

# Access, Acrobat and Animations: Enhancing the Blackboard Virtual Learning Environment



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Dr Julia Gaimster  
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## **Abstract**

This report outlines the findings of the investigation into accessibility and enhancement of the Blackboard (Bb) environment. It will identify the issues that arose during the study, suggest possible solutions and make recommendations for the future format and structure of teaching and learning materials on the Institute's virtual learning environment (VLE). Guidelines on good practice from various organisations have also been included. The study ran from November 2003 to January 2004. The study identified several practical and technical issues that could be overcome but created some initial difficulties in encouraging participants to use the software and access the documents; the general feedback from those who trialled the software and users of the sites was positive once they overcame these technical limitations. Several resources have been created to help staff to enhance their Blackboard sites and make them more accessible using Adobe Acrobat and other software that enables the inclusion of multimedia elements.

One of the most important findings of the study is that the main issues are not technical but attitudinal. Staff are not always aware of the SENDA legislation and its impact upon their teaching practice. If they do not recognise the value of producing accessible teaching and learning materials they will not invest the time to learn how to create them.

The timescale available for the study was limited and due to some technical problems at the outset users did not have as long to familiarise themselves with the software as was expected. However the majority of users found the software easy to use and felt that they would like to continue working with it and to spend more time becoming familiar with its extended features. The researcher intends to build upon and extend the findings of the study and to continue to work on ways of enhancing Blackboard and making the teaching and learning materials on Blackboard more accessible.



## Introduction

Virtual learning environments are becoming a major part of the student experience delivering information, content, assessment and collaborative learning. Research into the use of virtual learning environments is in its infancy due to the relative newness of the technology (Dunn 2003)

There were a range of factors that influenced the need for this study;

- The impact of the Special Educational Needs and Disability Act 2001 (SENDA)
- The researcher identified that Blackboard was mainly being used as a vehicle for communication and that much of this was text based
- In training and supporting staff in the use of Blackboard the researcher identified that many of them wanted to use images and multimedia to enhance their sites but did not have the technical skills required
- The researcher also identified that there was potential within Blackboard for the streamlining of course administration and a reduction in the use of paper based forms.

### The aims of the study were:

- To enhance the potential of Blackboard to deliver teaching and learning materials using Adobe Acrobat 6
- To encourage staff to use Blackboard to deliver interactive learning activities
- To simplify and streamline the process of course management and administration

### The objectives were:

- To develop the seamless integration of documents in the Blackboard environment
- To improve the accessibility of materials
- To create interactive forms and course documents
- To create templates for the inclusion of multimedia elements within teaching and learning material
- To enable users with minimal skills to create exciting media rich content
- To evaluate the effectiveness of the software in achieving these objectives

### Why do we need to consider the design of materials that we put on Blackboard?

“There are two million people with sight problems in the UK. Good design can make your websites, information materials, goods and services and buildings accessible to them.”

[ok,8i](#)

A significant number of students in art and design higher education are dyslexic

<http://www.alladin.ac.uk/support/downloads/dyslexia%20guidelines.doc>

In 2001/2 4.6% of the student population in HE declared a disability (HESA 2003)

There are increased numbers of deaf students participating in higher education. (O'Neill et al., 2002). Deaf students may have lower level literacy skills in comparison to their peers, this is due to their lack of exposure to conversation and the extended vocabulary that this enables.

There are many students with physical disabilities that make it difficult for them to use a keyboard or mouse that can prevent them from navigating through documents without discomfort.

Many students who still do not own computers or do not have the latest versions of software that are being used within the Institute. Although not disabled it is possible that these students are being disadvantaged through a lack of access to the information on Blackboard. These students can be helped by making it easier for them to find information in the limited time in which they have access, by ensuring that the information is in a format that they can access without specialist software or the latest technology, by ensuring that information is in a format that can easily be printed from the sites.

## **Special Educational Needs and Disability Act 2001(SENDA)**

The following information is taken from

<http://www.ukcle.ac.uk/directions/issue4/senda.html>

### **What does the Act cover?**

The Act introduces the right for disabled students not to be discriminated against in education, training and any services provided wholly or mainly for students, and for those enrolled on courses provided by 'responsible bodies', including further and higher education institutions and sixth form colleges.

Student services covered by the Act can include a wide range of educational and non-educational services, such as field trips, examinations and assessments, short courses, arrangements for work placements and libraries and learning resources.

### **What will the new Act mean in practice?**

It will be unlawful for responsible bodies to treat a disabled person 'less favourably' than a non-disabled person for a reason that relates to the person's disability. If a disabled person is at a 'substantial disadvantage', responsible bodies are required to take reasonable steps to prevent that disadvantage. This might include:

- Changes to policies and practices
- Changes to course requirements or work placements
- Changes to the physical features of a building
- The provision of interpreters or other support workers
- The delivery of courses in alternative ways
- The provision of material in other formats

In addition to SENDA legislation institutions also need to take in to account the QAA precepts relating to disabled students in particular precept 10, which states that:

**The delivery of programmes should take into account the needs of disabled people or, where appropriate, be adapted to accommodate their individual requirements.**

The implications are that any learning support materials provided for students must be in a format that is accessible to students with disabilities. Whilst the Blackboard environment meets the stringent requirements of US disability legislation 508 of the US Rehabilitation Act amendments of 1998. There are unfortunately no controls over the accessibility of the materials being posted onto Blackboard at present. Under the current legislation teachers are required to make appropriate adjustments to their teaching practice to accommodate the needs of disabled students yet this study and the existing literature in the field shows that many teachers are not even aware of their obligations and even if they are they do not have the skills to implement them. (Dunn, 2003).

Tutors are the main producers on online content and yet they are not aware of the guidelines for accessible content (RNIB 2001) and have not been trained in how to produce it, this national picture is reflected within The London Institute

The researcher found documents:

- In small illegible fonts
- That did not have any headings or styles applied
- That could not be saved in their original format
- That could not be printed off without copying and pasting the information into another format first.

There were also extremely long documents such as course handbooks that did not have tables of contents or any way of easily navigating through them.

Going beyond the accessibility of documents there are bigger questions to be asked and concerns to be raised about online assessments, especially where these are time constrained (Dunn 2003). There are no Institute guidelines about accommodated online assessments even though we are already running online courses.

## **What do we mean by accessible?**

Students present with a diverse range of disabilities it is probably not possible to find a one size fits all solution. However there are some basic protocols that content developers can follow that will make their learning and teaching materials accessible to the broadest possible range of users. The kind of problems that users face depends upon the nature and degree of their disability. Visually impaired students have problems with small fonts and may need to magnify the images on the screen or use a screen reader that will read the content aloud. Students with hearing impairments may need to have captions on audio and video content and students with dyslexia encounter a range of problems including:

- Visual processing (including scotopic sensitivity)
- Phonological decoding analysis and processing
- Reading and comprehension
- Auditory processing
- Memory recall
- Structure and sequencing
- Planning and organisation

(Rainger 2003 )

Many disabled students use assistive technologies that enable them to access electronic information. In order to be accessible materials on Blackboard should be capable of being read by these technologies as well as the ordinary user accessing them through a browser or provide alternative means of presenting the information in a format that disabled users can access.

Ease of printing is also important because many dyslexic students like to print out content and view it offline so that they can read it at their leisure they may also need to adjust the fonts and colours to suit their personal preferences.

Acrobat 6 was selected for the trial because of the range of built in accessibility features that it offers. These are outlined in the table 1. Documents in this format do not require the student or end user to have the software that created the original document in order for them to be able to access it. All they need is the free reader that can be downloaded from the Adobe website if they are using their own computer and is available on all of the Institute machines. However at present

the version on the Institute clone does not support all of the accessibility features and it urgently needs to be updated.

Table 1 Acrobat 6 accessibility features: source [http://www.adobe.com/products/acrobat/pdfs/acro\\_access\\_at\\_a\\_glance.pdf](http://www.adobe.com/products/acrobat/pdfs/acro_access_at_a_glance.pdf)

FEATURE	ADOBE READER 6.0 (INCLUDED IN ACROBAT 6.0 ELEMENTS)	ACROBAT 6.0 STANDARD	ACROBAT 6.0 PROFESSIONAL	WINDOWS	MAC OS X
New: Read PDF files aloud using standard operating system text-to-speech	X	X	X	X	X
Utilize advanced reading functions using Windows-based screen readers	X	X	X	X	
New: Quickly evaluate the accessibility of a PDF file	X	X	X	X	X
New: Customize the font size in the Acrobat 6.0 navigation panels	X	X	X	X	
New: Choose alternate reading orders	X	X	X	X	X
New: Take advantage of Japanese Language support	X	X	X	X	X
Improved: Use keyboard navigation	X	X	X	X	
View documents in high-contrast mode	X	X	X	X	X
Zoom in on text and reflow it to fit any size view	X	X	X	X	X
Save Adobe PDF content as text (TXT)	X	X	X	X	X

Other advantages of the format are that it offers full searching functionality and indexing features for easy retrieval of documents and email and review facility for easy tracking of documents that require input or approval from multiple authors. The software also enable the easy creation of forms that can be filled in online or printed out, thus cutting down on the amount of paper required in course administration. Students who do not own a computer but have a personal digital assistant (PDA) can download a reader that enables them to view PDF documents on their PDA.

As well as being in an accessible format documents (paper based or online) can benefit the user and the author if they are designed to take account of some simple structural guidelines. Well designed documents are not just useful for students with disabilities they also make accessing information easier for all users

## **What is good design?**

A well-designed document should have a clear structure with headings and subheadings that make it easier for text to speech software to read and navigate. There should be alt tags for any images so that users who cannot see them know what the image was of and so that the reader can identify them.

Good design is relevant whether you are producing web pages documents for printing or for viewing on screen. It does not need to take any longer than producing a document that is not accessible and it can even save you time if you use templates. However, it does require a bit of thought and forward planning.

Guidelines for good web design are produced by <http://www.w3.org/WAI/> and the RNIB many of these guidelines are also applicable for online documents online. These guidelines are listed in Appendix 1

## **Methodology**

A sample of staff across the college was selected to participate in the trial. These were members of the FdAFDT course team and other staff who would be expected to contribute to the College Staff Intranet.

The FdA course team were invited to a training session run by David Stevenson from Adobe. A second training session was run by the researcher at the beginning of the trial and other staff were offered individual training sessions. Each member of the trial group also received a tutorial pack. A group was set up for the trial on the college intranet and support documents, external links and a FAQ section were established.

The original schedule had to be adjusted for several reasons;

- The original contact at Adobe moved on and a new contact to support the project had to be established
- The licences from Adobe to run the trial took longer to arrive than expected
- The technicians were very busy with the windows 2000 upgrade and took longer than anticipated to install the software on all of the trial groups computers
- The first installation using the Zenapp did not work and the software had to be reinstalled from a CD.

This meant that some of the staff that had received training were unable to use the software for some time and required a follow up training session.

The researcher converted all existing documents on the FdAFDT Blackboard site into PDF format and reorganised the site into structured folders that indicated the content. Staff on the programme were then emailed and asked to make sure that any new documents were in PDF format and placed in the appropriate folders.

All of the course handbooks for the college were converted to PDF and placed on the college intranet. It was discovered at this point that a lot of key documents were not being efficiently set up so converting them from word was more time consuming than it should have been. The researcher therefore designed some templates that could be used in future to ensure that accessible documents could be created automatically. These templates were sent to the college administrator for approval.

A variety of the most widely used forms were converted for online completion and uploaded to the

intranet. These included, finance forms, staff development forms and research forms. They were set up so that they could be emailed directly to the person responsible for processing them thereby cutting down on paper and saving time (see appendix 2 examples of online forms).

A range of tutorials to show staff how to use some of the advanced features of Blackboard and how to create and use PDFs to improve the accessibility of materials on Blackboard were created and uploaded to the Blackboard support site. Each example was accompanied by a step-by-step tutorial in how to create it. (see appendix 3 examples of tutorials)

At the end of the trial online questionnaires were posted on the FdAFDT site and the college intranet and users were asked to complete these questionnaires the analysis of which is in the findings.

The participants in the trial were also asked to complete a questionnaire and a sample of these respondents was then interviewed.

The analyses of the questionnaires are in the appendices.

Of the original participants in the trial three dropped out or left the college and had to be replaced. Those joining the trial late had less time to use the software and become familiar with it.

A lot of the participants also felt that they did not have time at work to properly engage with the software and some of these asked to be allowed to use it at home. It was verified with the IT manager that this was within the remit of the licence and those people who wanted this facility were allowed to add the software to their home computer.

## Findings

There were many positive aspects to the format that users liked and some issues that arose during the trial. Altering the set up of the Institute clone or installing the full version of the software for all users can fix many of these issues.

### Finding 1 performance across the Institute Network was inconsistent

There were some problems that emerged very early in the trial. PDFs sent as email attachments could not be opened directly in the version of Netscape in the clone; this was also true of PDFs uploaded to Blackboard when Netscape was the browser. Although the Institute had moved to Internet Explorer as the preferred browser users were not always aware of this and were in the habit of using Netscape to access the Intranet. A notice was added to the login page of Blackboard to alert users to this fact and notices were added to the college intranet and FdaFDT Blackboard site to alert users to this problem. The ideal situation would have been to either change the version of Netscape or to remove it completely from the clone. However it was noted by one of the respondents who taught IT that the documents did not behave consistently on the Network even in Internet Explorer

**The room is set up identically 511 doesn't work 504 does, the PDF file doesn't open whereas in 511 you have to save and then open it whereas in here it just opens.**

**Respondent J**

The problem only existed when trying to open the files in the browser, from a CD or the home drive there was not a problem. Neither the lecturer nor the researcher had an explanation for this as all the machines were running windows 2000 and supposedly had the same applications. It was noted however that the problem was only evident in rooms that had older machines.

The version of Acrobat reader on the Institute clone, version 5 also meant that not all of the features available in the software could be used. Also whenever a document was opened the user was prompted to upgrade even though the Institute systems would not allow them to do this. An immediate upgrade to reader 6 would have solved this problem but was not possible within the timeframe of the trial.

### Finding 2 There were many advantages to the software and its extended features

There were many features of the software that the pilot groups liked and found advantageous. These included:

- Students who did not have latest word and excel on their home computers could access the documents using the free reader
- Long and complex documents were easier to Navigate using Bookmarks and the search facility
- File sizes were smaller
- Creating documents from word was very easy
- Printing documents was very straightforward and easier than other formats and cut down on waste as users could select only the pages that they wanted to print.
- Multiple formats could easily be combined into one document
- Users thought that the overall appearance of the documents was attractive and easy to read
- Mac users were pleased to have a cross platform format
- Users without proprietary applications such as Word and Excel were able to access information

Results from the questionnaire show that 50% of users across both groups found the documents



easy to access and open. The comments indicated that there were a variety of reasons why other users had difficulties and many of these seem to relate to the user trying to open the documents in Netscape or not having the reader on the computer they were using.

**It says that it is transferring the timetable to the Acrobat, but when it opens it the page is blank.**

**Student FdAFDT**

**Sometimes I find opening some of the documents within blackboard, such as the timetable, a problem to open, I have to copy the short cut and open them separately**

**Student FdAFDT**

**Had to save first, then open. Difficulty in closing down when in PDF**

**College Intranet User**

**I don't think I have the right programme to open them on my computer at home**

**FdAFDT student**

The overall appearance of the documents and the ease with which they could be printed were also seen as strengths. One of the clear advantages of using PDF in art and design is that it preserves the visual integrity of the original document and this is sometimes as important as the content.

*Table 2 Year 1 FdA FDT*

How easy was it to print the Acrobat (PDF) documents?	% Responses
■ Very easy	50%
■ Quite easy	19%
■ Don't know	6%
■ Quite difficult	6%
■ Very difficult	0%
■ I did not try to print any of them	19%

*Table 3 Year 2 FdAFDT*

How easy was it to print the Acrobat (PDF) documents?	% Responses
■ Very easy	15%
■ Quite easy	35%
■ Don't know	20%
■ Quite difficult	0%
■ Very difficult	5%
■ I did not try to print any of them	20%

*Table 4 College Intranet Users*

If you printed any of the Acrobat (PDF) documents how easy did you find this to do?	% Responses
■ Very easy	35%
■ Quite easy	25%
■ Don't know	15%
■ Quite difficult	0%
■ Very difficult	0%
■ I did not try to print any documents	25%



Comments included:

**I find it makes printing out the documents easier as you know exactly how they are going to look once printed.**

**FdA Student**

**Easy to read and print off**

**FdA Student**

**It's much better for printing documents**

**FdAFDT student**

**Its easy to use/ read**

**FdAFDT student**

**Easy and common program**

**FdAFDT student**

The cross platform nature of the software was seen as a major advantage by the respondents who normally used Macs or who have Macs at home and also for those Blackboard users who did not have word or excel on their home computer.

**One of the things is it is across platform which is why I used it for the MA work anybody can actually open up a document which is great really because I am always struggling working on a Mac at college to open things up or send things through to a PC. So that is great for me because it kind of cuts out all that nightmare.**

**Respondent P**

**When I go there when I try to download things we do normally I can't because she hasn't got word we have to go via the laptop. I do realize the value of it because if it had been an adobe file presumably I could have downloaded it.**

**Respondent S**

### **Finding 3 there were some raised by use of the software**

As well as the issues relating to the Institute's Network there were some other issues that require consideration:

- Some users reported that the documents took longer to open
- Some users could not download the latest version of the reader on their home computers usually Mac users
- To create entire workbooks in Excel requires a simple work around but can be frustrating if you are not aware of it- converting individual worksheets is straightforward
- The introduction of any new software requires time for familiarisation and the building up of expertise

### **Finding 4 Usage of the software varied according to the trial groups levels of experience with IT and many felt that they had insufficient time to get used to it**

Some of the trial group either did not use the software at all or did not use it extensively. The reasons given for this were either that it was not necessary in order to do their work at that stage or that they could not find the time to become familiar with the software.

**I just go into Blackboard and do what I need to do in BLACKBOARD...I print out projects I –print out my registers I send emails that's about it really**

**Respondent C**

**It's not automatic known to me I have got to sit there and think about what I am doing to convert the file I have tried to convert a few files but the reason is at the moment its quicker just to do the one I know**

**Respondent S**

**Those that had previous experience in using the software used it extensively and were aware of the range of features that it offered and how it could benefit them in their work.**

**I have been using it on a daily basis it is my preferred format for the security I use the security settings a lot even on my website I put my PDFs on with security .So only people I want can get it.**

**Respondent J**

**Because I read up when I did my MA that was in PDF so I read up a lot about the features and put that in the supporting essay. I haven't used them but I know about them about security and things like that.**

**Respondent P**

#### **Finding 5 Tutors want the use of online materials to be more integrated with face to face delivery**

Even those who had not used the extended features could see the value of them in particular the ability to integrate multimedia in order to create learning resources. However the respondents also identified that these resources would be most useful if it was possible to integrate them within a studio environment.

**I suppose it could so long as they had the computer in the knit room there to refer to I can't imagine it is worth watching if you are not going to do it yourself Respondent C**

**I think students are bad about picking things up afterwards they are concerned about accessing that at the time they are doing it in the environment.**

**Respondent S**

Two of the respondents were concerned that having this kind of interactive material might replace their role as the tutor.

**You do something in Photoshop for example, you just press the button and we wouldn't have to be here would we**

**Respondent J**

**But that does away with the teacher then doesn't it?**

**Respondent C**

## **Finding 6 Users like the layout and ease of printing but wanted to interact with the documents**

Although many of the respondents had not used the accessibility features they saw the value of them for students in their groups who had disabilities. The format of the documents was liked with comments about their clarity, that they looked more professional and that printing them was easy. A particular advantage being that students could now print out individual pages of documents from Blackboard therefore cutting down on wastage. However some respondents who used the college intranet but did not have the software commented on not being able to annotate the documents

**If I want to print them off they are fine but they can't be used as the basis for amending or altering things and sometimes this is what you need them for**  
**College Intranet User**

**The layout and presentation are very nice it less useful format when as a reader you want to insert notes and comments for yourself**  
**College Intranet User**

If the software were standard on the clone this would not be an issue as the full product enables commenting and editing.

The ability to search documents and to create bookmarks and links in long documents was also popular and seen as being very useful. Respondents generally felt that the software was easy to use and looked familiar if they had used other Adobe or Microsoft products.

**I found it useful and quite easy I was a bit surprised to see that it was similar to other software I used. I felt quite confident at the beginning that I could use that software without great difficulty. I like what we did with sending an email so other people can check it and send comments**  
**Respondent D**

They felt that they just needed more time to get used to it and perhaps some further training on some of the advanced features.

## **Finding 7 Users need to develop their general IT skills**

One respondent identified that part of the problem for her was that she felt that she did not really use the technology already available to her to its full advantage and that it required a change of mind set in order to fully engage with and use the facilities on offer.

**It also about how people use the existing facilities. I just use it as a typewriter and communicator and you use it and "X" uses it much more. So when you start to talk about things like that you are taking it much more to your level than my level.**  
**Respondent S**

## **Finding 8 There is a lack of awareness of SENDA legislation and the needs of Disabled Students**

Although some of the group were aware of the SENDA legislation they were unclear about its implications in terms of their roles and their practice. In particular they were unaware of the need for learning resources to be in a format that is accessible to users with disabilities.

**In terms of my job as a teacher? I don't know how that will have an impact.**

**Respondent C**

**No honestly I would say that I would hazard a guess. I would say that I don't know the answer and be sure I know the answer....It makes good sense...This software would make that easier**

**Respondent J**

**Disability staff development full stop doesn't actually highlight to us...nobody is sending information around saying you must attend this because it is a new law which is what I would expect them to start doing. This is something that needs to be brought to the fore and highlighted for staff**

**Respondent S**

The majority had not used the accessibility features although some were aware of them and knew that the software would create documents that were accessible. One respondent felt that had she been more aware of the SENDA legislation and its implications for her as a teacher that she would have put more effort into learning to use the software and would have given it higher priority.

## **The extent to which the objectives of the study were achieved:**

### **To develop the seamless integration of documents in the Blackboard environment**

It is entirely possible to enable students to easily access documents within Blackboard using Acrobat software. The students do not need a range of software to facilitate this but they do need a basic introduction into the key features of PDF documents if they are to get the most out of the format. It is particularly useful that direct links to documents can be placed within announcements or emails that open the relevant document when the student logs in.

The student focus group indicated that once they had understood the need to use Internet Explorer to access the documents they had experienced no problems with opening or printing them within the college environment. They liked the way that the site had been re-structured using folders to organise the materials and that they could print off individual pages of the documents saving them money on their print accounts.

There were some students who had difficulty downloading the latest version of the Acrobat reader on to their home computers because they were using an unsupported version of the Mac OS. There are some issues with inconsistencies in the way in which the Institute network functions. The technical reasons for this and the solutions are beyond the expertise of the researcher but need to be addressed if the staff and students are to have confidence in using IT in their teaching and learning.

### **To improve the accessibility of materials**

In terms of accessibility there were advantages and disadvantages to the format as discussed above many of the disadvantages could be overcome within the Institute but there are other issues pertaining to students accessing the documents from their home computers that would have to be addressed by the individual user.

It is not possible to ensure that every student using a computer outside of the Institute can access an individual document due to the wide range of operating systems and platforms available, however, PDF documents are accessible on most systems and are accessible on all computers within the Institute that are on the latest clone. Mac users can access the documents but need OSX to take full advantage of the accessibility features in version 6.

Feedback from the student groups also indicated that students who did not have their own Internet access felt disadvantaged. The current open access facilities were seen as being inadequate for their needs "there's always a queue". They were very keen on the notion of wireless access and more flexible ways of accessing the information through mobile phones and personal digital assistants.

The researcher attempted to get the opinions of students on the FdAFDT course with disabilities that had been using the site. The researcher was sympathetic to the notion that these students may not wish to be identified or targeted directly so she employed several strategies including:

- Posting an invitation to participate on Blackboard
- Asking study support to pass on a letter of invitation to students
- Contacting group tutors and asking them to approach individuals who they knew had a disability

The first two strategies were unsuccessful and the third only partially so. Toward the end of the study it was possible to identify individuals but this was not in time for the completion of this report. The researcher intends to extend the study to offer the software and training to a selection of these

students in order to get their direct feedback. However it was possible to test some of the assistive software that these students use.

The two main assistive applications that students in the Institute use are Lunarplus and Texthelp/Read & Write. Read and write gold adds a toolbar into Adobe Acrobat enabling speech with synchronised highlighting within your PDF files. PDFAloud is included within [textHELP Read & Write Gold](#) that was released early this year. Lunarplus is used by students with visual impairments and read and write plus by students with dyslexia.

The format was tested with the Lunarplus accessibility software in LCF library. Lunarplus was able to magnify the text both with the Blackboard environment and PDF and word files posted on the site. The speech reader works within Blackboard and word but not within the PDF files. However, as Acrobat 6 has built in text to speech functionality this is not an issue.

Texthelp is not yet installed in the LCF library due to issues of browser compatibility and therefore this has not yet been tested. Another popular piece of assistive software Jaws 4.5 reads the documents in Blackboard with no problems.

### **To create interactive forms and course documents**

Creating interactive forms in Acrobat is very easy and they can be set up to perform simple calculations as well as text-based data. Most users found the forms easy to use once they realised that they had to either go into Blackboard through Internet Explorer or save the document first. Forms can be set up so they can be emailed directly to the intended recipient using a submit button. It is possible to set up databases that extract information from these forms for analysis. This requires some scripting that was beyond the technical capabilities of the researcher and within the timeframe of the study it was not possible to set this up. However where there are documents that are generic to the Institute it would be worth investing in this option to cut down on the administrative load and the amount of paper involved in collecting certain types of data for example: Staff research returns, Staff development bids, petty cash etc. The free reader does not enable users to save completed forms only to submit the information as FDF (form data format) or to complete them and print them out. If Acrobat 6 was a standard part of the clone this would enable users to save and email forms.

Converting the majority of course documents into PDF is very straightforward. All documents on the FdAFDT were converted and large documents such as the course handbook were much easier to access. It was also possible to include live links to web pages with the reference list and to other areas of the Institute website where students could get further information e.g. careers.

Converting the timetables was problematic in the first instance because they were in the form of Excel workbooks however trial and error showed that by printing the workbook to the Acrobat printer this could easily be overcome and the end result was a more user friendly version of the timetable that also reduced wastage in printing.

The researcher also experimented with creating an online register. This was sent directly to the course administrator thereby cutting out the need for paper and speeding up the flow of this information. The course administrator felt that the format was much clearer and easier to deal with than paper based versions. ( appendix\*)

## **To create templates for the inclusion of multimedia elements within teaching and learning materials**

A range of materials and tutorials were created using Acrobat and other programmes such as Photoshop with which many staff are familiar. Incorporating multimedia within Blackboard is technically quite straightforward although there are some concerns about whether or not the network could support a large number of courses using audio and video. The researcher also considered the pedagogic issues relating to the use of multimedia within a virtual learning environment and a guidance pack was developed to support the multimedia materials. The materials are available on the Blackboard support site of which all Blackboard users are members and can be accessed at:

[http://blackboard.linst.ac.uk/bin/common/course.pl?course\\_id=239\\_1&frame=top](http://blackboard.linst.ac.uk/bin/common/course.pl?course_id=239_1&frame=top)

The guidelines for the use of multimedia are in Appendix 5.

Multimedia used effectively can enhance the accessibility of information for students with disabilities by providing audio for those with visual impairments and text and visuals for those with hearing impairments. It is fairly straightforward to add text and commentary to quick time movies full instructions can be found at:

<http://ncam.wgbh.org/richmedia/tutorials/qtdeschowto.html>

Good examples of this in use are available at;

<http://www.dignubia.org/galleries/video.php>

<http://ncam.wgbh.org/richmedia/examples/122.html>

Advice on adding captions is available at:

<http://main.wgbh.org/wgbh/pages/mag/services/captioning/faq/sugg-styles-conv-faq.html>

QuickTime movies with captions can be embedded in PDF documents an example of this is available at;

[http://ncam.wgbh.org/richmedia/media/biodiv\\_caps.pdf](http://ncam.wgbh.org/richmedia/media/biodiv_caps.pdf)

## **To enable users with minimal skills to create exciting media rich content**

Animations are very easy to produce and are an excellent way of drawing students' attention to items of importance. It is also very easy to create slideshows and web galleries using the automated functions in Photoshop. All of these are covered in step-by-step tutorials on the support site. Creating these tutorials was quite time consuming so there was not time within the study to evaluate them with user groups. The researcher intends to do this in the next academic term. The main issue is to disseminate this information and for academic staff to find the time to try them out in order to enhance their sites. The ITRDU intends to run advanced Blackboard training sessions for staff that wish to use the more advanced features of Blackboard and delegates will be shown how to use the tutorials.

## **To evaluate the effectiveness of the software in achieving these objectives**

Although the software has the capability to meet the objectives of the study it is not possible to guarantee that every user will be able to access every document in every situation regardless of their hardware, software, disability or level of IT experience. Indeed there is at present probably no one format that could achieve this. There are some actions that can be taken to ensure that content in PDF on Blackboard is accessible to as wide a range of students as possible. These actions include:

- Upgrading the reader on the clone to version 6
- Replacing Netscape with a different email client and removing the browser from the clone
- Ensuring that the Network is set up so that there is consistency in the way that applications



work within it.

- Induction to the format in Blackboard training sessions and student IT inductions
- Advanced training for users with disabilities to ensure that they are aware of and are able to use all of the accessibility functions.
- Training for all admin staff in how to set up word documents and templates so that they are accessible and can easily be converted
- Staff development sessions that focus upon the pedagogic aspects of using a VLE and go beyond the merely technical.

As with any programme of change it is important to ensure that appropriate support is in place to meet the objectives.

## **Conclusions and recommendations**

The issue of accessibility and VLEs is becoming the focus of a range of research programmes and initiatives across the UK. Institutions are starting to realise that they need a strategic approach to accessibility that is proactive and inclusive. The technical and practical issues are quite complex and not surprisingly staff that have not been trained in creating accessible materials are not aware of all of the issues involved. The presentation of information in electronic formats has many benefits for students with disabilities including enabling them to use assistive software. If the Institute is to meet the legal requirements of SENDA and the QAA precepts relating to disabled students then it will be necessary to develop guidelines and possibly templates for staff on the production of teaching and learning materials both online and offline. VLE developers will need to work closely with the disability support unit to ensure that students are given the best advice on selecting hardware and software to support them in their studies.

There are definite advantages in using the PDF format however Sajka and Roeder (2002) suggest that PDF documents in the public domain should also be supported by a version in another format. This paper relates to Government websites who are working with a wider and less well supported audience. If authors follow the accessibility guidelines created by Adobe (<http://www.adobe.com/products/acrobat/solutionsacc.html>) it is possible to preserve the aesthetics of a document whilst enhancing its accessibility.

In addition to the posting of documents tutors may wish to consider the impact of the use of tools such as the discussion board and virtual classroom for users with disabilities. Dunn (2003) found these to be particularly problematic although Doyle (2001) indicates that some of these issues are being addressed in Blackboard version 6.

it is feasible to ensure that PDF documents are accessible when students are accessing Blackboard from within the Institute. The question is whether this is sufficient to meet the needs of the SENDA legislation

Going beyond the software there is clearly a need to ensure that all staff are aware of the implications of the SENDA legislation for teaching practice and the production of learning resources. Relying upon attendance at staff development for these important issues clearly is not working.

Staff also need to be encouraged or rewarded to gain sufficient understanding of IT to be able to produce learning support materials in appropriate formats that ensure that they are well designed and accessible. This could be achieved through the professional courses run by CLTAD and by integrating this within the central IT training programme and the Blackboard training run by the ITRDU.



The findings in this report are reinforced by other studies into the usability and accessibility of virtual learning environments. Dunn (2003) also points to a lack of awareness within FE and HE about the needs of disabled students she identifies the key themes as:

- A lack of awareness within FE and HE about the needs of disabled students
- A lack of user-centred design processes (on the part of VLE developers and education institutions)
- A lack of knowledge of web technologies on the part of VLE content authors
- A general 'skills gap' in the area of instructional design, and
- A lack of strategic leadership within institutions in tackling the overall issue of inclusive learning and teaching.
- A series of recommendations for ways to tackle these and other causes of inaccessible learning provision is addressed to the principal VLE stakeholder

(Dunn, 2003)

The trial was successful on many levels, especially in highlighting the complex range of issues that are involved in ensuring that the Institute is acting positively to meet the needs of the SENDA legislation. There are some technical issues to be resolved in the production of teaching and learning materials to ensure that they are well designed and accessible both on and off line. However the bigger issue is one of disseminating the implications of this legislation to those who are responsible for producing documentation for learners and indeed other staff. There is an awareness of the legislation but not a widely held understanding of its possible impact.

There is an implication for the way in which staff development is used to support this dissemination. It was very clear from the study that staff feel the pressure of time and even when they are keen to take on new skills they will only do what they see as being essential to their job. At present learning to create accessible learning material or course documentation does not feature highly on this agenda.

There is a paradox in that as an Institution we are working to a very tight brief in the accessibility of information that reaches students and potential staff before they join us e.g. on our website and in our prospectuses. However, once students and staff are here there are no guidelines on the production of teaching and learning materials and other vital information. Addressing this is not going to be simple or easy but there are some initial steps that could be taken to start the process these include:

- The production of templates for key documents such as assignment briefs and handouts that meet the requirements of the legislation
- Publishing of criteria for accessible document design across the Institution of these criteria in basic IT and Blackboard training
- Staff development sessions targeted at those who create and post key documents e.g. administrators, academics and LLR staff.

## **The next step**

The fellowship period enabled the researcher to focus on the aims and to meet most of the objectives of the study. However it has also highlighted further areas for development and investigation that will form the agenda for further research into the area. This agenda includes further investigation into the ways in which information on Blackboard can be made more accessible including the evaluation of other formats e.g. Flash. Investigations into improving access for those students who do not own a computer and who find the current open access facilities insufficient. This would include the use of wireless technologies, mobile computing and the extended use of text and multimedia messaging to mobile phones.

The latter also has implications for the way that IT is integrated into the curriculum. The respondents in the study were clear that the best way to utilise online learning materials was to bring them into the classroom or studio where they could be used to directly support face-to-face delivery. This model has been very successful where it has been applied on the ND Fashion and Clothing where students can access the garment construction tutorials in their sample room.

Multimedia is underused as a means of enhancing the Blackboard environment. The researcher intends to develop further training materials and development sessions on using multimedia to enhance Blackboard and make it more accessible.

It is planned to run further training sessions on accessibility and the use of Blackboard and to disseminate the findings of this study through conference papers and journal articles.

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Stiles. 2001 *Disability Access to virtual learning environments* (online) <http://www.techdis.ac.uk/resources/stiles01.html>

Accessed February 2003.

## Appendices

### Appendix 1

#### Guidelines on good Practice for Design of Accessible Online Documents

##### W3.org Quick Tips To Make Accessible Web Sites

**Images & animations:** Use the **alt** attribute to describe the function of each visual.

**Image maps.** Use the client-side **map** and text for hotspots.

**Multimedia.** Provide captioning and transcripts of audio, and descriptions of video.

**Hypertext links.** Use text that makes sense when read out of context. For example, avoid “click here.”

**Page organization.** Use headings, lists, and consistent structure. Use **CSS** for layout and style where possible.

**Graphs & charts.** Summarize or use the **longdesc** attribute.

**Scripts, applets, & plug-ins.** Provide alternative content in case active features are inaccessible or unsupported.

**Frames.** Use the **noframes** element and meaningful titles.

**Tables.** Make line-by-line reading sensible. Summarize.

**Check your work.** Validate. Use tools, checklist, and guidelines at <http://www.w3.org/TR/WCAG>

*For Complete Guidelines & Checklist: [www.w3.org/WAI](http://www.w3.org/WAI)*

#### RNIB Guidelines

The RNIB recommend the following as the basis of good design for people with visual impairment.

Users should be able to adjust text and colour settings to suit their individual needs.

Careful design is paramount for people accessing the web using speech access because inappropriate use of HTML can make a website unreadable.

##### Type size

The size of the type (known as point size) is a fundamental factor in legibility. We recommend a type size with an ‘x’ height between 2mm and 4mm. This translates approximately as a typeface between 12 to 14 point, but be aware that the height of an ‘x’ in your chosen font is a more accurate measure. To make sure you reach more people with sight problems it’s better to go for 14 point (x height 4mm).

##### Contrast

The contrast between the background and the text is a vital factor in legibility. The better the contrast, the more legible the text will be. Note that the contrast will be affected by the size and weight of the type. Black text on white background provides best contrast.

##### Typeface

The choice of typeface is also important to legibility. As a general rule, be guided by typefaces such as Arial, Universe and New Century Schoolbook. These are all good examples of clear and legible type faces.

Avoid simulated handwriting and ornate typefaces as these can be difficult to read.

##### Type styles

Capital letters and italicised text are both generally harder to read. A word or two in capitals is fine but avoid the use of capitals for continuous text. We advise that italic text is not used where an alternative emphasis is available.

##### Leading

The space between one line of type and the next (known as leading) is important. As a general rule, the space should be 1.5 to 2 times the space between words on a line.

##### Type weight

People with sight problems often prefer bold or semi-bold weights to normal ones. Avoid light type weights.

## **Numbers**

If you print documents with numbers in them, choose a typeface in which the numbers are clear. Readers with sight problems can easily misread 3, 5, 8 and 0.

## **Line length**

Ideally, line length should be between 60-70 letters per line. Lines that are too long or too short tire the eyes. The same applies to sentence and paragraph lengths, which should also be neither too long nor too short.

## **Word spacing and alignment**

Keep to the same amount of space between each word. Do not condense or stretch lines of type. We recommend aligning text to the left margin as it is easy to find the start and finish of each line and keeps the spaces even between words. We advise that you avoid justified text as the uneven word spacing can make reading more difficult for people with sight problems.

## **Columns**

Make sure the margin between columns clearly separates them. If space is limited, use a vertical rule.

## **Reversing type**

If using white type, make sure the background colour is dark enough to provide sufficient contrast.

## **Setting text**

Avoid fitting text around images if this means that lines of text start in a different place, and are therefore difficult to find. Set text horizontally as text set vertically is extremely difficult for a partially sighted reader to follow. Avoid setting text over images, for example photographs. This will affect the contrast and, if a partially sighted person is avoiding images, they will miss the text.

## **Forms**

Partially sighted people tend to have handwriting that is larger than average, so allow extra space on forms. This will also benefit people with conditions that affect the use of their hands, such as arthritis.

## **Navigational aids**

It is helpful if recurring features, such as headings and page numbers, are always in the same place. A contents list and rules to separate different sections are also useful. Leave a space between paragraphs as dividing the text up gives the eye a break and makes reading easier.

## **Printing.**

### **Paper**

Avoid glossy paper because glare makes it difficult to read. Choose uncoated paper that weighs over 90 GSM. As a general rule, if the text is showing through from the reverse side, then the paper is too thin.

### **Format**

When folding paper, avoid creases which obscure the text. People who use screen magnifiers need to place the document flat under the magnifier, so try not to use a binding method that may make it difficult to flatten the document

Further information is available from: <http://www.rnib.org.uk>

## **Useful links for further information**

<http://www.disability.gov.uk/>

Government information site for people with disabilities

<http://www.artsigns.ac.uk/>

an online British Sign Language (BSL)/English glossary for art, design and communication

<http://www.skill.org.uk/>

Skill: National Bureau for Students With Disabilities. Skill is a national charity promoting opportunities for young people and adults with any kind of disability in post-16 education, training and employment across the UK.

<http://www.rnib.org.uk>

Royal National institute for the blind

<http://www.w3.org/WAI/>

Web access initiative intensive information on making web documents accessible

<http://www.alladin.ac.uk/>

Information on supporting art and design students with dyslexia

<http://www.rnid.org.uk/>

Royal national institute for the deaf

<http://www.microsoft.com/enable/default.aspx>

Microsoft information and resources on accessibility

Techdis

<http://www.techdis.ac.uk>

## Analysis for Acrobat Survey Year1 FdAFDT

Year 1 Total Responses = 16

Question 1: True/False	
I have access to a computer with an Internet connection at home	% Responses
True	75%
False	25%

Question 3: Multiple Choice	
Please select the most appropriate response	% Responses
I do not have a computer at home	13%
I have a computer at home with Acrobat reader	56%
I have a computer at home but do not have acrobat reader	19%
I have a computer at home but do not know whether I have acrobat reader	13%

Question 4: Multiple Choice	
Once you have access to a computer do you have any problems getting into Blackboard?	% Responses
Yes a lot of problems	6%
Sometimes I have a problem	31%
I had a problem once but it has been resolved	25%
I have never had a problem	38%

Question 5: Short Answer/Essay	
If you have experienced problems accessing Blackboard please indicate the nature of the problem	

Click the **View Responses** button above to see a listing of all of the responses

1. At first I wasn't registered to my course, therefore I couldn't get any information from

- it... sometimes my computer can be a little slow.
2. Sometimes the class is cancelled, but the changes are not on the blackboard.
  3. No problem accessing Blackboard
  4. *No Response*
  5. *No Response*
  6. When the site is experiencing problems and I cannot sign in.
  7. *No Response*
  8. Before xmas when nobody could enter black board.
  9. *No Response*
  10. I can not access the Cultural Studies Website via blackboard
  11. I tried to download the timetable but a message came up on my computer saying the file looked suspicious, but it's fine now
  12. Right now can't seem to be able to access my new time table, which is becoming frustrating as I don't know my lessons and I can't organise myself 4 a lesson. I don't like getting my results from the internet as I don't know much about the marking and I prefer some one going though it with me.
  13. The connection breaks up sometimes due to problems with the server.
  14. Shown the wrong year
  15. It has only happened once when the Blackboard system went down
  16. *No Response*

Question 6: Multiple Choice	
Have you had any problems opening the Acrobat (PDF) documents on your Blackboard site?	% Responses
No I did not have any problems	50%
Yes I had a few problems	38%
Yes I had a lot of problems	6%
I did not try to open any of them	6%

Question 7: Short Answer/Essay	
If you had a problem please state what the nature of the problem was	
Click the <b>View Responses</b> button above to see a listing of all of the responses	

1. There were times when I couldn't get the new timetable to come on.
2. *No Response*
3. Sometimes I find opening some of the documents within blackboard, such as the timetable, a problem to open, I have to copy the short cut and open them separately.
4. Once it just didn't open them...
5. *No Response*
6. None
7. *No Response*
8. It takes too long to download but I feel that is due to my computer being slow.
9. *No Response*
10. N/a
11. Same as above



12. It says that it is transferring the timetable to the acrobat, but when it opens it the page is blank.
13. I do not have any problems.
14. *No Response*
15. I just had a problem getting this survey open. I succeeded the 4th time. First it wouldn't open the page. On the next attempt I'm told I've already done the survey!! It happened again but finally it opened.
16. *No Response*

<b>Question 8: Multiple Choice</b>	
How easy was it to read the Acrobat (PDF) documents	% Responses
Very easy	44%
Quite easy	44%
Don't know	6%
Quite difficult	0%
Very difficult	0%
I did not read any of the documents	6%
<b>Question 9: Multiple Choice</b>	
How easy was it to print the Acrobat (PDF) documents?	% Responses
Very easy	50%
Quite easy	19%
Don't know	6%
Quite difficult	6%
Very difficult	0%
I did not try to print any of them	19%

<b>Question 11: Multiple Choice</b>	
How easy was it to use the online forms?	% Responses
I did not use any of the forms	63%
It was very easy	6%
It was quite easy	25%
It was quite difficult	6%
It was very difficult	0%

<b>Question 12: Short Answer/Essay</b>	
If you had problems using the forms please indicate the nature of the problem	

Click the **View Responses** button above to see a listing of all of the responses

1. *No Response*
2. *No Response*
3. *No Response*
4. *No Response*
5. *No Response*
6. None
7. *No Response*
8. *No Response*
9. *No Response*
10. N/a
11. *No Response*
12. *No Response*
13. I experienced problems, as there were zeros in the columns and couldn't type the figures.
14. *No Response*
15. N/a
16. *No Response*

<b>Question 13: Multiple Choice</b>	
Which browser do you normally use to access Blackboard?	% Responses
Netscape communicator	0%
Internet explorer	88%
Don't know	0%
Other browser	13%

<b>Question 14: Multiple Answer</b>	
We are trying to make the information on Blackboard more accessible for disabled users. Please indicate if you have a disability -this information will be anonymous	% Responses
Hearing impairment	6%
Visual impairment	6%
Dyslexia	0%
Repetitive strain injury	0%
Other	0%

<b>Question 15: Short Answer/Essay</b>	
If you answered other to the previous question please state the nature of your disability	

Click the **View Responses** button above to see a listing of all of the responses

1. No Response
2. No Response
3. No Response
4. No Response
5. No Response
6. No Response
7. No Response
8. No Response
9. No Response

10. n/a
11. No Response
12. No Response
13. No Response
14. No Response
15. n/a
16. No Response

Question 16: Multiple Choice	
Do you like the new Acrobat (PDF) format for documents?	% Responses
Yes a lot	13%
Yes I quite like it	56%
Don't know	31%
Not very much	0%
Not at all	0%

#### Question 17: Short Answer/Essay

Please give reasons for your response to the previous question

Click the **View Responses** button above to see a listing of all of the responses

- 1.No Response
- 2.Because I haven't tried to use it
- 3.Havent really noticed a difference, as didn't use it as much in the first term as I have recently.
- 4.No Response
- 5.No Response
- 6.It's much better for printing documents
- 7.I find it makes printing out the documents easier as you know exactly how they are going to look once printed.
- 8.i have only used it once and that was to get my timetable, but it is very helpful.
- 9.No Response
- 10.Easoy to read and print off
- 11.it makes life allot easier for me
- 12.No Response
- 13.No Response
- 14.No Response
- 15.it seems to work
- 16.No Response

Question 18: Short Answer/Essay	
<p>Do you have any further comments about the new format for documents or any suggestions for how the presentation of information on your Blackboard site can be improved? Thank you for taking the time to complete this questionnaire your responses will help us to ensure that we are offering you the best service.</p>	
<p>Click the <b>View Responses</b> button above to see a listing of all of the responses</p>	

1. No thank you
2. If there is any change try to announce as soon as they get the message.
3. I think it does what it is there to do, quite happy with it as it is.
4. *No Response*
5. *No Response*
6. *No Response*
7. If the announcements could be dated when posted on blackboard - therefore allowing us to know exactly when they were put up so if you have been unable to check blackboard for a while you know how long ago the announcement was made.
8. I think it is very helpful.
9. *No Response*
10. N/a
11. *No Response*
12. *No Response*
13. Last term I was unable to access any notes on cultural studies.
14. *No Response*
15. Not at present. Only used it a couple of months.
16. *No Response*

## Analysis for *Acrobat Trial* Year2 FdAFDT

Total Responses = 20

Question 1: True/False	
I have access to a computer with an Internet connection at home	% Responses
True	70%
False	30%
Question 2: Multiple Choice	
From where do you normally access Blackboard?	% Responses
A computer at college	35%
A computer at home	50%
Another location e.g. internet cafe, public library, friends house	0%
Home and college equally	15%
Question 3: Multiple Choice	
Please select the most appropriate response	% Responses
I do not have a computer at home	10%
I have a computer at home with Acrobat reader	50%
I have a computer at home but do not have acrobat reader	15%
I have a computer at home but do not know whether I have acrobat reader	25%
Question 4: Multiple Choice	
Once you have access to a computer do you have any problems getting into Blackboard?	% Responses
Yes a lot of problems	5%
Sometimes I have a problem	35%
I had a problem once but it has been resolved	35%
I have never had a problem	25%
Question 5: Short Answer/Essay	
If you have experienced problems accessing Blackboard please indicate the nature of the problem	
Click the <b>View Responses</b> button above to see a listing of all of the responses	

1. System failure
2. Blackboard doesn't always allow me to sign in
3. The site is down whether I need to look at the timetables etc
4. N/a
5. *No Response*
6. Most of the time an error occurs and blackboard does not even show up and

sometimes it is impossible to log on.

7. *No Response*
8. *No Response*
9. I just couldn't get in once.
10. I couldn't access the site
11. I could not log in.
12. My password was overdue.
13. I can't remember!
14. *No Response*
15. Nothing so far
16. Wrong password. Sometime even though I can access I can't find the document that I want.
17. Couldn't log in, wrong user name or password
18. *No Response*
19. Could not log in
20. *No Response*

Question 6: Multiple Choice	
Have you had any problems opening the Acrobat (PDF) documents on your Blackboard site?	% Responses
No I did not have any problems	50%
Yes I had a few problems	20%
Yes I had a lot of problems	10%
I did not try to open any of them	20%
Question 7: Short Answer/Essay	
If you had a problem please state what the nature of the problem was	
Click the <b>View Responses</b> button above to see a listing of all of the responses	

1. *No Response*
2. *No Response*
3. NA
4. N/a
5. *No Response*
6. It takes a long time to open them.
7. I COULD NOT OPEN THE TIMETABLE AND THE BRIEF FOR TWO DAYS.
8. *No Response*
9. *No Response*
10. I am unable to open the documents and I have been unsuccessful at downloading acrobat reader
11. *No Response*
12. *No Response*
13. I don't think I have the right programme to open them on my computer at home.
14. *No Response*
15. *No Response*
16. Every time have to save it first before print
17. *No Response*
18. *No Response*
19. *No Response*
20. The file does' t open...got a red cross

<b>Question 8: Multiple Choice</b>	
How easy was it to read the Acrobat (PDF) documents	% Responses
Very easy	20%
Quite easy	35%
Don't know	15%
Quite difficult	10%
Very difficult	0%
I did not read any of the documents	15%
<b>Question 9: Multiple Choice</b>	
How easy was it to print the Acrobat (PDF) documents?	% Responses
Very easy	15%
Quite easy	35%
Don't know	20%
Quite difficult	0%
Very difficult	5%
I did not try to print any of them	20%
<b>Question 10: Multiple Choice</b>	
How easy is it to find information on your Blackboard site?	% Responses
Very easy	20%
Quite easy	50%
Don't know	15%
Quite difficult	10%
Very difficult	0%
<b>Question 11: Multiple Choice</b>	
How easy was it to use the online forms?	% Responses
I did not use any of the forms	40%
It was very easy	25%
It was quite easy	35%
It was quite difficult	0%
It was very difficult	0%
<b>Question 12: Short Answer/Essay</b>	
If you had problems using the forms please indicate the nature of the problem	



Click the **View Responses** button above to see a listing of all of the responses

1. *No Response*
2. *No Response*
3. NA
4. N/a
5. *No Response*
6. *No Response*
7. *No Response*
8. *No Response*
9. N/a
10. *No Response*
11. *No Response*
12. *No Response*
13. *No Response*
14. *No Response*
15. *No Response*
16. N/A
17. *No Response*
18. *No Response*
19. *No Response*
20. *No Response*

Question 13: Multiple Choice	
Which browser do you normally use to access Blackboard?	% Responses
Netscape communicator	5%
Internet explorer	80%
Don't know	5%
Other browser	10%
Question 14: Multiple Choice	
We are trying to make the information on Blackboard more accessible for disabled users. Please indicate if you have a disability -this information will be anonymous	% Responses
Hearing impairment	5%
Visual impairment	5%
Dyslexia	0%
Repetitive strain injury	0%
Other	15%
Question 15: Short Answer/Essay	
F you answered other to the previous question please state the nature of your disability	
Click the <b>View Responses</b> button above to see a listing of all of the responses	

1. *No Response*
2. *No Response*
3. NA
4. *No Response*

5. Wrong answer, no disability
6. *No Response*
7. *No Response*
8. *No Response*
9. N/a
10. *No Response*
11. *No Response*
12. *No Response*
13. Don't have one
14. I have nothing to say. I'm fine with it
15. *No Response*
16. N/A
17. *No Response*
18. *No Response*
19. *No Response*
20. *No Response*

Question 16: Multiple Choice	
Do you like the new Acrobat (PDF) format for documents?	% Responses
Yes a lot	0%
Yes I quite like it	30%
Don't know	60%
Not very much	10%
Not at all	0%

Question 17: Short Answer/Essay	
Please give reasons for your response to the previous question	
Click the <b>View Responses</b> button above to see a listing of all of the responses	

1. I don't know what was the old one like
2. As long as I get what I need its fine
3. I've never heard anything regarding Acrobat.
4. Its easy to use/ read
5. Easy and common program
6. *No Response*
7. *No Response*
8. *No Response*
9. *No Response*
10. I have been unable to access the documents
11. Documents made by Excel and Word were easy to read and convenient.
12. *No Response*
13. Couldn't open them
14. N/A
15. Because I don't have any problem
16. Have to save it before I can open
17. *No Response*
18. I'm not sure, I reckon it is the only and easiest way, it just take a little bit of time.
19. *No Response*
20. *No Response*

### Question 18: Short Answer/Essay

Do you have any further comments about the new format for documents or any suggestions for how the presentation of information on your Blackboard site can be improved? Thank you for taking the time to complete this questionnaire your responses will help us to ensure that we are offering you the best service.

Click the **View Responses** button above to see a listing of all of the responses

1. Make it easier to search for the information and files, maybe create more pink folders.
2. *No Response*
3. NA
4. N/a
5. *No Response*
6. *No Response*
7. *No Response*
8. *No Response*
9. *No Response*
10. The documents should be accessible to everyone or have easy to understand instructions on how to open them
11. There is a lot of old information on the Blackboard so it's difficult to find new information. I am happy if you can remove the old information.
12. *No Response*
13. *No Response*
14. n/a
15. *No Response*
16. N/A
17. *No Response*
18. I think it is quite good, thanks
19. *No Response*
20. No

## Analysis for Acrobat questionnaire Users of College Intranet

Total Responses =12 online 8 paper

Question 1: True/False	
I have access to a computer at work	% Responses
True	100%
False	0%

Question 2: True/False	
I do not have problems getting access to a computer at work	% Responses
True 18	85%
False 3	15%

Question 3: Short Answer/Essay	
If you have problems accessing a computer at work please indicate the nature of the problem	
Click the <b>View Responses</b> button above to see a listing of all of the responses	

1. *No Response*
2. too many associate lecturers trying to use the 1 computer on the same breaks
3. I am not familiar with pc and use a mac at home. Also students are usually using the computers
4. *I share a pc with a colleague which creates problems*
5. *No Response*
6. *No Response*
7. *No Response*
8. *No Response*
9. *No Response*
10. *No Response*
11. *No Response*
12. *No Response*

Question 4: True/False	
I have access to a computer with an Internet connection at home	% Responses
True	80%
False	20%

Question 5: True/False	
I do not have any problems accessing Blackboard once I have access to a computer	% Responses
True	95%
False	5%

Don't seem to be able to login a password

Question 6: Short Answer/Essay	
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If you do have problems getting access to Blackboard please indicate the nature of the problem

Click the **View Responses** button above to see a listing of all of the responses

1. *No Response*
2. *No Response*
3. I do not
4. *No Response*
5. *No Response*
6. *No Response*
7. *No Response*
8. *No Response*
9. *No Response*
10. *No Response*
11. *No Response*
12. *No Response*

<b>Question 7: Multiple Choice</b>	
From where do you normally access Blackboard ?	% Responses
College computer	75%
Home computer	5%
Both college and home equally	20%
From another place eg internet cafe, public library	0%
<b>Question 8: Multiple Choice</b>	
Do you have Acrobat reader on your home computer?	% Responses
I do not have a computer at home	10%
I have acrobat reader on my home computer	80%
I have a computer but do not know whether I have acrobat reader	5%
I have Acrobat reader and regularly update it to the latest version	5%
<b>Question 9: Multiple Choice</b>	
Have you accessed any of the Acrobat (PDF) documents on the college Intranet?	% Responses
Yes often	5%
yes a few times	60%
Don't know	10%
No I have not accessed them	25%
<b>Question 10: Multiple Choice</b>	
Did you have any problems accessing the Acrobat (PDF) documents?	% Responses
I could not open them at all	10%
I had a lot of problems opening them	0%

I had a lot of problems opening them	0%
I had some problems opening them	20%
I did not have any problems	50%
I did not try to open any of them	20%

#### Question 11: Short Answer/Essay

If you had problems opening the documents please explain the nature of the problem

Click the **View Responses** button above to see a listing of all of the responses

1. *No Response*
2. *No Response*
3. Just haven't got round to trying it out yet. Ptessure of practical work at this time, but shall try later.
4. *No Response*
5. Had to save first, then open. Difficulty in closing down when in PDF.
6. *No Response*
7. *No Response*
8. *No Response*
9. *No Response*
10. *No Response*
11. *Just don't open often*
12. *The software was not properly installed This was finally corrected mid January but now I do not have the time to use it. In order to give myself more time I got permission to install it at home but something went wrong and I am not able to use it there either*

#### Question 12: Multiple Choice

Which browser do you usually use to access Blackboard?	% Responses
Netscape communicator	35%
Internet explorer	65%
Other	0%
Don't know	0%

#### Question 13: Multiple Choice

How easy was it to use the Acrobat (PDF) documents?	% Responses
Very easy	40%
Quite easy	30%
Don't know	15%
Quite difficult	0%
Very difficult	0%
I did not use them	15%

#### Question 14: Multiple Choice

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If you printed any of the Acrobat (PDF) documents how easy did you find this to do?	% Responses
Very easy	35%
Quite easy	25%
Don't know	15%
Quite difficult	0%
Very difficult	0%
I did not try to print any documents	25%

#### Question 15: Multiple Choice

If you completed any of the online forms did you have any problems with this?	% Responses
No it was very straightforward	55%
I had some minor problems	15%
I had quite a few problems	0%
I was not able to complete the form	5%
I did not try to complete a form	25%

#### Question 16: Short Answer/Essay

If you had problems completing, printing or sending a form please indicate the nature of the problem

Click the **View Responses** button above to see a listing of all of the responses

1. No Response
2. No Response
3. I have no problem
4. No Response
5. Could not type in online
6. No Response
7. No Response
8. No Response
9. No Response
10. No Response
11. No Response
12. The formatting is often very annoying – it doesn't allow you to write in the spaces the font is variable and they are very frustrating to use

#### Question 17: Multiple Answer

We are trying to make the information on Blackboard more accessible for	%
Hearing impairment	0%
Visual impairment	0%
Dyslexia	0%
Repetitive strain injury	5%
Other	10%

Other	10%
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#### Question 18: Short Answer/Essay

If you answered other to the previous question please state the nature of your disability.

Click the **View Responses** button above to see a listing of all of the responses

1. *No Response*
2. *No Response*
3. I had to tick something as the form was returned saying I hadn't completed it. eg 6. 16 . 17. 18.
4. *No Response*
5. *No Response*
6. *No Response*
7. *No Response*
8. *No Response*
9. *No Response*
10. *No Response*
11. *No Response*
12. *I do not have a disability but I work with many students who have and I can see how important and useful this is*

#### Question 19: Multiple Choice

Do you like the PDF format for documents?

%  
Responses

Yes very much

5%

Yes quite a lot

40%

Not sure

40%

Not very much

15%

Not at all

0%

#### Question 20: Short Answer/Essay

Please state the reasons for your answer to the previous question

Click the **View Responses** button above to see a listing of all of the responses

1. *No Response*
2. *No Response*
3. I have used PDF in the past its direct and simple.
4. I prefer word
5. Design
6. *No Response*
7. *No Response*
8. I am content with any document format I use.
9. *No Response*
10. *No Response*
11. It isn't a package I use in normal circumstances
12. Very straight forward to view the document.All functioning icons are clearly visible.
13. The layout and presentation are very nice it less useful format when as a reader you want to insert notes and comments for yourself
14. look attractive
15. Again I have not used the programme to the extent of commenting



16. if I want to print them off they are fine but they can't be used as the basis for amending or altering things and sometimes this is what you need them for
17. I would still like to use the Acrobat software and will do so in the near future I do hope that I can still get some support

#### Question 21: Short Answer/Essay

Thank you for taking the time to complete this questionnaire. Your responses will help us to ensure that we are offering you the best service. If you have any further comments, or suggestions on how the information on Blackboard can be made more accessible, please enter them here.

Click the **View Responses** button above to see a listing of all of the responses

1. *No Response*
2. *No Response*
3. This is the first time I have paid a visit to the site. I can see what a useful tool it is.  
. Good luck
4. *No Response*
5. *No Response*
6. We wanted to use Blackboard to track the students' marks by using the gradebook but it is so laborious that we have decided not to do it as every mark needs to be added separately. It is very disappointing, is there another way of inputting grades? Chloe Mason, pathway leader Fashion Access Business ext 0853
7. *No Response*
8. *No Response*
9. *No Response*
10. *No Response*
11. *No Response*
12. *No Response*

## Analysis for Acrobat Trial Group

Total Responses = 5

Question 1: True/False	
I have access to a computer at work	% Responses
True	100%
False	0%

Question 2: True/False	
It is easy for me to get access to a computer at work	% Responses
True	100%
False	0%

Question 3: Short Answer/Essay	
If you have problems accessing a computer at work please indicate the nature of the problem	
Click the <b>View Responses</b> button above to see a listing of all of the responses	

1. *No Response*
2. *No Response*
3. *No Response*
4. NA

Question 4: True/False	
I do not have problems in accessing Blackboard-when I have access to a computer	% Responses
True	100%
False	0%

Question 5: Short Answer/Essay	
If you do have problems accessing Blackboard please state the nature of the problem	
Click the <b>View Responses</b> button above to see a listing of all of the responses	

1. *No Response*
2. *No Response*
3. *No Response*
4. na
5. 5 NA

Question 8: Multiple Choice	
Did you attend an acrobat training session or receive individual training?	% Responses
Attended training session	80%
Had individual or on site training	0%
Invited to training but could not attend	0%
Did not receive invitation for training	20%

Question 10: Short Answer/Essay	
How do you think that the training could be improved (if applicable)?	
Click the <b>View Responses</b> button above to see a listing of all of the responses	

1. It was to short and thr session tried to cover to much.
2. *No Response*
3. Focused intermediate training on specific areas - eg, Forms, Accessibility
4. NA

Question 11: True/False	
I received an Acrobat 6 tutorial pack	% Responses
True	80%
False	20%

Question 12: Multiple Choice	
If you received a tutorial pack did you use it?	% Responses
A lot	0%
Quite often	0%
Sometimes	80%
Once only	0%
Never	20%

<b>Question 13: Multiple Choice</b>	
If you used the pack how helpful was it?	% Responses
Very helpful	25%
Quite helpful	25%
Somewhat helpful	0%
Not very helpful	25%
Not at all helpful	0%

<b>Question 14: Multiple Answer</b>	
Which of the following support materials on the college intranet did you use if any? Please check all that apply	% Responses
Tutorial on creating word templates	50%
Tutorial on creating multimedia documents	25%
Link to accessibility information	0%
Acrobat online training	0%
I did not use any of these	60%

<b>Question 15: Multiple Choice</b>	
How useful were these support materials?	% Responses
Very useful	0%
Quite useful	20%
Don't know	0%
Not very useful	20%
Not at all useful	0%
I did not use any of them	60%

Question 16: Multiple Answer	
Please indicate which of the following facilities in Acrobat 6 you used during the trial-please check all that apply	% Responses
Create a PDF from a single document	80%
Create a PDF from multiple documents	60%
Create a PDF from a web page	0%
Create a PDF form	0%
Complete a PDF form	25%
Receive a completed PDF form	0%
Participate in an email review	60%
Post a PDF document on a Blackboard site	50%
Check a document for accessibility	50%

Question 17: Short Answer/Essay	
Please indicate any other facilities in Acrobat 6 that you used during the trial	
Click the <b>View Responses</b> button above to see a listing of all of the responses	

1. comments
2. *No Response*
3. *No Response*
4. na

Question 19: Multiple Choice	
Do you think the Acrobat 6 software is useful?	% Responses
Very useful	80%
Quite useful	0%
Don't know	0%
Not very useful	0%
Not at all useful	0%

1. *No Response*
2. Was the Acrobat 6 trial for academic staff only, as I did not hear anything about it?

3. *No Response*
4. *na*

Question 20: Multiple Choice	
Would you recommend Acrobat 6 software to others?	% Responses
Definitely	50%
Possibly	20%
Don't know	50%
Not very likely	0%
Definitely not	0%
Question 21: Multiple Choice	
Do you think that the trial period for the software was long enough for you to get used to using it?	% Responses
Yes- I had time to get used to it	0%
I had time to use some elements but would have liked a bit longer	25%
I had time to learn the basics	40%
I did not have enough time to learn the basics	25%
I did not have enough time to use it at all	0%
Question 22: Multiple Choice	
Would you like to continue using Acrobat 6 software?	% Responses
Yes Definitely	50%
Yes Possibly	0%
Don't know	25%
Probably not	0%
Definitely not	0%
Question: 23 Short Answer/Essay	
Thank you for taking the time to complete this questionnaire- please add any additional comments about the software or the trial not covered in this survey.	

1. *No Response*
2. Was the Acrobat 6 trial for academic staff only, as I did not hear anything about it?
3. *No Response*
4. na

# News animation tutorial

Open Photoshop and go to **file-new**  
Set up the file as 250 pixels by 250 pixels

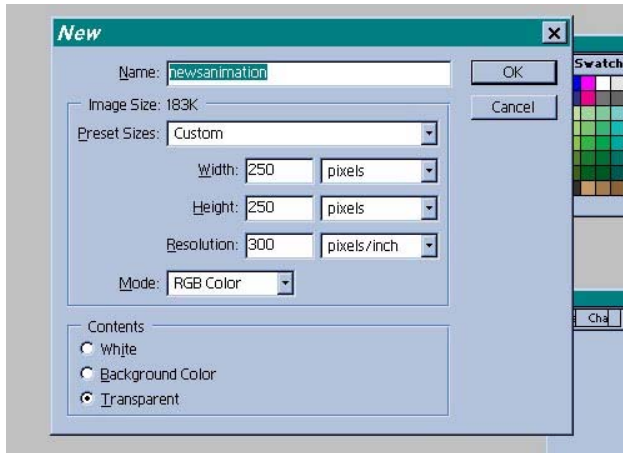


Fig 1 setting up the file  
Select a bright foreground colour and the star shape from custom tools  
Draw a small shape in the upper right hand corner of the file  
Go to **layer-style-drop shadow**  
Apply settings as shown in fig 2

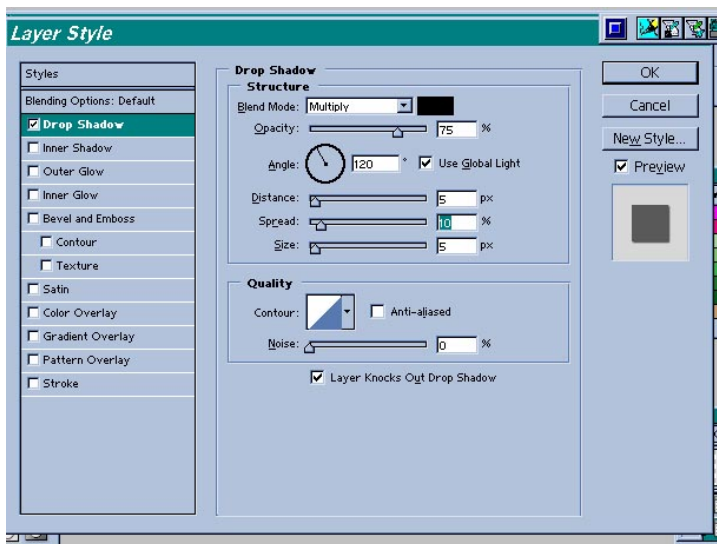
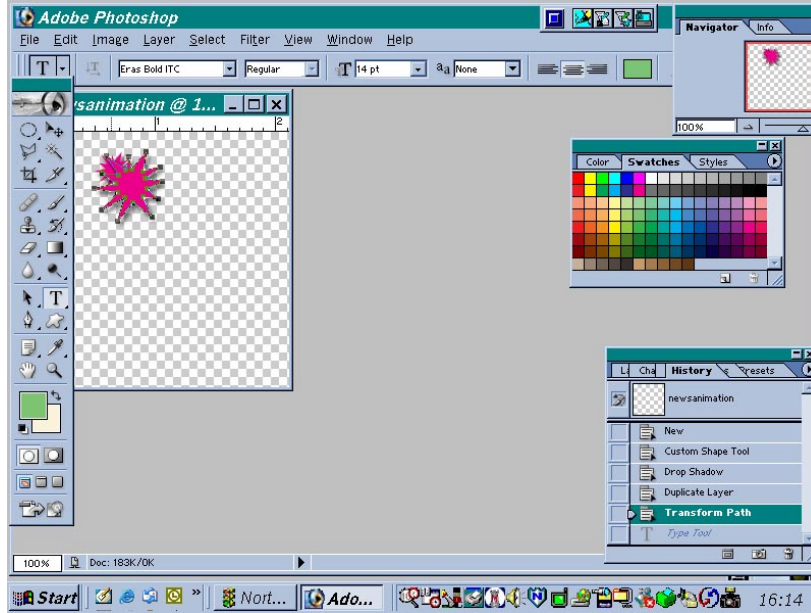


Fig 2 Applying a layer style

1. In the layers palette duplicate the layer – make the copy layer active
2. Use the selection tool to select the shape and go to **edit- transform path -scale**





3. Place the cursor over the handle in the lower right hand corner of the shape and drag out until approx twice the original size

Fig 3 Increasing the scale of the shape

Repeat steps 1-3 another 4 times each time increasing the size of the shape each time.

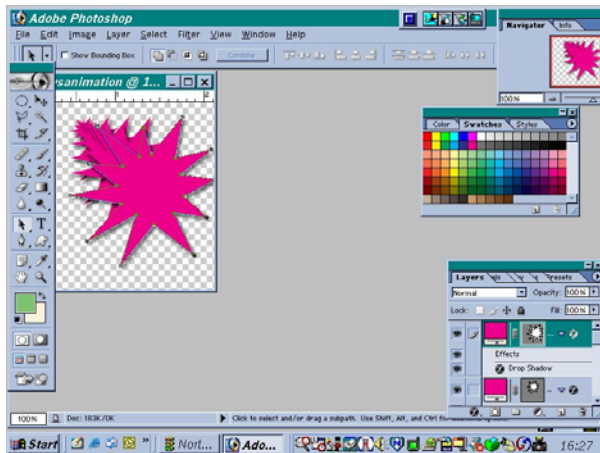


Fig 4 all the shape layers complete

Now turn off all the layers except layer 1

You should now only see the first shape

Select the text tool- choose a font and foreground colour and type the word "News"

Highlight the text and go to **edit- transform scale**-reduce the size of the text so that it will fit into the shape-if necessary use the move tool to reposition the text

1. Turn on the next layer
2. Duplicate the text layer and move the new text layer in the layers palette so it is above the next shape
3. Select the text – **edit -transform scale**-make the text larger so it still fits within the shape and rotate it slightly

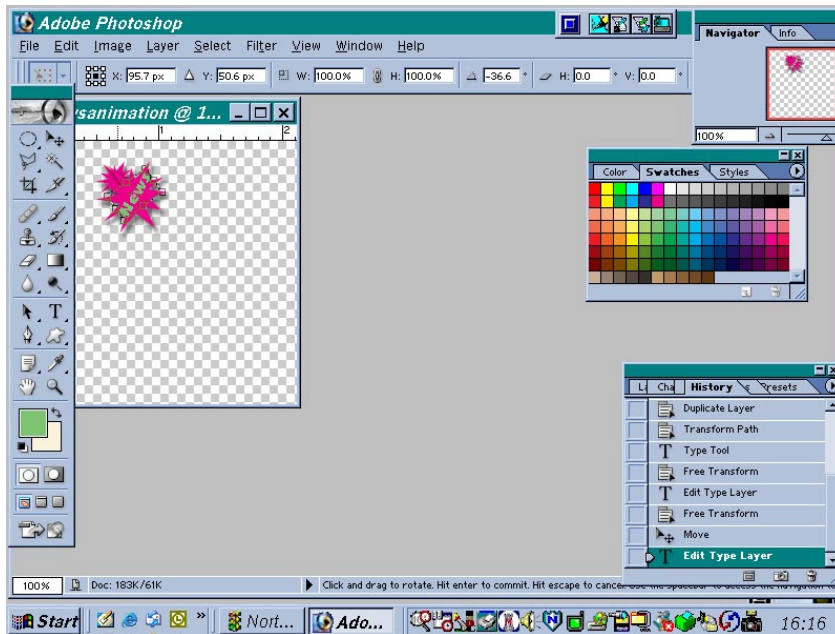
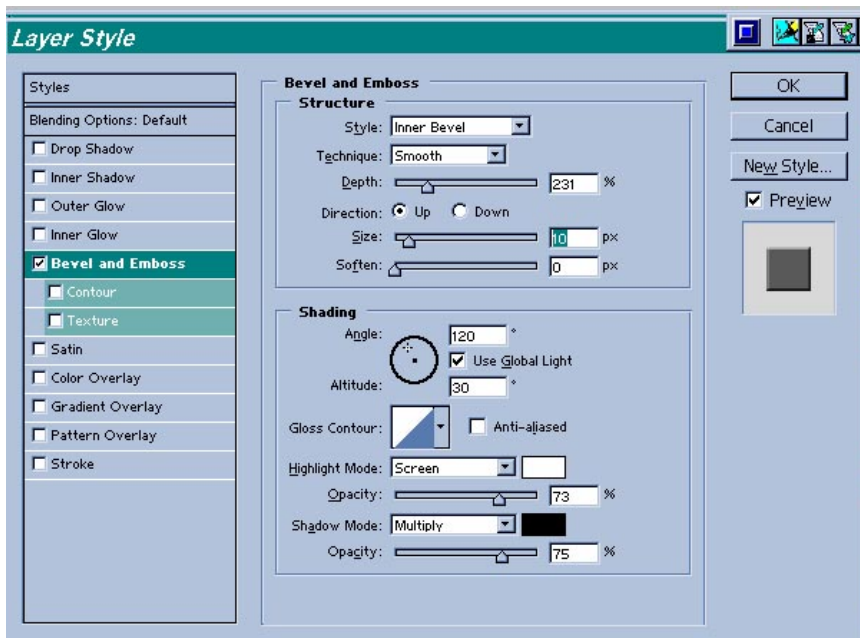


Fig 5 Adding text

Repeat steps 1-3 until you have added text to each shape layer – ensure that the text on the final layer is the right way up

Go to **layer -styles** and select **bevel and emboss** enter the settings as shown in fig 6



This will give you the effect shown in fig 8



Go to **layer-rasterize -type**

1. Duplicate the layer

2. **Filter - liquify**

3. With the brush set at 64 pressure 10 as shown in fig \*\*

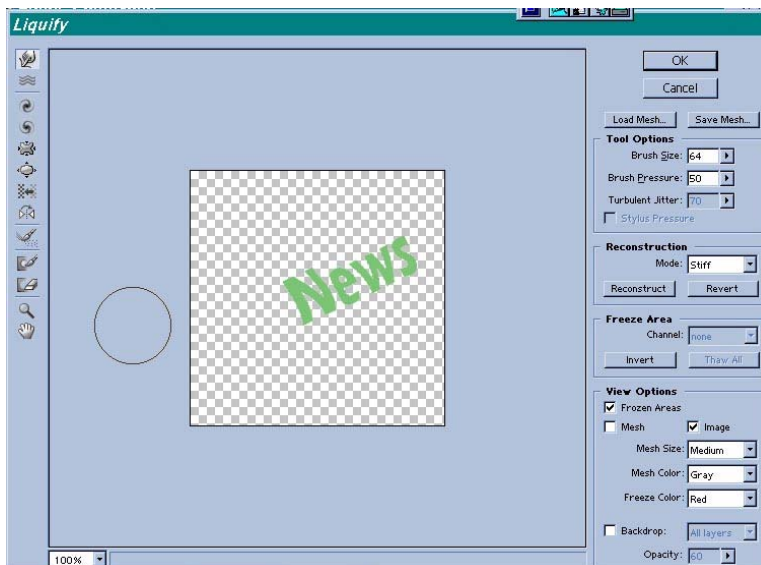
4. Nudge the type slightly from left to right

5. Click OK

6. Duplicate the layer

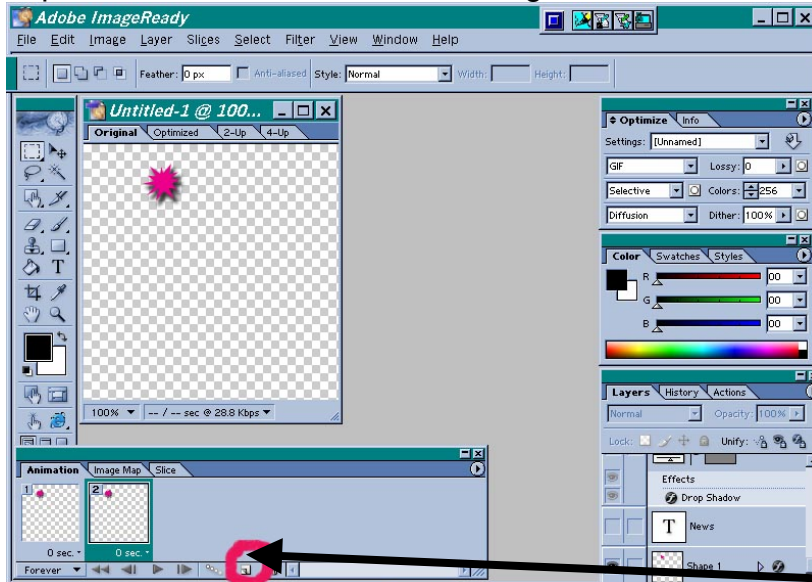
7. Go to **filter-liquify** and nudge again this time from right to left

Repeat steps 1-7 twice more



Now switch off all the layers except the first shape and go to **file- jump to image ready**

In the animation bar in image ready duplicate the first frame by clicking on the duplicate frame button as shown in fig 10



Duplicate frame button

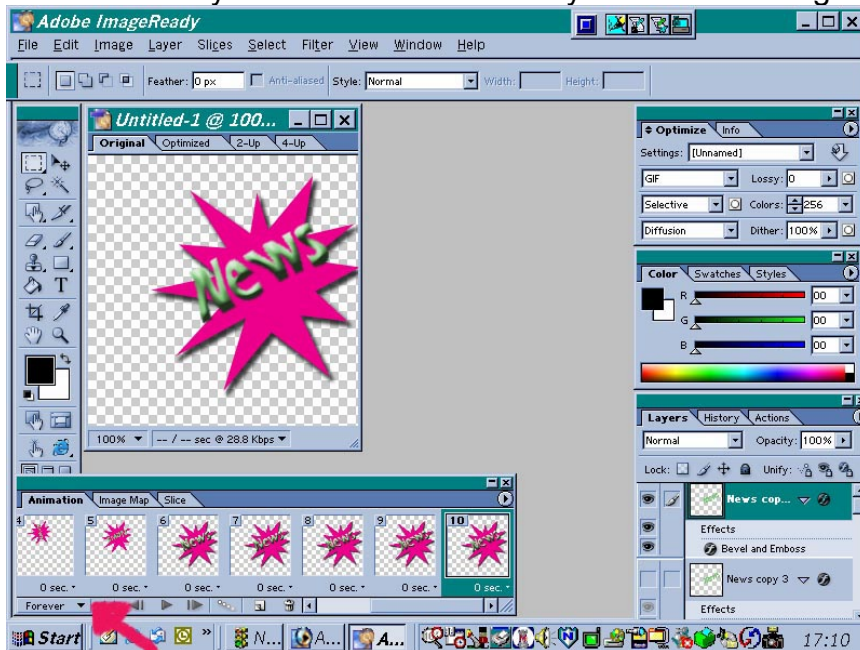
Then switch on the first text layer

Duplicate the frame again then switch on the next shape and text layers whilst hiding the previous 2 layers

Continue by duplicating each new frame and repeating as above until you reach the largest shape

Duplicate the frame again this time leave the shape switched on and just change the text frames

Continue until you reach the final text layer as shown in fig 11



Choose the number of times that you want it to repeat or loop forever if you prefer using the pull down menu on the animation bar as shown in fig 11

## To test your animation

Go to file- preview in Browser

To save your animation- go to file **save-optimized**

In the dialogue box select images (gif format)

Save your file into your work folder.

## To upload your file to Blackboard

Go to the control panel- and select the folder where you want to add your image

You have 2 options you can create a link to the file- or display the media within the page

If you select the latter it will tell you that it will embed the file with an html extension

Click OK when the file has uploaded you can choose options about the size and placement of the file on the page. The click submit and your animation will appear.

# Captioned QuickTime movie embedded in PDF

To play the embedded QuickTime movie, click on the window below and then click the Play button on the control bar.

