CGI Programming Using Perl

Course Outline

The Internet and the web

- TCP/IP and Ports

- DNS vs Hosts Files

- Servers and Clients

- Client/server Protocols

Browsers and servers

- URLs

- The Hypertext transfer Protocol

- HTTP Requests and Responses

- HTTP Headers

- HTTP Requests

- Mime Types

Introduction to CGI

- HTML Tag Structure

- HTML Document Structure

- URLs and CGI

- CGI Programs

- Running and Debugging from the Command Line

- Running and Debugging from a Browser

- Generating HTML

- Labs

CGI and Perl

- Perl

- Perl Programs

- Why use CGI.pm

- Generating HTML with CGI.pm

- Running and Debugging from a Browser

- Labs

Generating HTML

- Introduction to CGI.pm

- How to Use CGI.pm´s Online Dcumentation

- CGI.pm´s rules for general HTML Tags

- CGI.pm´s rules for HTML from tags

- Named vs positional parameters in CGI.pm

- Labs

Generating Forms

- General structure of HTML forms

- From elements tags

- Pushbuttons

- Radiobuttons

- Checkboxes

- Popups and Listboxes

- Textfields, passwords ans textareas

- Labs

CGI Data Flow Architecture

- URL Encoding and Decoding

- Get vs Post

- CGI environment variables

- Accessing CGI´s environment variables

- Labs

Processing Form Data

- Static Forms

- Dynamic Forms

- Controlling Flow with User input

- The param method of CGI.pm

- Accessing form data using CGI.pm

- Sticky Widgets

- Validating Input from the Browser

- Command Line Debugging

- Labs

Client-Side Statefulness

- Stateful vs Stateless

- Why to use Stateful CGI Applications?

- Stateful Access with Hidden Fields

- Multiple forms and Hidden Fields

- Stateful Access with Netscape Cookies

- Using Cookies with CGI.pm

- Cookie Management

- Labs

Database Access

- Server-Side Statefulness

- Flat-File Databases

- Structuring Text Data

- File Permissions and Flat-File Databases

- Perl´s DBM Interface

- Perl´s DBM/DBD Interface

- Labs

Additional Web Programming Features

- Extra Path Info

- Frames

- Server Side Includes (SSI)

- Animation Description

- Netscape´s Server Push

- Client Pull

- Labs

CGI Security Issues

- Browser to Server Security Issues

- CGI Security Issues

- CGI Interaction with the Operating System

- Database/File System Overflow

- CGI and User Authentication