

# CMSC 100 – Web Programming

## Introductory Terms

### **Ojective:**

At the end of the session, the students should be able to:

*Discuss the definitions of common/introductory terms related to Web Programming*

# *Previously...*

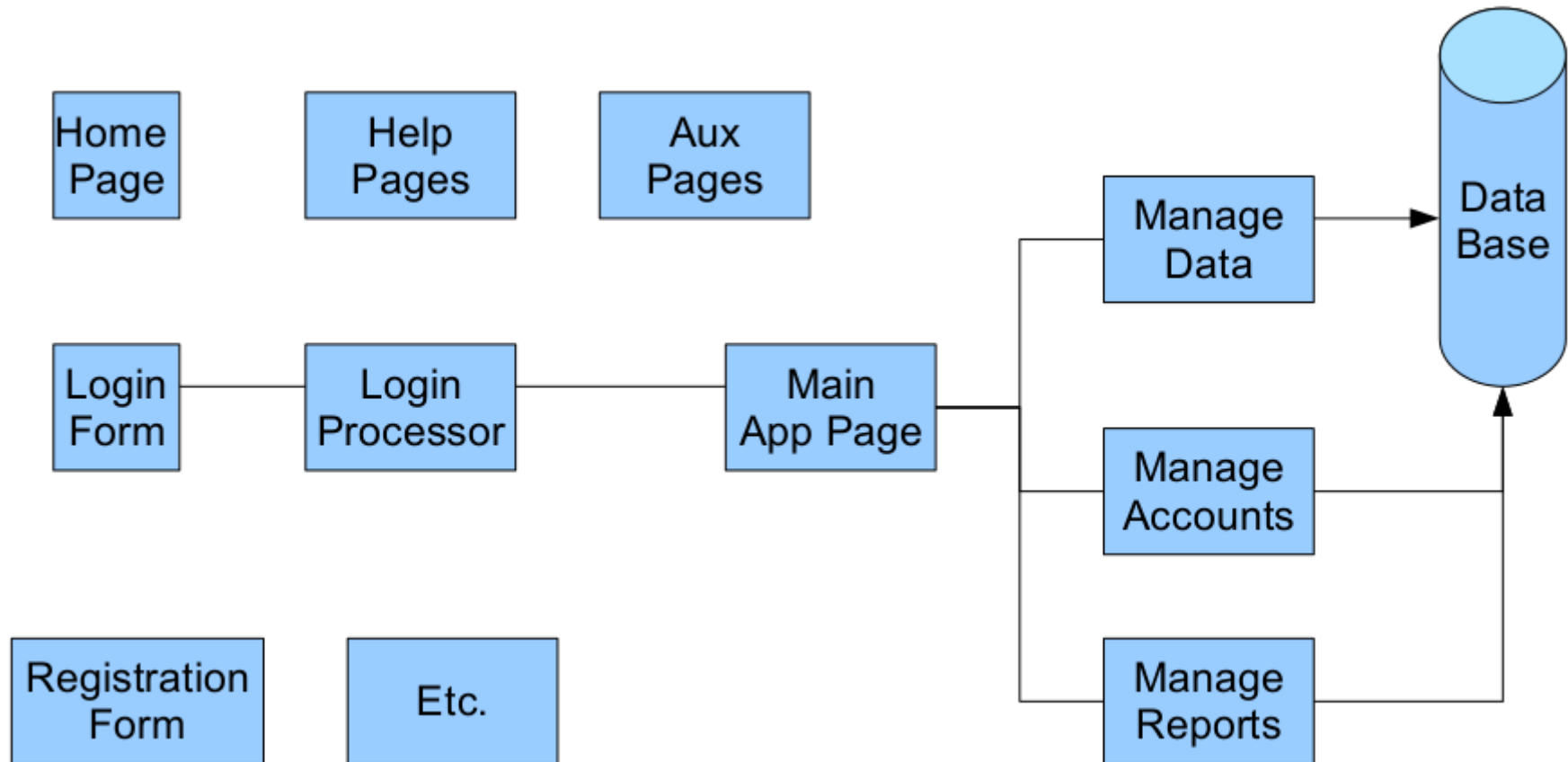
- ♦ HyperText Transfer Protocol
  - The Web Server
  - Browser-Server Interaction
  - HTTP Request
  - HTTP Response

# Session Management\*

- A web application is composed of multiple web pages:
  - *Forms*
  - *“Processing” scripts/servlets*
  - *Reports*
  - *Information pages (i.e. static pages, help pages, etc).*
  - *Etc.*
- Most web applications require a database management system for the data they use/process.

\*Most parts of this lecture came from Prof. Rodolfo Duldulao, former instructor at ICS, UPLB.

# Overview

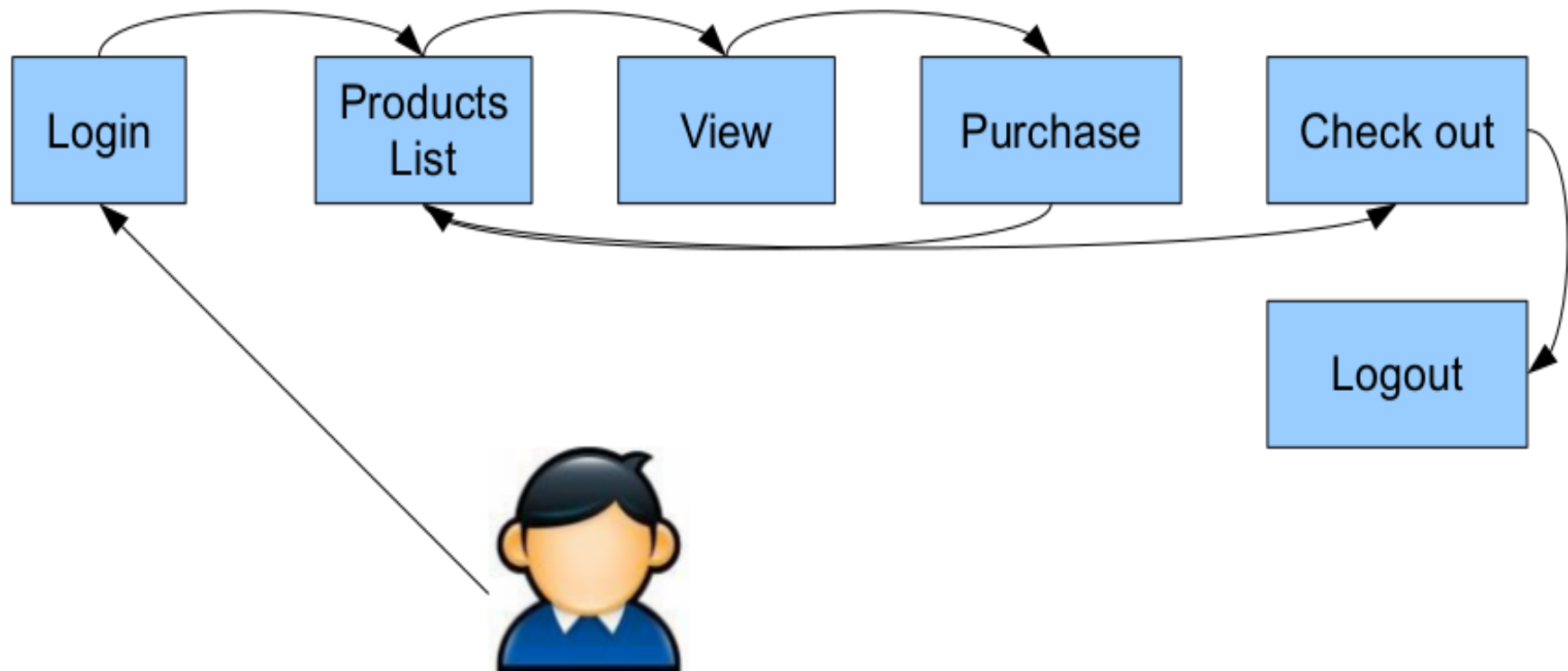


# Session Management

- A **session** is the “dialogue” between a user and the system, where important information may arise and be reused as the dialogue continues.
  - i.e. whatever activity does from login to and logout from an application (inclusive) can be considered a session.

# Session Management

- Keeping track of user's activity across sessions of interaction with a system.



# HTTP and Session Management

- HTTP is a “stateless” protocol
  - HTTP does not “remember” what the last request from the same user was.



# Session Management

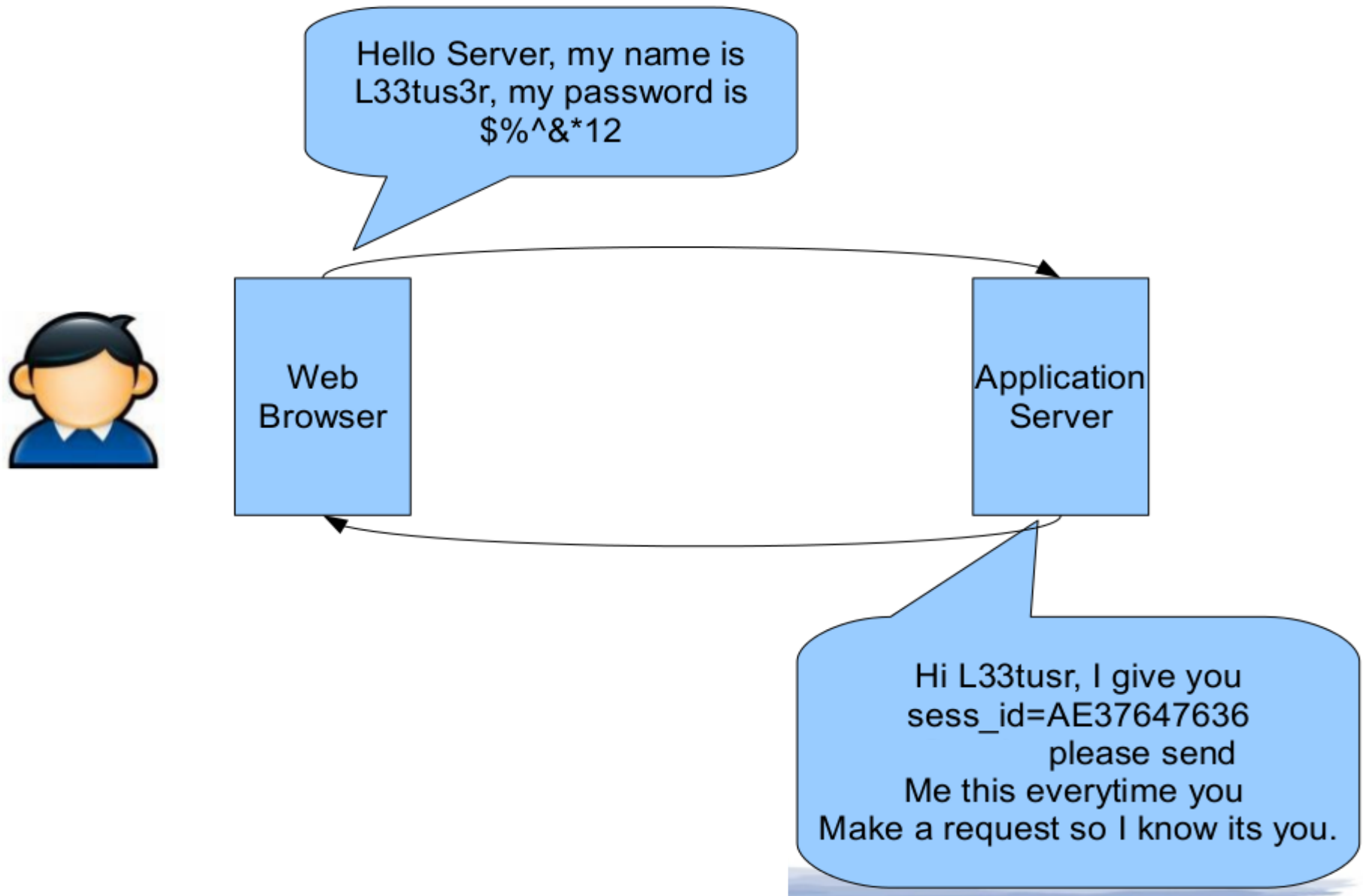
- A Challenge for the Web Developer:
  - How to make your Web App *remember* pertinent information about your user or data used in processing routines.



# Strategies in Storing Session Data

- URL Based Session IDs
- Cookies
- Hidden Post Fields

# Session Management



# URL Based Session IDs

- Session ID information embedded in the URL, which is received by the application through HTTP GET requests



Example:

***`http://www.example.com/news.asp?  
article=27781;sessionid=IE60012219`***

# Cookies



- **Information** stored on a user's computer by a web browser FROM a web server (web application)
- Aka: tracking cookie, browser cookie, HTTP cookie

# Cookies: HTTP Response

- The server sends the cookie via the HTTP Response with the Set-Cookie header:

```
HTTP/1.1 200 Ok
Content-type: text/html
Set-Cookie: cookienam=cookievalue

(content of page)
```

# Cookies: HTTP Request

- From then on, the client sends the cookies it receives from the server in subsequent requests

```
GET /process.php HTTP/1.1  
Host: www.example.com  
Cookie: cookienam=cookievalue
```

# Cookie

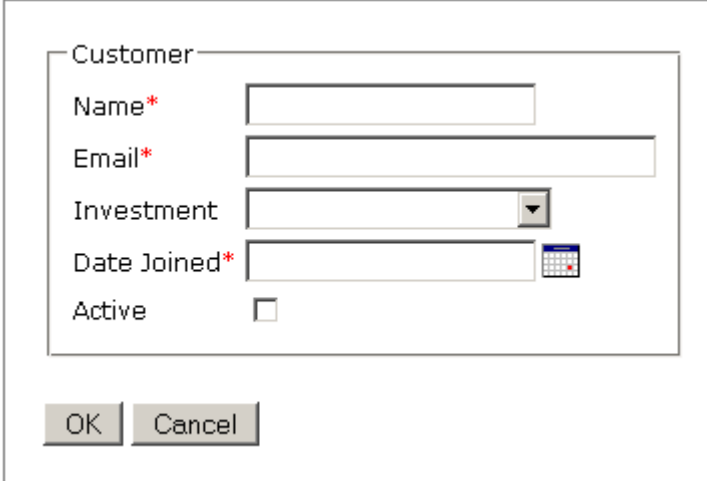
- Example, on HTTP Response:

```
Set-Cookie: sess_id=A34511;  
expires=Fri,  
31-Dec-2010 23:59:59;  
path=/;domain=.example.com;  
secure=true;
```



# Hidden Post Fields

- Easy to implement.
- Process the “additional” information just like any other submitted form data.
- Works only with forms.



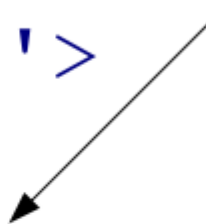
The image shows a web form titled "Customer" enclosed in a rectangular border. Inside the border, there are five input fields arranged vertically. The first field is labeled "Name\*" and is a standard text input. The second field is labeled "Email\*" and is also a text input. The third field is labeled "Investment" and is a text input with a small downward arrow on the right side, indicating a dropdown menu. The fourth field is labeled "Date Joined\*" and is a text input with a small calendar icon to its right. The fifth field is labeled "Active" and is a checkbox. Below the input fields, there are two buttons: "OK" and "Cancel".



# Hidden Form Elements

```
<form name='myform'
      action='process.php'>
  <input type='hidden'
        name='proc_value'
        Value='125544576' />
  ... other form elements
</form>
```

Use the hidden type to include "nonvisible" data to be used in processing.



# On Client-Side : Dont's



- Do NOT place “sensitive” information such as:
  - SSNs
  - passwords
  - credit card information
- General good practice is to send session identifier to the client
  - Identifier must be random.
  - Server must keep track of this identifier

A screenshot of a web form titled "Customer". The form contains several input fields: "Name\*" with an asterisk, "Email\*" with an asterisk, "Investment" with a dropdown arrow, "Date Joined\*" with an asterisk and a calendar icon, and "Active" with an unchecked checkbox. At the bottom of the form are two buttons labeled "OK" and "Cancel".

# Assignment

- Read:

## **Web Based Session Management**

*Best practices in managing HTTP-based client sessions*

***[http://www.technicalinfo.net/papers/  
WebBasedSessionManagement.html](http://www.technicalinfo.net/papers/WebBasedSessionManagement.html)***