

# *Crossbrowser Issues for MathML in WME*

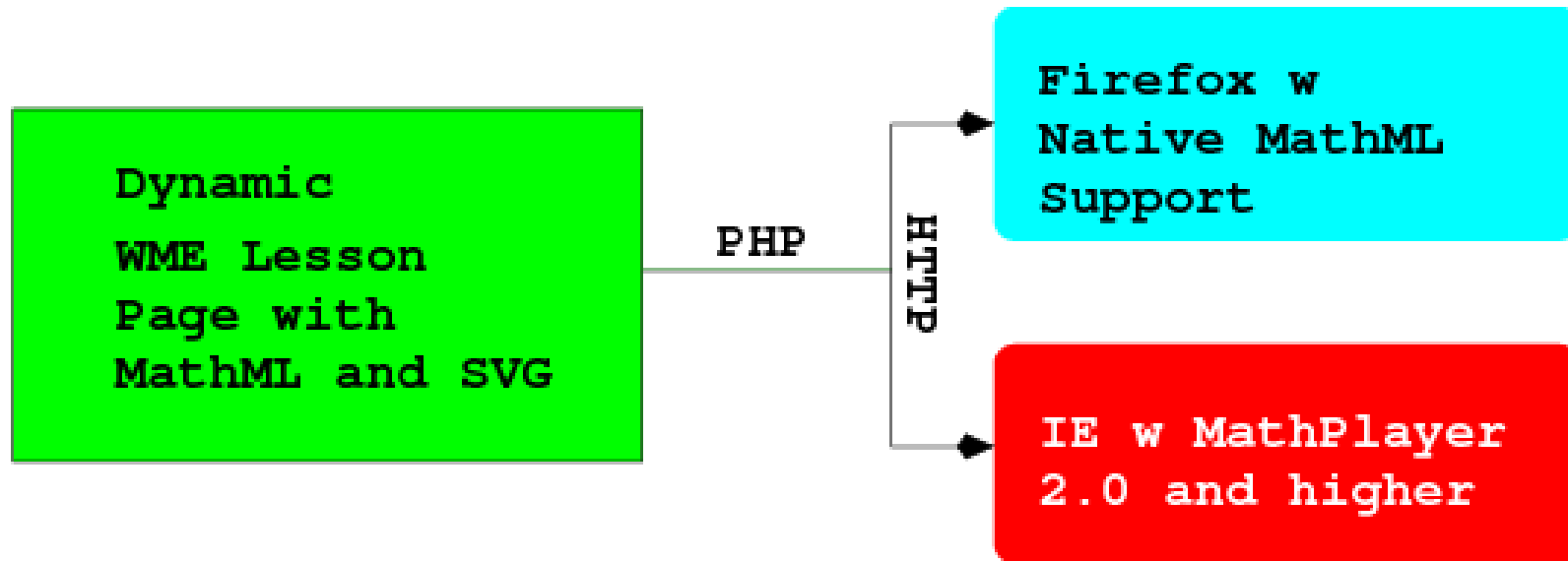
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## Cross-browser WME Lesson Page



Sample Cross-browser Page.

## We Will Consider

- Making each WME lesson page, containing MathML and SVG, work for both IE (with MathPlayer 2.0 and higher) and Firefox (with native MathML support)
- Focusing on MathML because SVG presents little problems.
- Enabling PHP processing of lessons (dynamic).
- Using the same MathML code for formulas (no need to add `mml:` for MathPlayer)
- Inserting MathML code obtained by AJAX correctly under IE and Firefox.
- We'll follow these steps.

## Step 1: Enable PHP

- Enable PHP processing of .html, .xhtml, and .php source files.
- In httpd.conf include

```
<IfModule mod_php5.c>  
AddType application/x-httpd-php .php .html .xhtml  
AddType application/x-httpd-php-source .phps  
</IfModule>
```

## Step 2: Send Correct Content Type

- To make sure browsers treat the lesson page as an XML page we need

```
<?php header("Content-Type: application/xhtml+xml"); ?>
```

at the very beginning of any page.

- Make sure this line is placed at the beginning of the lesson page and comes before all other PHP processing, and file inclusion.

## Step 3: Send Correct XML Headers

Page content starts with

```
<!DOCTYPE html PUBLIC
"-//W3C//DTD XHTML 1.1 plus
  MathML 2.0 plus SVG 1.1//EN"
"http://www.w3.org/2002/04/xhtml-math-svg/
  xhtml-math-svg-flat.dtd">
<html xmlns="http://www.w3.org/1999/xhtml"
  xml:lang="en" lang="en"
  xmlns:mml='http://www.w3.org/1998/Math/MathML'>
```

## Step 4: Use MathML Presentation Code

- Because Firefox does not support the display of MathML Content code yet, we need to use Presentation MathML for display.
- There is no need to add any MathPlayer object or IMPLEMENTATION headers to the HTML. MathPlayer (2.0 and later) automatically adds these lines now.
- There is no need to add `mml:` namespace prefixes to MathML code.
- For example  $3x^2\cos(x)$  is given as

```
<math xmlns='http://www.w3.org/1998/Math/MathML'>  
<mrow> <mn>3</mn><mo>&InvisibleTimes;</mo>  
      <msup><mi>x</mi><mn>2</mn></msup>
```

```
<mo>&InvisibleTimes;</mo>  
<mi>cos</mi><mo>&ApplyFunction;</mo>  
  <mrow> <mo>( </mo><mi>x</mi><mo>)</mo>  
</mrow></mrow></math>
```

## Inserting Result MathML into Page

For Firefox use

```
var dtm='<!DOCTYPE math PUBLIC
    "-//W3C//DTD MathML 2.0//EN"
    "http://www.w3.org/Math/DTD/
    mathml2/mathml2.dtd">';

if ( navigator.appName == "Netscape" )
{
    node.innerHTML
    = "<p>Your answer is incorrect.
      The correct answer is</p>";
    // just in case
    ca = answer.standard.replace(/mml:/g,"");
    ca = dtm + ca; // doctype gives entities
```

```
d2 = parseXML(ca);  
var math_node = d2.documentElement;
```

## Inserting Result MathML into Page

For IE

```
{  node.innerHTML = "<p>Your answer is  
    incorrect.  The correct answer is "  
    + answer.standard + "</p>";  
}
```

## The Javascript Code

To see the full Javascript source for this demo

Cross-browser Javascript.