

Computer Science Principles

Web Programming

Web-Content Programming with HTML

CHAPTER 1: INTERNET AND WEB TOOLS

DR. ERIC CHOU

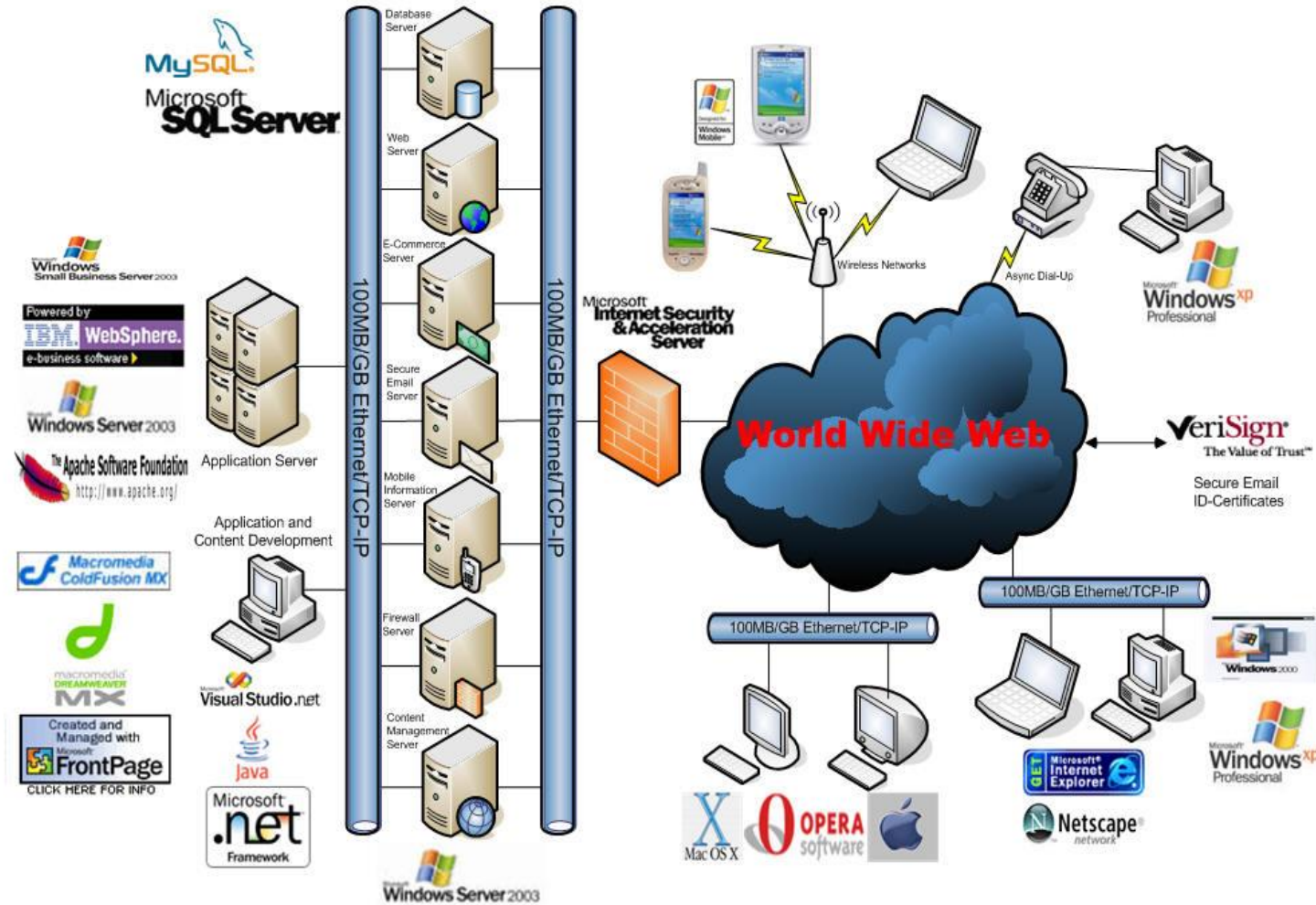
IEEE SENIOR MEMBER



Web-Domain Name Hosting Topology

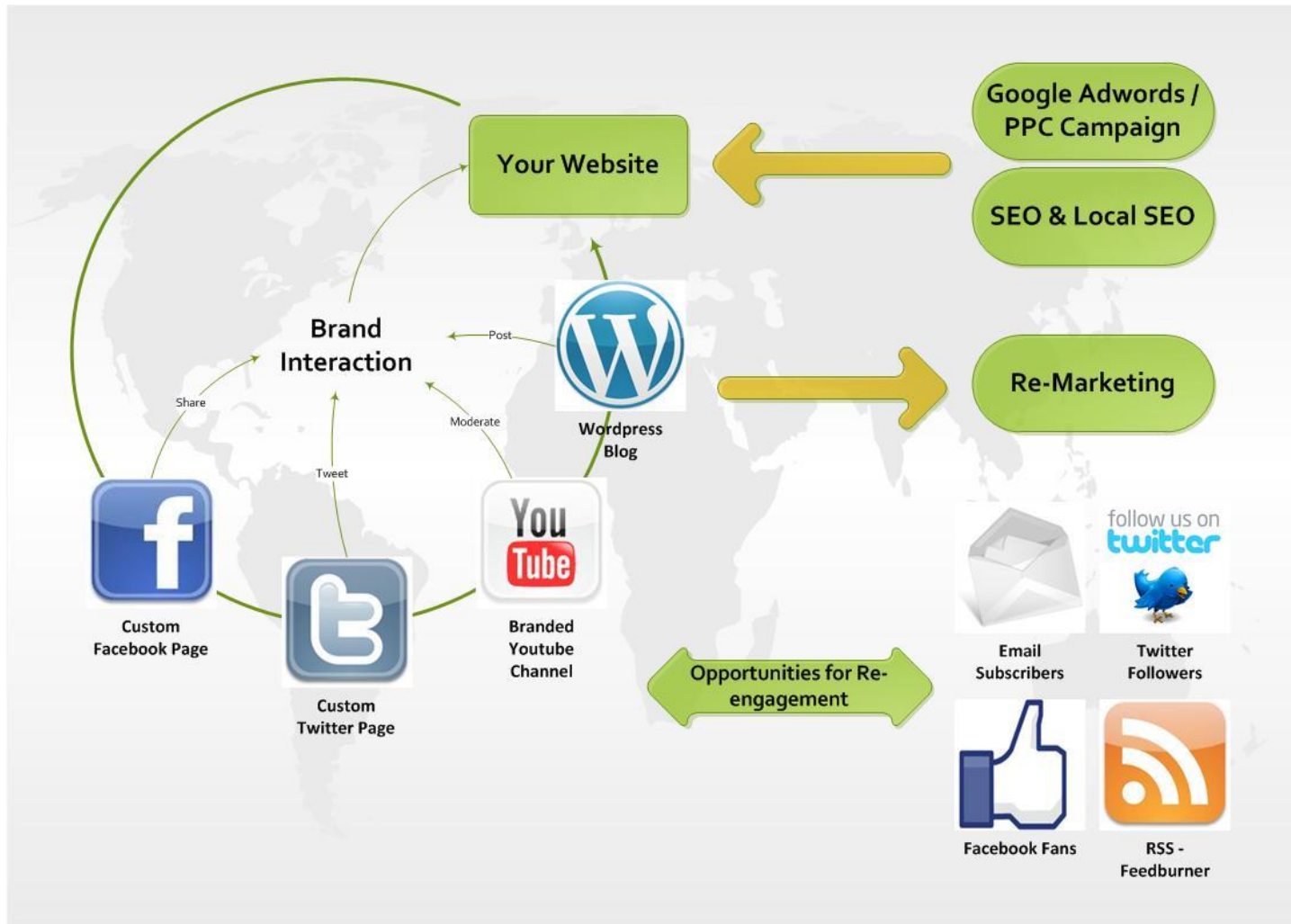


Developing and Teaching the Future



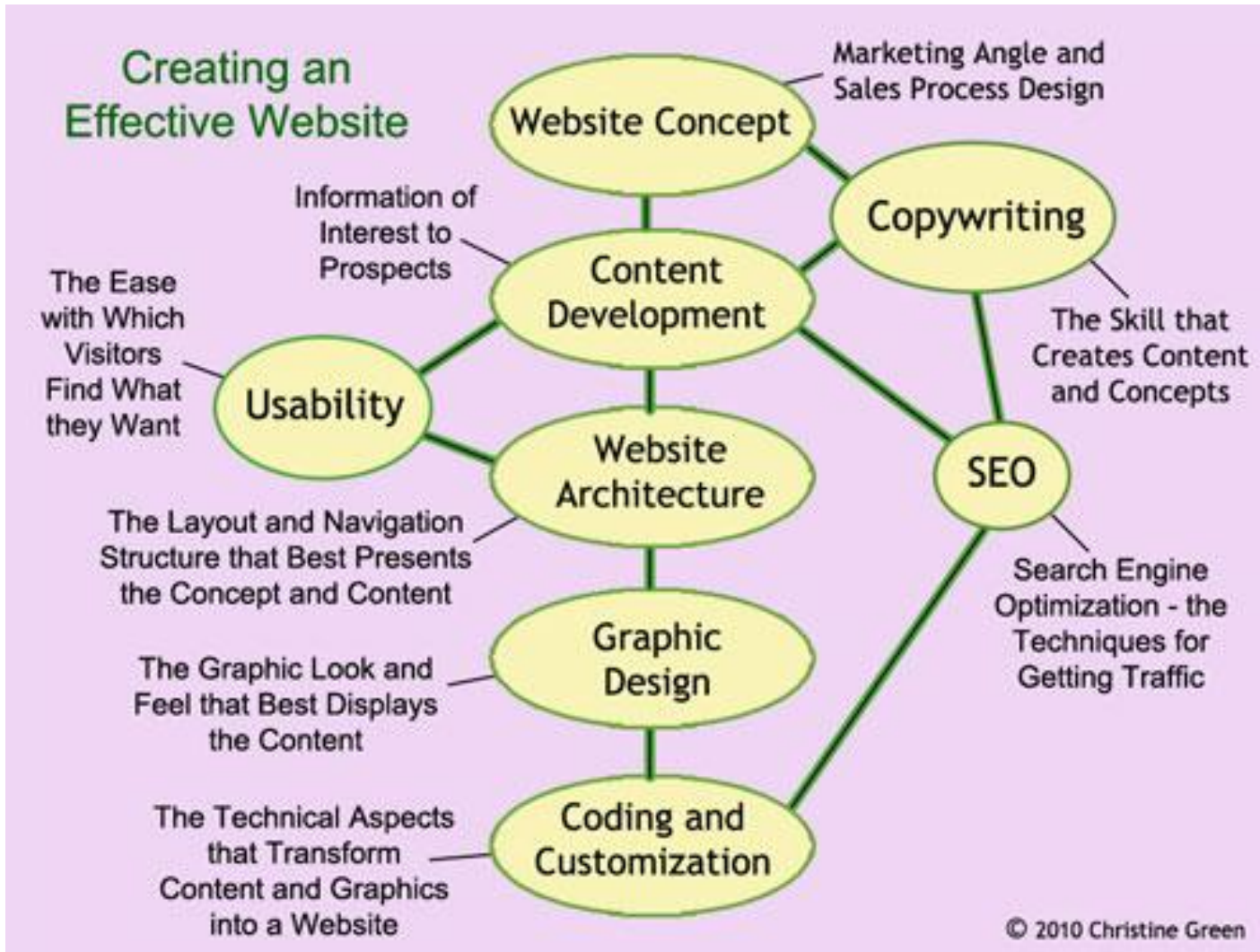


Business Driven



Web Site Promotion

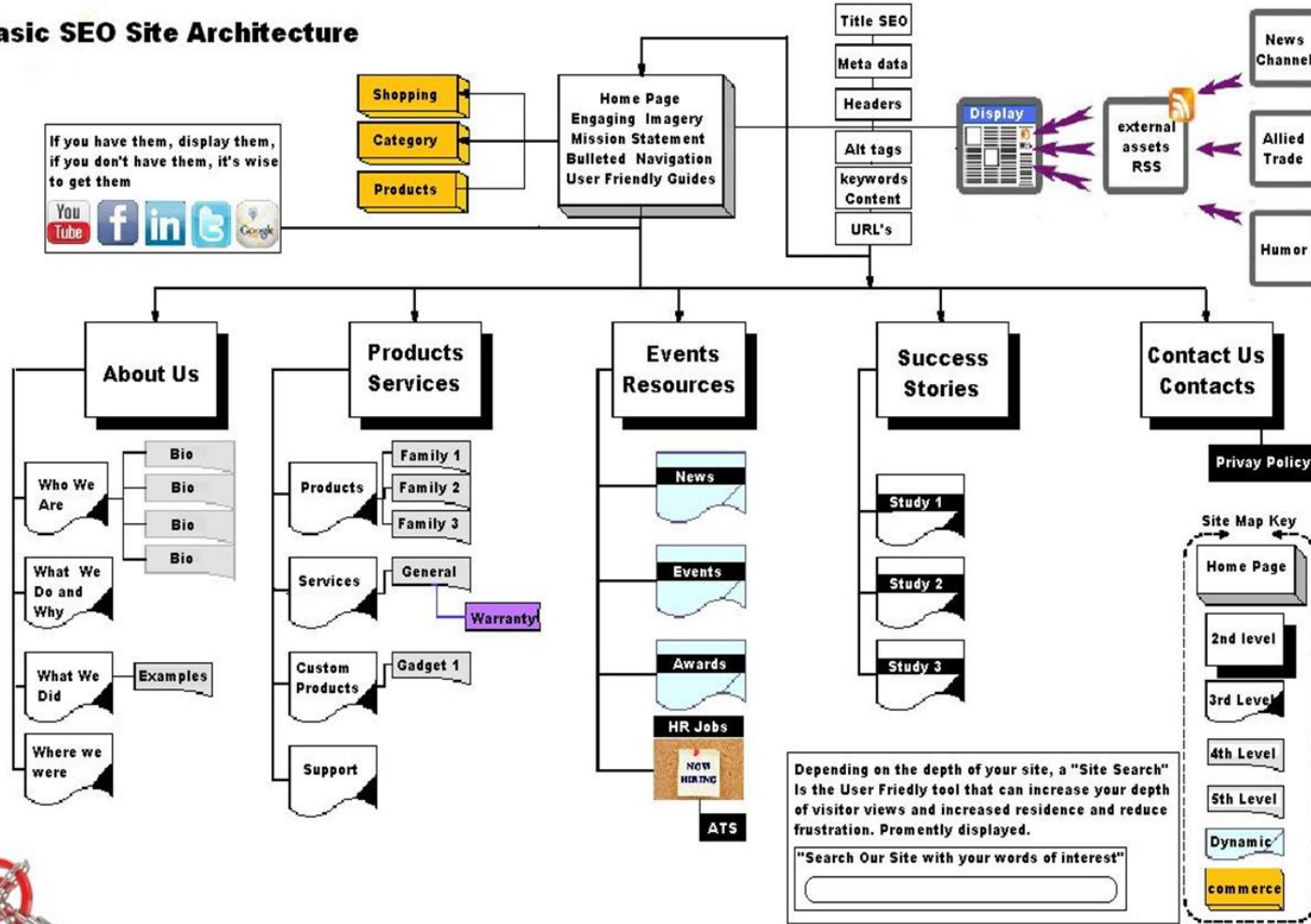
Web Design Process Diagram





Web-Page Development Process

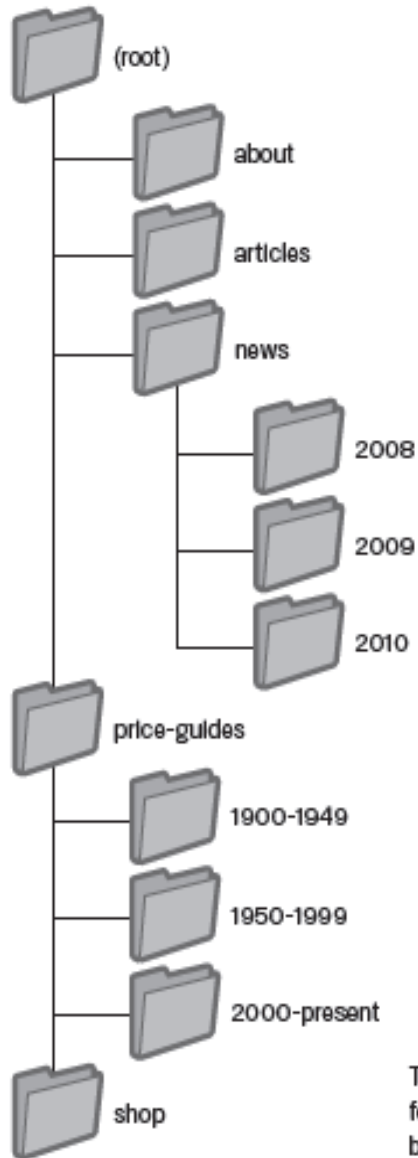
Basic SEO Site Architecture



Web-site Structure



Web-site Directory



The directory structure for our small website on baseball cards.

- **Sub-directories for Levelled pages**
Level 1: about, articles, news
Level 2: 2008, 2009, 2010
1900-1949, 1950-1999, 2000-present
- **Multiple URL access points**
Level 0: price-guides, shop, root
could have 3 sites with different index.html files or URL access points.
www.mysite.com, price-guides.mysite.com
shop.mysite.com
- **Version Control:** 2008, 2009, 2010 (some enabled which are the subdirectory), (some are disabled which are older version)
- **Resource management:** image, html, animation, video.
- **Site Packages of 3rd party web-contents** such as OS-commerce, google promotion pages.

Web-site Design

Interaction Design

- Interaction Designer is to make the site as easy, efficient, and delightful as possible.
- User Interface Design (UI)
- User Interface Design which tends to be more narrowly focused on the functional organization of the page as well as the specific tools (buttons, links, menus and etc. that users to navigate content or accomplish tasks
- User Experience Design (UX): ensuring the entire experience with the site is favorable.

Results:

- 1) User research and testing reports (paper pages for user response)
- 2) Wireframe diagrams (structured web-page outlook)
- 3) Site Diagrams (directory diagram)
- 4) Storyboard and user flow charts (some what like movie's scripts)



Implementation



Authoring/markup
(Structure) – HTML



Text Design



Graphic Design



Animation Design



Digital Imaging



Video Creation

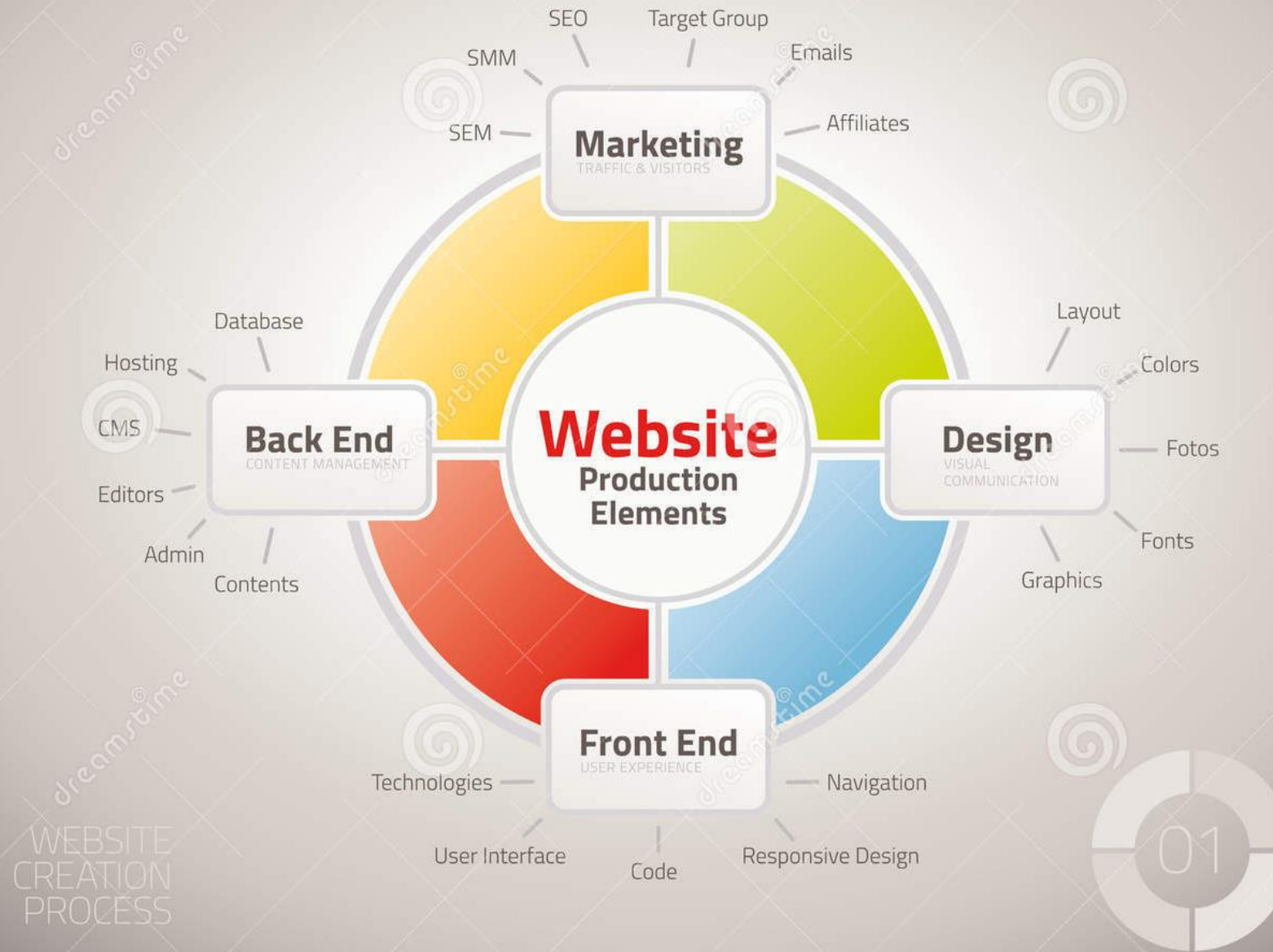


Styling (Presentation) -
CSS



Scripting and
Programming
(Functional/behaviors) –
Javascript

Front-end (Store) and Back-end Design (Production/Marketing/Logistics)



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Front-end V.S. Backend Development

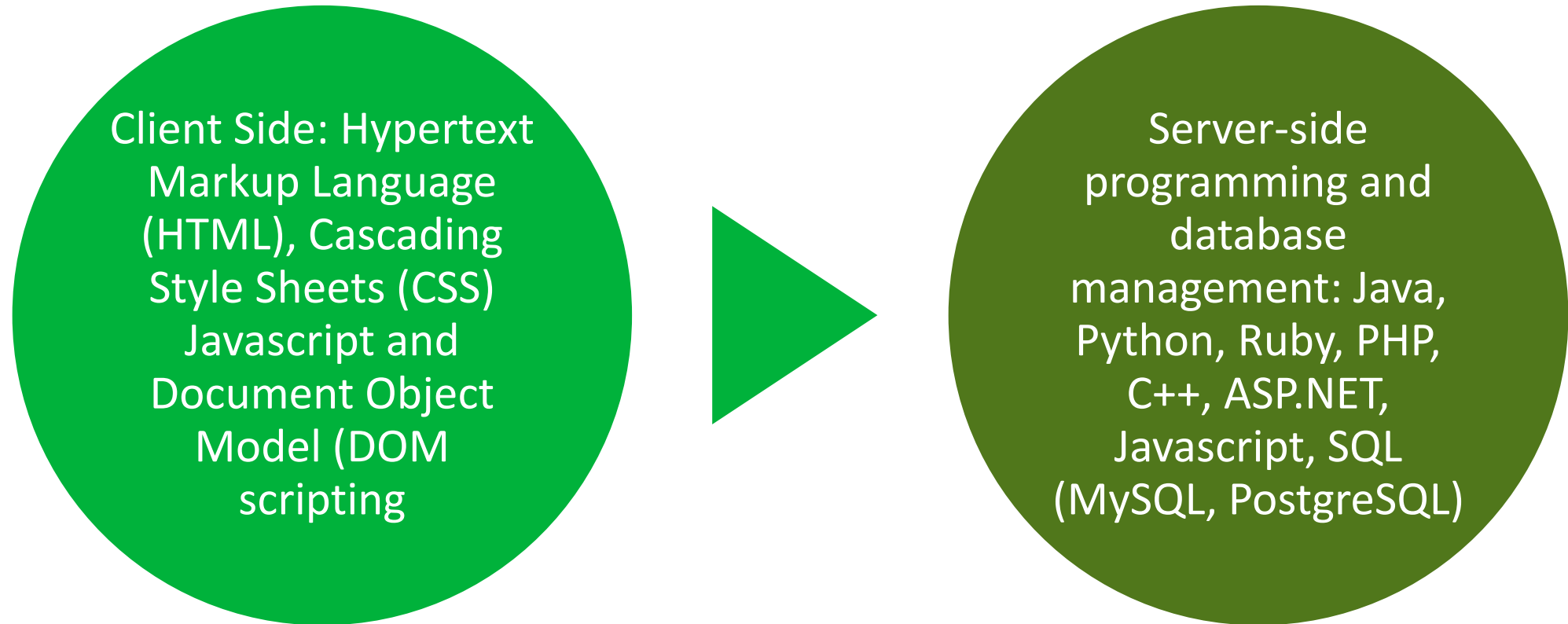
Front-End

- Graphic design and image production
- Interface Design
- Information design as it pertains to the user's experience of the site
- HTML document and style sheet development
- Javascript

Back-End

- ▶ Graphic design and image production
- ▶ Forms Processing
- ▶ Database Programming
- ▶ Content Management
- ▶ Other Server-side Web applications using PHP, JSP, Ruby, ASP.NET, Java, and other programming languages

Programming Language for Web-site Construction

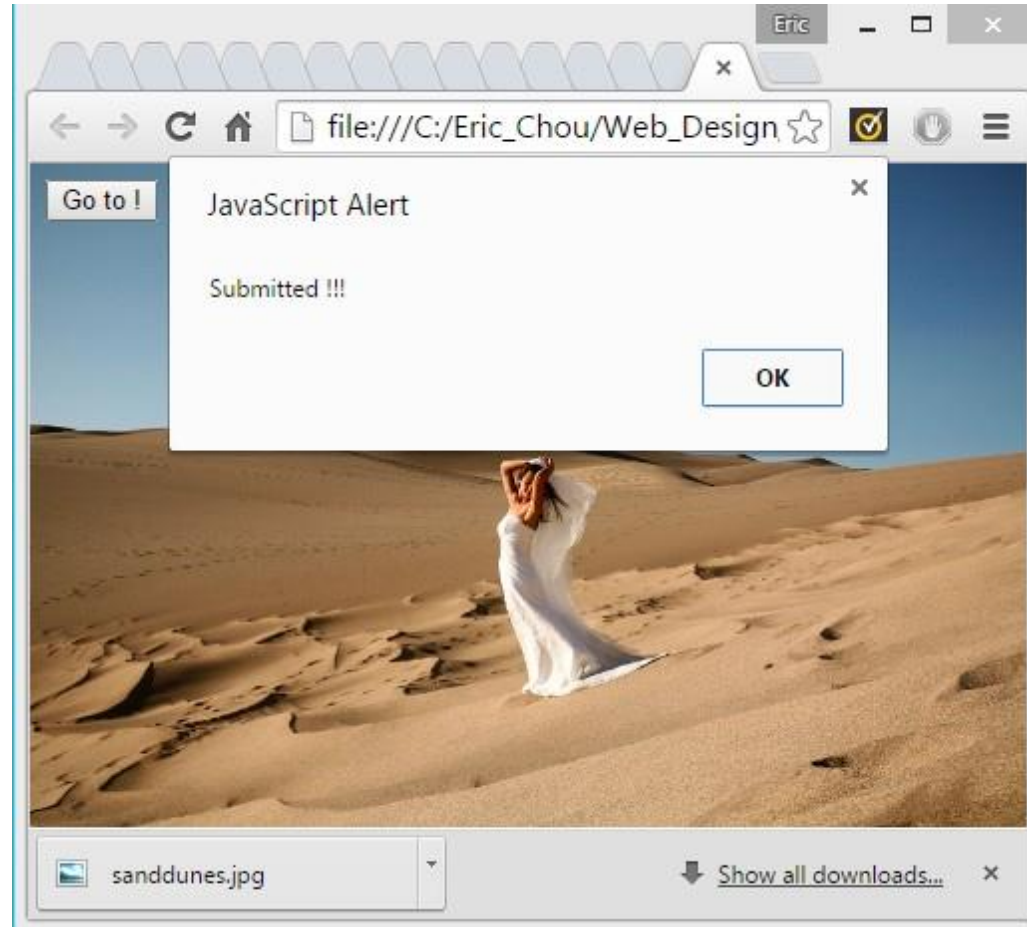


Sample html file

```
<!DOCTYPE html>
<html>
<head>  <title>Sand Dunes</title>
<script language="javascript">
    function go(){ window.resizeTo(500,333)
                alert("Submitted !!!") }
</script>
<style>
    body { background-image: url('image/sanddunes.jpg');
          background-repeat: no-repeat; }
    #button1 { width: 20em;
              height: 3em; }
</style>
</head>
<body>
    <form id="button1">
        <input type="submit" onclick="javascript:go()" value="Go to !">
    </form>
</body>
</html>
```



Sample html result:





Equipment for Web-Design

- A solid, up-to-date computer
- Extra memory
- A large monitor
- A scanner, graphic tablet, and/or digital camera
- A second computer
- Mobile Devices



Software Requirement for Web-Design

- Web Page Authoring: Adobe Dreamweaver, [MS Expression Web 4](#), Nvu
- HTML Editor: [TextPad](#), Subline text, Coda, TextMate, BBEdit
- Image Editing and Drawing Software: Adobe Photoshop, Adobe Illustrator, Adobe Fireworks, Corel Paint Shop Pro Photo, [GIMP](#), [Inkscape](#)
- Internet Browser: [Chrome](#), Firefox, IE, Opera, Safari
- FTP tool: WS_FTP, Cute_FTP, AceFTP, Filezilla, Transmit, Cyberduck, Fetch
- Video Maker: [MS movie maker](#), [Cyberlink Power Director](#),
- Audio: [Microsoft Expression Encoder](#)/screen capture
- Screen Capture: [Screenhunter](#)

Why freeware?



Good for the budget of starving students

Having better opportunity to tune the bolts and nuts because the software does not provide too much fancy function to distract learning

Good for transition to professional software

Always available. No need to pay. Just download.

Exercise: Download

MS Expression Web 4, GIMP, MS Expression Encoder, Icon Maker