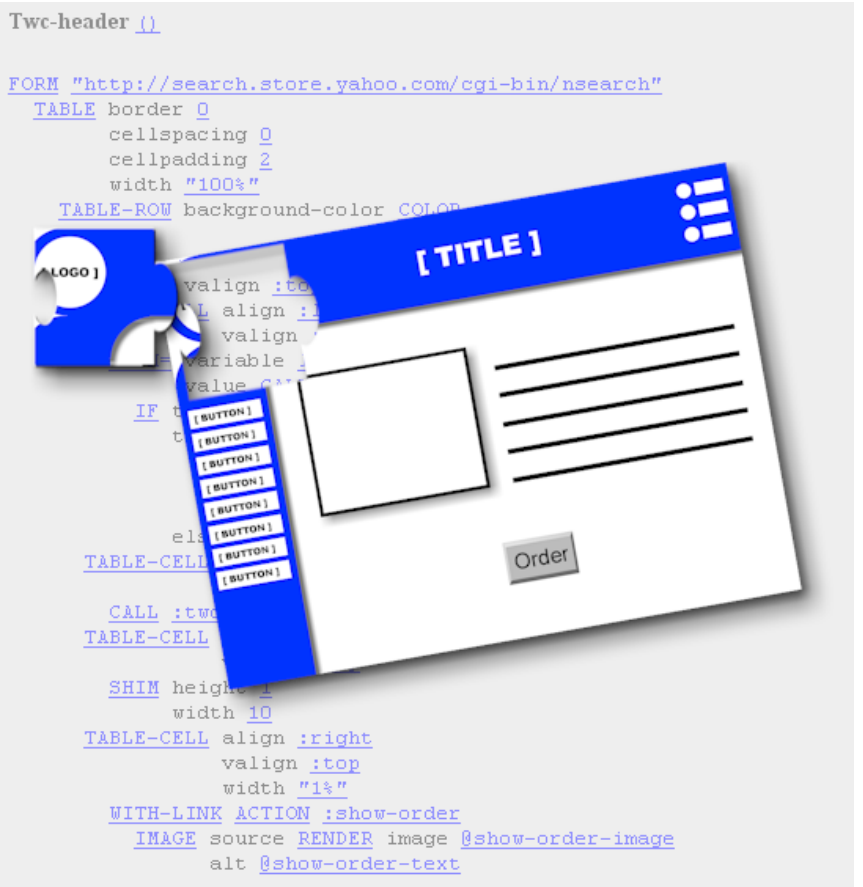
RTML 101:
The Unofficial Guide to Yahoo! Store® Templates

2nd Edition – Updated for the New Editor

By István Siposs



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Published by:
Y – Times Publications, L.L.C.
1055 West College Avenue, #227
Santa Rosa, CA 95401
www.ytimes.info

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ISBN 0-9719663-2-X

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Acknowledgements

I would like to thank everyone who assisted me in any way in writing this book. Specifically, but in no particular order: Richard Bidleman and Jon Richards for editing; Keith Enloe of Ydesigns.com for making sure the book made sense technically and Stephen Gilmartin of Handrake Development (handrake.com) for indispensable legal advice.

Also: András Vida for introducing me to computers; Richard Bidleman for showing me that computers can be more than a hobby; and my wife Anikó, my daughter Réka, and my son, István, for constantly reminding me that there is more to life than just computers…

István Siposs

Introduction

Yahoo! Store® is one of the largest and fastest growing storefront systems on the Internet. Originally, the Yahoo! Store® platform was developed by a company called Viaweb®. In 1998, Yahoo!® acquired Viaweb® with its membership of about 1,000 merchants. Today, the community of Yahoo! Store® merchants includes over 16,000 storefronts.

The strengths of the Yahoo! Store® platform are manifold:

1. It is affordable.
2. It provides store owners a complete management interface to control all aspects of their store including inventory management, statistics and marketing.
3. It means inclusion in Yahoo! Shopping®, one of the largest online malls on the Internet.
4. It is easy to use yet versatile enough to enable a merchant to create even the most highly customized storefronts.

This last feature, the ability to create stores with a unique look through custom template design, can be implemented using Yahoo! Store®'s proprietary design language, RTML. While the availability of RTML is advertised right on the welcome page of Yahoo! Store®, RTML is probably the least documented feature of the service and to make things more complicated, Yahoo!® provides no technical assistance for custom templates and RTML—which, by the way, is completely understandable considering that, as you will soon learn, RTML is a programming language, and providing technical assistance to customers to debug their code would be an immense task.

The Yahoo! Store® online user's guide includes a very general overview of RTML. There is also an RTML command reference—not much more than an

alphabetical listing of the various RTML commands—hidden deep within the Advanced Editor Interface (under the "Controls" section, for those interested). These two resources, however, represent all the documentation provided by Yahoo!®. Outside of Yahoo!®, there is a Yahoo! Store® RTML Club in Yahoo! Clubs and there are perhaps a few other web sites devoted to the subject (see Appendix A: RTML Resources), but there are no books or any other printed material available. Those who are interested in creating truly custom-designed storefronts are then left to their own devices to learn the ins and outs of RTML. We hope that this book will fill this void.

Who should read this book

This book was written for those interested in learning or using Yahoo! Store®'s proprietary web design language, RTML. Since RTML is ultimately a web design language, you should have some understanding of HTML. You don't; however, need to know JavaScript, CGI, or any other so-called server-side scripting languages to use the information in this book.

Because RTML is a programming language, it is highly recommended, although not required, that you have some programming experience. Any basic programming language course from college will do.

Anyone who has some moderate experience with Yahoo! Store® and who has felt his or her hands were tied by the Yahoo! Store® design interface, will find this book useful. After reading this book, you'll have the necessary skills to create a store that has your own personal look and feel.

What is RTML?

There are a number of anecdotal explanations of what RTML stands for. According to one such explanation, RTML is *Rob's Template Mark-up Lan-*

guage, where Rob is one of the original developers of Viaweb. Another, more technical-sounding explanation says that RTML stands for *Recursive Textual Markup Language*. It is a **programming language used to generate or describe static web pages**. RTML has all the elements of a programming language including:

1. Control flow
2. Variables
3. Iteration or loops
4. Conditional execution
5. Subroutine and function calls

For those interested, RTML is loosely based on LISP. For those of you who know LISP, you will appreciate the fact that unlike LISP, RTML does not use the forest of parentheses in its syntax.

Each line of RTML is an **expression**. An expression consists of either some value (variable, or constant) or an **operator** and zero or more **arguments**. A collection of RTML expressions is called a **template**. You could think of templates as programs, sub-routines, or functions. They all return some value and can optionally have the "side effect" of generating some output, i.e. creating HTML text.

While its name resembles HTML (Hypertext Markup Language), RTML is very different from HTML. Although there are a few RTML operators that map directly to some equivalent HTML tags, the similarity pretty much ends there. HTML is a collection of tags to describe a static web page. RTML is a language that can be used to create complex programs that generate web pages or entire web sites. RTML creates HTML as its output.

The real purpose of RTML is to provide a bridge between content and presentation: between the inventory of your store and the HTML pages that display your inventory. This is a great concept for the following reasons:
You don't have to know…

- anything about databases,
- how your inventory is stored within Yahoo! Store®
- how to write pure HTML.

Using RTML, you'll be able to take what's in your store and present it to the public as one or more web pages!

Things you can do with RTML

In short, with RTML you can do anything you could not do in the Store Editor. With RTML, you gain full control over the design of your store. You can modify how the standard page elements are laid out or function. You can, for instance, leave the content buttons (those that correspond to the sections of your site) in the left navigation bar, and move the other buttons (info, privacy policy, shopping cart, etc.) to the top; or include a search box with a button below the left navigation bar; or put banners there.

You can also expand on the existing functionality of your store. You could create, for example, a "Bestseller" list similarly to the built-in "Specials" feature where bestsellers could be items you would show along the right margin of your home page (see www.notetools.com).

Or, at the other extremes, you could create completely custom designed stores that are not even based on any of the built-in templates (see http://store.yahoo.com/belmont0724 or http://www.ytimes.info).

Figure 1 - Custom Templates

Things you cannot do with RTML

While RTML gives you a lot of freedom when it comes to the design of your store, there are things RTML cannot do. To understand what you can and cannot do with RTML, you should know that **RTML is neither what is called a client-side, nor a server-side scripting language**.

Client-side scripting languages such as JavaScript and VBScript are commonly used to validate user input on forms or to generate dynamic content on web pages. Client-side scripting languages require a "client", or web browser, that understands those languages otherwise they cannot function.

Sever-side scripts execute on the web server whenever a web page that uses server-side scripting is requested. They are commonly used to validate user input, to generate dynamic web pages, and to query or work with databases. Some of the most common server-side scripting languages are PERL, ASP, PHP, and CGI.

RTML is a strange breed. It is definitely not a client-side scripting language (have you seen a web browser with RTML support?) It does run on the web

server (on Yahoo!®'s store servers) but you wouldn't call it a server-side scripting language. The main reason for this lies with *when* an RTML template (or program) is executed. While server-side scripts execute each time, they are requested from the web server (each time you load a web page whose url ends with .asp, .php, .pl, .exe, but not in .html or .htm), **RTML is executed only once**, when you generate or publish your store. Once your store is published, no matter how many times your store's pages are brought up in web browsers all over the world, the RTML templates that generated your store do absolutely nothing. Why? Remember, RTML is for generating static HTML pages. The emphasis is on the word *static*.

In addition, there are certain things that are shielded from RTML within Yahoo! Store®. The operation or presentation of the shopping cart and the checkout pages, for instance, are beyond the reach of RTML. Furthermore, you cannot change how the built-in features—such as shipping and tax calculation—of the store function.

So, what are the things you cannot use RTML for? Anything you would use either a server-side or a client-side scripting language. The following is a partial list of the most frequently requested tasks that **cannot** be accomplished using RTML:

RTML cannot be used for:

- User input validation
- Database manipulation
- Building dynamic content (pages that change based on user input)
- Manipulating shipping and tax calculation rules
- Changing the way the shopping cart or the checkout pages function or the way they look
- Manipulating "cookies" (if you don't know what "cookies" are, that's fine as you won't be using them in RTML)

Using customized templates

RTML templates do absolutely nothing by themselves. In fact, you cannot even execute a template by typing its name on a command line or clicking it in some list. The only way to "execute" a template is to call it as part of the "description" of a web page within your Yahoo! Store®.

Each page in a Yahoo! Store® is based on some top-level template that "tells" how that particular page should be rendered in a web browser. This is the "description" of that web page. The easiest way, therefore, to "execute" or "run" a template is to create an item in your store and use your template as the top-level template of that page. To do so, change the *Template* property of your page

from a built-in template to a custom template. Once you do this, whenever you bring up the page in your web browser you will see the output of the custom template.

The following is a very broad outline of the way to create custom templates:

1. Create a custom template or modify an existing one.
2. Edit the page you want to customize, and change its *Template* property to reflect the name of your customized template.
3. Update the page.
4. Publish your store.

From this list, note that if you create custom templates for a store that already contains many pages, changing the template of each page might require a lot of work. The answer to this problem is the *CSV Database Upload* feature. When uploading the contents of your store from a CSV database, you can also specify what templates you want for the section and item pages. The good news is that you can use this method to change the template of existing pages. The bad news is, if your store already has manually created sections and items you really should not use the database upload method. The details of the CSV Database Upload feature are outside of the scope of this book. To read more about this feature, please see the relevant section of the online Yahoo! Store® documentation (http://store.yahoo.com/vw/upload.html).