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Using pieces of pre-built programming modules is not new. The acceptance of open source software as well as COTS (commercial off-the-shelf software) makes it easier for systems developers to take existing software and modify it to create a new, specialized application. This month's column, co-authored with Allen Schmidt, discusses a very recent trend in ecommerce. This new trend has resulted in a new application called mashups. They can be applications with important business, social, or political significance or they can be just fun. Read on and enter the world of mashups. [Kenneth E. Kendall]

## Mashups: The Art of Creating New Applications by Combining Two or More Web Sites

by Kenneth E. Kendall, Rutgers University, and Allen Schmidt, Madison Area Technical College

Do you remember the mix up game you used to play as a child? The one where you take a deck of cards each containing one of three parts of a different animal and then mix them up to form genetically altered animals? In this case you might end up with the horn of a rhino, the defensive shell of a turtle, and the claws of a bear. This new supercharged animal may possess all of the qualities that make it appear as the most competitive of beasts.

This approach of mixing up different features or attributes is actually taking place in the ecommerce world right now. Systems analysts are taking application programming interfaces (or APIs), joining two or more of them together, and creating a new application.

### Application Programming Interfaces and Mashups

An API is simply a source code interface that can support a user's request for services generated by computer software. Probably the most well known API is the Single UNIX Specification, the set of standards that allow an operating system to be called "UNIX," but there are many lesser known APIs that are available for use by systems developers.

APIs represent the building blocks (Wenz, 2006). Since an application can be developed more quickly when modules or building blocks are available, mashups tend to be developed very rapidly. As we write this column, 2.7 new public domain mashups are being created each day. It is estimated that this figure will soon reach 10 per day. (Programmable Web, 2007)

Since many of the APIs are open source APIs, a developer is free to use them to develop a new application. Mashups are created by hobbyists who want to add to the public domain (*Business Week*, 2005). Other developers may want to create a Web site that attracts visitors who click on links, view ads, or even purchase goods and services. In that way, developers can make a profit from mashups.

So for fun, go to one of the following sites, HBO: The Sopranos

<http://www.hbo.com/sopranos/map/>

or The Geography of Seinfeld

<http://www.stolasgeospatial.com/seinfeld.htm>

The first site shows the location of some of the greatest action surrounding the HBO show, *The Sopranos*, while the second takes the visitor around the



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Upper West Side neighborhood of Seinfeld. The visitor can actually see the location of the infamous "Soup Nazi."

These two mashups use the API provided from Google Maps and combine it with specific data about the respective television shows.

### Consumer Oriented Mashup Applications

There are many practical mashups. For example, the Web site:

[Aboutairportparking.com](http://www.aboutairportparking.com), <http://www.aboutairportparking.com>

can help you find a reasonably priced parking space at an airport. It uses an API for Google maps and information from airports, airlines, and parking facilities.

The following three sites help a customer find better prices on Internet shopping. Hawkee Social Price Comparison,

<http://www.hawkee.com/>

combines APIs from Amazon, eBay, and Commission Junction to allow customers to review products (and be reviewed themselves by other customers).

A site called mpire,

<http://www.mpire.com/buyer/search.page>

helps customers determine the appropriate market price.

Finally, Baebo,

<http://baebo.francisshanahan.com/>

uses at least eleven APIs and delivers messages via RSS to a customer's BlackBerry or other handheld.

There are many real estate sites useful in buying or selling a house. For example, Bogozo,

<http://www.bogozo.com/house/?new+york>

which overlays a New York subway map onto Google Maps and Craigslist data so that potential buyers can see how to get to work.

Another real estate mashup is Homethinking,

<http://www.homethinking.com/>

which helps a buyer or seller find a real estate agent based on data that shows the sales performance of area agents.

### Mashups – Just for Fun

There are more sites that you may appreciate just for fun. If you want to know what would happen if you dug a hole in your back yard deep enough to get to the other side of the earth, look at Dig to the Other Side,

<http://map.pequenopolis.com/>

If you want to tell a story, look at the randomly generated stories created by PlotShot,

<http://www.plotshot.com/>

This mashup uses pictures from Flickr to generate a "Mad Libs" type story. Another good mashup based on Flickr is Flickr Sudoku,

<http://flickrsudoku.com/>

Why play a boring Sudoku game with just plain Arial style numbers when you can get randomly generated Flickr photos showing brightly colored photos of numbers from 1 to 9?

Finally if, you think your Google search engine looks boring, just go to Ms. Dewey,

<http://www.msdewey.com/>

This site used a search engine API and combines it with customized video from a quasi-professional actor, named Ms. Dewey. It sometimes appears that Ms. Dewey is just there to annoy you when you don't ask a question. We're not really sure the site is useful, other than to get a few laughs. But who says that using mashups can't be fun?

### Mashups and the Future of DSI

We look forward to the day that someone uses an API from the DSI Annual Meeting and combines it with a list of people we need to see there, then delivers the resulting schedule to our Palm Treo or mobile phone. We can dream for now, but maybe someday it will be a reality.

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*Chain Management—A Balanced Approach* book by Joel D. Wisner, G. Keong Leong, and Keah-Choon Tan (Thomson/South-Western, 2005) is a "strong undergraduate text," the *Supply Chain Management—Strategy, Planning and Operation* book by Sunil Chopra and Peter Meindl (Pearson/Prentice Hall, 2007) is "becoming a classic MBA text," and the *Strategic Supply Chain Management* book by Shoshanah Cohen and Joseph Roussel (McGraw-Hill, 2005) is "focused on the supply chain professional."

Enjoy! ■