

Content Accessibility and *MyUni*: a brief guide

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Issues, Assistance and Guidelines

As educational content and University services are increasingly becoming available online, it is important that staff are aware of issues surrounding the accessibility of this content.

This information has been designed to help staff understand the basic principles of accessibility with online material. General web authoring guidelines are provided along with specific information on *MyUni*, PDF (portable document format) and Multimedia.

What are the issues?

Not all students who enrol at the University will declare a visual impairment or other form of disability. It is our responsibility to ensure that teaching practices comply as much as possible with accessibility guidelines regardless of whether there are students known to have a disability in a course. The same principle applies to any other service provided to students across the University.

Help and assistance

If you need assistance with any issues regarding accessibility and *MyUni* you should contact the Learning and Teaching Development Unit.

The Disability Liaison Officer (DLO) can also assist on a range of matters. The DLO can arrange for alternative sources of material to be obtained for students. One issue that staff should be aware of is that there may be significant turnaround time associated with these activities. For example, any graphs in course material that need to be tactiled by the Royal Society of the Blind will incur a two week turnaround. This may affect assessment deadlines for students.

The Online Education Helpdesk (8303 3335, myuni.help@adelaide.edu.au) provides assistance to staff with the conversion of documents into PDF.

General Principles for the World Wide Web

The following summary guidelines are based on the World Wide Web Consortium (W3C's) Web Content Accessibility Guidelines and are intended to provide high level guidance. For more detail on how to meet the guidelines please refer to the W3C's guidelines that break down accessibility into three priority areas and include considerable technical detail for web developers. (<http://www.w3.org/WAI/Resources/#gl>)

Web Content Accessibility Guidelines Summary

1. *Provide text/audio alternatives to visual and auditory content.*

When you are including a non-text element within a web page ensure that there is appropriate text alternatives. Where possible, use explanatory text before the embedded media to give guidance for students who may be using screen readers.

The `<alt>` attribute for an image tag provides a way for a text description to be related to a visual element on a web page. The text is displayed when you hold a mouse over the image and will be read by screen readers. ALT tags should be used for all images, audio and video. Make sure the text description you give in the ALT tag is meaningful.

Captioning and text transcripts should also be considered for all multimedia content (audio and video).

2. *Identify the natural language*

Identify the main language of the page using the language attribute e.g. `<html lang="en">` for a document in English. Mark any language changes within the page to help screen readers adapt to language changes as they occur.

3. *Make sure your site is clear and succinct*

Avoid excessive hotlinks, complicated design and lots of pages without relevant content. Include clear text content at the top of each page that will tell the reader about the purpose of the page.

Avoid using frames for the construction of pages.

Use colour wisely. Make sure there is good contrast between text and background colours and choose colour schemes carefully. Do not use colour alone to convey meaning about content.

When using hypertext links (hotlinks) make sure the text is meaningful. Avoid using "Click here" or "link to file".

4. *Display*

Avoid use of anything that will cause the screen to flicker or change. This includes animations, blinking and scrolling text and pages that automatically refresh.

Avoid pop-up windows that appear automatically. Inform the user if clicking on a link is going to bring up a new window or pop up.

5. *Tables*

Do not use tables unless the information you need to convey absolutely requires tables.

If you do use tables make sure row and column headers are identified.

Use the `<summary>` attribute to state the purpose of the data in the table.

6. *Scripts, applets and plugins*

Make sure that your page works if javascript, java, flash or any other programmatic objects are turned off or not supported. If you cannot provide an accessible page by doing this, link to an alternative text page that has equivalent information. This link must be accessible and should be located at the top of a page so it can be found quickly.

7. *Markup and style sheets*

Stick to standard HTML and avoid any use of proprietary browser-specific HTML. Use style sheets where possible to control layout of your page(s). If you use style sheets make sure your page can also be read without them.

8. *Forms*

Make sure that every field and option on a form is on a different line. Make the form available in an alternative format (e.g. Word document) and always include contact details where help can be sought.

9. *Add Metadata to pages*

Add metadata to your web pages to describe the content and indicate ownership and other details. Metadata is added to the HEAD section of your page. Search engines can use this information to index your site.

10. *Check and test*

There are many guidelines, resources and tools available that web authors can use to check their content. These are listed in the *Further Information & Tools* section at the end of this document.

General Course Content Principles for *MyUni*

MyUni provides a framework for online delivery of content related to education. When you are placing content into *MyUni* as an instructor, as well as considering all of the general guidelines given within Web Content Accessibility Guidelines Summary, the following General Course Content Principles should be followed wherever possible.

General Course Content Principles for *MyUni*

1. A copy of essential course material should be made available to students in electronic format.

Essential course material is defined in section 4.2 of the Student Ancillary Fees and Charges Policy to be:

- course outlines, reading lists, tutorial or seminar topics and problems;
- requirements for assessment and guidelines for the presentation of work; and
- manuals and workbooks for use in clinics, laboratories, workshops or practicals.

When making this content available to students in electronic format, it is best to:

- Provide it in a text manipulable format;
- Provide multiple formats for students to download (e.g. Word, HTML or PDF);
- Use a clear well sized font such as Arial with a minimum of 10pt;
- Keep the use of tables, graphs and images to a minimum;
- Use colour and background wisely when formatting documents.

2. Make use of announcements and areas at the top of course sections that can be used to provide clear text descriptions about the type of content that will be found in this section/page.
3. When creating links to files make sure that the name of the link to the file is intuitive. Make sure that explanatory text is also provided that instructs students about the type of file, the content and includes links to plugins and software to open and view the file once downloaded.
4. Check the size of files that you are uploading. If the size exceeds 1 megabyte consider options such as:
 - breaking up the document into smaller files
 - optimising graphics in Powerpoint files
 - removing transitions and graphics in Powerpoint files
 - converting the document to PDF
 - providing a text-only alternative (html, rtf, word) for use by students at home
 - use an alternative format (e.g. CD) to distribute large files to students

5. Avoid using images for key course material (e.g. equations) that may not be accessible to students with a screen reader.
6. Make sure you use the announcements page to provide regular updates to students on the location and format of new content.
7. When uploading documents in PDF format, make sure that you follow the guidelines for accessibility with PDF (see next page). In particular, make sure that the document is text manipulable and not converted to an image.
8. When scanning hardcopy documents to provide online, double-check the size of the final electronic copy and where possible scan the document in a text manipulable format, not as an image. If this is not possible provide a text-only alternative that students can access. The Disability Liaison Officer can provide advice.

PDF documents

Adobe PDF is a common file type used for placing documents on the web because it is a universal file format that preserves the exact look and feel of any source document. However, the way in which source documents are written and options used during the conversion process to PDF can have a major impact on the accessibility of the final PDF placed on the web.

PDF is one of the most common file types on *MyUni* and has been encouraged as an appropriate file format because of file size efficiencies (that reduce download time) and the cross platform support available for desktops. PDF documents currently comprise 35% of the total document space on the *MyUni* application server (July 2003).

Although size efficiencies and cross platform support contribute to increased accessibility, for visually impaired students PDF is the most inaccessible file format.

The issues for visually impaired students are caused by:

- PDF documents created as images are unreadable by the JAWS screen reader.
- The JAWS screen reader behaves inconsistently with PDF documents.
- Text from PDF documents created as images cannot be cut and paste into other desktop applications (such as Microsoft Word) for use with a screen reader.

Students need to be able to both read and manipulate text within an online document for use in assessments.

The guidelines on the following pages should be observed when preparing documents that will be converted to PDF.

Converting your documents to PDF format using Adobe Acrobat

What is PDF format? What is Adobe Acrobat?

PDF stands for Portable Document Format.

Adobe Acrobat consists of various software which allows for the conversion, electronic distribution of documents and reading/accessing of these documents worldwide.

Adobe PDF is a universal file format that preserves the exact look and feel of any source document, including all the fonts, formatting, colours, and graphics, regardless of the application and platform used to create it.

(How to Create Accessible Adobe PDF Files, 2001 Adobe Systems Incorporated, California, USA, page 1.)

What documents can be converted into PDF format?

Any electronic document regardless of the application eg Microsoft Powerpoint and Microsoft Word. Most PDF conversion presently being undertaken by MyUni Helpdesk is with Microsoft Powerpoint documents created by Lecturers (as at May 2003)

Web pages

Scanned pages

Documents can include images, columns and tables, as well as text

Why convert to PDF format?

PDF files can be opened across a broad range of hardware and software

The exact look and feel of the source document is preserved

Adobe supports the **accessibility** of PDF files to users with disabilities such as blindness, low vision or motion impairment including alternate text descriptions for images, enhanced keyboard shortcuts, searchable/accessible text, high-contrast viewing and speech-synthesis screen readers. See <http://access.adobe.com> a website which provides more information and free online services

Forms with electronic form fields can be created

Language translation

Adobe PDF is a standard on the World Wide Web and is also used to distribute electronic documents over corporate networks, via email, and on CD-ROM

(How to Create Accessible Adobe PDF Files, 2001 Adobe Systems Incorporated, California, USA, page 1.)

Adobe PDF supports electronic forms, digital signatures, password security and electronic mark-ups which allows for fully interactive digital processes of business

As an Instructor, what do I need to do to get my documents converted to PDF format?

You can create or convert your own PDF files if you have the required Adobe Acrobat software and expertise.

However MyUni Helpdesk will convert your existing files to PDF format for you. Turnaround time is normally 24-48 hours but may be longer at certain times of the year. You should contact the Helpdesk on 33335 if you need to ascertain the conversion time more accurately.

The preferred method of sending your existing files to MyUni Helpdesk is as follows:

Via MyUni

Access your MyUni course
Click on **<Control Panel>**
Click on **<Course Materials>**
Click on **<Course Documents>**
Upload your file/s within Course Documents

Send MyUni Helpdesk an email notifying them that you have uploaded a file for conversion to PDF format at myuni.help@adelaide.edu.au

When your file has been converted into PDF format the MyUni Helpdesk will upload it within Course Documents and notify you by email

Via Email as an attachment

This method is not advised unless the file size is quite small (less than 2Mb)

How can I assist in the creation or optimisation of Accessible PDF files for students with Disabilities?

The experienced PDF user

Existing Adobe PDF files can be optimised for accessibility. And paper-based documents can also be converted to accessible Adobe PDF files. Contact MyUni Helpdesk who will organise for this to be done for you.

If you have Windows Office 2000 applications and Adobe Acrobat software installed on your computer you can create tagged Adobe PDF files that preserve hyperlinks, styles, bookmarks and the structure of tables. Go to http://www.adobe.com/products/acrobat/access_booklet.html for more information.

Unstructured PDF files can also be converted to a tagged file.

The novice

Some useful tips which will assist in the successful conversion and accessibility of your documents into PDF format:

When creating your original document in (say) Microsoft Word 2000 use styles to format text such as titles, headings, and paragraphs. The styles provide structure information when MyUni Helpdesk converts your file to a tagged Adobe PDF file which assists in accessibility for readers. This also allows selected styles to be converted to bookmarks.

When you create your original document which includes images, the text description may be lost when it is converted into PDF format. In order to overcome this, add alternate text descriptions. In Microsoft Word you can use the WordArt object to add text to a shape, or specify alternate text for images on a Web page.

Ensure that text and images do not overlap and are visually separate on each page of your original document to prevent text becoming unreadable in PDF format.

If using tables in your Word document, use the Insert Table command or Draw Table to create tables – do not use tabs to simulate a table.

What software is required?

All University of Adelaide staff computers and student computer pools have Adobe Acrobat Reader (a plug-in) installed.

This software is free and can be downloaded by anyone for home use by going to MyUni Software Utilities <http://www.adelaide.edu.au/myuni/students/resources/>

For information on other Adobe Acrobat software including Capture software and screen readers, contact the Online Education Helpdesk (myuni.help@adelaide.edu.au).

Multimedia

This is a quick list of things to be aware of if you are incorporating multimedia into online content:

To access multimedia requires an appropriate plugin for a web browser and/or software on the client desktop. Check that the content you wish to use performs with plugins available on the standard University desktop environment and in student labs. You should also provide instructions to users about where they can source the software to install on their computers at home.

- Make sure that the size of multimedia files does not make it prohibitive for students to access them from home or off-campus. Consider making the files available on CD to students and linking to the CD content from applications such as *MyUni*.
- Every web server is configured to support a set of standard file types. You may need to check with the people that provide technical support for *MyUni* or your web server that the web server is configured to understand the type of media file that you are using within your site.
- Make sure that you provide text or other alternatives to users who may not be able to access this content.

Checklist for *MyUni* content

Ref	Guideline	Check
1	Have I provided all essential course material in an electronic format?	
2	Is all essential course material in a text manipulable format?	
3	Have I used a clear font of appropriate size (eg. Arial 10pt)?	
4	Have I made use of announcements to describe where to find content and to inform students of new content?	
5	Have I placed clear text descriptions of content at the top of each page or section?	
6	Have I used images and colour wisely?	
7	Have I provided instructions for students or text alternatives for all images and media?	
8	Have I given meaningful names to file names and hotlinks?	
9	Have I checked file sizes?	
10	Have I minimised the use of graphics and transitions in Powerpoint?	
11	Have I provided information and links to any plugins required to open file attachments?	
12	Have I used tables only when necessary and included row and column headings?	

Further Information and Tools

World Wide Web Consortium (W3C's) Web Content Accessibility Guidelines (<http://www.w3.org/WAI/Resources/#gl>)

Dreamweaver Accessibility (<http://www.macromedia.com/macromedia/accessibility/mx/dw/>)

Bobby Online Software Tool (<http://bobby.watchfire.com/bobby/html/en/index.jsp>)

JAWS (http://www.freedomscientific.com/fs_products/software_jaws.asp)

Adobe Accessibility (<http://access.adobe.com/>)

Another useful website to visit is Web Accessibility at <http://www.csufresno.edu/webaccess> and in particular Web Accessibility Learning Modules at <http://www.csufresno.edu/webaccess/learningmodules/howtouse/>

Also <http://www.techdis.ac.uk> which includes an accessibility and usability resource at <http://www.techdis.ac.uk/seven/>.

This site, amongst other things, discusses blind users, visual and hearing impairment, physical disabilities, cognitive difficulties, reading and dyslexia difficulties.