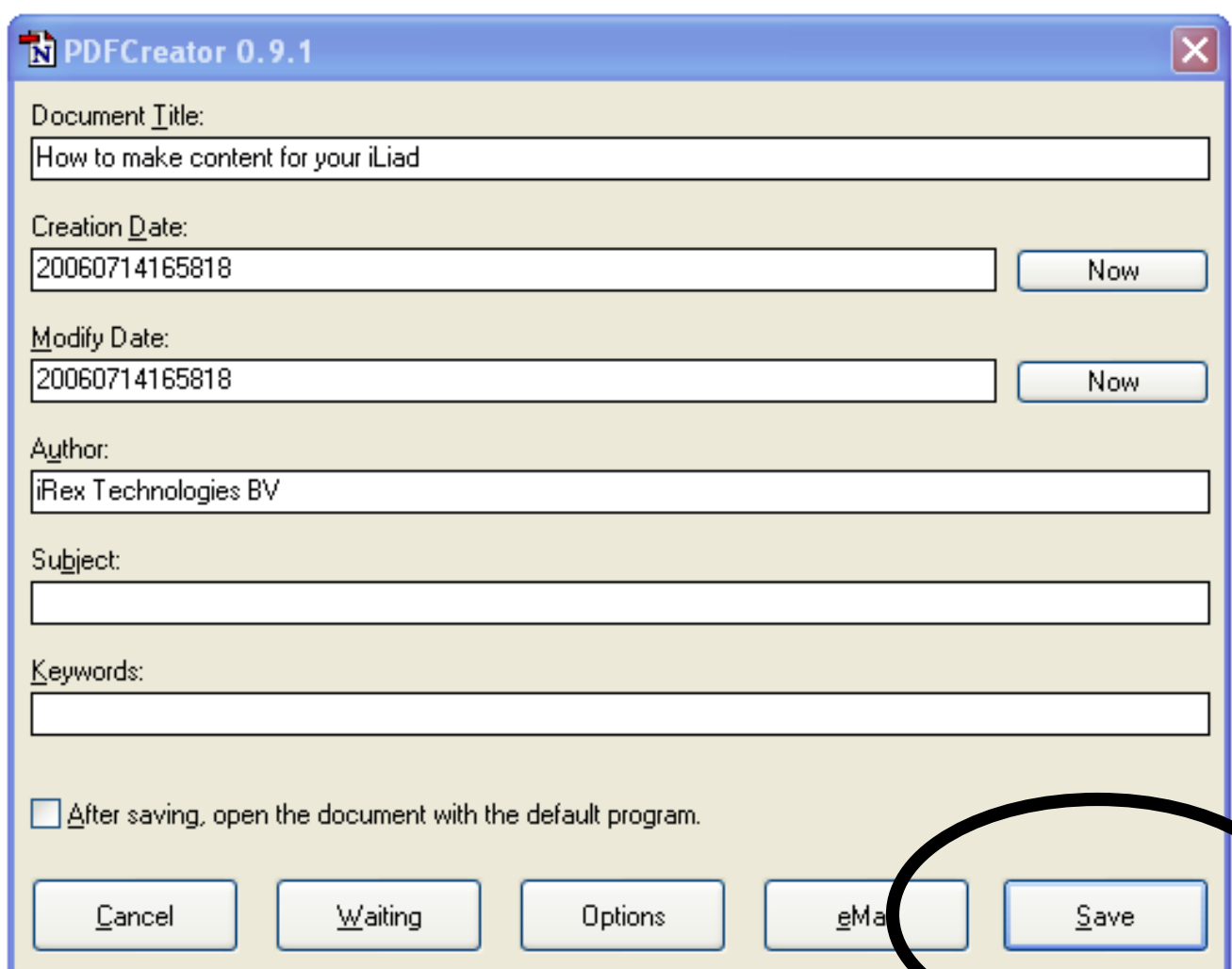


Click on the Edit Custom Page Size to define the page dimensions. Define a paper size of 124x152mm.



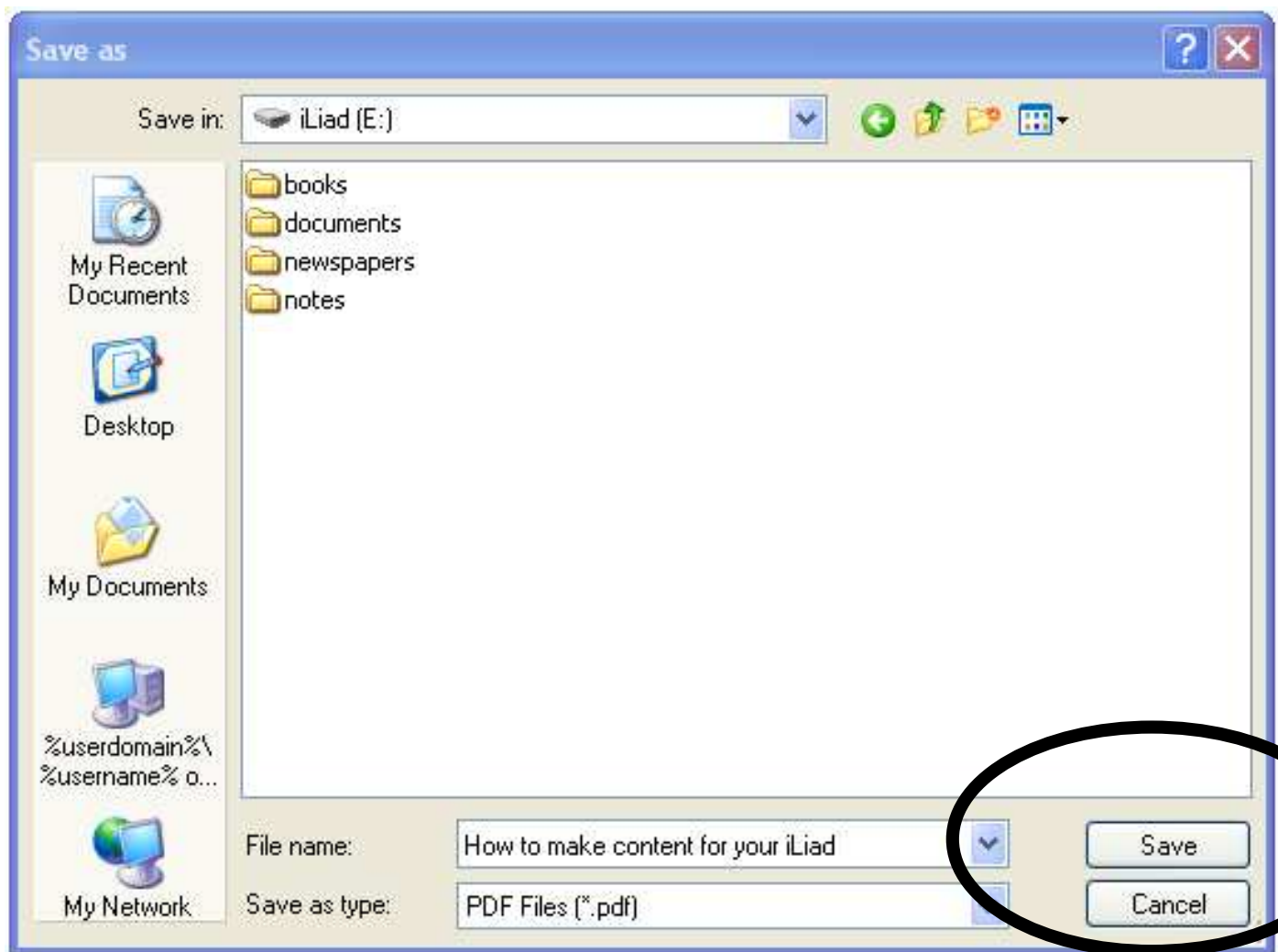
After this, click the OK button on each dialog to close all dialogs and start the printing process.

Since the PDF printer will generate a PDF document the next thing you will see is below listed dialog that can be used for adding additional information to the PDF document. This information is saved in the PDF document, when you use Adobe Acrobat Reader this information *Document Properties* in the *File* menu. The iLiad will not make use of this information so in many cases the default values that are presented are acceptable.

The image shows a screenshot of the PDFCreator 0.9.1 application window. The window has a title bar with the text 'PDFCreator 0.9.1' and a close button. The main area contains several input fields and buttons. The 'Document Title' field is filled with 'How to make content for your iLiad'. The 'Creation Date' and 'Modify Date' fields are both filled with '20060714165818', each with a 'Now' button to its right. The 'Author' field is filled with 'iRex Technologies BV'. The 'Subject' and 'Keywords' fields are empty. At the bottom, there is a checkbox labeled 'After saving, open the document with the default program.' which is unchecked. Below the checkbox are five buttons: 'Cancel', 'Waiting', 'Options', 'eMa', and 'Save'. The 'Save' button is circled with a thick black line.

Before you press the Save button to generate the document, the best thing to do is to connect your iLiad to

your PC using the USB connection. This will allow you to save the document directly to your iLiad instead of first to your local hard drive and then copy it later when your iLiad is connected. For the final result there is no difference, it only saves time. When you press the **Save** button you can save your document to one of the available folders, for example the *documents* folder.



After disconnecting your iLiad you can open the document and enjoy your own content.

3 How to create HTML documents

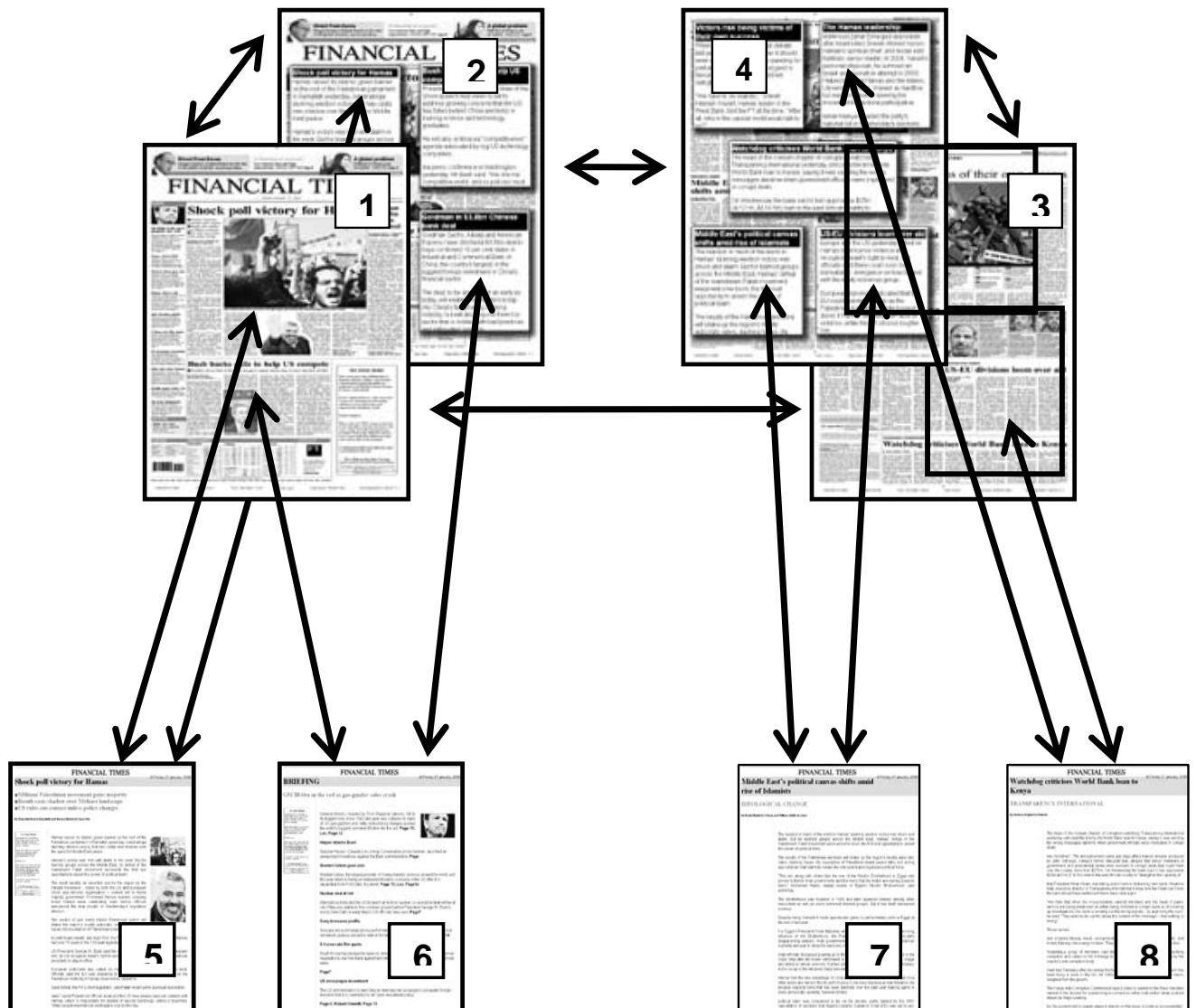
3.1 HTML source

The iLiad supports all basic HTML commands (version 4.01) and X-HTML (version 1.0). Creating the HTML source extends the scope of this document, this can be done using existing HTML tools including Microsoft Word (using the menu option *Save as* in the *File* menu selecting HTML as file format).

3.2 Navigation

Next to changing the font size, a clear benefit of HTML is that it supports hyperlinks allowing you to control how readers can navigate through the content. Next to standard hyperlinks the iLiad supports additional commands to enhance the navigation model, to explain the possibilities an example is used showing simple navigation in newspaper content.

The figure below show the typical navigation model: the user is presented a full overview of the page (1), clicking on an article opens the article (5 or 6). Pressing the up key brings the user back to the overview page (back to 1). Going to the next page will show the overview of the second page of the newspaper (3) allowing access to the articles on that page (7 and 8). Since in some cases the headlines are to difficult to read an alternative view can be displayed that presents the same content in an optimized way (2 or 4), this is activated by a long press on the confirm key. Pressing on these alternative views will show the same articles (5, 6, 7 or 8).



Each item is a separate HTML file (in this case 8 files), these are 2 reasons to do this:

- The files are small and can therefore be loaded faster
- Navigation in an article is limited to the article: page forward/backward will show the next/previous screen of the article, when the end has been reached it will not show the start of the next article.

The overview pages

In this example the overview page (1 or 3) is a simple HTML document that holds an image of the full newspaper page in JPG, BMP, PNG or GIF format. The PNG format is preferred since it will result in the smallest file size. The dimensions of the image are 925 pixels in height and 760 pixels in width. Since the iLiad supports 16 levels of gray, the best option is to use a greyscale image instead of a colour image, this will result in a small file size. On top of the image an image map is defined that outlines the different articles. The hyperlinks are set to the different HTML files that hold the content of the article.

In order to link the file to the next (and possible previous) overview pages below listed code needs to be added in the document:

Next overview page

```
<link rel="next" href="nameofnextpage.html" />
```

Previous overview page

```
<link rel="prev" href="nameofpreviouspage.html" />
```

Alternative view of this page

```
<link rel="alt" href="nameofalternativeviewpage.html" />
```

The alternative view pages

As mentioned, an overview page might result in text that can no longer be read, especially if headlines can no longer be read the iLiad supports a method to quickly show an alternative view (2 or 4) of the overview page that presents the user with more detailed information on the articles.

In this example the alternative page uses the same construction as the overview page; it holds an image of the full newspaper page but now with pop-up windows showing the article headline and the first lines of the article. On top of the image an image map is defined that outlines the different pop-up windows and the hyperlinks are set to the same HTML files that hold the content of the article.

There are many ways to represent alternative views, the example uses pop-up windows to stay close to the original layout of the overview page. However, this is again a standard HTML document so it can also be replaced with a page that shows in normal text the article headline and the first 2 or 3 lines of the article and linking each headline to the HTML file that holds the content of the article.

Also in the alternative view pages the navigation should be added; in this case to the next (and possible previous) alternative pages. By using the overview page as

"alternative page" the user can switch quickly between overview and alternative pages:

Next alternative view page

```
<link rel="next" href="nameofnextpage.html" />
```

Previous alternative page

```
<link rel="prev" href="nameofpreviouspage.html" />
```

Alternative view of this page

```
<link rel="alt" href="nameofoverviewpage.html" />
```

3.3 *The manifest file*

In many cases structuring your HTML content results in many separate HTML files that are linked to each other. In the previous example already 8 files are generated, if they were simply stored on the iLiad it will result in listing 8 content items. To prevent this, the iLiad supports a method so that the full set of files is represented as a single content item: the manifest file.

The manifest file is a simple text file that is placed in the same folder as all the files that are part of the content item. The filename must always be 'manifest.xml', please make sure that all characters are in lowercase.

The informal XML schema of the manifest file is shown below:

```
<?xml version="1.0" encoding="UTF-8" ?>
```

```
<package>  
  <metadata...>  
  <index...>  
</package>
```

The package element contains 2 child elements: one describing package metadata, the other conveying navigation information for the E-reader newspaper viewer.

Metadata element

The metadata element provides information about the content item. It contains a Dublin Core [DC] metadata element (dc-metadata) as well as additional E-reader metadata (y-metadata):

```
<metadata>  
  <dc-metadata...>  
  <y-metadata...>  
</metadata>
```

The dc-metadata element contains typical Dublin Core metadata describing the content item:

```
<dc-metadata>
  <Title>The Daily Planet</Title>
  <Description>free text description</Description>
  <Date>2006-02-21T04:02:03</Date>
  <Format>text/x-ereader-document</Format>
  <Identifier>31a772fb-a745-4d69-bc29-719ac1425bcd</Identifier>
  <Language>dut/nla</Language>
  <Type>newspaper</Type>
</dc-metadata>
```

The identifier field is only needed if distribution of the content is done using the iDS. The y-metadata element contains e-Reader specific metadata concerning the content item:

```
<y-metadata>
  <FileSize>000</FileSize>
  <ItemSize>000</ItemSize>
  <startpage>index.html</startpage>
  <image>ereader_page.jpg</image>
  <version>000</version>
</y-metadata>
```

The FileSize and ItemSize fields should be set to 0 when the manifest is in the same folder as the separate HTML files. The StartPage field lists the first file to open when the user selects the content item. The Image field points to a

thumbnail image of the content item, the image size should be 69 x 93 pixels. To limit the file size it is recommended to save this image in PNG format with gray scales only. The Version field is only used when the document is distributed by the iDS, this allows previous versions of the same content to be over-written with the new version.

Index element

The index element includes records to instruct the iLiad on what to show on the page indicator and how to react if the user presses on a specific field on the page indicator.

```
<index>
  <pagelist type>
</index>
```

For instance:

```
<pagelist type="overview" count="2">
  <page number="01" url="pagl_01.html" />
  <page number="02" url="pagl_02.html" />
</pagelist>
<pagelist type="alternate_view" count="2">
  <page number="01" url="pagalt_01.html" />
  <page number="02" url="pagalt_02.html" />
</pagelist>
```

Each file that is part of the content must contain the below meta data:

```
<meta name="keywords" type="XXXXX">
```

where XXXXX should be one of the defined pagelist types. Multiple files can use the same type definition, basically this defines a template of how the page indicator is setup for a specific type of document.

When the browser opens a HTML file it searches for this meta name definition, when found it opens the manifest file and finds the matching pagelist definition. The count field defines how many pages are listed in the page indicator (in this case 2 pages). It also finds the page that is assigned to the HTML file, this is used to set the current active page in the page indicator. When the user presses on page 1 in the page indicator the browser will then open the link as listed in the specific page number field.

3.4 Colours

The iLiad supports 16 levels of gray that are linearly spaced between black and white. In HTML below listed colour codes can be used for controlling the layout of your documents:

	#	HTML	R	G	B
WHITE	15	#FFFFFF	255	255	255
	14	#EEEEEE	238	238	238
	13	#DDDDDD	221	221	221
	12	#CCCCCC	204	204	204
	11	#BBBBBB	187	187	187
LIGHT GREY	10	#AAAAAA	170	170	170
	9	#999999	153	153	153
	8	#888888	136	136	136
	7	#777777	119	119	119
	6	#666666	102	102	102
DARK GREY	5	#555555	85	85	85
	4	#444444	68	68	68
	3	#333333	51	51	51
	2	#222222	34	34	34
	1	#111111	17	17	17
BLACK	0	#000000	0	0	0