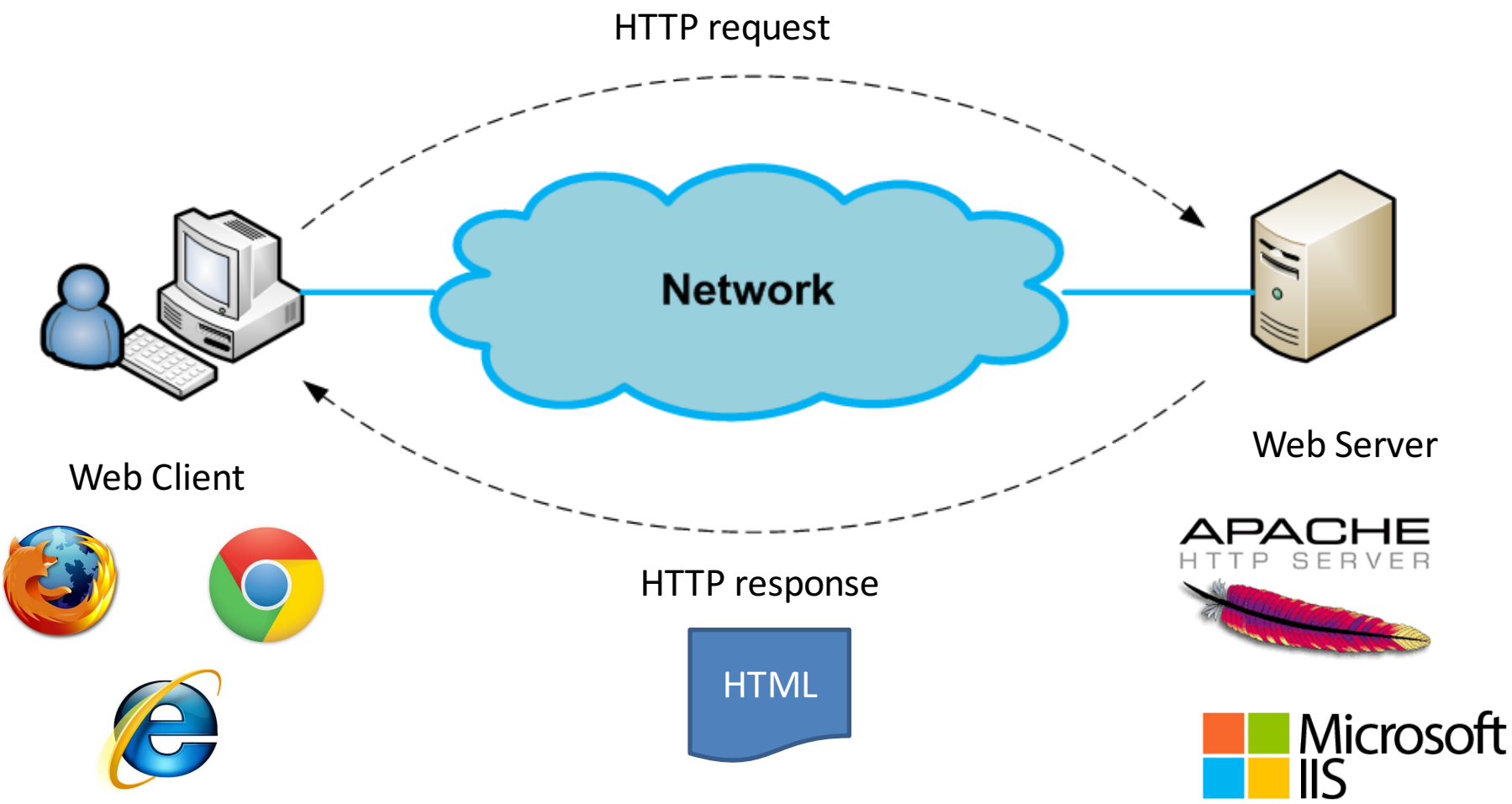
Web Application Development

# Introduction to the World Wide Web (WWW)

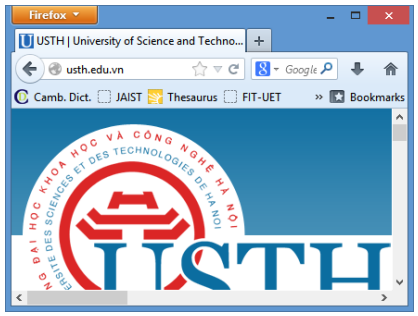
# Introduction to the WWW

- Three main concepts: the web, a web page and a web site
  - The World Wide Web, also called the Web, is a worldwide collection of electronic documents
  - A web page is a document on the WWW
  - A web site is a collection of related Web pages

# Web Client – Server System



# Web Client – Server System




HTTP request

```
<html>
...
  <img src="..."/>
...
</html>
```

Network

Web Client

Web Server

HTTP response

HTML

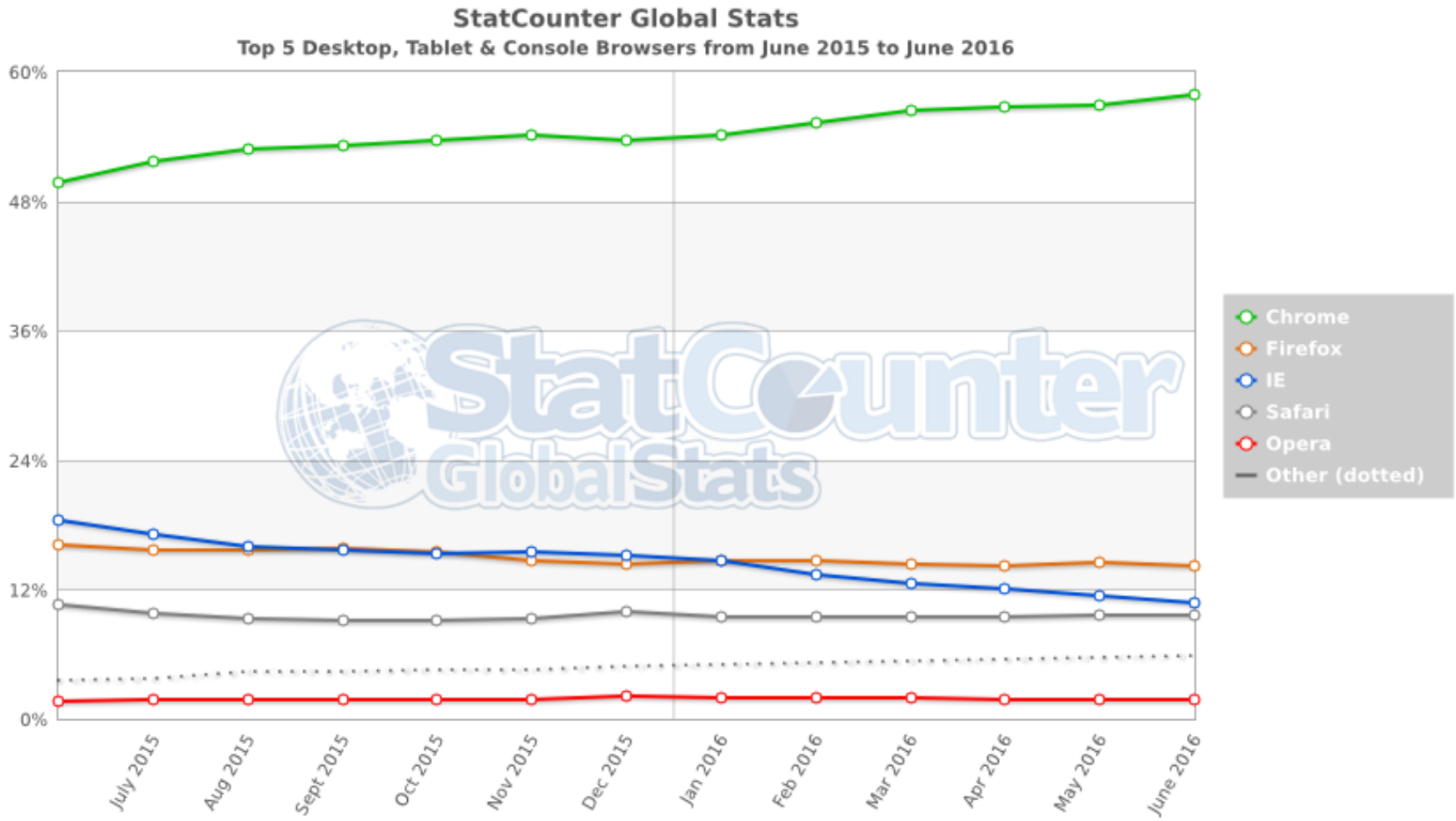
# Web Client – Server System

- A web client-server system contains a web client and a web server:
  - A Web client sends HTTP requests to a web server, then reads HTML documents and display
  - A Web server receives requests from a web client and sends HTTP responses (usually an html document) to a web client

# Web Client

- Usually mentioned as Web browser:
  - Chrome
  - Firefox
  - Internet Explorer

# Web Browsers




(source: http://gs.statcounter.com)

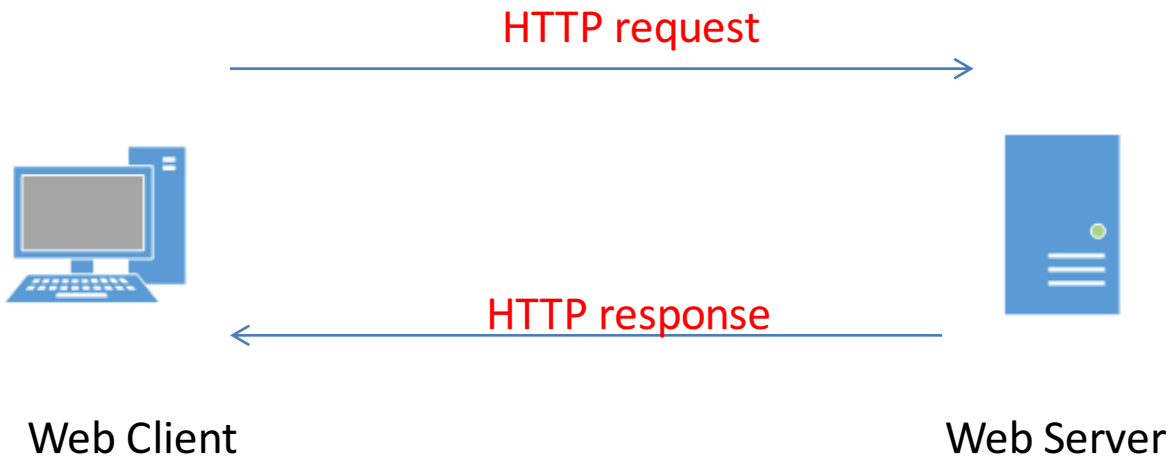
# Web Server

Apache HTTP server

Internet Information Service (IIS)

Lighttpd

# HTTP Request and Response




- HTTP (Hypertext Transfer Protocol): is a set of rules governing the format and content of the conversation between a web client and a web server

# HTTP Request and Response

- Example of an HTTP request to fetch hello.html page from the web server running on tutorialspoint.com

- request

```
GET /hello.html HTTP/1.1
User-Agent: Mozilla/4.0
Host: www.tutorialspoint.com
```

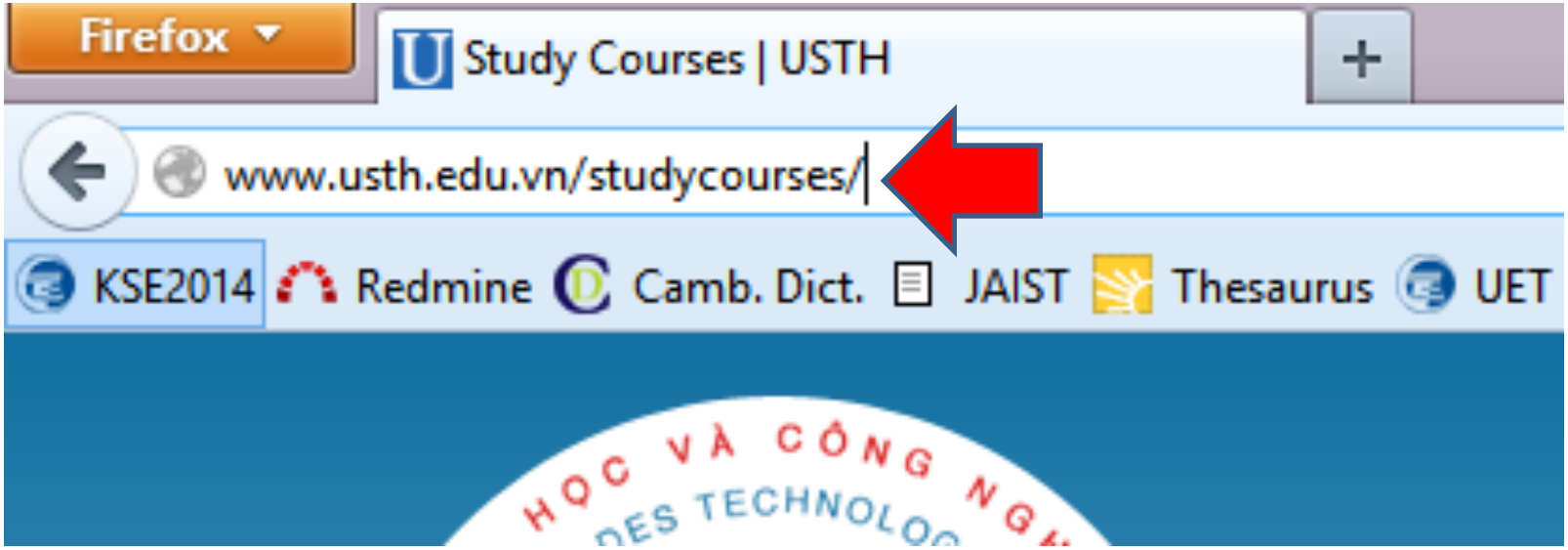
- response

```
HTTP/1.1 200 OK
Date: Mon, 27 Jul 2016 23:59:59 GMT
Content-Type: text/html
Content-Length: 1354

<html> <body>
<h1> <Hello World!</h1>
</body> </html>
```

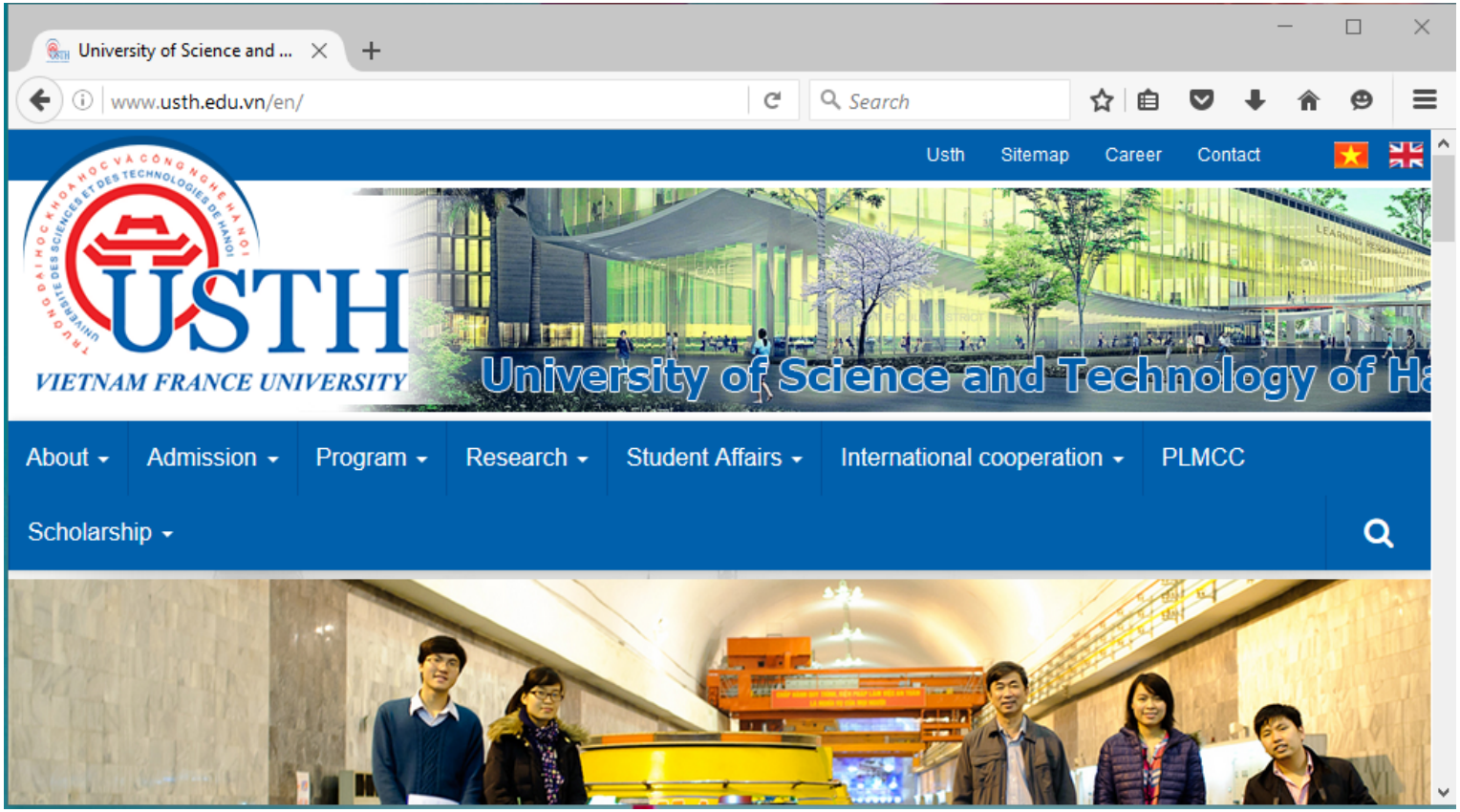
# Some Concepts

URL (Uniform Resource Locator): a string representing the location of a Web page



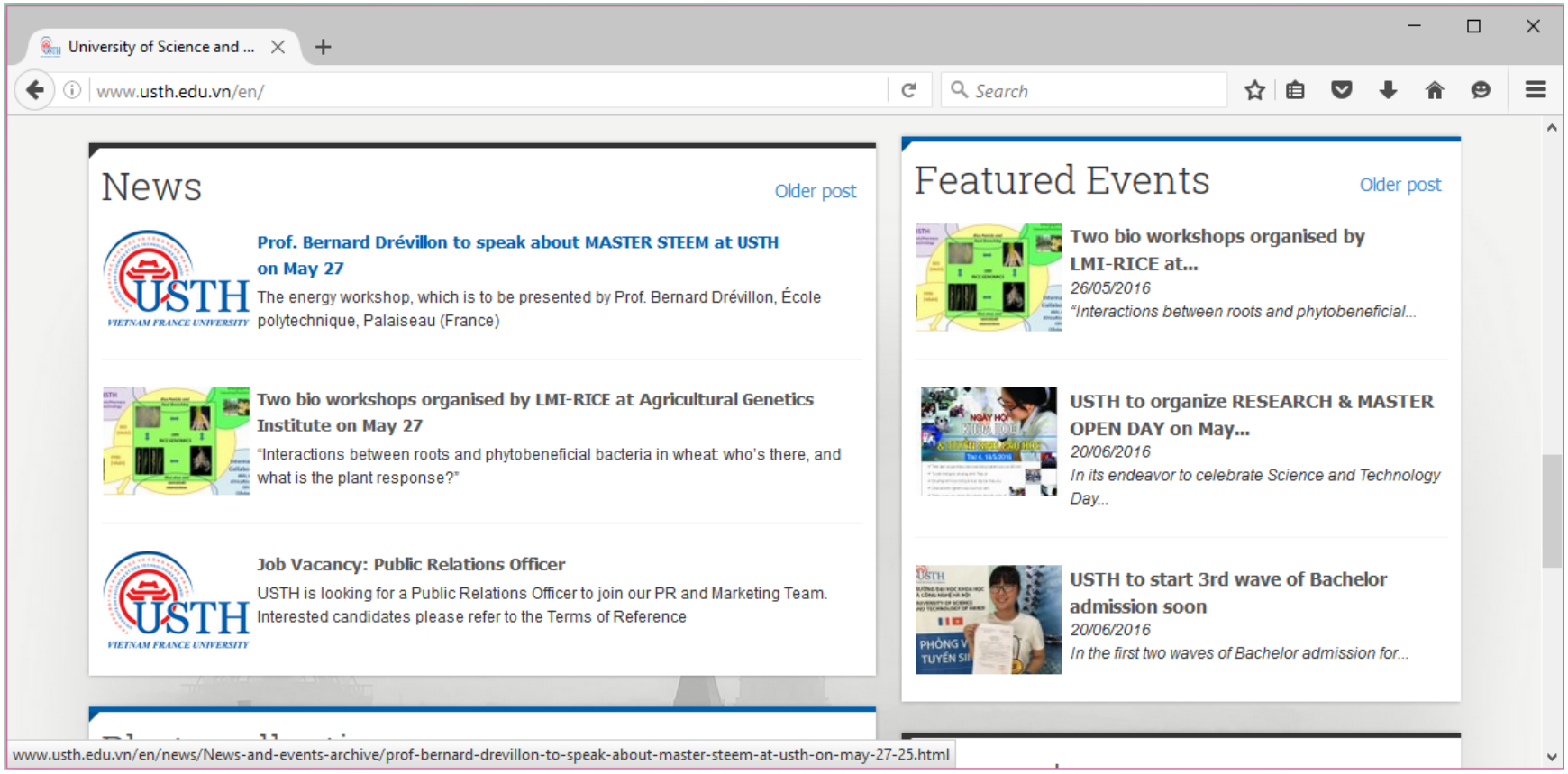
# Some Concepts

- Home page: the Web page considered as the "start point" for a Web site



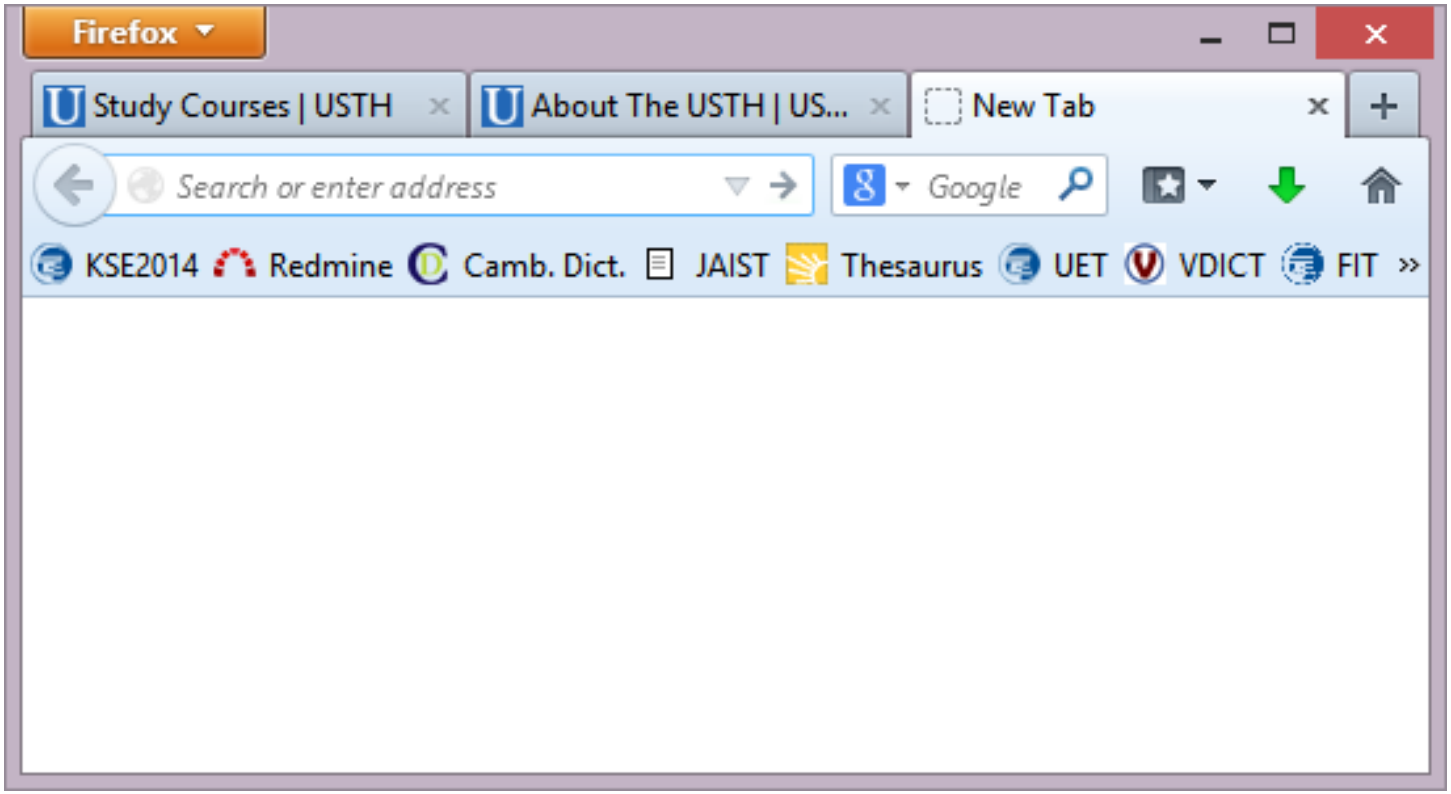
# Some Concepts

- Hyperlink: the pointer from a Web page to another

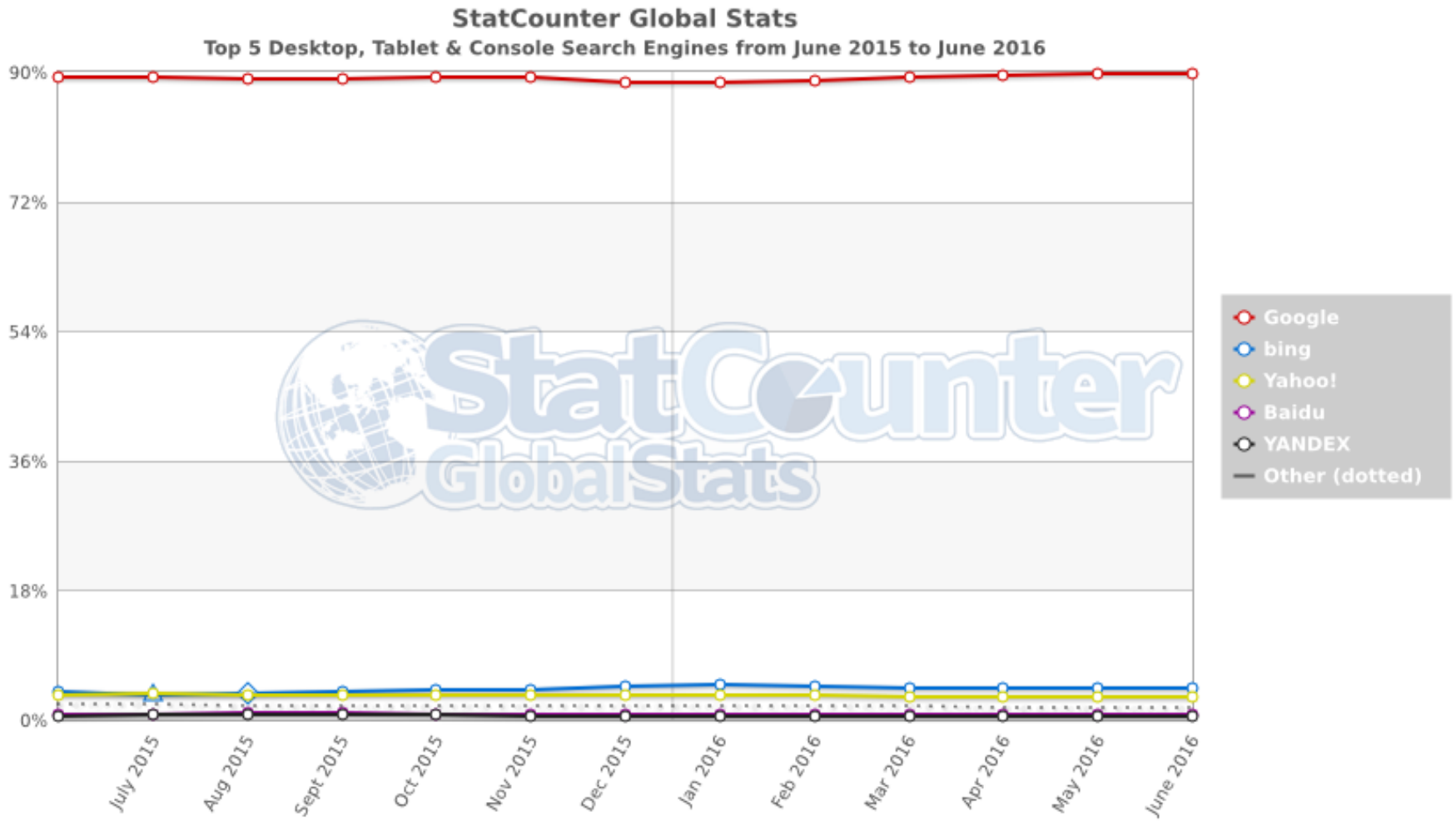


# Some Concepts

- Tab browsing: allow users to surf and view multiple web pages on  a single window



# Some Concepts

- A search engine: is a system designed to search information on the WWW
- Popular search engines:
  - Google (http://www.google.com)
  - Bing (http://www.bing.com)
  - Yahoo (http://www.yahoo.com)

# Search Engine Statistics