1 Administrivia

Announcements

Team names and member lists due Friday.

Assignment

From Last Time

Defense mechanisms, controls, and effectiveness.

Outline

1. Perl/CGI introduction and comments.

2. Lab.

Coming Up

Cryptography.
2 Perl/CGI Introduction

2.1 A Few Comments on Perl

1. Delimiting code blocks — *always* use { and }.

2. Arrays in list and scalar modes.

3. Subroutines retrieve their parameters through @_:  

   ```perl
   sub foo
   {
     (my $refCount, my @inodeList) = @_;  
     ...
   }
   ```

4. One way to iterate through an array:

   ```perl
   my $sum = 0;
   foreach my $current (@data)
   {
     sum += $current;
   }
   ```

5. Subroutines can return lists:

   ```perl
   return ($i, $j, 1, 2);
   ```

2.2 Using CGI.pm to Generate HTML

1. First of all, it can all be done manually.

2. A small sample:

   ```perl
   print header;
   print start_html(-title=>"MinMax Example",
   -text=>"#800000",
   -bgcolor=>"#80ffff"), "\n";
   ```
2.3 CGI Interactions

CGI application must generate more than a plain HTML document. Consider:
Content-Type: text/html

2.4 MinMax Form Example


2. \texttt{<BODY>} attributes.

3. \texttt{<FORM>} structure:

   (a) Attributes:

      i. Method:

         POST: form parameters passed to application via STDIN. Safer.

         GET: form parameters made a part of the action URL.

      ii. Action: URL of the application which will process the form data.
(b) <INPUT>:

i. Text: name, size (of text box), maxlength (of input string).

ii. Submit.

2.5 minmax.html Example

1. What data will be sent to the application? How many pieces of data?

2. If the form fields read “Tom” and “45,6”, what string is passed to the application?

3 Perl CGI Programs

1. Accessing CGI.pm in function-oriented mode:

   ```perl
   use CGI qw(:standard);
   ```

2. Accessing the form parameters:

   ```perl
   my $name = param("name");
   ```

      Works for both POST and GET.

3. Splitting the list of numbers:

   ```perl
   @numbers = split(/,/, $list);
   ```

4 CGI Warnings

Open CGI access is a privilege, as it is a large security risk. Do not abuse this privilege.
5 Lab

Work individually or in groups of two.