



CS 1520 / Fall 2005

Programming Languages for Web Applications

12 – Perl: CGI Programming

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What is CGI

- **CGI** = Common Gateway Interface
- Basically, CGI is:
 - Protocol to establish communication between client and server
- How it works:
 - HTML files @ web server are displayed as is
 - CGI programs @ web server are **executed**
 - result of execution is returned to user



How is interaction achieved?

- Common way of interaction: through forms
 - Form is filled in
 - cgi script processes form input
 - result of processing is returned to user
- **Q:** What should the result have?
- **A:** let's find out



How is form input passed to CGI?

- Before input is passed, all data is converted into a **single string** (the **query string**)
- **Q:** How?
- **A:** All values are encoded as follows:
 - name1=value1&name2=value2&name3=value3&...
 - Special characters are encoded as %xx, using hexadecimal code for character, for example space char. is **%20**
- **Q:** How is the **query string** passed to cgi scripts?
- **A:** In two ways:
 - GET method
 - POST method



GET/POST Methods

- GET method:
 - Query string is encoded as part of the URL.
 - Google search for "cs 1520":
 - <http://www.google.com/search?hl=en&lr=&safe=off&q=cs+1520&btnG=Search>
 - (some browsers use + instead of %20 for space)
- POST method
 - Query string is passed through stdin to cgi script (i.e., it won't be "visible" on the URL)
- Example: read-input.pl



Making our life easier: CGI.pm

- **CGI.pm** = perl module to facilitate writing cgi scripts
- Handles parameters easily
- Handles forms easily
- Generates html easily
- Support for multi-page logic

- Bottom line: you will use it for your assignment

- More info: <http://search.cpan.org/dist/CGI.pm/CGI.pm>