Handling parameters and windows in Javascript

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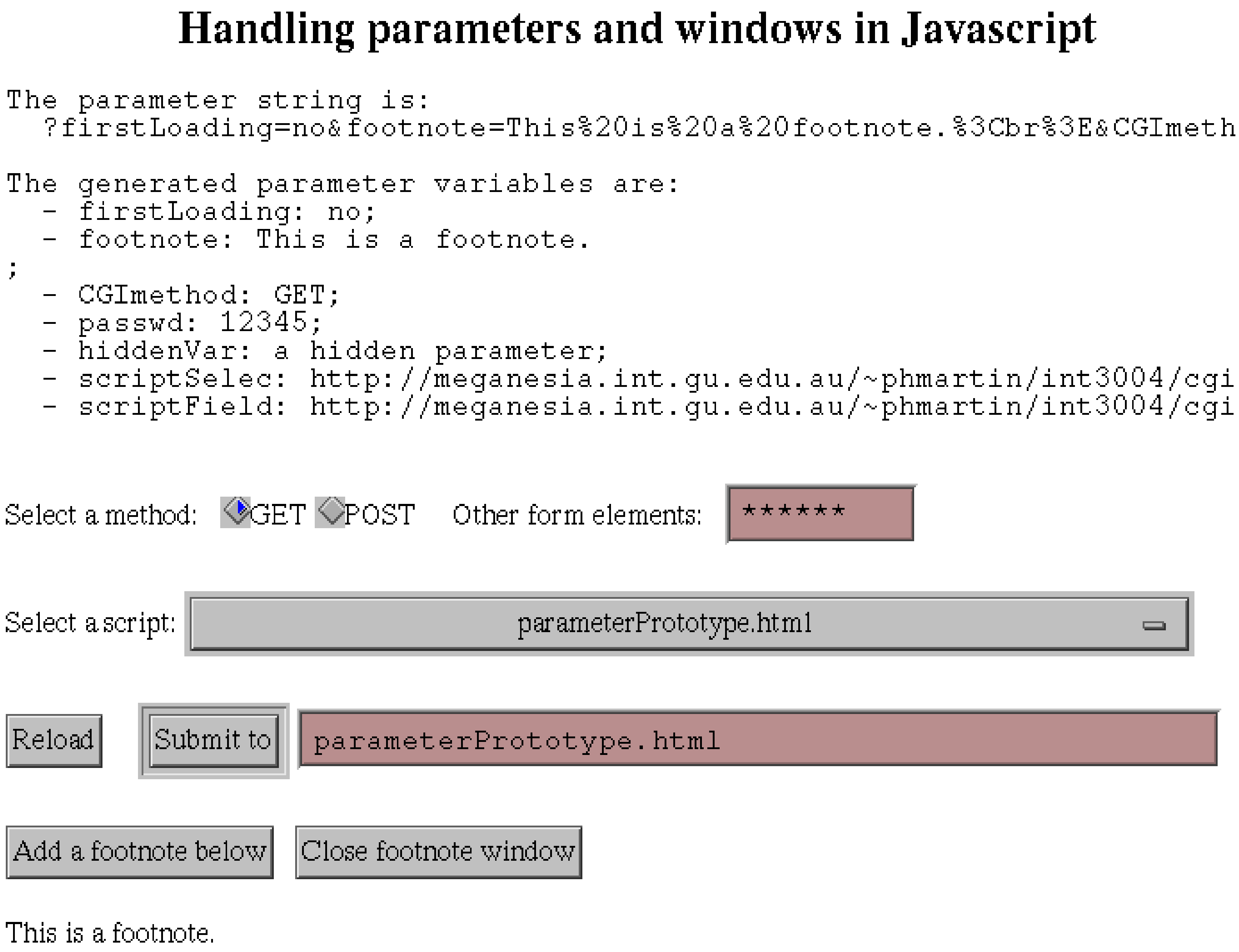


Handling parameters and windows in Javascript

```
The parameter string is:
  ?firstLoading=no&footnote=This%20is%20a%20footnote.%3Cbr%3E&CGImeth

The generated parameter variables are:
  - firstLoading: no;
  - footnote: This is a footnote.
;
  - CGImethod: GET;
  - passwd: 12345;
  - hiddenVar: a hidden parameter;
  - scriptSelec: http://meganesia.int.gu.edu.au/~phmartin/int3004/cgi
  - scriptField: http://meganesia.int.gu.edu.au/~phmartin/int3004/cgi
```

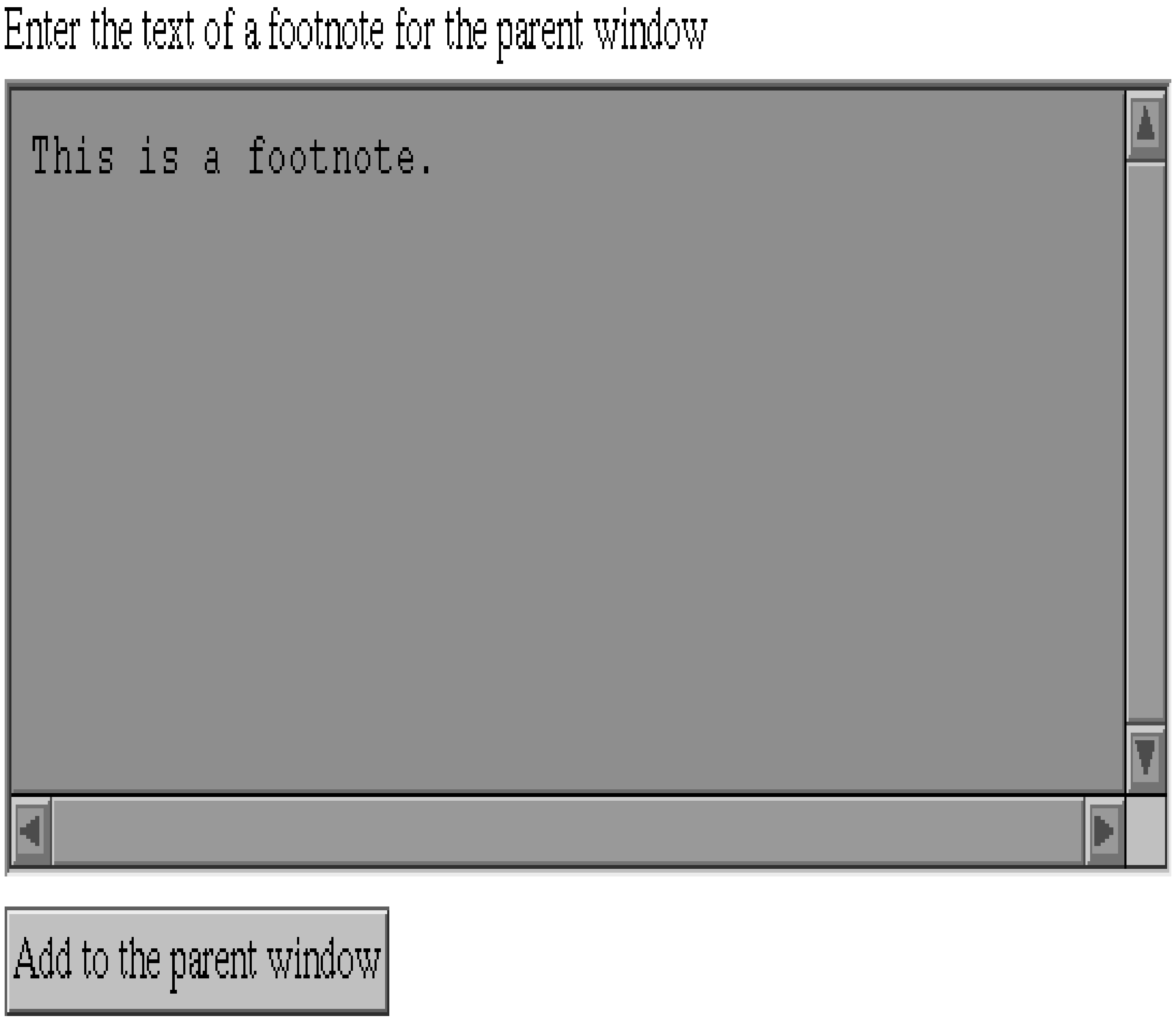
Select a method: ● GET ○ POST   Other form elements: ******

Select a script: parameterPrototype.html

Reload   Submit to   parameterPrototype.html

Add a footnote below   Close footnote window

This is a footnote.



Enter the text of a footnote for the parent window

This is a footnote.

```
?firstLoading=no&footnote=
    This%20is%20a%20footnote.%3Cbr%3E&   CGImethod=GET&
    passwd=12345&   hiddenVar=a%20hidden%20parameter&
    scriptSelec=http%3A//meganesia.int.gu.edu.au/%7Ephmartin/int3004/cgi/appli/printParameter
    scriptField=http%3A//meganesia.int.gu.edu.au/%7Ephmartin/int3004/cgi/appli/printParameter
```

```
<html>
<head><title>Interface to the CGI script examples</title>

<script language="javascript">
<!--

//*********** 1) GLOBAL VARIABLES ************

var Parameters= new AssociativeArray();
    Parameters.firstLoading="yes";
    Parameters.footnote="";
initParametersByDecoding(location.search);

var AnnotationWin=null;

function AssociativeArray ()  { return this; }
```

```
function /*void*/ initParametersByDecoding (paramStr)
{ if (!paramStr) return;           //paramStr:=location.search
  paramStr += ’&’; //so that the last parameter is ended by ’&’
  var l= paramStr.length;   var s="";  var attr="";

  for (var i=1; i<l; i++) //the 1st character is ’?’
  { var c= paramStr.charAt(i);
    if (c == ’+’)  { s += ’ ’; }
    else if (c == ’%’)   //escape sequence
    { s += unescape(paramStr.substring(i,i+3));  i+=2; }
    else if (c == ’=’)   //end of an attribute, the value follows
    { attr= s;   s=""; }
    else if (c == ’&’)   //end of an attribute-value pair
    { Parameters[attr]= (s) ? s:"";    s=""; }
    else s += c;
  }
}
```

```
<script language="javascript">
var doc=document; doc.write("<pre>\n");
if (!location.search)
{ doc.write("There are no parameter.\n\n");
  doc.write("By default, the parameter variables are:\n  ");
}
else
{ doc.write("The parameter string is:\n  " +
                  location.search + "\n\n");
  doc.write("The generated parameter variables are:\n  ");
}
doc.write(slotsOfObject(Parameters));
doc.write("</pre>\n");
</script>
```

```
<FORM name="myForm"
      onSubmit="this.action=this.scriptField.value; return true">
      <!-- target="resultWin" -->

<p>Select a method: &nbsp;

  <input type="RADIO" name="CGImethod" value="GET" checked
         onClick="this.form.method='GET';
                  Parameters.CGImethod='GET'">GET

  <input type="RADIO" name="CGImethod" value="POST"
         onClick="this.form.method='POST';
                  Parameters.CGImethod='POST'">POST
```

```
&nbsp; &nbsp; Other form elements:
&nbsp; <input type="PASSWORD" name="passwd"
              size=9 value="passwd"
              onChange='Parameters.passwd=this.value'>

&nbsp; <input type="HIDDEN" name="hiddenVar"
               value="a hidden parameter"
              onChange='Parameters.hiddenVar=this.value'>
```

```
<p>Select a script:
  <SELECT name="scriptSelec" onChange="
        Parameters.scriptSelec= selectedTextInSelectArray(this);
        Parameters.scriptField= Parameters.scriptSelec;
        this.form.scriptField.value= Parameters.scriptSelec;">
     <option>parameterPrototype.html
     <option>http://meganesia.int.gu.edu.au/~phmartin/int3004/cgi/appli/printParameters.cgi
     <option>http://meganesia.int.gu.edu.au/~phmartin/int3004/cgi/appli/echoParameters.cgi
   </SELECT>
```

```
<p><input type="BUTTON" value="Reload" onClick="reload()">
   <input type="SUBMIT" value="Submit to">
   <input type="TEXT" name="scriptField" size=50
          value="parameterPrototype.html"
          onChange="Parameters.scriptField=this.value;">

<p><input type="BUTTON" value="Add a footnote below"
          onClick="generateAnnotationWin()"> &nbsp;

   <input type="BUTTON" value="Close footnote window"
          onClick="AnnotationWin.close()">
```

```
<p><script language="javascript">
<!--
if (Parameters.footnote) document.write(Parameters.footnote);
//end of script -->
</script>

</FORM>
</body>
</html>
```

```
function /*void*/ generateAnnotationWin ()
{ AnnotationWin= window.open("","AnnotationWin");
  var doc= AnnotationWin.document;
  doc.write("<html>\n<head><title>Annotation</title></head>\n\n");
  doc.write("<body bgcolor='white'>\n<form>\n");
  doc.write('Enter the text of a footnote for the parent window\n');
  doc.write('<textarea name="noteArea" rows=10 cols=50></textarea>\n');
  doc.write('<input type="BUTTON" value="Add to the parent window"\n');
  doc.write('       onClick=\'window.opener.Parameters.footnote+=\n');
  doc.write('                     this.form.noteArea.value+"<br>";\n');
  doc.write('                window.opener.reload()\'\n');
  doc.write('>\n');
  doc.write("</form>\n</body>\n</html>\n");
  doc.close();  //AnnotationWin.opener= window;
}
```

```
function /*void*/ reload()
{ Parameters.firstLoading="no";
  location.href= mkNewHRefUsingParameters();
  //not "document.forms[0].submit()":
  //   opens a new window or increase the history list,
  //   and may cause problems if the window is resized
  //not "generateDocument()": removes variables and functions
}
```

```
function /*void*/ mkNewHRefUsingParameters()
  //HRef:= protocol//hostname:port pathname search hash
{ var s=""; var first=true;
  for (var attr in Parameters)
  { var value= Parameters[attr];
    if (first) first=false;  else s+=’&’;
    if (value) s += attr + ’=’ + escape(Parameters[attr]);
    else s += attr + ’=’;
  }
  var protocol= location.protocol;
  if (!protocol) protocol= "http://";
  else if (protocol.indexOf("//") < 0) protocol += "//";
  return protocol+location.host+location.pathname+’?’+s;
}
```

```
function /*bool*/ trr(obj)
  //recursively trace the object's slots and values
{ return confirm(recursContent(obj,""));
}
```

```
function /*String*/ recursContent(obj,indent)
{ var str=""; var s=String(obj);
  if ((s.charAt(0)==’[’) && (s.length>1))
  { for (var slot in obj)
    { str+= indent + "(\n" +
            recursContent(slot,indent+"   ") + ’\n’ +
            indent + ")\n";
      var value= obj[slot];
      if (!value)  str+=indent+"{undefined}\n";
      else str+= indent+"{\n"+
                 recursContent(obj[slot],indent+"   ")+
                 ’\n’ + indent + "}\n";
    }
    return str;
  }
  else return indent+s;
}
```

Security issues

- JavaScript holes: users privacy (files, e-mails, URLs)
- CGI installation: separate machine/directory/user
- Never allow the user to execute a command on the system
- Filter parameters
- Check robustness: use signals and dynamic buffers
- Encrypt: Java applets, SSL, SHTTP

`http://hostname/cgi-bin/perl.exe?-e+unlink+%3C*.*%3E%3B`