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Languages that Count

Markup languages are computer programming languages that are used to create web pages. The Hypertext Markup Language (HTML) is the programming language with which many readers will be familiar and the one that, in this writer's view, should be taught to all trainee teachers. This does not mean that all teachers need to be able to hand-code HTML files but rather they should be proficient in the use of at least one software package that can generate and edit HTML documents. There is little doubt that tomorrow's teachers will spend as much time uploading files to the internet as they will downloading information.

As a teacher of mathematics, one of my greatest frustrations is the lack of a markup language that can do for mathematics what HTML does for text, images, sound and animation. Embedding mathematical notation in documents using the img HTML tag is slow, clumsy and inefficient. *'While the internet was built by people predisposed to all things mathematical, expressing mathematical notation remains a chore'* (Engineers Australia, 3/99; 44). It is therefore encouraging to report that last year the World Wide Web Consortium (W3C), recommended the Mathematical Markup Language

(MathML) as the official standard for delivering mathematical content over the internet. Dr Dave Raggett, of the W3C, believes that the development of MathML will open 'the door to a flourishing of the web as a means to communicate mathematical ideas'.

'MathML can be spoken by a voice synthesiser just as easily as it can be visually interpreted by a web browser in a way never before possible. The success of MathML is assured as it is an application of the Extensible Markup Language (XML). XML is almost certainly the web language of the future as both Microsoft and Netscape have pledged their support. Several other useful projects are also based on XML, such as a Chemical Markup Language for chemical structures, and Musical Markup Language for musical notation' (Engineers Australia, 3/99; 45).

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