Introduction to Web Programming

The  &  stack

About instructor

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- Graduated from RMUTT in 2007 (IS 4/46).
- 4th place awarded from National Software Contest.
- Coded Java website at Sanookonline.
- Fixed Java bugs at Thomson Reuters.
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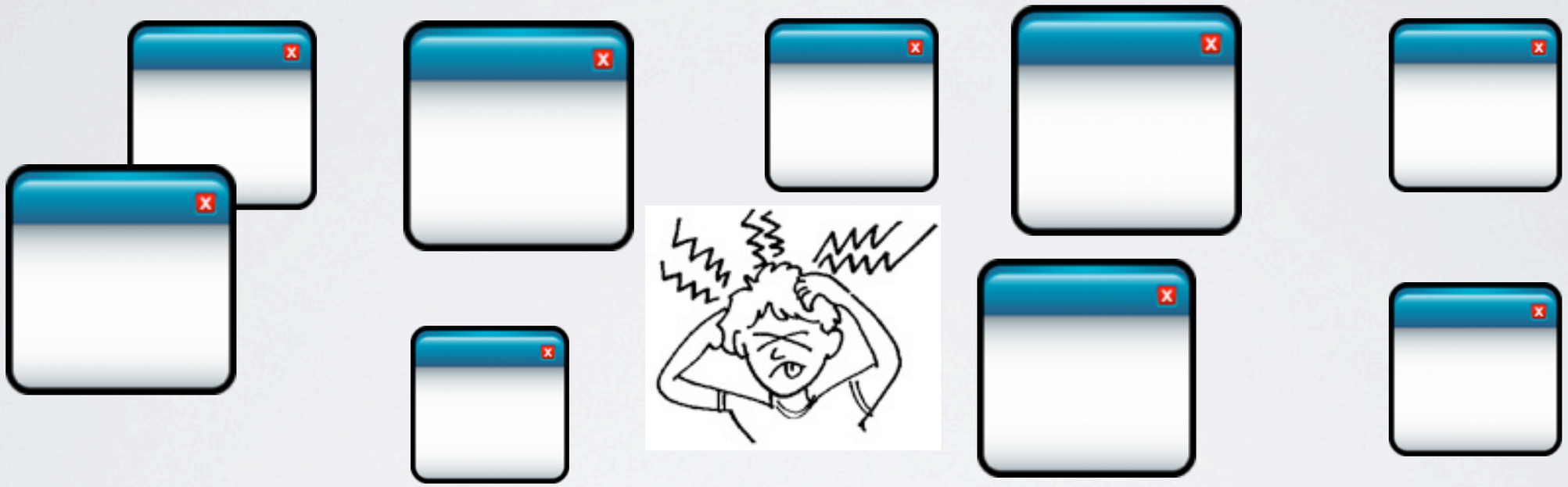
Why should we learn web programming?

- Get job as web programmer.
  - Most of programmer jobs is web based programmer. (Try looking at Jobsdb)

Why should we learn web programming?

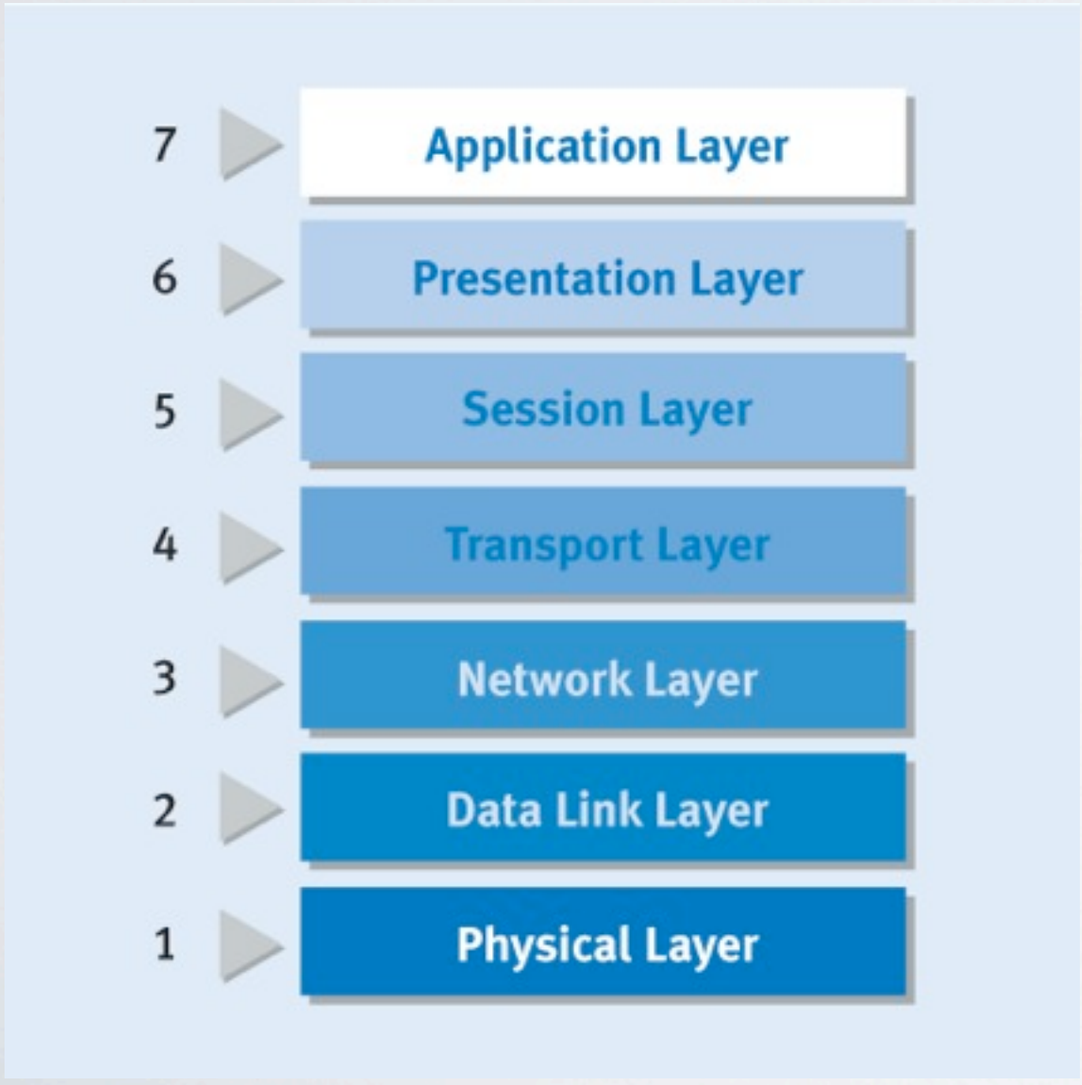
- Easy way to develop/maintain/deploy client-server system.
  - Write once, run on both client and server sides.

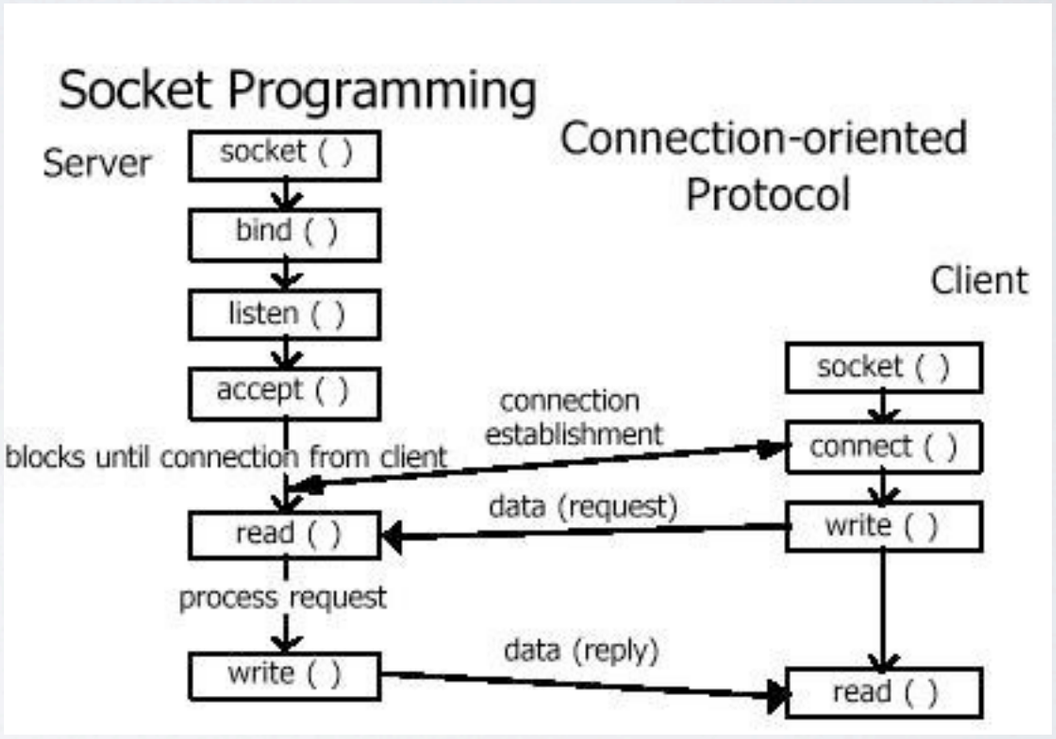


Imagine you have 500 staffs using PC with standalone apps installed in them and there was a little requirement change. You are in trouble, it will take you days to walk around the office uninstall the old one and install the new one, dreadful.

Why should we learn web programming?

- No need write socket programming.
  - You can forget TCP/IP & OSI layers.
  - Web server handles socket tasks for us.





Why should we learn web programming?

- Ability to develop variety of systems, intranet & extranet.
  - Inventory control system.
  - Accounting application.
  - Financial Analysis tools.
  - Portal website.
  - E-Commerce website.
  - Game on facebook.
  - etc.

Learning best practice

1. The day before class, see what subject you are going to learn by looking at teaching plan.

2. Find out what it is, for example the subject is 'HTML', Open your ebook or website to find what it is, what benefit it gives. This step is just getting an idea.

3. Pay attention in class. Follow all workshops and try to understand why lines of code go like that.

4. Enjoy assignment. Do it yourself. MSN me when you get stuck but please try a couple days yourself first.

HTTP is about Request / Response.

Web browser

1. typing http://google.com then press enter, web browser sends request to Web Server named google.com

3. send response back in HTML text or others

Web Server
(PHP inside)

2. Web server processes to response back by getting datas from database, calculate it and then write it back to Database server. In this case, google may write visiting statistic into their database.

Database Server
(MySQL inside)

What programs are inside web server?

- Operating System such as Windows, Fedora, Ubuntu.
    - Handles communications between tenant programs (programs that run on top of OS) and machine.

- Web Server Program such as Apache, IIS
    - Listening for request which is come from web browser on port 80. (Normally HTTP port)
    - Send response back to web browser.

- Language extension such as PHP, Perl, Python, Ruby.
    - Binding to Web Server Program.
    - Processing request, response and data from database.

What programs are inside Database server?

- Operating System such as Windows, Fedora, Ubuntu.
    - Handles communications between tenant programs (programs that run on top of OS) and machine.

- Database Server Program such as MySQL, Oracle.
    - Listening for query (Command) which is come from Web Server on port 3306. (Normally MySQL port)
    - Send data back or update data itself.

- We can install Database Server Program inside the same machine as Web Server but it is not recommended.

Quick definition

- Apache is a popular web server software, the first web server software to surpass the 100 million web site milestone.

- PHP: Hypertext Preprocessor (the name is a recursive acronym) is a widely used, general-purpose scripting language that was originally designed for web development to produce dynamic web pages.

- MySQL is an open source database software based on the SQL vocabulary which can be employed in combination with most server-side languages, but which is most commonly employed with PHP.

Why PHP & MySQL?

- Popular stack people use all over the world so when you get stuck you just google your problem.

- PHP is free of charge. MySQL is also free.

- Your code can deploy on both Windows and Linux servers.

- Most web hosting services support.

- Coding PHP is fast and easy.

- MySQL is quite stable and fast. (For large scale of datas you have to use some techniques to optimize it)

Tools we use in this course

- WAMP (Apache+PHP+MySQL in one program)
  - Download from http://www.wampserver.com/en/download.php
  - Just clicking next buttons to install it.
  - To start WAMP:
    start > All programs > Wampserver > start Wampserver

- PSPad (Use to edit PHP code)
  - Download from http://www.pspad.com/en/download.php
  - Just clicking next buttons to install it.
  - To run PSPad:
    start > All programs > PSPad editor > PSPad editor

Testing installation: a Hello World! program

1. Make sure you are running WAMP. If it is running you will see a strange white icon in your system tray.

2. Run PSPad and type code as shown in next page.

3. Save the file as hello.php into c:\wamp

4. Open internet explorer and type as below into address bar:
http://localhost/hello.php
http://localhost/hello.php?param1=there
http://localhost/hello.php?param1=Lucas&param2=Rafael

hello.php

```
<?php
  $name1 = '';
  $name2 = '';
  if(isset($_GET['param1'])) $name1 = $_GET['param1'];
  if(isset($_GET['param2'])) $name2 = $_GET['param2'];
?>
<html>
  <head>
    <title>Hello World!</title>
  </head>
  <body>

Hello <?php print $name1; ?><?php if($name2 != '') print 'and '; ?><?php print $name2; ?>!

  </body>
</html>
```

Learning resource

- This presentation (http://istudy.tk/week1.pdf)

- Teaching plan (http://istudy.tk/plan.pdf)

- Reading for next week.
(http://en.wikipedia.org/wiki/HTML)
(http://www.w3schools.com/tags/default.asp)
(http://www.tizag.com/htmlT/)

- E-Book for self study (http://istudy.tk/book1.zip)
(http://istudy.tk/book2.zip)