



**Picxel ePAGE**

**PowerPoint file format  
support**



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# Introduction



On handheld computers, traditional applications typically rely on synchronization with a PC to convert content from the original document format into a simpler format used by the device. This creates at least three problems. Firstly, some visual integrity is inevitably lost in the conversion process from a rich format to a simpler one, resulting in documents that do not look exactly like the original. Secondly, the reliance on a PC for synchronization means that direct network access is difficult, and the device is severely hampered when untethered from the PC. Thirdly, traditional applications take a monolithic approach, converting only a single format so that separate applications are needed for each different document type.

Picse!'s ePAGE applications present a new concept in document viewing software. Unlike traditional approaches, the viewer can access native files, so synchronisation is not necessary and files can be grabbed straight off PC filing systems, flash cards and networks/internet without the need for pre-conversion. ePAGE deals directly with the original document in its native format, and aims to faithfully represent all of the features of the original. Moreover, the novel software architecture based on Picse!'s ePAGE technology enables multiple format types to be richly supported in a single application.

ePAGE achieves a breakthrough in its ability to interpret and render complex file formats. Many apparently straightforward formats have in the past encountered difficulties even when used in their original application software on a different platform, for example when going from a PC to a Macintosh. Sometimes these files assume characteristics of the computer on which they are used, such as the screen size or byte order, and such assumptions have to be unravelled when using them on a different device. To compound the challenge, some formats may contain proprietary features which are not revealed to the public, and which even have been forgotten within the originating company. Others, such as HTML, have written standards yet are still subject to differing interpretations as evidenced by the varying treatment of web pages in proprietary browsers.

ePAGE supports the most popular global file formats. The formats interpreted by ePAGE are richly expressive, containing not just text but sophisticated layout and rendering features, rich fonts, colour, images, tables, graphics and many other document features. Picsel is continuously developing its file format support to eventually cover every feature of the native file. With such a wealth of features across many document types, this is inevitably an ongoing process, with milestone releases of new functionality planned at periodic intervals. The approach involves researching the feature set most commonly found in real documents, building support early for the most frequently used elements, and ensuring these features are reproduced with total faithfulness to the original. The emphasis of ePAGE is on displaying rich content rather than on reproducing the document creation facilities of the original application.

This document describes the features supported in ePAGE. This level of support already covers the vast majority of characteristics that occur in day to day documents of this type, and the specific features are described with notes where appropriate. Those features planned for future implementation are also described, for completeness.

## PowerPoint

Microsoft PowerPoint is a slide-show presentation application. It is part of Microsoft Office, and is widely used in meetings for displaying text, charts and diagrams, and supports simple animation of items on screen.

It supports several different internal file formats, including Windows MetaFile diagrams (WMF), Excel charts, Escher autoshapes, OLE objects of myriad forms, and plain text.

Feature	Support	Notes
Capable of detecting documents formatted as Powerpoint 97	Yes	
Capable of detecting documents formatted as Powerpoint 2000	Yes	
Creates a one to one correspondence with each slide in the original file	Yes	
Supports slide design template	Yes	Design templates contain colour schemes, slide and title masters with custom formatting

Feature	Support	Notes
Supports slide colour scheme	Yes	Colour schemes are sets of eight balanced colours designed for use as the main colours of a slide presentation
Supports slide layout	Yes	Powerpoint slides are created from 24 predesigned slide layouts with placeholders
Master Slides.	Yes	The slide master holds the formatted placeholders for the titles, main text and backgrounds that appear on all slides in a presentation
Slide background colours	Yes	
Slide Background fill	Partial	Supports textured fill but not gradient fill
Text with styling.	Yes	Includes all slide heading styles
International Language support	Yes	Refer to the section on 'Character Sets' for more information.
Font face	Yes	ePAGE automatically selects the most suitable font from those available in the system
Font size and colour	Yes	
Bold text	Yes	
Italic text	Yes	
Text with underline	Yes	
Slides with colour schemes and other parameters are extracted.	Yes	
Horizontal Text alignment: <ul style="list-style-type: none"> <li>- Left</li> <li>- Centre</li> <li>- Right</li> </ul>	Yes	

Feature	Support	Notes
Vertical Text alignment: - Top - Middle - Bottom	Yes	
Indentation	Yes	
Variable line height - absolute size - relative to font size - additional leading	Yes	
Bullets	Yes	
Numbered lists	Yes	
Charts created in MS Excel format, embedded as OLE objects.	Yes	
Charts created in MS Graph format embedded as OLE objects	Yes	
Diagrams and Pictures - WMF (Windows MetaFile) - EMF (Enhanced MetaFile) - Clip Art	Most	
OLE objects and documents	Yes	
Supports the following chart types: Column, Line charts, Bar charts, Stacked bar charts, Stacked line charts, Pie charts, Organisation charts, Scatter graphs, Area charts, Radar charts, Surface charts, Bubble charts, Doughnut charts, Stock charts	Yes	
Supports the following chart features: Chart title, Titles on X and Y axes, Gridlines, Chart legend in original position	Yes	
Supports native JPEG images contained in MS Powerpoint documents.	Yes	
Supports native GIF images contained in MS Powerpoint documents.	Yes	
Supports native PNG images contained in MS Powerpoint documents.	Yes	PowerPoint converts many BMP and GIF images to PNG
Supports native BMP images contained in MS PowerPoint documents	Yes	
Drawing – lines, curves and freeform drawings. (Created using the drawing toolbar).	Yes	
Drawing - arrows	Yes	
Drawing – Text boxes	Yes	Including vertical alignment of text within box
Drawing – Autoshapes • Basic shapes	Most	

Feature	Support	Notes
Autoshapes <ul style="list-style-type: none"> <li>Block arrows</li> </ul>	Most	
Autoshapes <ul style="list-style-type: none"> <li>Flowchart symbols</li> </ul>	Most	
Autoshapes <ul style="list-style-type: none"> <li>Stars and banners</li> </ul>	Most	
Autoshapes <ul style="list-style-type: none"> <li>Action buttons</li> </ul>	Most	
Supports tables (native Powerpoint)	Yes	
Supports the following table features: Table border, Background fill colour	Yes	
Headers and footers.	Yes	

## Character Sets

ePAGE can work with all characters in the Unicode specification. Many documents are encoded in other encodings, and ePAGE handles these by automatically detecting the character encoding used, and converting it to UTF-16 Unicode. The character encodings supported by ePAGE are shown in the following table. (In addition to the encoding support, the display of characters is also dependent on the availability of appropriate fonts installed on the device.)

Encoding	Comment
ASCII	
UTF8	Unicode
UTF16	Unicode
Latin1	Western
Shift-JIS (Windows codepage 932)	Japanese
ISO-2022-JP	Japanese
EUC-JP	Japanese
GB 2312	Chinese
Big 5	Chinese
Windows codepage 874	Thai
Windows codepage 936	Simplified Chinese GBK
Windows codepage 949	Korean EUC-KR
Windows codepage 950	Chinese traditional Big5
Windows codepage 1250	Eastern European
Windows codepage 1251	Cyrillic
Windows codepage 1252	Latin
Windows codepage 1253	Greek
Windows codepage 1254	Turkish
Windows codepage 1255	Hebrew

Windows codepage 1256	Arabic
Windows codepage 1257	Baltic
Windows codepage 1258	Vietnamese

## Future Support

PicseI continuously strives to enhance the feature set of its software. In addition to the above Powerpoint features supported in Version 1.0, the following features are planned to be incorporated in future versions of the PicseI software. (The ordering in the list does not imply any measure of priority among the items.)

Additional text styling features: Tab stops, Text shadows
Drawing: WordArt, 3D effects
Autoshapes
Videos, Sounds
Embedded fonts
Animations, Slide transitions
Buttons, Links
Handouts, Notes, Viewing modes (outline, slide, thumbnail)