Wireless Markup Language

Outline of the Lecture

- Using the Web Server to deliver a WAP site
- Overview of WML
- Editing WML
- Formatting Text
- Images

Using the Web Server to deliver a WAP site

- You can use any traditional Web server—such as Apache (www.apache.org), Microsoft SiteServer (www.microsoft.com/siteserver), or iPlanet (www.iplanet.com)—to deliver a WAP site.
- You need to configure the server to send out the MIME types shown in Table when WAP content is requested.

<table>
<thead>
<tr>
<th>MIME Type</th>
<th>Type of File</th>
</tr>
</thead>
<tbody>
<tr>
<td>WML (.wml extension)</td>
<td>text/vnd.wap.wml</td>
</tr>
<tr>
<td>Compiled WML (.wmlc extension)</td>
<td>Application/vnd.wap.wmlc</td>
</tr>
<tr>
<td>WMLScript (.wmls extension)</td>
<td>text/vnd.wap.wmlscript</td>
</tr>
<tr>
<td>Compiled WMLScript (.wmlsc extension)</td>
<td>Application/vnd.wap.wmlscriptc</td>
</tr>
<tr>
<td>Wireless Bitmap Image (.wbmp extension)</td>
<td>Image/vnd.wap.wbmp</td>
</tr>
</tbody>
</table>

Overview of WML

- WML is a markup language based on XML (Extensible Markup Language). It is designed for specifying user interface behavior and displaying content on wireless devices such as phones, pagers, and PDAs (Personal Digital Assistants).
- Inherits technology from HDML and HTML.
- WML is tag-based and supports text:
  - Screen management (text, images)
  - Data input (text, selection lists, forms, etc.)
  - Hyperlinks and navigation support
- Unlike HTML, WML is case-sensitive. You must specify elements, attributes, and enumerated attribute values in all lowercase.
You should also keep case-sensitivity in mind when you name cards or variables. For example, `variable1`, `Variable1`, and `vaRiable1` are all different variables.

- **Card** metaphor
  - User interactions are split into cards
  - Navigation occurs between cards

- All WML pages (decks) must specify the following XML document type declaration at the beginning of each file:
  - **Document prologue**
  - **XML & document type declaration**

```xml
<?xml version="1.0"?>
<!DOCTYPE wml PUBLIC "-//WAPFORUM//DTD WML 1.1//EN"
"http://www.wapforum.org/DTD/wml_1.1.xml">
```

- **NOTE**: for Openwave, you must include the following DOCTYPE header in the WML deck:

```xml
<!DOCTYPE wml PUBLIC "-//PHONE.COM//DTD WML 1.1//EN"
"http://www.phone.com/dtd/wml11.dtd" >
```

- `<WML>` element (Deck Declaration) must contain one or more cards

```xml
<WML>
  ...
</WML>
```

## Editing WML

**Example 1: Simple WML Document**

```xml
<?xml version="1.0"?>
<!DOCTYPE wml PUBLIC "-//WAPFORUM//DTD WML 1.2//EN" "http://www.wapforum.org/DTD/wml12.dtd">
<!-- Simple WML Document -->
<wml>
  <card>
    <p>Welcome to WML!</p>
  </card>
</wml>
```
Formatting Text

<table>
<thead>
<tr>
<th>WML Tag</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;b&gt;</td>
<td>Specifies bold font.</td>
</tr>
<tr>
<td>&lt;strong&gt;</td>
<td>Specifies emphasized text.</td>
</tr>
<tr>
<td>&lt;big&gt;</td>
<td>Specifies that the text should be one font size larger than the default.</td>
</tr>
<tr>
<td>&lt;small&gt;</td>
<td>Specifies that the text should be one font size smaller than the default.</td>
</tr>
<tr>
<td>&lt;i&gt;</td>
<td>Specifies italic font.</td>
</tr>
<tr>
<td>&lt;u&gt;</td>
<td>Underlines text.</td>
</tr>
<tr>
<td>&lt;em&gt;</td>
<td>Specifies emphasized text.</td>
</tr>
</tbody>
</table>

Example 2: WML text formatting

```xml
<?xml version="1.0"?>
<!DOCTYPE wml PUBLIC "-//WAPFORUM//DTD WML 1.2//EN" "http://www.wapforum.org/DTD/wml12.dtd">
<!-- WML text formatting -->
<wml>
  <card>
  <p>
    A <b>bold</b> statement<br />
    A <big>big</big> deal<br />
    A <small>small</small> problem<br />
    I <em>mean</em> it<br />
    This is <i>fancy</i><br />
    <strong>Strong</strong>man<br />
    <u>Not</u> a link
  </p>
  </card>
</wml>
```

Images

Example 3: Using images

```xml
<?xml version="1.0"?>
<!DOCTYPE wml PUBLIC "-//WAPFORUM//DTD WML 1.2//EN" "http://www.wapforum.org/DTD/wml12.dtd">
<!-- Using images. -->
<wml><card>
  <!-- center paragraph tag’s contents -->
  <p align = "center">Images<br />
  <!-- insert image -->
  <img src = "Logo.wbmp" alt = "Logo" height = "82" width = "84" />
</p></card> </wml>
```