

# Print Mobile Practice with CSS3 Media Queries

**Introduction:** Often you would like to add the capability to a Web page to print the page. A user will usually have information on the page they will not want printed like navigation, ads, and the footer. A print style sheet can be created to help your user get a better printed page. By adding a media type of print to the linked style sheet, the print manager will pick up the style sheet rules for the printing you have set.

Users may also want to view your pages on smaller mobile devices. Some mobile devices can recognize a special media style sheet to help manage the width of your page content. If you design a media style sheet with % then your pages will be more fluid when shown on these smaller devices.

We will begin with a 2-column fixed Web site and add a print CSS style sheet and also a screen style sheet using CSS3 Media queries.

LOGO

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This site was created for educational purposes.

### Step 1. Getting Started

Download the **PrintMobile.zip** file to your desktop. Extract the PrintMobile folder and store it on your desktop. In Expression Web, use **Site=>Open Site** and choose the PrintMobile folder. The Folder List contains the **index.htm** page for a completed 2-column page and also the completed **styles.css** style sheet with basic presentational style rules for the page. A **screen.css** style sheet holds information that structures a 900px wide page for the computer screen. These two style sheets are linked to the index.htm page with <link> tags. As the style sheets cascade together, the page reflects their combined style rules. There is also an Images folder. View the index.htm page in the browser.

How would this page currently be printed? While viewing this page in the browser, use the **File->Print Preview** option to see.

We can see it would print the masthead, navigation, leftcolumn, right column and footer. The navigation has no meaning on a printed page. Also the footer information is not usually needed on a printed page.

### Step 2. Creating a Print Style sheet

Open the **styles.css** style sheet. Notice it contains the following id style rules: #masthead, #navigation, #maincontent, #leftcolumn, #rightcolumn and #footer.

What part of this page would the user probably want printed? Let's say you decide they would probably want the masthead, not the navigation bar, left column, followed by the right column and not the footer. A starting point for a print style sheet is usually the regular page style sheet, in this case the styles.css file.

Add a New CSS file to the practice folder, **File->New->CSS**. Name the file **print.css**. By using the **Attach Style Sheet** link in the Apply Styles panel on the right side of Expression Web, link this style sheet to your **index.htm** page.

Copy the entire **styles.css** contents into the **print.css** style sheet.

Add this style rule to the top of the print.css file to not show the mobile-indicator messages when printing the page:

```
.print-off {  
    display:none;  
}
```

### Step 3. Modify the Print style sheet

Now let's make this Web page more printer friendly by modifying the style rules following if they exist on the page.

1. If the body or column background colors are black, change this to be white. (most printers will not print background colors and background images)
2. If the body or column text colors are white, change this to be black.
3. Non-heading text change from sans-serif font to serif font for readability.
4. Remove the site navigation - set **display:none**; in your #navigation style rule.

5. Remove unneeded images or animations (especially large) -  
add a class to these items with **display:none**; or scale them down with a width % like **width: 45%**;
6. Remove floating, fixed margins and padding from columns or other page elements
7. Set the printed column widths to be 100%.
8. Set the body margin to something like margin: .25in; for a printed margin.
9. To print hrefs of important links, modify link look stronger on the page and then add in the print style sheet the  
following to include the actual **href** attribute after the link:  
#leftcolumn a:link:after, #leftcolumn a:visited:after  
{  
    content: "(" attr(href) ";";  
    font-size: 90%;  
}

#### Step 4. Add media type to the print.css style sheet to the page

In the Code view, find the <link> tag for your print.css style sheet.  
Add the **media= "print"** attribute to your <link>.

#### Step 5. Test your print style sheet

Run your index.htm page in the browser.  
Go to the **File->Print Preview** option and see what your printed page would look like.  
All the content should be 100% width and one column. The right column information should be shown below your left column information. The link in the left column should have the anchor **href** appear after it.

#### Step 6. Modify a CSS file for different device widths using media queries.

Here are some recommendations for styling a Web page for smaller device screens:

1. When possible, set the sections of the page size to the full screen width.  
In this page, set the #navigation, #maincontent, #leftcolumn, #rightcolumn, and #footer widths to be 100%.
2. Remove unnecessary margins.
3. Remove floated columns.
4. Remove unnecessary content like large images with **display:none**;
5. Remove large background images as they take up bandwidth.
6. The a:hover is not supported in most mobile browsers, add an **a:active** pseudo-class to provide click feedback to the user.

#### Step 7. Working with the screen.css file

A style sheet for different screen sizes has already been started in the **screen.css** file.  
This stylesheet will cascade with the **styles.css** style sheet for computer screen devices.  
In the Code view, find the <link> tag for the **screen.css** style sheet.  
Add the **media= "screen"** attribute to the <link> tag.

### Step 8. Style rules for 1024 width devices:

The style rules in the **screen.css** file so far are for a 1024 width viewport or larger. Notice there are some CSS classes for some mobile-indicators near the top of the file. These will allow the display of a message on the page depending on the screen size of the device.

For the 1024 width rules, the `.mobile-indicator-1024` class is set to **display:block;** so that message on the page will show. The other `.mobile-indicator` classes are set to **display:none;** .

For the 1024px width viewport the `#container` width is 900px. The `#masthead`, `#navigation`, `#maincontent`, and `#footer` are all set to 100% of the container width. The `leftcolumn` width is 600px and the `rightcolumn` is 300px.

In order to show anchor tags in `<li>` tags the navigation bar horizontally on the same line, the `#navigation li` is set to **display:inline;**.

### Step 9. Media queries and the `<meta>` tag viewport setting

Media queries are rules that can be added to a style sheet targeted to different device sizes.

Media queries in a CSS style sheet use the `@media` and then logical operators and device widths and heights.

The style rules for that targeted device are placed between the `{ }` as in this example:

```
@media screen and (max-width: 480px){ #container{ width: 450px;} }
```

Unfortunately many older browsers do not recognize media queries. Luckily, most modern mobile device browsers do.

There are many media query breakpoints for mobile devices, but some of the common sizes include:

1024px, 760px, 540px, 480px and 320px.

Some mobile devices default to showing a Web site at its full size so the user can zoom in. If you want to be able to target your Web site with media queries you need to override this default with a **<meta>** tag that sets the viewport of the browser to be the device's width.

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

**Note:** This meta tag has already been added to your Web page to have the browser viewport use the device width.

### Step 10. Completing the **screen.css** style sheet for mobile devices

Modify the following in the **screen.css** style sheet to complete the style rules for each media query.

Add the following style rules in the **780px media query**:

```
#container
    width: 750px;
#masthead, #footer
```

```
        width: 100%;
#maincontent
    background-image: url(' background750.jpg');
    width: 100%;
    overflow: hidden;
#leftcolumn
    width: 500px;
    float:left;
#leftcolumn img
    width: 60%;
#rightcolumn
    width: 250px;
    float:left;
#rightcolumn img
    width: 60%;
```

Add the following style rules in the **540px media query**:

```
#container
    width: 500px;
#navigation, #masthead, #maincontent, #leftcolumn, #rightcolumn, #footer width:
    100%;
#maincontent
    background-image: none
    background-color: #FFFFFF
#navigation li display:block;
    width: 100%;
#leftcolumn img, #rightcolumn img width:
    50%;
```

Add the following style rules in the **480px media query**:

```
#container
    width: 450px;
#masthead, #navigation, #leftcolumn, #rightcolumn, #footer width:
    100%;
#leftcolumn img, #rightcolumn img width:
    45%;
```

Add the following style rules in the **320px media query**:

```
#container width:
    300px;
#masthead, #navigation, #leftcolumn, #rightcolumn, #footer width:
    100%;
#leftcolumn img, #rightcolumn img width:
    45%;
```

**Step 11. Test the CSS3 media query screen widths in a desktop browser.**

View your index.htm page in a Web browser. Resize the window and you should see the message at the top of the page change as you go to smaller widths.

**Note:** In Firefox, the 320 screen size media query may not work if the navigation bar is active. If you uncheck the navigation bar, then you can resize the window to be 320px wide.

**Step 12. Validate and upload your PrintMobile to Yoda and test your CSS3 media query screen widths in a smartphone emulator.**


Validate your index.htm page.

Upload your PrintMobile folder to the Yoda web server Practices folder.

You can use this iPhone emulator <http://www.testiphone.com/>

Test your index.htm page in this iPhone emulator by entering in your URL which will be something like:

**`http://yoda.tc.uvu.edu.lastnamefirstname/Practices/PrintMobile/index.htm`**. Flip

between vertical and horizontal views by pressing the  button on the iPhone Simulator or press the spacebar on your keyboard.

**Conclusion:** You can add usability to your Web site by adding print style sheets and mobile device style sheets with CSS3 media queries.