

CS320 Web and Internet Programming

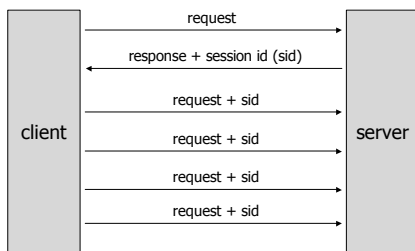
Cookies and Session Tracking

Chengyu Sun
California State University, Los Angeles

Session Tracking

- ◆ The Need
 - shopping cart, personalization, ...
- ◆ The Difficulty
 - HTTP is a "stateless" protocol
 - Even persistent connections only last seconds
- ◆ The Trick??

General Idea



Three Ways to Implement Session Tracking

- ◆ URL Re-writing
- ◆ Hidden form field
- ◆ Cookies

Example: Shopping Cart (I)

- ◆ Using URL re-writing
- ◆ Using hidden form field

Cookies

- ◆ Issued by the server
 - HTTP Response: Set-Cookie
- ◆ Part of the next client request
 - HTTP Request: Cookie

Cookie Attributes

- ◆ Name, Value
- ◆ Host/Domain, Path
- ◆ Require secure connection
- ◆ Max age
- ◆ Comment (Version 1)

Servlet Cookie API

- ◆ Cookie
 - *get This(), set That() ...*
 - *setMaxAge(int)*
 - 1000??, -1??, 0??
- ◆ *HttpServletResponse*
 - *addCookie(Cookie)*
- ◆ *HttpServletRequest*
 - *Cookie[] getCookies()*

Example: Shopping Cart (II)

- ◆ Using Cookie

Cookie or No Cookie?

- ◆ Is cookie a potential security problem?
 - Virus??
 - DoS??
- ◆ How about privacy?
 - Cookie manager in Mozilla/Firefox(?)
 - Internet Options in IE

It's Not Easy ...

- ◆ ... to generate unique and random session id's
- ◆ ... to associate more information with a session
- ◆ ... to tell whether the client has already left

Servlet Session Tracking API

- ◆ *HttpServletRequest*
 - *HttpSession getSession()*
- ◆ *HttpSession*
 - *setAttribute(String, Object)*
 - *getAttribute(String)*
 - *setMaxInactiveInterval(int)*
 - Tomcat default: 30 seconds
 - *invalidate()*

Example: Shopping Cart (III)

- ◆ Using Session Tracking API

Is Session Shared Across Multiple Servlets?

Example:

Username: <input type="text"/>
Password: <input type="password"/>

LoginServlet

Members Only!

DisplayServlet

Is Session Shared Across Multiple Servlets?

- ◆ LoginServlet
 - Validate username and password
 - Failed: redirect to error page
 - Succeeded: set a session attribute "authenticated" to "true", and redirect to DisplayServlet
- ◆ DisplayServlet
 - Check session attribute "authenticated"
 - null: redirect to LoginServlet
 - "true": display content