Title: **Universal Access to PDF Files**
Author: Gerry Kennedy © February 2009
Software: Acrobat PDF files and associated PDF applications
Category: PDF applications and web based resources

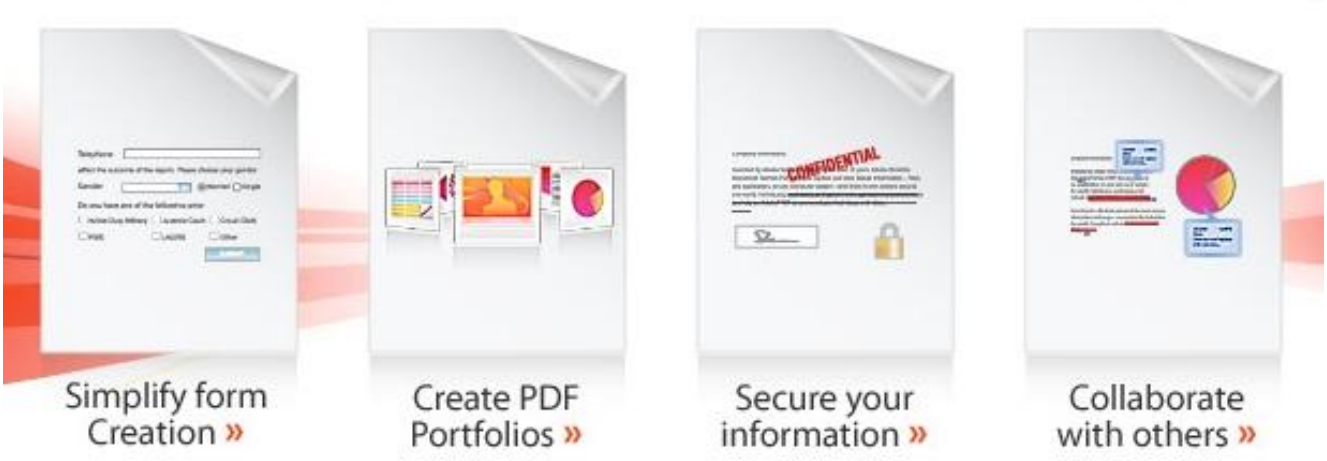
1. Introduction

Portable Document Format (PDF) is the de facto standard for the secure and reliable distribution and exchange of electronic documents and forms around the world. It is '….a file format created by Adobe Systems in 1993 for document exchange. PDF is used for representing two-dimensional documents in a manner independent of the application software, hardware, and operating system. Each PDF file encapsulates a complete description of a fixed-layout 2-D document (and, with Acrobat 3-D, embedded 3-D documents) that includes the text, fonts, images, and 2-D vector graphics which compose the documents.'
[Source: Wikipedia - http://en.wikipedia.org/wiki/Portable_Document_Format]

Therefore it can be gainfully employed on MS Windows, MAC OS and Linux as well as other operating systems. Teachers and students gave been using this very flexible format for over 15 years. There are also versions that run on portable hand held devices such as PDAs (Personal Digital Assistants) and even mobile phones!

2. Background to Adobe PDF format

The *Adobe Acrobat V9* program is a commercial product that provides all of the necessary tools and functions to create PDF files from every possible source file. Users can edit and manipulate their own PDF files, and with some limitations, edit other PDF documents. Most importantly for critical and sensitive material, creators can protect information in a number of ways to maintain the document's integrity or ensure privacy. Text can be embellished with charts, maps, drawings and photographs.



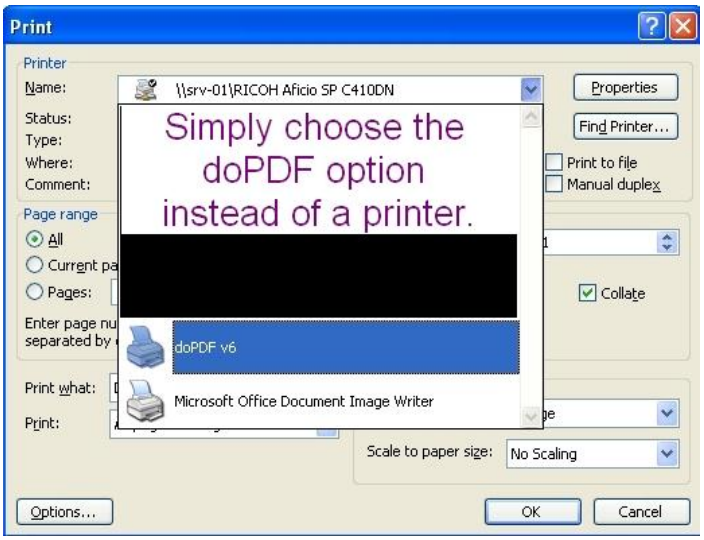
Many companies that produce teaching, resource, factual and other related learning and study media have used the ubiquitous PDF standard for efficient and global delivery using CDs, DVDS and in latter years, web sites. Early user manuals were previously published on floppy disks. Now millions of documents are created daily and distributed in every possible enterprise and for a multiplicity of uses. The introduction and proliferation of the World Wide Web witnessed an explosion of deployment of PDF documents as it is time and very cost effective. Anyone can read the documents, print and to a degree, edit part or the entire document. The necessary protocols and restrictions provide for security but disenfranchise some users – especially those who have different learning styles, vision impairment or other special learning, reading or access needs.

As a file standard, it is program independent and there are now many free readers – including the latest version from the originators of the software – *Adobe Systems*. The freely downloadable *Adobe Reader* is now at version 9.0 - [http://www.adobe.com/products/reader/]. Other readers are available including *Free PDF Reader - Version 3.5.70* [http://www.visagesoft.com/products/pdfreader/] and Free PDF Reader - http://www.visagesoft.com/products/pdfreader/. Cool PDF Reader at http://www.pdf2exe.com/reader.html is small fast, free and efficient

Initially, the program was not readily accepted nor widely used. It had some limitations and was not that web friendly nor did it conform to prevailing standards. Adobe started distributing its Acrobat Reader (now Adobe Reader) program at no cost. It eventually became the de facto standard for printable documents on the web (i.e. a standard web document). There were early competitors but the PDF standard soon eclipsed other products and was universally accepted as being the pre-eminent document "handler" In legal circles, business, research as well as academic use, it quickly became very popular.

A PDF file can be opened as a web page (usually opening in a new window in *MS Explorer* or *Mozilla Firefox)* or one or more files can be saved and downloaded and then opened in an application of the user's choice.

3. Creating PDF Files



As well as Adobe Acrobat V9, there exist numerous other products at various price points. Many commercial products compete in this area of the market.

A popular program Cu*tePDF Writer* (formerly *PDF Printer*) http://www.cutepdf.com/Products/CutePDF/writer.asp writes or "prints" files on the computer to PDF. Accessed from the *Print Menu*, it provides quick and easy conversion. Another similar option is doPDF - http://www.dopdf.com/download.php .

The *doPDF V6.2 program* installs itself as a virtual PDF printer driver. After downloading and installing this handy utility, it will appear in your *Printers and Faxes* list. To convert to PDF, you just have to print the document to *doPDF*. You nominate where the file is to be saved, and you can then open, read and print it. You can export a document in *Open Office Org V3.01* as well : http://www.openoffice.org/index.html.

4. Commercial and Free Software that Convert and Read PDF Files

Once again, apart from Adobe Reader V9, there are some competitors including *Foxit Reader V3* (formerly it was a freeware program at no cost) - http://www.foxitsoftware.com/pdf/rd_intro.php. It is very fast and opens PDF files quickly. It has some great features and performs all tasks similarly to Adobe Reader.

Other options include:

Smart PDF Converter	http://www.pdftodocconverterpro.com/download.htm
PDF Creator	http://sourceforge.net/projects/pdfcreator/
AllPDFConverter	http://www.pdfonline.com/products/allpdf/index.htm
Print2PDF V8	http://www.software602.com/products/print2pdf/download.html
Nitro PDF Professional	http://www.nitropdf.com/index.asp - a powerful commercial program
Pdf995	http://www.pdf995.com/download.html - various free options (with pop up browser ads)
Inkscape V0.46	http://www.inkscape.org/ - a free, open source vector graphics-based program

There are many others that offer different levels of functionality. Some will run on MAC OS or Linux. It ultimately depends on what users wish to achieve and intended uses and purposes.

5. Assistive Software to Access PDF

As PDF files can be difficult to read, or navigate, there have been some excellent innovations from a number of different companies who support users who have special needs. The highly regarded textHELP company in Ireland provide *PDF Accessibility Editor* in textHELP Read & Write software, which has just been released as V9.

PDF Accessibility Editor is a set of tools designed to work with Adobe Acrobat which allow the Publisher to dramatically improve the end-user accessibility experience when reading PDF files.

The key benefits include:

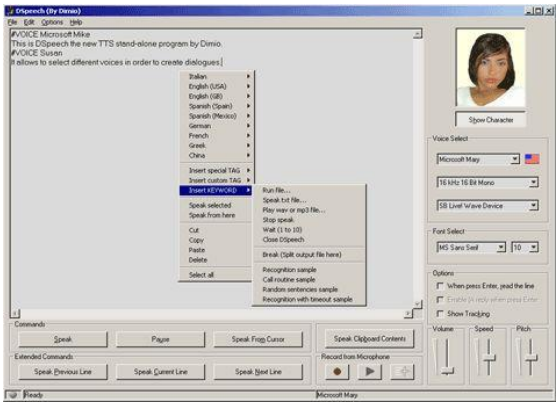
- ✓ Ability to define the reading order of the document
- ✓ Fine tune the pronunciation of words and alternate text
- ✓ Prepare education textbooks to be converted into accessible DAISY format
- ✓ High quality speech feedback with highlighting in Adobe Acrobat.

Another leading assistive technology company in the UK is *Claro Software*. PDF files are ideal mostly for printing but they can be really difficult to use if you want them voiced aloud or you want to quickly change the colours and fonts used. People with dyslexia and many other users and students, find it easier to work with text when it is spoken aloud or has different colours or contrast. You can zoom in and out, use high or low contrast colours, and save your PDF as text or reversion it as a web page. You can even follow internal contents links to let you navigate the document.

ClaroRead software has always allowed PDF files to be spoken aloud, and also converted into Microsoft Word format with the *ClaroRead Plus* edition. They wanted to give users more options for PDF files to be spoken aloud, so the company produced a standalone Accessible PDF reader, which is available as a free download. It will convert accessible PDF Files into a web page style retaining the original format and layout or a simple text only view. It can be downloaded freely from - http://www.clarosoftware.com/index.php?cPath=314

A very handy free text-to-speech program is *Natural Reader* – www.naturalreaders.com. It uses SAPI 4 and the higher quality SAPI 5 voices. The program can be used as a floating toolbar. By selecting text with *Adobe Reader* or *Foxit Reader*, the user can listen to text being voiced aloud.

Another option is to cut and paste the text into *MS Word* and have it voiced using either *WordTalk V4* – www.wordtalk.org.uk/Home/ within the document. This new update to the Wordtalk program even converts the text into MP3 or WAV format. WordTalk is a free text-to-speech plug-in developed for use with all versions of Microsoft Word (from Word 97 upwards). It will speak the text of the document and will highlight it as it goes. It contains a talking dictionary to help decide which word spelling is most appropriate.



Another option is to paste copied text into a fresh window in ReadPlease 2003 – www.readplease.com. This program has a few limitations but it can read files with many other languages i.e. French text spoken in a French speaker's voice, as with Italian, German, Spanish and other languages. These are also free to download, install and use.

Another extremely useful option is *AccessApps* – http://www.rsc-ne-scotland.ac.uk/accessapps/. This is a suite of applications that are known as Portable Apps. They are installed onto external memory drives e.g. thumb or USB drives and provide a number of inclusive software applications that are all easily accessible from a menu system, including DSpeech. DSpeech is another text-to-speech program that has some great benefits. It operates from a USB drive so it does not need to be installed on the computer being used.

6. Universal Access to Print Material

People have different needs. They have acquired different skills and understandings, along with experience and frequently, some tuition - or none at all. Increasingly, study materials, user guides, manuals, instruction and study sheets and FAQS (Frequently Asked Questions), journals and numerous online magazines are being published as PDF documents. Flyers and promotional material, maths and science text books, e-Books and even invitations are used every day and are available from a variety of on and offline sources. You seemingly cannot escape the ever present PDF format!

Schools and higher places of learning need to provide access to these documents, for students to read them, have them voiced or have the option to edit and reversion. Universal design advocates would argue that teaching and training staff should have the necessary

- ✓ Knowledge
- ✓ Skills
- ✓ Tools
- ✓ And methodologies

to enable all students to partially or fully access PDF files. The programs and web resources mentioned in this article may assist educators and parents to facilitate the required resources to enable students to become more aware of the available options and not to have to struggle.

7. Conversion Software

Adobe has a web based subscription solution at http://createpdf.adobe.com/. There is a cost though. The Zamzar site - http://www.zamzar.com/ is extremely useful and user friendly.

A user needs only to nominate an email address for delivery of a converted file – up to 100MB in size. The user simply browses his or her computer, uploads a file and selects *PDF* as the conversion standard. Within a short time frame, the converted file is sent via email with the newly created PDF as an attachment to the designated address.

Other file types are supported as well and so it is an extremely useful service! As mentioned previously the *CutePDF Writer* and *doPDF* utilities will convert documents to PDF.

8. In Conclusion

This article is a brief discussion into some of the issues faced daily in learning centres, schools, training and TAFE colleges and Universities in Australia. Hopefully it will shed some light onto this important area of access to text and other print and online material. The PDF standard has so many wonderful features and attributes.

People, who design, plan, coordinate and provide training and education need to more fully understand why and how they are providing PDF files. They also need to take responsibility in how to direct, assist and accommodate a wide range of users who all potentially have different access, reading and learning needs. If not, some students will only continue to be frustrated and their access to data minimised and future options compromised.

Author: Gerry Kennedy ICT Consultancy © February 2009