

Advanced Programming Language (630501)
Fall 2011/2012 – Lecture Notes # 4

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 : MIME Type Additions for Web Servers

MIME Type	Type of File
WML (.wml extension)	text/vnd.wap.wml
Compiled WML (.wmlc extension)	Application/vnd.wap.wmlc
WMLScript (.wmls extension)	text/vnd.wap.wmlscript
Compiled WMLScript (.wmlsc extension)	Application/vnd.wap.wmlscriptc
Wireless Bitmap Image (.wbmp extension)	Image/vnd.wap.wbmp

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 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:

```
<!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

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

Editing WML

Example 1: Simple WML Document

```
<?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

Description of WML formatting tags.

WML Tag	Description
	Specifies bold font.
	Specifies emphasized text.
<big>	Specifies that the text should be one font size larger than the default.
<small>	Specifies that the text should be one font size smaller than the default.
<i>	Specifies italic font.
<u>	Underlines text.
	Specifies emphasized text.

Example 2: WML text formatting

```
<?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 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>
```