Programming the Softkeys and Special Characters

Outline of the Lecture
- ➢ **The DO Element**
- ➢ **Replacing Entities (Special Characters)**

The DO Element

- The **<do>** element associates a task with an element within the user interface; **<do>** element defines the action (**task**) the phone will perform when the user presses the function key specified by the type attribute.

Syntax:
```
<do type="type" label="label" name="name" optional="boolean">
    task
</do>
```

- Where task represents the action to perform when the user activates the specified interface mechanism:

task	You must bind one of the following task elements to the user interface mechanism: • **<go>** • **<prev>** • **<refresh>** • **<noop>**

Attributes		
	value	*Perform task if user ...*
type	*accept*	Invokes **ACCEPT** mechanism
	delete	Invokes **DELETE** mechanism
(Required)	*help*	Invokes **HELP** mechanism
	options	Invokes **OPTIONS** mechanism

	prev	Navigates to card by invoking **PREV** mechanism from another card.
	reset	Invokes **RESET** mechanism (clears or resets current device state). **The UP.Browser does not currently support this attribute value.**
	unknown	Invokes **unknown** mechanism (equivalent to TYPE=""). **The UP.Browser does not currently support this attribute value.**
label		A label that identifies the task with the user interface mechanism. For example, if you bind a task to the ACCEPT key, the device displays this **value** as the function key label. If you do not specify the label attribute, the device uses the word "**OK**" as the default ACCEPT key label.
name		Specifies a **name** for the <do> element. If a card-level <do> element (i.e. defined within a <card> element) has the same name as a deck-level <do> element (i.e. defined within a <template> element), the card-level binding overrides the deck-level binding.
optional		**true	false** Specifies whether the device can ignore this element.

- **NOTE**: If you define multiple **<do>** elements of the same type in one card, you should specify the **name** attribute for each <do> element to uniquely identify each instance of the same type.
- When defining multiple <do> elements, the **OPTIONS** softkey is labeled "**menu**," which provides a menu that includes all <do> elements typed accept or options.

General Structure

```
<card id="name">
<do type="type" label="label">
<go href="url"/>
</do>
<p>
text
</p>
</card>
```

<div align="center">**Example 6.1**</div>

```
<?xml version = "1.0"?>
<!DOCTYPE wml PUBLIC "-//WAPFORUM//DTD WML 1.2//EN"
"http://www.wapforum.org/DTD/wml12.dtd">
<wml>
<card>
<do type="accept" label="More">
<go href="d1.wml"/>
</do>
<p>
Some links:<br/>
<anchor title="Link1"><go href="#news"/>News</anchor><br/>
<anchor title="Link2"><go href="#sports"/>Sports</anchor>
</p>
</card>
<card id="news">
<p>
You chose News.
</p>
</card>
<card id="sports">
<p>
You chose Sports.
</p>
</card>
</wml>
```

- **IMPORTANT** The <do> element has been extended to support the specification of images as <do> element labels. This is specified with an <img> element embedded inside a <do> element. For example:

```
<do type="accept">
<go href="/foo"/>
<img src="img" localsrc="OK" alt="OK"/>
</do>
```

- If the phone supports images, the **localsrc**, **src** and **alt** are used, in that order. If the phone does not support images, **alt** specifies the **label**.

Replacing Entities (Special Characters)

- In WML, certain characters are used to denote special situations, such as the start and end of an element (**<** and **>**). Simply placing the character (<) in the content would thus generate an **error**. Entities are used to reference content by placing the entity on the content as a placeholder.
- *WML entities* have the following form:

  `&entityreference;`

Special Characters	
Element	Display character
<	< (less than)
>	> (greater than)
'	' (apostrophe)
"	" (quote)
&	& (ampersand)
$$	$ (dollar sign)
	Non-breaking space
­	Soft hyphen

Example 6.2

```
<?xml version="1.0"?>
<!DOCTYPE wml PUBLIC "-//WAPFORUM//DTD
WML 1.2//EN" "http://www.wapforum.org/DTD/wml12.dtd">
<!-- Special Characters    -->
<wml>
<card title = "Special" >
<p>
Special Characters:<br/>
Experts suggest &shy; &quot; A person&apos;s
daily diet should consist of &lt; 2000 calories &amp;
not &gt; 20 grams of fat.&quot;
</p>
</card>
</wml>
```