

CIM141- Creating a Web Page

# Intro to Mobil Web Design

jQuery Mobile Web

Using HTML5, CSS3 and a Text Editor



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# Overview of Today's Web World

## ➤ In today's world, web users:

- do not use just laptops, they also use all different kinds of tablets and smartphones

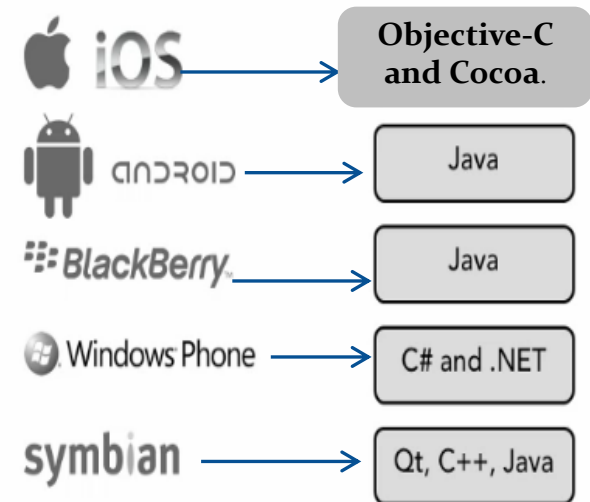


- are not limited by keyboards and mice for input; they now have touchscreens also
- use different browsers, and even different versions of a particular browser



# What Should Web Developers do?

- So, to make sure the websites can be viewed using these devices, the web developers need build web sites that can accommodate these devices.
- Solution: There are two options
- **Option 1: Native Application**
  - It is written for single platform
  - Need to know different technologies
    - that are different across the
    - different platforms.
- **Option 2: Web Application**
  - It is built using HTML, CSS, and JavaScript
- Let's learn the “write less, do more” **jQuery Mobile Web App**



# What is jQuery Mobile?



- jQuery Mobile (jQM) is a framework/structure developed by the jQuery project team
  - It allows developers to build mobile web applications
  - It is built on top of the jQuery Library
  - It supports a consistent look of webpages across a variety of devices including iOS, Android, BlackBerry, and Windows Phone
  - It is responsive so it can adapt to screen size and orientation
- Let's check out the following links:
  - the jQM gallery: <http://www.jqmgallery.com/>
  - The jQM UI widgets: <http://jqueryui.com/>

# Prepare and Setting up the Document

- There are two options to use jQuery Mobile resources.
  1. Using a **C**ontent **D**elivery **N**etwork, **CDN**:
    - This will run the libraries directly from a CDN
    - Copy-and-Paste Snippet for CDN-hosted files from jQuery site to the HTML file
  2. **Local hosting** the jQuery library within the HTML file:
    - Download the zip file (any version)
    - Download the jQuery library from [jquery.com/](http://jquery.com/)
- **CDN**:
  - It is an interconnected system of computers(servers) on the Internet throughout the world
  - The web content is duplicated to multiple servers around the world
  - Content is delivered to users each time from the nearest server geographically instead of your hosting server.
  - Content is delivered to users with greater speed and reliability
- Let's take a look at: <http://jquerymobile.com/download/>

# Set up a Viewport Mega Tag

- Include the meta **viewport tag** in the head section of the HTML file

```
<meta name="viewport" content="width=device-width, initial-scale=1, maximum-scale=1" />
```

- A viewport tag is used to control the layout on a mobile browser.
- It is used to specify the width and height of the page
- It is to specify how the browser should display the page zoom level and dimensions

# Using Content Delivery Network-CDN

➤ At the <head> section of the HTML5 page include the following:

- The Meta Viewport tag
- Links referencing your CSS file and JavaScript file
- Links referencing CDN-jQuery Mobile files

Note: To ensure your CSS file and JavaScript file overwrite the CDN jQM file, place the CSS and JavaScript links after the jQM calls

```
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4   <meta charset="utf-8" />
5   <title>jQM CDN links </title>
6
7   <!--Viewpoint tag-->
8   <meta name="viewport" content="width=device-width, initial-scale=1">
9
10  <!-- CDN hosted jQuery Mobile files version: 1.3.1 -->
11  <link rel="stylesheet" href="
12    http://code.jquery.com/mobile/1.3.1/jquery.mobile-1.3.1.min.css" />
13  <script src="http://code.jquery.com/jquery-1.9.1.min.js"></script>
14  <script src="http://code.jquery.com/mobile/1.3.1/jquery.mobile-1.3.1.min.js"></script>
15
16  <!-- link to my css and javascript files-->
17  <script src="_js/myscript.js"></script>
18  <link rel="stylesheet" href="_css/mystyles.css" />
19 </head>
20 <body>
21   <p>...Content goes here...</p>
22 </body>
23 </html>
```

# Hosting the jQuery library within the HTML Doc.

- After you extract the jQuery Mobile zip file
  - Include the following three files with the correct path in the <head> section of the HTML5 document
    - jquery.mobile-x.xx.css
    - jquery-x.xx.js
    - jquery.mobile-x.xx.js
- where x.xx is the version of the library

```
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4   <meta charset="utf-8" />
5   <title>page title here</title>
6
7   <!--Viewport tag-->
8   <meta name="viewport" content="width=device-width, initial-scale=1">
9
10  <!-- the three files that jQuery Mobile needs to work when hosing locally -->
11  <link rel="stylesheet" href="jquery.mobile-1.1.2/jquery.mobile-1.1.2.css" />
12  <script src="_js/jquery-1.7.2.js" type="text/javascript"></script>
13  <script src="jquery.mobile-1.1.2/jquery.mobile-1.1.2.js" type="text/javascript"></script>
14
15  <!-- link to my css and javascript files-->
16  <script src="_js/myscript.js"></script>
17  <link rel="stylesheet" href="_css/mystyles.css" />
18 </head>
19 <body>
20   <p>...Content goes here...</p>
21 </body>
22 </html>
```



# Creating a jQuery Mobile Page

- To take full advantage of all of the framework's features, a jQuery Mobile site needs to start with HTML5 “doctype”; `<!DOCTYPE html>`
- Include the jQuery Mobile library using CDN or hosting them locally
- A typical page is divided into three parts **header**, **content** and **footer**
- The page, header, content, and footer are specified using **data-role** attribute
- A jQuery Mobile page can contain more than one “page”

# jQuery Mobile Page Header & Footer Toolbars

- There are two types of toolbars in jQuery Mobile:
  - Header toolbar** is intended to be positioned at the beginning of window
  - Footer toolbar** will be positioned at the bottom of window.

## Header codes:

```
<div data-role="header">  
  <h1>Home</h1>  
</div>
```

or

```
<header data-role="header">  
  <h1>Header</h1>  
</header>
```

## Footer codes:

```
<div data-role="footer">  
  <h1>Footer</h1>  
</div>
```

or

```
<footer data-role="footer">  
  <h1>Footer</h1>  
</footer>
```

```
<body>  
  <div data-role="page">  
    <div data-role="header">  
      <h1>Header</h1>  
    </div>  
    <div data-role="content">  
      <p>...content go here...</p>  
    </div>  
    <div data-role="footer">  
      <h4>Footer</h4>  
    </div>  
  </div>  
</body>
```

# jQuery Mobile Internal Page Link

- jQuery mobile refers the internal page link in the same HTML file

```
<body>
  <!-- page 1-->
    <section id="page 1" data-role="page">
      <p><a href="#page 2">Go to second
page</a></p>
    </section>
  <!-- page 2 -->
    <div id="page 2" data-role="page">
      ...
    </div>
</body>
```

# jQuery Mobile External Page Link

- The external link can link to any other page in the same domain as the current page
- If the page is linked to another domain, the link is treated as an absolute external link.
- jQuery uses AJAX to load the external page.
- The page is loaded, parsed and then added to the DOM of the current HTML file.
- The appearance to the end users is the same as internal page links

**<a href="other document">Go to another doc.</a>**

- DOM(Document Object Model):
  - It is an application programming interface (*API*) for valid *HTML* and well-formed *XML* documents.
  - It defines a standard way for accessing and manipulating HTML documents.

# Absolute External Links

- To explicitly define an **absolute external link** without the AJAX behavior, use one of the following specifications:

```
<a href="externalpage.html" rel="external">external Link</a>  
<a href="http://www.ivc.edu/" data-ajax="false">IVC</a>  
<a href="externalpage.html" target="_blank">external Link</a>
```

- Ajax (Asynchronous JavaScript and XML):
  - It is a technique for creating fast and dynamic web pages
  - It allows the web page to retrieve small amounts of data from the server without reloading the entire page.
  - It uses several programming languages together to create a better user experience.

# jQuery Mobile Page Transitions

- jQM provides many built-in transitions from one page to another page
- These transitions rely on CSS3
- jQM links work without animation if the browsers do not support CSS3
- For the browsers that do not support CSS3 base animation, the jQM links work without the smooth transition and animation
- Most mobile WebKit based browsers support jQM page transitions
- There are many kinds of animation

More jQM transitions:

<http://jquerymobile.com/demos/1.2.0/docs/pages/page-transitions.html>

# jQuery Mobile Buttons

- jQuery Mobile offer many features for working with buttons
- Buttons can be used in many ways:
  - Buttons for links
  - Buttons for form control
  - Buttons for navigation
  - Buttons for input type
- An icon can be added to a button
- By default all buttons fill the width of the screen unless a data attribute **data-inline="true"** is specified
- Buttons can be grouped together in horizontal or vertical lists

# jQuery Mobile Buttons (continued)

- Button tag: `<button>home</button>`
- Link-based buttons:  
`<a href="#" data-role="button">Link-based button</a>`
- Mini version buttons:
  - Add `data-mini="true"` to make a thin button
- Input buttons:
  - `<input type="submit" value="Submit Button" />`
- Inline buttons:
  - Add the `data-inline="true"` to make a compact button only as wide as its content
- And more...

For more jQM buttons info: [jQuery Mobile-buttons](#)



# jQuery Mobile Button Icons

- jQuery Mobile comes with a variety of icons:
  - delete, check, gear, back, home and more...
- An icon can be added to a button
  - Use a **data-icon attribute** and assign the icon name that is available in jQuery Mobile

```
<a href="index.html" data-role="button" data-icon="delete">Delete</a>
```
  - By default, the icon will be positioned to the left of the button, however, you can specify the position of the icon to the right, above or below the button text.
    - Position icon on top of text: **data-iconpos="top"**
    - Icon only, no text: **data-iconpos="notext"**

For more JQM button icons info:

<http://jquerymobile.com/demos/1.2.1/docs/buttons/buttons-icons.html>

# jQuery Mobile Navigation Bars

- To create a navigation bar, use the **data-role** attribute with a value of navbar.

**data-role="navbar"**

- By default, navigation buttons are as wide as their contents.
- Placing navigation links in an unordered list will create equal-width buttons that span the entire width of the screen.

For more jQM button icons info:

<http://jquerymobile.com/demos/1.2.1/docs/buttons/buttons-icons.html>

# jQuery Mobile Listviews

- Listview is the most common way to display information on mobile devices
- jQuery Mobile provides a very powerful framework for developing Listviews
- Listview:
  - It is for displaying information in a lists
  - It can display ordered and unordered lists
  - The list may contain linked or unlinked items
  - The list items may contain count bubbles
  - And more...
- Let's check out the jQuery Listviews:
  - <http://jquerymobile.com/demos/1.3.0-rc.1/docs/demos/widgets/listviews/>

# Collapsible Content blocks

- Collapsible content blocks are content box that user can click on the content box to collapse or to expand the content.
- A collapsible content block can be created using any container element
- To create a collapsible content block apply the `<div data-role="collapsible">` to the parent container.
- By default collapsible content blocks are collapsed when the page is loaded
- Let's take a look at jQuery collapsible content blocks:  
<http://jquerymobile.com/demos/1.2.0/docs/content/content-collapsible.html>

# How to test jQuery Mobile Apps

- Testing on desktop during developing the app:
  - Using different browsers, some browser may render differently
  - Drag the size of the browser window to see the changes
  - Use an online emulator testing site
- Testing for publishing:
  - Upload the app to a server
    - Test the app using smartphones and tablets

# How to test jQuery Mobile Apps (continued)

- Remote Labs
  - Is a web service that allows web developers to use a real device remotely without being physically in the same place
  - It gives the web developers access to thousands of real devices
  - Commercial Remote Labs:
    - <http://www.deviceanywhere.com>
    - <http://www.perfectomobile.com>
  - Free Remote Labs:
    - Nokia Remote Device Access for Symbian and MeeGo
      - <http://www.mobilexweb.com/go/rda>
    - Samsung Lab.Dev for Android (free)
      - <http://www.mobilexweb.com/go/labdev>

# JQuery Mobile Online Resources

- JQM Demos:
  - <http://jquerymobile.com/demos/1.2.1/>  
<http://jquerymobile.com/demos/1.3.0/>
  - <https://github.com/operationmobile/jqueryMobileDemo>
- Online emulator testing sites:
  - <http://www.testiphone.com/>
  - 6 free mobile device emulators for testing your sites:
    - <http://www.webdesignerdepot.com/2012/11/6-free-mobile-device-emulators-for-testing-your-site>
- JQuery Mobile Online books:
  - <http://lecturer.eepis-its.edu/~yuliana/Android/Buku/jquery-Mobile.pdf>
  - <http://fireidea.net/download/jquery/jquery-Mobile-Cookbook.pdf>
- Online tutorials:
  - <http://www.w3schools.com/jquerymobile/>
  - <http://learn.jquery.com/jquery-mobile/getting-started/>