

## IELM 231 IT for Logistics and Manufacturing

### Client-side programming - part II (Sessions tracking)

#### Background:

Up until now, we have seen how a web-user can submit data to a server, and the server can then execute CGI programs to take some actions based on the inputs. Since *CGI programs* run on the web server, they *are caller server-side programs*.

*In this* sequence of *labs*, we will see how to enhance client-server program functionality by also asking a program to run on the client side via the web interface. Namely you will write *client-side programs*.

The main operation is as follows:

1. Web client (e.g. browser) sends a request for a web-page (URL)
2. Server sends the requested page, which contains data+program(s)
3. Client executes the program, which may (i) do something, (ii) generate some more data to display; then the client displays the resulting data as an HTML page.

In the following labs, we shall see what type of things can be done by client-side programs, and in particular, use them for some common and useful client-server tasks. In particular, you create simple applications for *the following three tasks*:

**Task 1.** Simple client-side program to *create a better GUI*, including checking for proper inputs, verification of data, etc. This exercise will also include basics of *Javascript* programming.

**Task 2.** *Sessions tracking* using cookies.

**Task 3.** A simple *secure communication* exercise, using ideas of *symmetric keys*.

In this exercise, we look at task 2.

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#### Objectives:

- (a) Continue learning basics of Javascript language.
- (b) Use Javascript to handle cookies.
- (c) Use VB to set and manage cookies for session tracking

**Step 1. (a)** Create a table on your web (and DB) server, using MS Access, as follows:

**Table name:** ItemData

#### Fields:

name char(30),  
barcode char(30),  
price float

**(b)** After creating the table, store data for at least five items in it.

**Step 2.** Create a web-page (filename on server: *cookies\_welcome.html*) with a simple welcome message:

Hello <username>, if you are not <username> please specify your name: [ name] before clicking on the “Start Shopping” button.

(a) To get the value of `username`, your HTML file should run a JavaScript program to check for the value of a cookie called `IE_USER`. If this cookie is not set, then username should take the default value of “Visitor”.

(b) If the cookie `IE_USER` is set, then the name entered by the user should be set as the value of the cookie `IE_USER`.

(c) If the user does not provide any name at all, then a default name should be used: “Nameless”.

**Step 3.** Write CGI program(s) that do the following:

(a) Sets and manage the values of two cookies: `IE_USER`, and `CART`.

(b) When the user first clicks on the “Start Shopping” button, the CGI program should output an HTML form that lists the items currently for sale in the table `ItemData`. for each item, display the Name, Price, a button that allows the user to “Add to cart”, and a button that allows the user to “Remove from cart”.

(c) When the user adds or removes an item from the cart, the value of the cookie `CART` should be modified accordingly.

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## References

For learning basic commands of JavaScript, and how to use it in an HTML page, you are encouraged to use any one of the tutorials available online, e.g. the Webmonkey tutorial (lesson 2 covers cookies):

<http://www.webmonkey.com/webmonkey/programming/javascript/tutorials/tutorial1.html>

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