웹 프로그래밍 소개

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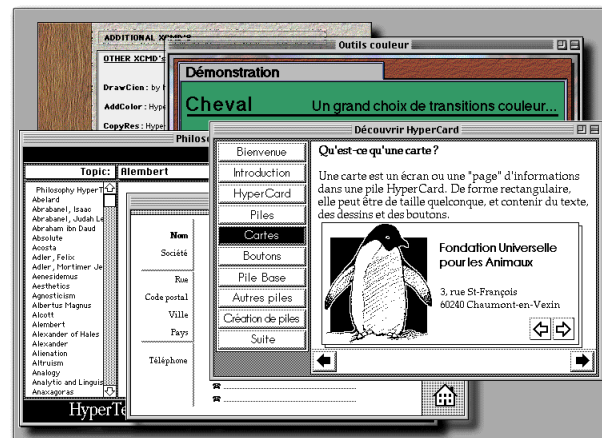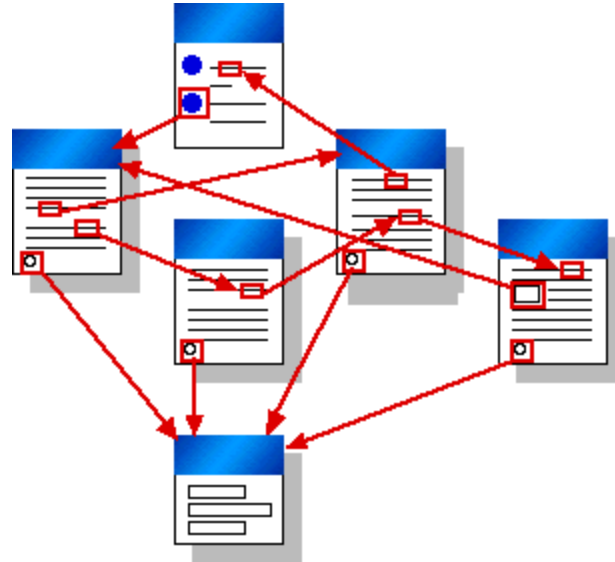http://cgac.chungbuk.ac.kr

강의교재

한번에 배우는 HTML5+ 자바스크립트,
지닌 마이어(김지원 옮김), 한빛미디어, 2011

HyperText

◈ 1965, Nelson

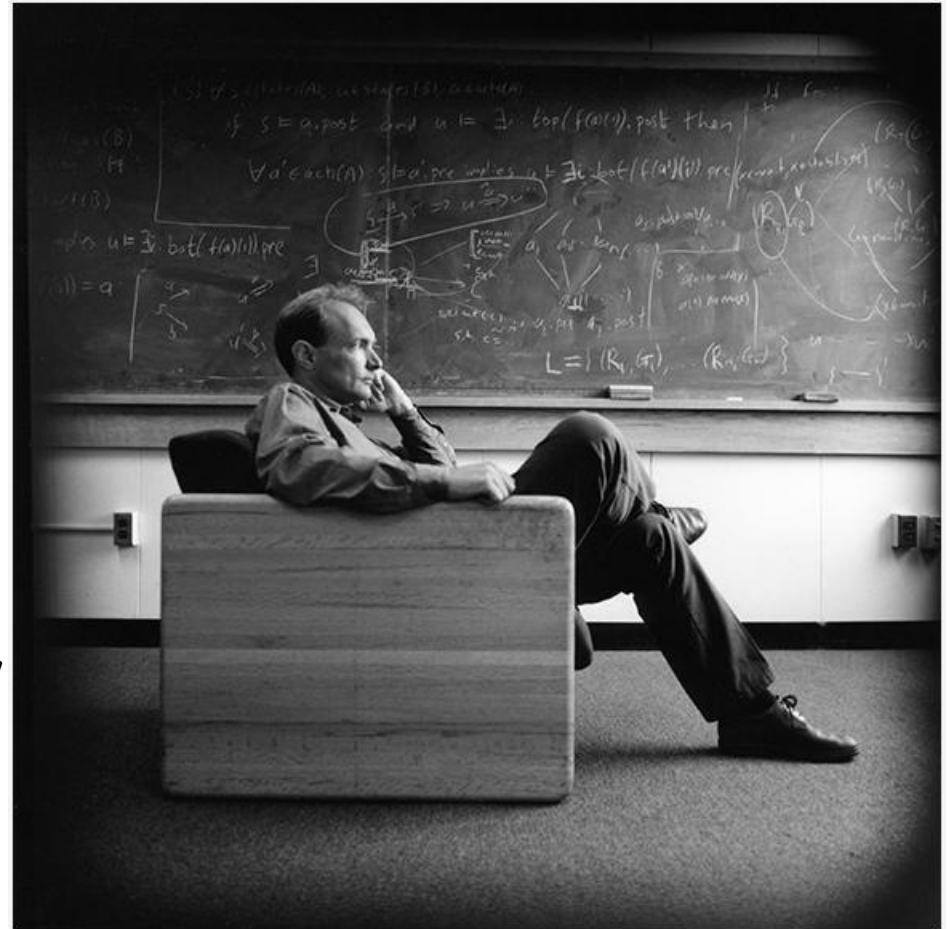# **HyperCard**

◈ 1987 Apple

World Wide Web

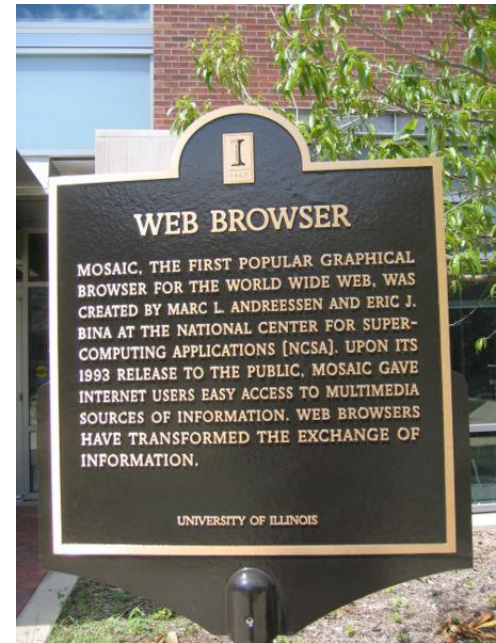◈ 1990, CERN
- Tim Berners-Lee

"Information Management: A Proposal"
Tim Berners-Lee, CERN
March 1989, May 1990

Mosaic Web Browser

❖ 1993, Marc Andreessen & Eric Bina
  – NCSA, Univ. of Illinois

WWW Consortium

◈ 1994, http://www.w3c.org

Web Browsers 1ˢᵗ Stage

- Netscape
  - 1994~1997 1.0~4.8
  - 1998 오픈소스 발표 v4.0
  - 2000 Mozilla 기반
  - 2007 AOL v7.0

- Microsoft
  - 1995 v1.0 ~ 1997 v4.0
  - 1999 v5.0, 2001 v6.0
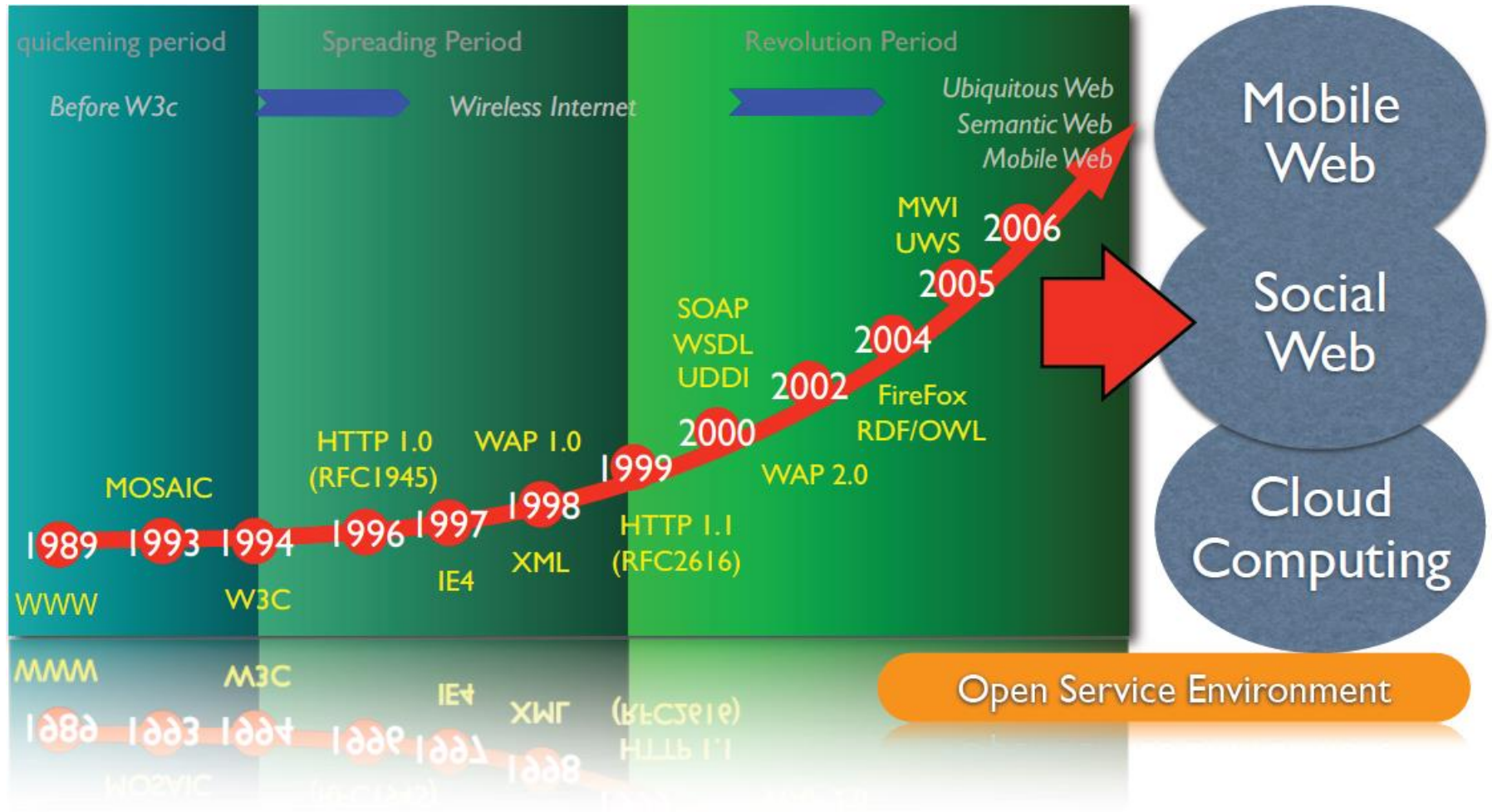 - 2008 v7.0, 2009 v8.0,
  - 2010 v9.0

치열한 경쟁

  - 비표준 태그⇨크로스 브라우징
  - 반독점금지법, 2000 미 대법 원

NETSCAPE®
COMMUNICATOR
STANDARD EDITION

Navigator
Messenger
Collabra
Composer
Conference
Netcaster

Copyright 1997 Netscape Communications. All rights reserved.

Internet Explorer 정보

Microsoft®
Internet Explorer

버전: 6,0,2900,2180,xpsp_sp2_gdr,070227-2254
암호화 수준: 128-비트
제품 ID:76478-OEM-0011903-00108
업데이트 버전:; SP2;

Based on NCSA Mosaic, NCSA Mosaic(TM); was developed at the National Center for Supercomputing Applications at the University of Illinois at Urbana-Champaign,

Copyright ©1995-2004 Microsoft Corp,

확인

Web Browsers 2nd Stage

◈ 1996 Opera, Norway

◈ 2002 Mozilla

 (2007 Netscape 9.0)

◈ 2004 Firefox (Phoenix, Firebird)

◈ 2003 Safari

◈ 2008 Chrome

Development of Web
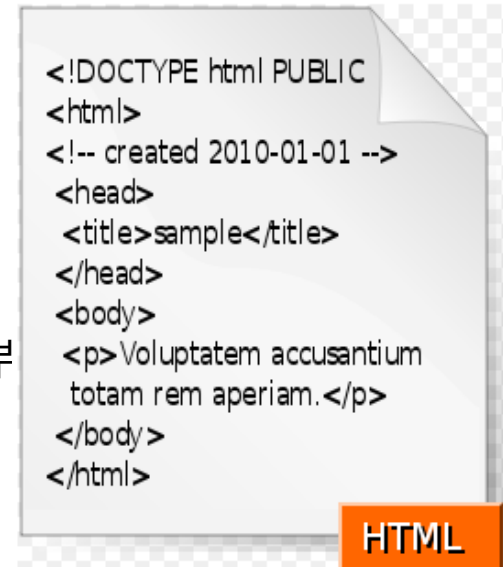
HTML5 History

HTML

W3C

HTML versions

◈ 1991, HTML 1.0 (Berners-Lee)

◈ 1995, HTML 2.0 (IETF)

◈ 1997, HTML 3.2 (W3C)

◈ 1997, HTML 4.0 (W3C)

◈ 1999, HTML 4.01 (W3C)

◈ 2000, XHTML 1.0 (W3C)

◈ ?? , XHTML 2.0

  • Xform, Xframe, DOM대신 XML event, RDFa, 일부
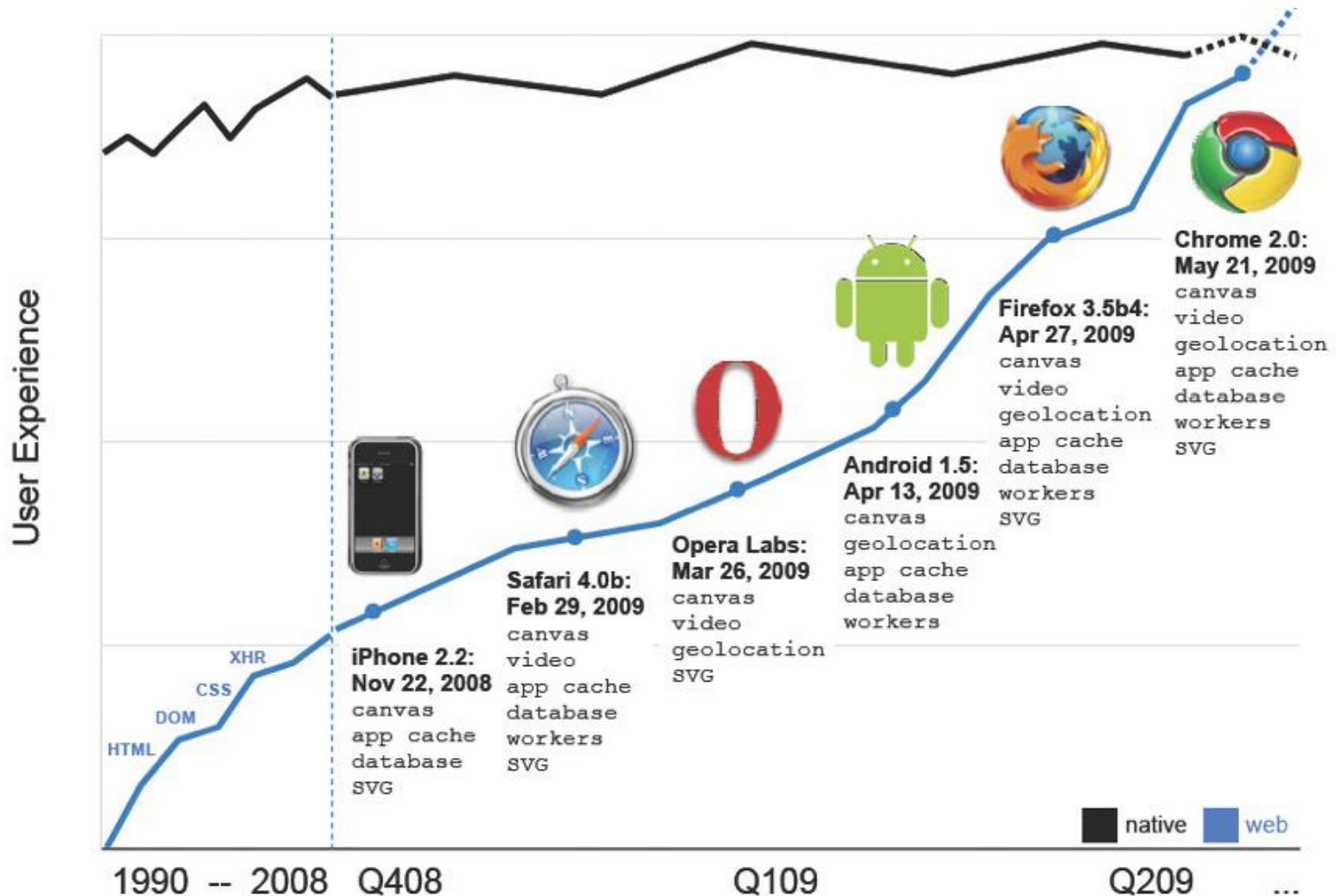
```
<!DOCTYPE html PUBLIC
<html>
<!-- created 2010-01-01 -->
<head>
 <title>sample</title>
</head>
<body>
 <p>Voluptatem accusantium
 totam rem aperiam.</p>
</body>
</html>
```

HTML

Why "new HTML" ?

- – Fail of XHTML2
- – Developer Productivity
- – Browser Compatibility
- – Rich Web functions: Flex, Silverlight, AIR

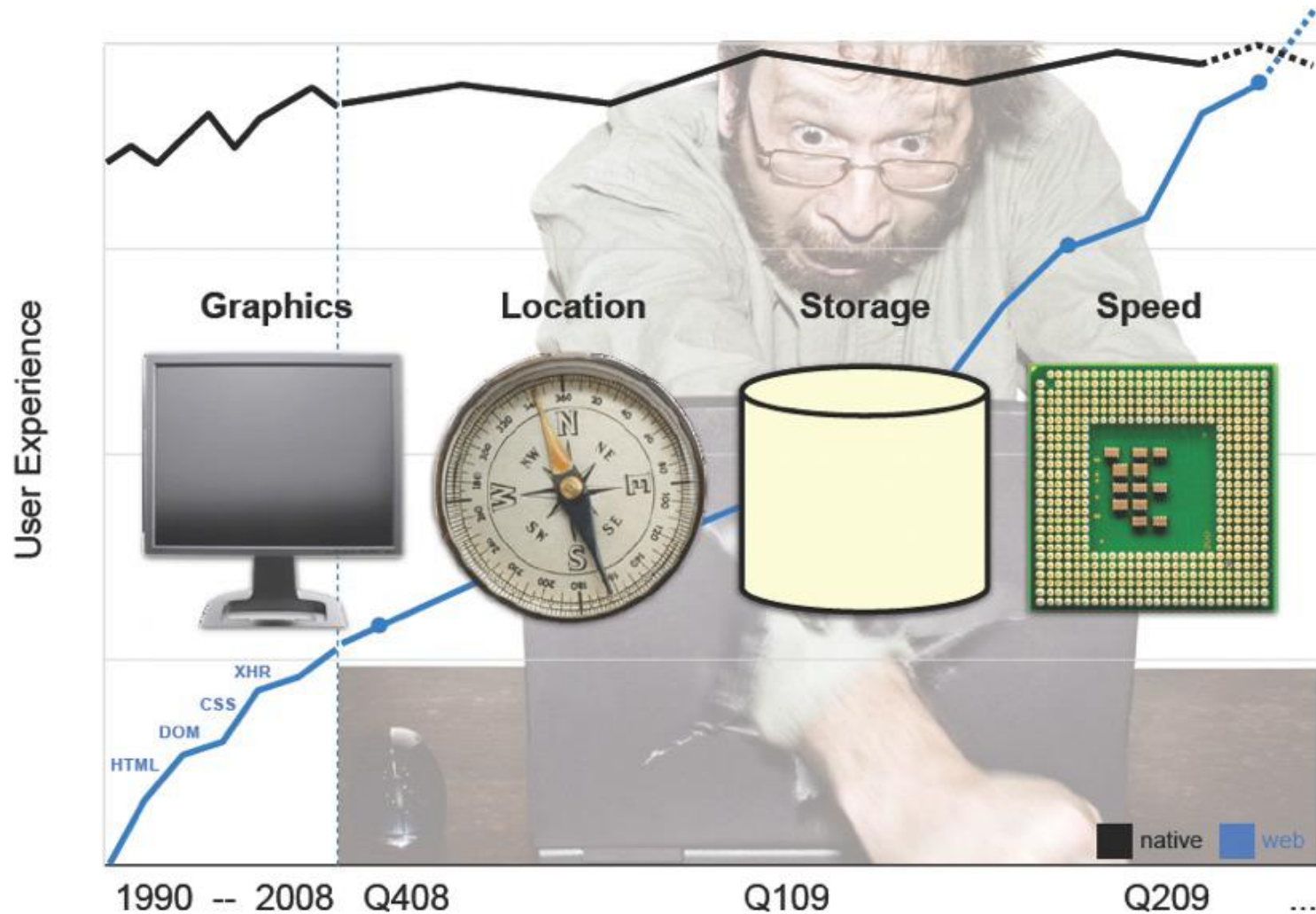# Now, Web is a Platform

Web on Everything

Web Platform is Accelerating

User Experience

XHR
CSS
DOM
HTML

iPhone 2.2:
Nov 22, 2008
canvas
app cache
database
SVG

Safari 4.0b:
Feb 29, 2009
canvas
video
app cache
database
workers
SVG

Opera Labs:
Mar 26, 2009
canvas
video
geolocation
SVG

Android 1.5:
Apr 13, 2009
canvas
geolocation
app cache
database
workers
SVG

Firefox 3.5b4:
Apr 27, 2009
canvas
video
geolocation
app cache
database
workers
SVG

Chrome 2.0:
May 21, 2009
canvas
video
geolocation
app cache
database
workers
SVG

■ native   ■ web

1990 -- 2008   Q408   Q109   Q209   ...

Key Developer Challenges

WHATWG

◈ WHAT Working Group
  – Web Hypertext Application Technology
  – Open Community, 2004
  – W3C는 유료 회원에게만 개방
◈ Developing
  – Web Form 2.0, Web Application 1.0

New Activities on W3C, 2005

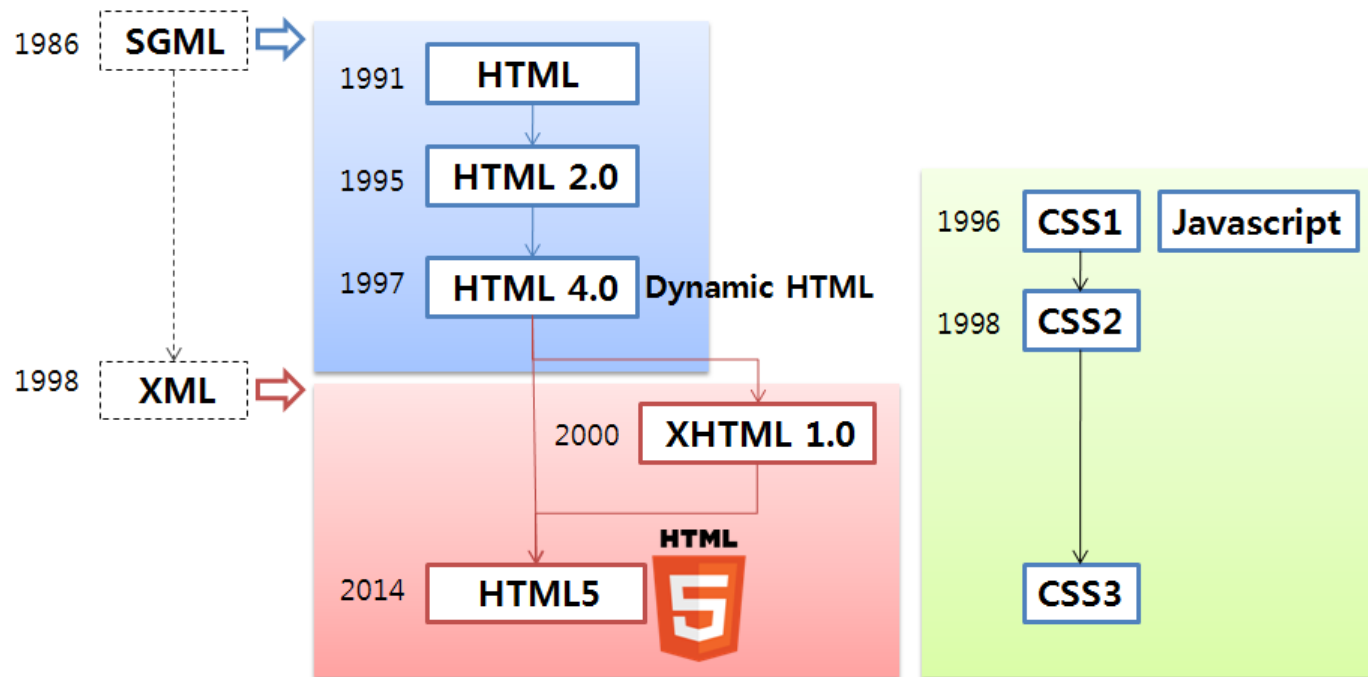◈ Web Application Format WG
- Web Form 2.0, Widget, etc.

◈ Web API WG
- XMLHttpRequest, DOM3, File Upload, etc.

HTML WG created, 2007
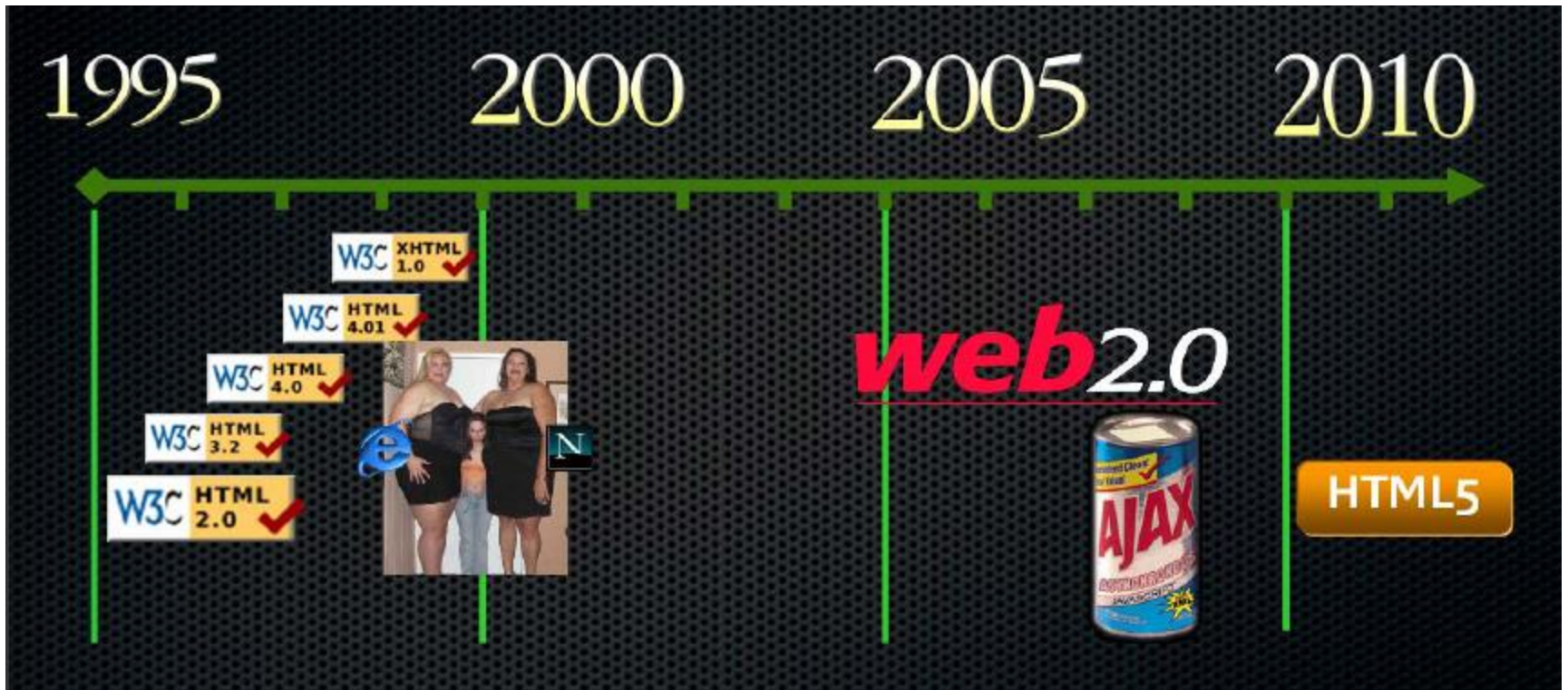- 600+ invited experts, open mailing-list

◈ HTML의 발전 역사

Standard &
Web Development

HTML5 Standard
Service Model

HTML Events

Source: http://channy.creation.net

W3C Standards (in draft)

http://www.w3.org/TR/html5/

W3C Candidate Recommendation

W3C®

HTML5
A vocabulary and associated APIs for HTML and XHTML

W3C Candidate Recommendation 6 August 2013

This Version:
http://www.w3.org/TR/2013/CR-html5-20130806/
Latest Published Version:
http://www.w3.org/TR/html5/
Latest Editor's Draft:
http://www.w3.org/html/wg/drafts/html/CR/
Previous Versions:
http://www.w3.org/TR/2012/CR-html5-20121217/
Editors:
W3C:
Robin Berjon, W3C
Steve Faulkner, The Paciello Group
Travis Leithead, Microsoft
Erika Doyle Navara, Microsoft
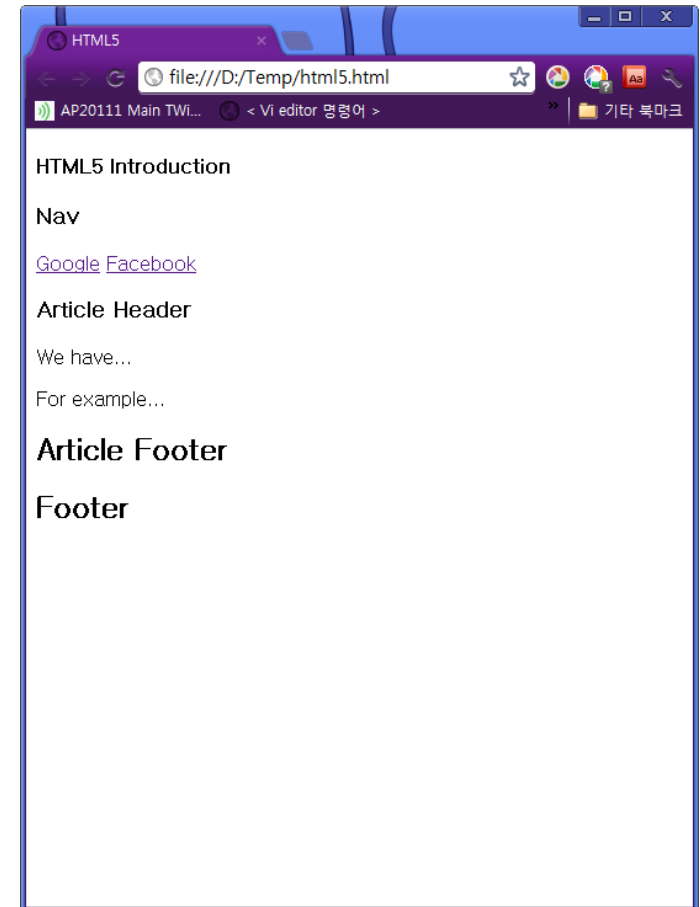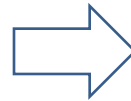Edward O'Connor, Apple Inc.
Silvia Pfeiffer
WHATWG:
Ian Hickson, Google, Inc.

This specification is also available as a single page HTML document.

HTML (HyperText Markup Language)

```html
<!DOCTYPE html>
<html>
<head>
  <meta charset="utf-8" />
  <title>HTML5</title>
</head>
<body>
  <header>
  <h4>HTML5 Introduction</h4>
  </header>
  <div id="container">
    <nav>
      <h3>Nav</h3>
      <a href="http://www.google.com">Google</a>
      <a href="http://www.facebook.com">Facebook</a>
    </nav>
    <section>
      <article>
        <header>
          <h1>Article Header</h1>
        </header>
        <p>We have...</p>
        <p>For example...</p>
        <footer>
          <h2>Article Footer</h2>
        </footer>
      </article>
    </section>
    <footer>
      <h2>Footer</h2>
    </footer>
  </div>
</body>
</html>
```

CSS (Cascading Style Sheet)

```
<!DOCTYPE html>
<html>
<head>
  <meta charset="utf-8" />
  <title>HTML5</title>
  <link rel="stylesheet" href="html5.css">
</head>
<body>
...
```
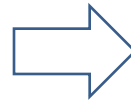
```
body {
  background-color:#6698FF; /* sky blue */
  font-family:Geneva,Arial,Helvetica,sans-serif;
  margin: 0px auto;
  max-width:900px;
  border:solid;
  border-color:#FFFFFF;
}

header {
  background-color:#F88017; /* dark orange */
  display:block;
  color:#FFFFFF; /* white */
  text-align:center;
}

header h2 {
  color:#B1FB17; /* green yellow */
}
nav {
  display:block;
  width:25%;
  float:left;
}
...
```
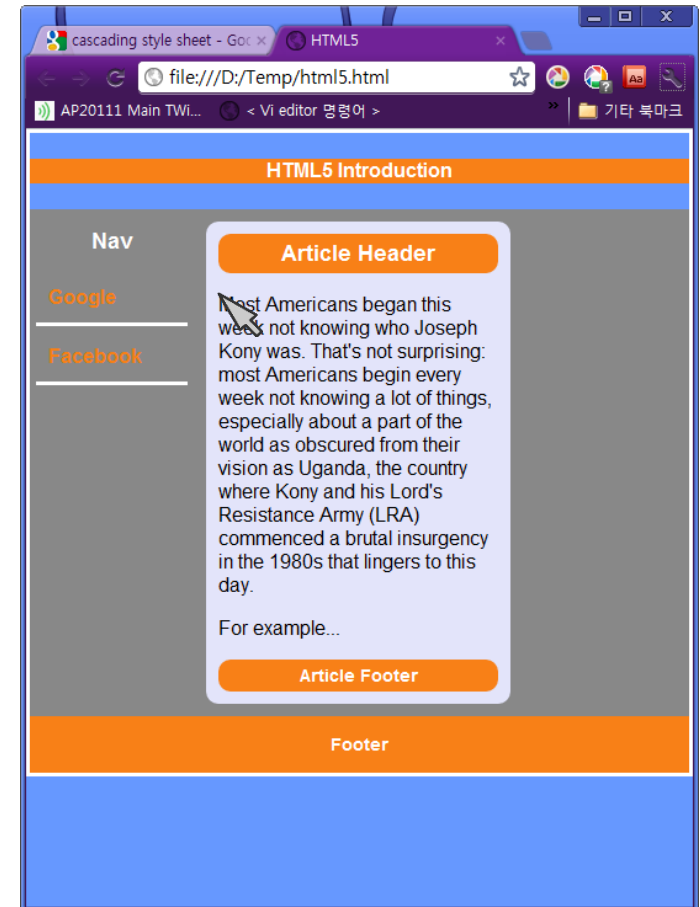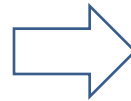

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Javascript

```html
<!DOCTYPE html>
<html>
<head>
  <meta charset="utf-8" />
  <title>HTML5</title>
  <link rel="stylesheet" href="html5.css">
  <script type="text/javascript">
    function mHandler() {
      document.getElementById("para1").innerHTML =
        "Most Americans began this week not knowing
        who Joseph Kony was. That's not surprising:
        most Americans begin every week not knowing
        a lot of things, especially about a part of the
        world as obscured from their vision as Uganda,
        the country where Kony and his Lord's
        Resistance Army (LRA) commenced a brutal
        insurgency in the 1980s that lingers to this day.";
    }
  </script>
</head>
<body>
...
 <section>
...
        <p id="para1" onmouseover="mHandler()">We
have...</p>
 <p>For example...</p>
...
<footer>
        <h2>Footer</h2>
    </footer>
   </div>
</body>
</html>
```
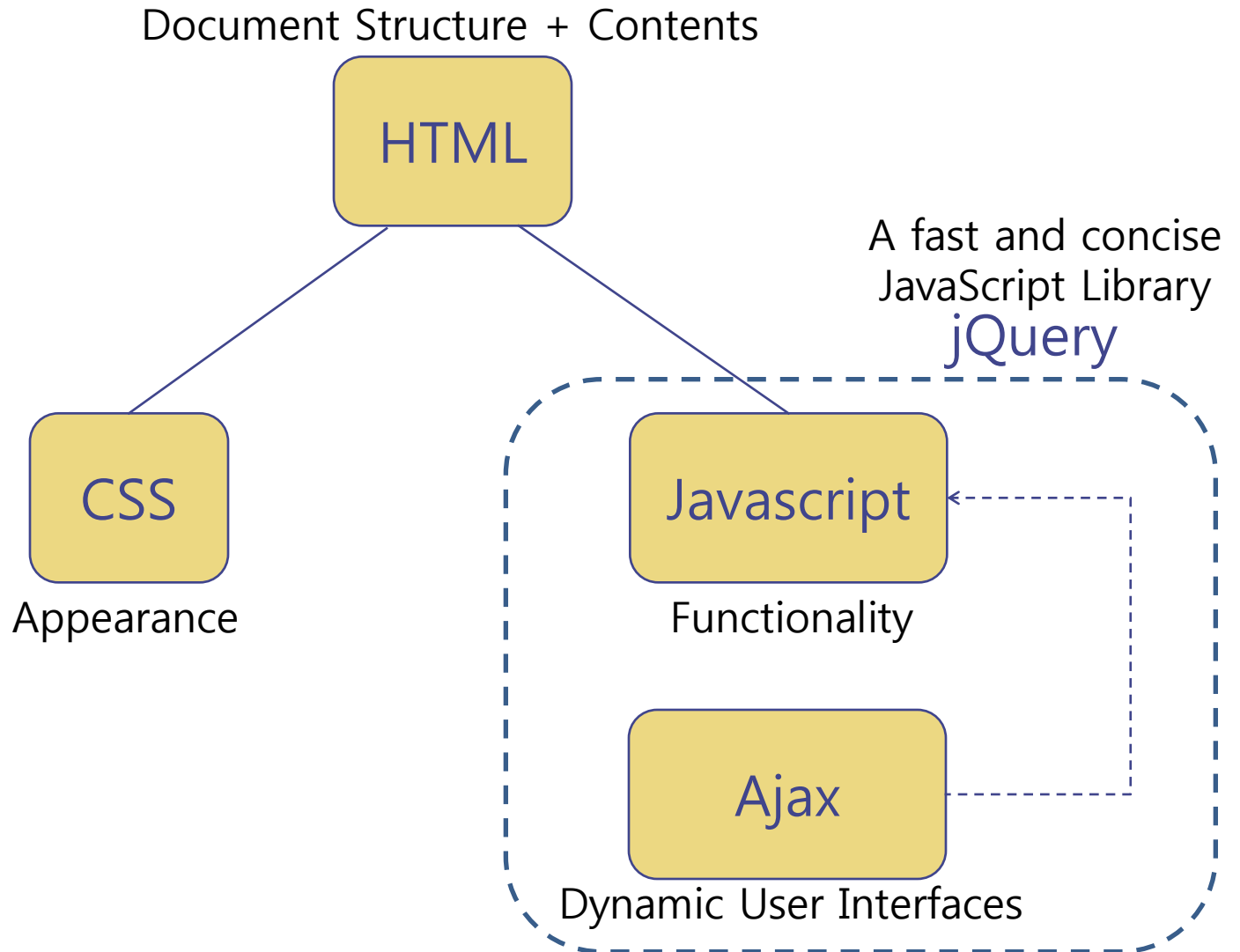

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HTML + CSS + Javascript (+ Ajax)

Document Structure + Contents

HTML

A fast and concise
JavaScript Library
jQuery

CSS

Appearance

Javascript

Functionality

Ajax

Dynamic User Interfaces

A Rough History of Web Standards

91-92	93-94	95-96	97-98	99-00	01-02	03-04	05-06	07-08	09-10	11-12	13-14
HTML 1	HTML 2		HTML 4	XHTML1.0					**HTML 5**		
		CSS 1	CSS 2			Web 2.0			**CSS3**		
		JavaScript 1.0/1.1	JavaScript 1.2, DOM	JavaScript 1.3, DOM 2	JavaScript 1.5		Ajax, JavaScript 1.6	JavaScript 1.7	**JavaScript1.8 DOM3**		

W3C

- 1999년 HTML4.01권고, 이후 XHTML에 주력
- 2004년 워크숍에서 HTML 새로운 표준화를 바라는 브라우저 제작사의 제안을 배척 (XHTML2에 주력)
- 2007년 HTML5 제정에 협력할 것을 표명
- 2008년 HTML5가 W3C의 초안으로 공개
- 2009-07 XHTML2 WG 활동을 중지하고 HTML5 표준화 작업 진행

WHATWG

- 2004년 애플, 모질라, 오페라 등 브라우저 제작사 들 자체 표준화 단체 결성(WHATWG)
- 2009-10 HTML5 사양 최종 심사 청구
- 사양의 업데이트를 진행 중

What is HTML5?

◈ HTML5 will be the new standard for HTML, XHTML, and the HTML DOM.

◈ HTML5 is still a work in progress. However, most modern browsers have much HTML5 support.

◈ HTML5 is a cooperation between the World Wide Web Consortium (W3C) and the Web Hypertext Application Technology Working Group (WHATWG).

◈ WHATWG was working with web forms and applications, and W3C was working with XHTML 2.0. In 2006, they decided to cooperate and create a new version of HTML.

HTML5 Development Rules

❖ The following rules for HTML5 were established:
- – New features should be based on HTML, CSS, DOM, and JavaScript
- – Reduce the need for external plugins (like Flash)
- – More markup to replace scripting
- – HTML5 should be device independent

❖ Browser Support
- – HTML5 is not yet an official standard, and no browsers have full HTML5 support.
- – But all major browsers (Safari, Chrome, Firefox, Opera, Internet Explorer) continue to add new HTML5 features to their latest versions.

HTML5 퀵 스타트

[HTML 문법 기술 방법]
- MIME 타입 : text/html
- HTML5 파일 확장자 : .html 또는 .htm
- HTML5 파일의 시작부분에 DOCTYPE 선언
  : <!DOCTYPE html>
- 첫 태그인 <html> 태그는 다음과 같이...
  : <html lang="en">
  : <html lang="kr">
- 문자 인코딩 지정 방법
  : <meta charset="UTF-8">

[lang 속성]
- 문서의 언어 정보 제공.
- 주로 검색엔진에서 활용
- 음성 장치(speech synthesizers)에서도 활용
- 속성 값 참조 사이트 http://ko.wikipedia.org/wiki/ISO_639

HTML5 퀵 스타트

[HTML 문법 기술 방법]
  - HTML 문법 상세 몇 가지..
    1) 종료 태그를 기술해서는 안되는 요소
      : meta, area, base, br, col, command, embed, hr, img, input,
        keygen, link, param, source
      - 틀린 예)
        <meta charset="UTF-8"></meta>
      - 맞는 예)
        <meta charset="UTF-8">
        <meta charset="UTF-8"/>

HTML5 퀵 스타트

[HTML 문법 기술 방법]
  - HTML 문법 상세 몇 가지..
   2) 속성에 관해
     - 속성 값에 인용부호 생략 가능
     - true/false 값을 가지는 속성 속성 값 생략 가능
     - 값이 false인 경우는 속성 지정 자체를 하지 않음.

```
<input id="age" type="number" disabled>
<input id=age type=number disabled="true">
<input id=age type=number disabled="disabled">

<input id="age" type="number">
```

HTML5 퀵 스타트

[HTML 문법 기술 방법]
  - HTML을 이용한 마크업 예

```html
<!DOCTYPE html>
<html lang="kr">
<head>
    <title>문서의 제목입니다.</title>
    <meta charset="UTF-8">
    <style type="text/css">h1 {font-size: 2em;}</style>
  </head>
  <body>
    <h1>HTML을 이용한 마크업 예제</h1>
    <p>단락 1</p>
    <input id="age" type="number">
  </body>
</html>
```

HTML5 퀵 스타트

[HTML5에서 없어진 요소]
 - 주로 화면 표현과 관련된 요소
 - big, blink, marquee, frame관련 요소, applet 등
 - 후방 호환성을 위해 브라우저에서는 제대로 표시
 - 가능한 사용하지 않도록 주의

[HTML5 문서 검증]
 - http://html5.validator.nu

[HTML5 Outliner]
 - http://gsnedders.html5.org/outliner

Block element vs. Inline element

❖ All HTML elements are naturally displayed in one of the following ways:

- – Block takes up the full width available, with a new line before and after (display:block;)
- – Inline takes up only as much width as it needs, and does not force new lines (display:inline;)
- – Not displayed Some tags, like <meta /> and <style> are not visible (display:none;)

Block Element vs. Inline Element

◈ Block Elements
  - <div>
    • Your general-purpose box
  - <h1> ... <h6>
    • All headings
  - <p>
    • Paragraph
  - , <ol>, <dl>
    • Lists (unordered, ordered and definition)
  - , <dt>, <dd>
    • List items, definition list terms, and definition list definitions
  - <table>
    • Tables
  - <pre>
    • Indicates a block of preformatted code
  - <form>
    • An input form
  - <blockquote>
    • Like an indented paragraph, meant for quoting passages of text

Block Element vs. Inline Element

◈ Inline Elements
  – <span>
    • Your all-purpose inline element
  – <a>
    • Anchor, used for links (and also to mark specific targets on a page for direct linking)
    • HTML5 부터 다른 블록요소를 감쌀 수 있게 되었음.
  – <strong>
    • Used to make your content strong, displayed as bold in most browsers, replaces the narrower
    • 시각적으로 두꺼운 글씨 + 의미적으로도 강조
  – <bold> or <b>
    • bold tag
    • 시각적으로 두꺼운 글씨
  – <em>
    • Adds emphasis, but less strong than <strong>. Usually displayed as italic text, and replaces the old
  – <i>
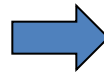   • (italic) tag

Block Element vs. Inline Element

◈ Inline Elements
- <img />
  - Image
  - <u>alt</u> attribute should be specified.

  ➡

-
  - The line-break is an odd case, as it's an inline element that forces a new line. However, as the text carries on the next line, it's not a block-level element.
- <input>
  - Form input fields like and
- <abbr>
  - Indicates an abbr.
- <acronym>
  - Working much like the abbreviation