

Perl and CGI

Tom Kelliher, CS 325

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1 Administrivia

Announcements

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 @_:

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

4. One way to iterate through an array:

```
my $sum = 0;

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

5. Subroutines can return lists:

```
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:

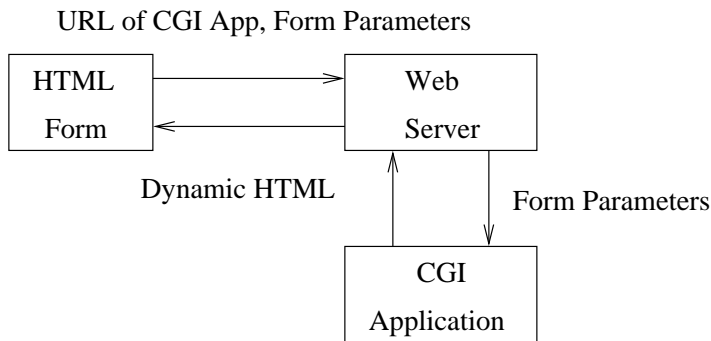
```
print header;
print start_html(-title=>"MinMax Example",
                -text=>"#800000",
                -bgcolor=>"#80ffff"), "\n";
```

```

print h2("Hi $name!!"), "\n";
print p, "\n";
print h3("Min: $minmax[0]. Max: $minmax[1]."), "\n";
print end_html;

```

2.3 CGI Interactions



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

2.4 MinMax Form Example

1. Structure of an HTML document.
2. <BODY> attributes.
3. <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:

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

2. Accessing the form parameters:

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

Works for both POST and GET.

3. Splitting the list of numbers:

```
@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.