

## The new gaigs\_sho.dtd allows speech-to-text audio documentation in a snapshot

```
<!ELEMENT show (snap+, questions?)>
```

```
<!ELEMENT snap (title, doc_url?, pseudocode_url?, audio_text?,  
  (text|tree|array|graph|stack|queue|linkedlist|bargraph|node  
  |no3darray|linkedlistnonnull|no3dlinkedlist|legend  
  |refstructroot|hashstructroot|index)*, question_ref?)>
```

```
⋮
```

```
<!ELEMENT doc_url (#PCDATA)>
```

```
<!ELEMENT pseudocode_url (#PCDATA)>
```

```
<!ELEMENT audio_text (#PCDATA)>
```

## There are corresponding *writeSnapshot* methods in the GAIGS support classes I

```
// *****  
// File: JoeStackTest.java  
// Author: Joseph Naps  
// Date: 07-16-2005  
// Audio added -- Joe's Dad - 06-15-2007  
// *****  
  
package exe.stacktest_with_audio;  
  
import java.io.*;  
import exe.*;  
  
public class JoeStackTest  
{  
    // *****  
    // Takes in a series of stack push and pop commands at the command  
    // line. The first command line arg is the path of the file you  
    // wish to output the XML to. To initiate a pop simply the string  
    // "pop" is needed. To initiate a push the string "pushx" is used  
    // where x is what you wish to push on to the stack. Keep in mind  
    // that an exception will be thrown if a pop is called on an empty  
    // stack.  
    // *****  
    public static void main(String args[]) throws IOException  
    {  
        XMLfibQuestion fib;  
        XMLtfQuestion tf;  
        XMLmcQuestion mc;  
        int qr = 0;  
        ShowFile show = new ShowFile(args[0]);  
        String pc = "";
```

## There are corresponding *writeSnapshot* methods in the GAIGS support classes II

```
String audio = "";
GAIGSstack stack = new GAIGSstack();
for( int i = 1; i < args.length; i++)
{
    if(args[i].length() == 3)
    {
        pc = "index.php?line=1";
        audio = "I am popping" + (String)stack.peek();
        stack.pop();
    }
    else
    {
        pc = "index.php?line=2";
        String s = args[i].substring(4);
        if(stack.size() % 2 == 0) {
            stack.push(s,"red");
            audio = "I am pushing a red" + s;
        }
        else {
            stack.push(s,"blue");
            audio = "I am pushing a blue" + s;
        }
    }
}
```

## There are corresponding *writeSnapshot* methods in the GAIGS support classes III

```
if( i % 3 == 0 && i + 1 < args.length )
{
    if( args[i+1].equals("pop"))
    {
        fib = new XMLfibQuestion(show, new Integer(qr++).toString());
        fib.setQuestionText("What value will be popped from the stack?");
        fib.setAnswer((String)stack.peek());
        show.writeSnap("StackTest", null, pc, audio, fib, stack);
    }
    else
    {
        mc = new XMLmcQuestion(show, new Integer(qr++).toString());
        mc.setQuestionText("What will the color of the next stack item be?");
        mc.addChoice("red");
        mc.addChoice("blue");
        if( (stack.size() % 2) == 0) mc.setAnswer(1);
        else mc.setAnswer(2);
        show.writeSnap("StackTest", null, pc, audio, mc, stack);
    }
}
else show.writeSnap("StackTest", null, pc, audio, stack);
}
show.close();
}
```