[P6] Getting started with Macromedia *FLASH*

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KEYWORDS

Simple animations, videos and good diagrams can greatly increase the quality of teaching and learning. They can be used in lecture situations, they can be included in self-paced learning packages and they can be used to improve accessibility for students with learning difficulties. They also have significant potential for interactive applications.

Macromedia *FLASH* is an ideal tool for producing computer-based animations. It is already extensively used by web designers and the '*FLASH* reader' can be downloaded free from the web.

There are already a wealth of *FLASH* animations, JPEG and other diagrams, and videos available for downloading from a range of web sites. There are, however, a number of problems:

- Most of the material is subject to copyright
- Most of the material is not exactly suitable for another institution's learning situations without some modification
- All the material, and especially the *FLASH* software, is in the form of **.flw** files with no explanation of how these were produced. The original *FLASH* source files (**.fla**) are hardly ever available

For the scientific community, there are two additional difficulties with *FLASH*. Firstly, there is the need to learn how to use it and secondly there is the lack of available help that is simple and directly related to scientific ideas. Even the examples which accompany *FLASH* software are complicated and have no scientific content and most books on *FLASH* have similar limitations.

In this Poster the emphasis will be on 'getting started with *FLASH*' for new users from the scientific community.A series of simple *FLASH* animations, some with detailed documentation on the methods used illustrated on computer and appropriate documentation. Those animations produced by the project team will be available for use or modification by other workers. The accompanying documentation, the original source files and the *FLASH* movie files will provide end users with the methodology to develop their own ideas. Animations will be both qualitative and quantitative, e.g. producing data that can be used in further work, and have will have interactive features. Examples for the Poster will include the following:

1. The relationship between mass, weight and pressure illustrated by an animation of atmospheric pressure (North Carolina Science Centre, USA; http://www.dlt.ncssm.edu/TIGER/Cheml.htm)
2. The relationship between m^3, dm^3, cm^3, and mm3 illustrated by an animation (North Carolina Science Centre)

3. An interactive animation on BODMAS (North Trafford College, UK; http://www.axcis.co.uk/34151.html)

4. An interactive animation on the volumes of a cube, a sphere and a cylinder (North Trafford College, UK)

5. A learning package on atomic spectroscopy (Educational Techniques Group Trust, ETGT; http://www.sotn.ac.uk/~ecchemed/etgt/)

6. Electronic structure and the development of the periodic table (ETGT)

Other material available will include:

- The effect of pressure on the volume of an ideal gas
- The effect of temperature on the volume of an ideal gas
- The effect of temperature on the pressure of an ideal gas
- The nature of solids, liquids and gases
- Vapour pressure
- Diffusion
- Atomic orbitals
- Thin layer chromatography separations
- Gas chromatography separations

Dissemination of the results of this work will take place in a number of ways

- Documentation and animations produced in the project will be available for downloading from the ETGT web site (www.soton.ac.uk/~ecchemed/etgt/)
- Documentation and animations produced in the project will be available on a CDROM
- The work will be demonstrated at a 'Variety in Chemistry' meeting
- DB and AJR will be available to run workshops at selected sites
- A paper will be written for CERPS