Web Overview

Revolutionary Event From
Evolutionary Building Blocks

Web Revolutionary Event From Evolutionary Building Blocks

For a Collective Thought Organism
This was Our Break thru

Internet TimeLine

SADDLEBACK COLLEGE

- 1960 APARNET
- 1965 HyperText was Coined
- 1971 TCP/IP, FTP, Email using APARNET
- 1982 TCP/IP Stack was Formalized The Standard
  - IP Address for All Devices (Router to Local Devices)
  - TCP Protocols Get and Put
- January/1983 Internet was Officially Created
- 1989 HTML SGML Instance
  - Standard Generalized Markup Language
    - IBM → ISO/OSI Standard

- 1991 HTTP over Internet using TCP/IP Get Put

T. DeDonno   Web Overview   3

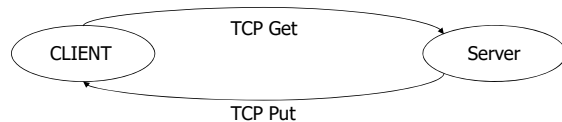## Web Timeline

SADDLEBACK COLLEGE

- 1991 WWW based TCP/IP Stack Internet
  HTML GUI Interface to Exchange Publications
- 1992 Java Client Java Applets
  - Server End: Java, Perl, CGI DB Interface
- 1995 Dedicated Languages for the Web
  - Perl → PHP (PHP hypertext preprocessor)
  - JavaScript Programming Language for Client
- 1995-1997
  - PHP was used to write CMS (Content Management System)
    Goal Automate the process of Creating Web Content
  - CSS "Presentation Language of the Web"

- 2003 WordPress 1st Release the CMS System
  - Web Log (Log is File w Date/Content– Web Dairy) → Blog
  - Blogger one who maintains a Blog (Now Digital Content Creator)

T. DeDonno   Web Overview   4

Original Web - 1991

FTP → Anonymous FTP w Get Only is HTTP

TCP Get
CLIENT   Server
TCP Put

Objectives:
  Faster Way to Exchange Publications
  Standard Conference – Journal was too Slow

Paradigm: Closed Hypertext Embedded Link System

Not Programmable – No Databases

How Did Web Hit Critical Mass so Fast?

T. DeDonno   Web Overview   5
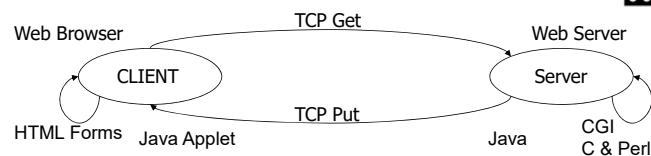
Evolutionary Building Blocks

- Microprocessor
  - Proliferation of Low-Cost Client HW/SW PCs
  - Routers → Handle a Lot of Network Users
  - Low-Cost Server HW → Server Farms
- Internet-TCP/IP (ftp) → Web (http)
  - 1992 Anderson Added a GUI Mosaic
- Right Place Right Time
  - Linux – Low-cost Free Server Side OS
  - Java Server Programming & SQL Database Standard
  - A Pache – Open Source comes of Age
- Just an Integration Task

T. DeDonno   Web Overview   6

Hit Critical Mass Fast

Web Browser   TCP Get   Web Server
  CLIENT   Server
                     TCP Put
HTML Forms   Java Applet   Java   CGI
                                          C & Perl

Right Place Right Time - Everything Was in Place
OSI Standards CGI & SGML
Internet/FTP Network in Place
Java Looking for Home
Linux Just Released

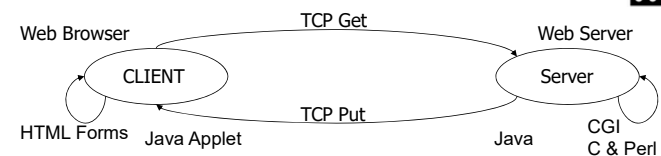Expanded Fast, But What's Wrong?

T. DeDonno   Web Overview   7

1992-1995

Web Browser   TCP Get   Web Server
  CLIENT   Server
                     TCP Put
HTML Forms   Java Applet   Java   CGI
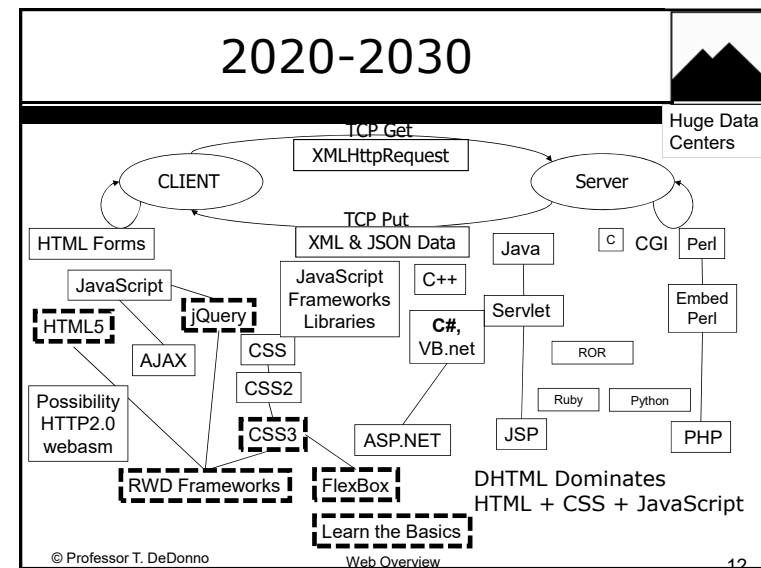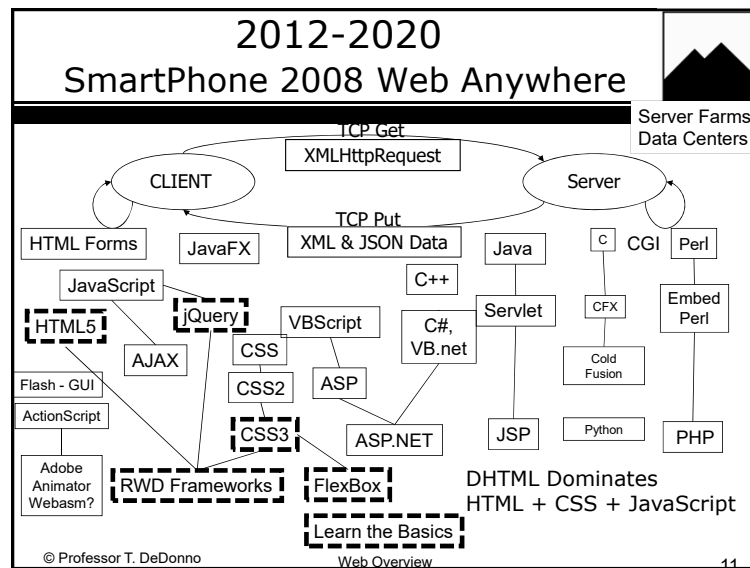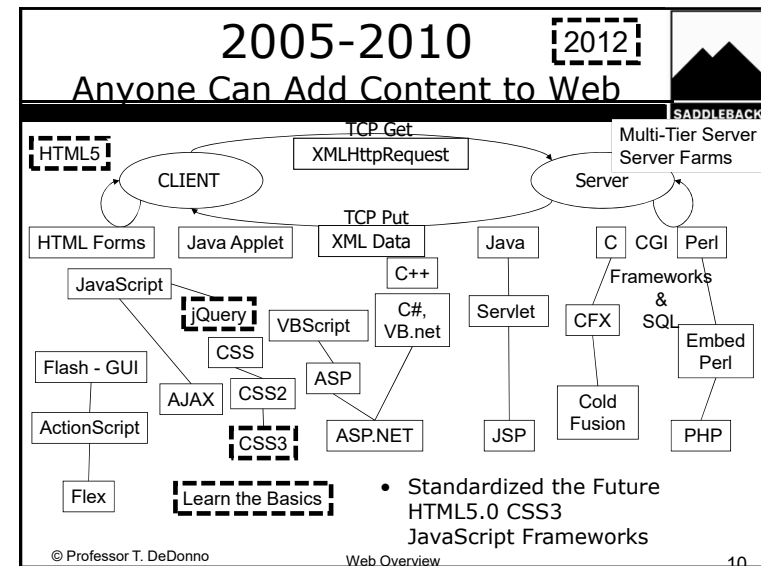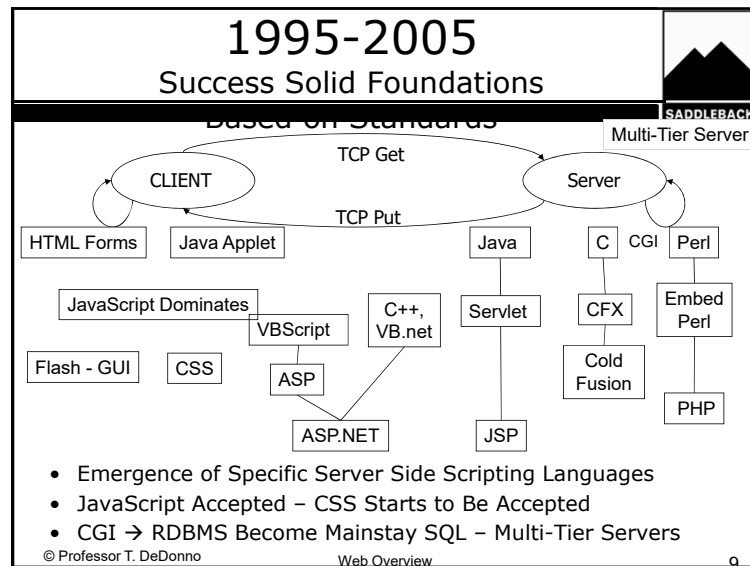   C & Perl

- Needed Specific Client Side Languages
  - HTML & HTML Forms for User Input
  - JavaScript in 1995-1999
  - CSS Presentation
- DHTML = HTML + CSS (Presentation) + JavaScript (Behavior)
- Next 10 Years Standardized DHTML & Server Side Languages

© Professor T. DeDonno   Web Overview   8

1995-2005
Success Solid Foundations
Based on Standards

Multi-Tier Server

TCP Get
CLIENT — Server
TCP Put

HTML Forms | Java Applet | Java | C | CGI | Perl

JavaScript Dominates
VBScript
C++, VB.net
Servlet
CFX
Embed Perl

Flash - GUI | CSS
ASP
Cold Fusion
ASP.NET | JSP
PHP

- Emergence of Specific Server Side Scripting Languages
- JavaScript Accepted – CSS Starts to Be Accepted
- CGI → RDBMS Become Mainstay SQL – Multi-Tier Servers

© Professor T. DeDonno   Web Overview   9

2005-2010
2012
Anyone Can Add Content to Web

Multi-Tier Server
Server Farms

HTML5
CLIENT
TCP Get
XMLHttpRequest
Server

TCP Put

HTML Forms | Java Applet | XML Data | Java | C | CGI | Perl

JavaScript
C++
Frameworks & SQL
jQuery | VBScript | C#, VB.net | Servlet | CFX
CSS
Embed Perl

Flash - GUI
AJAX | CSS2 | ASP
Cold Fusion

ActionScript
CSS3 | ASP.NET | JSP | PHP

Flex | Learn the Basics

- Standardized the Future HTML5.0 CSS3 JavaScript Frameworks

© Professor T. DeDonno   Web Overview   10

2012-2020
SmartPhone 2008 Web Anywhere

Server Farms
Data Centers

TCP Get
XMLHttpRequest
CLIENT — Server
TCP Put

HTML Forms | JavaFX | XML & JSON Data | Java | C | CGI | Perl

JavaScript
C++
jQuery | VBScript | C#, VB.net | Servlet | CFX | Embed Perl

HTML5
AJAX | CSS | ASP | Cold Fusion

Flash - GUI
CSS2

ActionScript
CSS3 | ASP.NET | JSP | Python | PHP

Adobe Animator Webasm?

RWD Frameworks | FlexBox

Learn the Basics

DHTML Dominates
HTML + CSS + JavaScript

© Professor T. DeDonno   Web Overview   11

2020-2030

Huge Data Centers

TCP Get
XMLHttpRequest
CLIENT — Server
TCP Put

HTML Forms | XML & JSON Data | Java | C | CGI | Perl

JavaScript
JavaScript Frameworks Libraries
C++
jQuery | C#, VB.net | Servlet | Embed Perl

HTML5
AJAX | CSS | ROR

Possibility HTTP2.0 webasm
CSS2
Ruby | Python

CSS3 | ASP.NET | JSP | PHP

RWD Frameworks | FlexBox

Learn the Basics

DHTML Dominates
HTML + CSS + JavaScript

© Professor T. DeDonno   Web Overview   12

Web Hits
Critical Mass Fast

- Web Revolutionary Event From Evolutionary Building Blocks
  - Right Place Right Time
    - 1992 SQL Database Standard
    - 1992 Java Announced
    - Inexpensive Fast Microprocessor
  - The Integration Task of our Species

- Smart People Created the Right Standards
  - DHTML = HTML ("markup Language")
    + CSS Presentation Display
    + JavaScript Action/Behavior

© Professor T. DeDonno   Web Overview   13
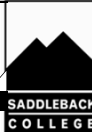
Cloud Hits
Critical Mass Fast

- Huge Data Centers
  - **Massive Server Farms**
  - Web Servers **Databases & Programs**
    - Canvas Ruby/RoR,
    - FaceBook PHP Server Front-End
    - Amazon eBay Java Based

- Next Stage Web Sites to Web Services → Cloud

© Professor T. DeDonno   Web Overview   14

What is the Cloud

- Internet/IP Service
  - Took Advantage of Massive Web Scale
- What is a Cloud Service?
- Software as a Service (SaaS)
  - Google Docs, Office 365, Adobe Creative Cloud
- "Hardware" Infrastructure as a Service (IaaS)
  - Microsoft One Drive PC
  - Android Phone – Google Drive Pictures
- More About Cloud

T. DeDonno   **Web Overview**   **15**