

WML - Overview

The topmost layer in the WAP (Wireless Application Protocol) architecture is made up of WAE (Wireless Application Environment), which consists of WML and WML scripting language.

- WML stands for **W**ireless **M**arkup **L**anguage
- WML is an application of XML, which is defined in a document-type definition.
- WML is based on HDML and is modified so that it can be compared with HTML.
- WML takes care of the small screen and the low bandwidth of transmission.
- WML is the markup language defined in the WAP specification.
- WAP sites are written in WML, while web sites are written in HTML.
- WML is very similar to HTML. Both of them use tags and are written in plain text format.
- WML files have the extension ".wml". The MIME type of WML is "text/vnd.wap.wml".
- WML supports client-side scripting. The scripting language supported is called WMLScript.



WML Versions:

WAP Forum has released a latest version WAP 2.0. The markup language defined in WAP 2.0 is XHTML Mobile Profile (MP). The WML MP is a subset of the XHTML. A style sheet called WCSS (WAP CSS) has been introduced alongwith XHTML MP. The WCSS is a subset of the CSS2.

Most of the new mobile phone models released are WAP 2.0-enabled. Because WAP 2.0 is backward compatible to WAP 1.x, WAP 2.0-enabled mobile devices can display both XHTML MP and WML documents.

WML 1.x is an earlier technology. However, that does not mean it is of no use, since a lot of wireless devices that only supports WML 1.x are still being used. Latest version of WML is 2.0 and it is created for backward compatibility purposes. So WAP site developers need not to worry about WML 2.0.

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WML Decks and Cards:

A main difference between HTML and WML is that the basic unit of navigation in HTML is a page, while that in WML is a card. A WML file can contain multiple cards and they form a deck.

When a WML page is accessed from a mobile phone, all the cards in the page are downloaded from the WAP server. So if the user goes to another card of the same deck, the mobile browser does not have to send any requests to the server since the file that contains the deck is already stored in the wireless device.



You can put links, text, images, input fields, option boxes and many other elements in a card.

WML Program Structure:

Following is the basic structure of a WML program:

```
<?xml version="1.0"?>
<!DOCTYPE wml PUBLIC "-//WAPFORUM//DTD WML 1.2//EN"
"http://www.wapforum.org/DTD/wml12.dtd">

<wml>

<card id="one" title="First Card">
<p>
This is the first card in the deck
</p>
</card>

<card id="two" title="Second Card">
<p>
Ths is the second card in the deck
</p>
</card>

</wml>
```

The first line of this text says that this is an XML document and the version is 1.0. The second line selects the document type and gives the URL of the document type definition (DTD).

One WML deck (i.e. page) can have one or more cards as shown above. We will see complete details on WML document structure in subsequent chapter.









Unlike HTML 4.01 Transitional, text cannot be enclosed directly in the `<card>...</card>` tag pair. So you need to put a content inside `<p>...</p>` as shown above.

WAP Site Design Considerations:

Wireless devices are limited by the size of their displays and keypads. It's therefore very important to take this into account when designing a WAP Site.

While designing a WAP site you must ensure that you keep things simple and easy to use. You should always keep in mind that there are no standard microbrowser behaviors and that the data link may be relatively slow, at around 10Kbps. However, with GPRS, EDGE, and UMTS, this may not be the case for long, depending on where you are located.

The following are general design tips that you should keep in mind when designing a service:

-  Keep the WML decks and images to less than 1.5KB.
-  Keep text brief and meaningful, and as far as possible try to precode options to minimize the rather painful experience of user data entry.
-  Keep URLs brief and easy to recall.
-  Minimize menu levels to prevent users from getting lost and the system from slowing down.
-  Use standard layout tags such as `<big>` and ``, and logically structure your information.
-  Don't go overboard with the use of graphics, as many target devices may not support them.

