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Products & APIs

Developer Connection

Docs & Training

Online Support

Community Discussion

Industry News

Solutions Marketplace

Case Studies

Sidebar: [Timecruiser Embraces Java™ Technology](#)

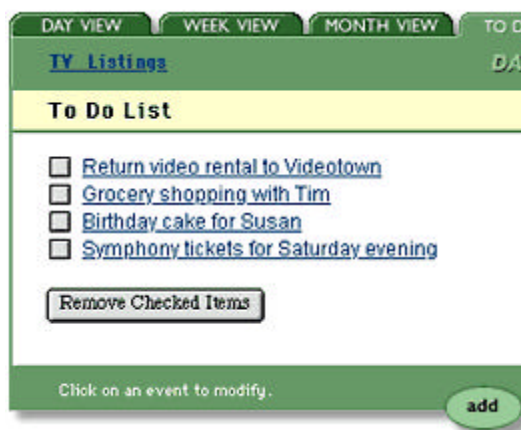
by Janice J. Heiss

With e-mail, beepers, cell phones, and an assortment of electronic devices moving information at unheard-of speeds, we are simultaneously becoming more efficient and more harried: for every bit of labor saved by information technology, more labor is created. While more gets done, there is always more to do -- and both our professional and private lives become increasingly difficult to organize. Enter the growing market of calendaring tools, powered on both the client and server side by Java™ technology, and guaranteed to make life more manageable.

Calendars Migrate from the OS to the Web

Over the years, software-based calendars, often with limited features, have been bundled into operating systems, or sold as free-standing tools for PCs. These calendars have been developed to serve organizations by functioning on Local Area Networks (LANs) or intranets. Now, a spate of Web-based calendars -- many offered for free -- have hit the market.

Calendaring products allow users to coordinate business meetings, take advantage of online information, and use e-mail to remind themselves and others of tasks. Some Web-based



Day-Timer Digital's "To Do" function

calendars go several steps further. They signal chats, events and webcasts, inform users of cultural and community events they might otherwise miss, and generally harness the power of the Web to tailor information to consumers.

Web-based calendars can be private, public, or somewhere in between. Some, like the products from the Timecruiser Computing Corporation, are sold to individual companies and Web sites and also operate on the company's Web server. Timecruiser's products allow the publication of events in interactive calendar views, facilitating group scheduling functions for employees and

customers.

Other companies, like Day-Timer Digital or When.com, financed through advertising and shared e-commerce revenues, are available for free via the Web. These free Web-based calendars rely upon a symbiosis between the needs of consumers and those of advertisers. The calendar user's virtual trail of interests and activities offers valuable demographic information to advertisers who can tailor their advertising to the needs of consumers. For example, lovers of sports or concerts will call up events over the Web on their calendars and, in turn, receive advertising that matches their interests.

An Exploding Market

Just as 1998 was the year the Web discovered free e-mail, 1999 is turning out to be the year of the calendar. Web-based calendaring -- still in its infancy in some respects -- is a market expanding and shifting rapidly, and some day it may rival search engines in importance to consumers. Market researchers at International Data Corporation predict that registered users of online calendars will grow from 1.4 million in 1998 to 22 million by the year 2000.

Other players in the burgeoning free Web-based calendaring market include Jump!, AnyDay, Amplitude, DailyDrill, Deja.com, Excite, MagicalDesk, MyTime, PlanetAll, ScheduleOnline, Visto, WebAddressBook, WebCal and Yahoo!. The offerings of individual companies differ widely and are evolving rapidly, with various combinations of e-mail, reminders, event notices, address books, synchronization with desktop organizers, and to-do lists available. Some are attempting to offer full Personal Information Management (PIM) capabilities with multiple features, while others restrict themselves to calendaring.

Though often used interchangeably, "calendaring" and "scheduling," strictly defined, are distinct. Scheduling usually refers to interactions among multiple users. Calendaring applications originally were intended for single users. Today, calendaring is often used as an umbrella term for both types of applications.

Group scheduling, a form of collaborative computing, is a real energy- and time-saver. A user suggests meeting times on his or her calendar, which are e-mailed to relevant parties who are invited to visit the calendar and select convenient times. After agreement is reached, the calendar sends out e-mail reminders as the date approaches. Such a system obviates multiple back-and-forth e-mail exchanges or telephone tag.

A Problem of Standards

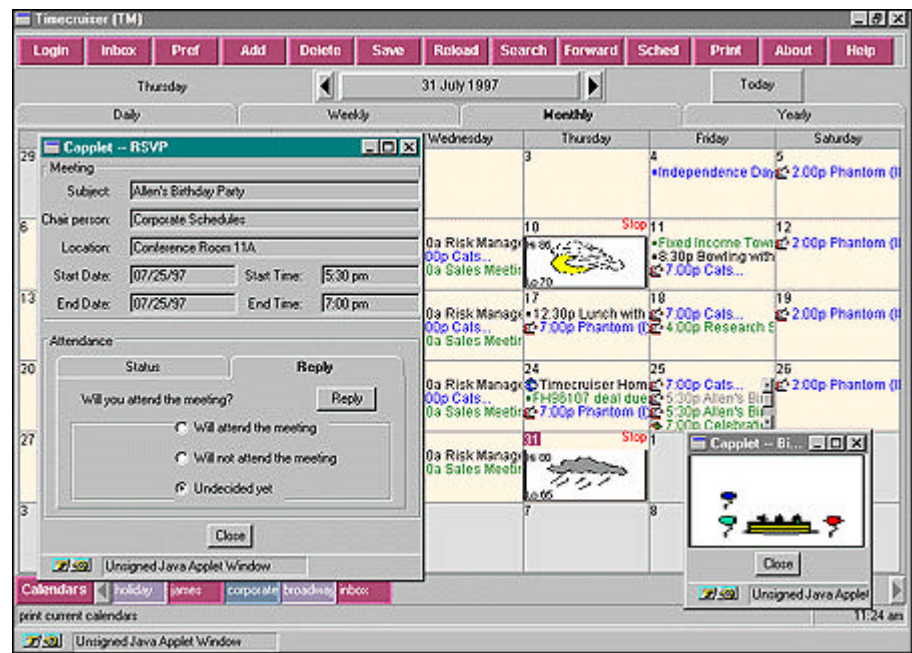
To date, there is no industry standard to enable interoperability of Web-based calendaring services. Without a common communication standard, consumers using one company's calendar are unable to integrate their schedules with users of other systems. The future of Web calendaring depends on the deployment of industry-wide standards, a subject under serious consideration by the working committee on calendaring and scheduling of the Internet Engineering Task Force.

"The Web right now is better suited for calendaring than scheduling because of performance issues and the limitations of HTML," says Robert Humphrey, vice president for development and operations at Day-Timer Digital, a maker of popular Web-based calendaring products.

The synchronization of Web calendaring products with desktop organizers such as Sidekick, Organizer, and Act, and devices like PalmPilot and Sharp Wizard will also speed up adoption of standards. Humphrey foresees the day when hand-held devices, powered by Java technology, will be ubiquitous -- and the Web will be fully portable. "When hand-held and other Java technology-powered devices are more prevalent, calendaring will really take off," observes Humphrey. "Java technology-based devices will allow a lot of people to publish device capabilities, including calendaring. Our vision is that any Java technology-enabled device should be able to display your calendar."

Timecruiser: Cross-platform Calendaring

Java technology powers both proprietary and free Web-based calendaring. The Timecruiser Computing Corporation (TCC), based in Fairfield, New Jersey, offers Java technology-based proprietary solutions to groupware scheduling and information management. TCC provides Web-based hierarchical calendars, multiple public and private views, and event publishing capabilities to help users manage and organize a wealth of disparate data.



Timecruiser's Web-based calendar

Timecruiser's Web calendar offers a multidimensional Web-based time and event management tool, with interactive event publishing, group scheduling, and event application attachment capabilities. It delivers community calendar events to end-users in an electronic calendar. Timecruiser can be installed on a company's web server either inside or outside its firewall. Because of its reliance on Java technology, Timecruiser requires no local installation -- it can be loaded once online and all of its features are ready to go.

From Applets to Capplets

Timecruiser has outlined an architecture called "Capplets" (for "calendar applet") that provides unique vertical time-based information and resource management solutions. With the Capplet open architecture, enterprises have the option of creating and attaching to events specific applets written in the Java programming language that perform specialized effects and functions. Through Capplets, static events on the calendar come alive via multimedia, ecommerce services, sound, video, images, text and graphics.

For more information on Timecruiser, see [the sidebar](#) to this story.

Day-Timer Digital Integrates Private and Public



Day-Timer Digital offers free, secure and customizable Web-based calendaring that enables consumers to easily integrate personal, professional, and public events into their schedules, and to view their schedules in daily, weekly and monthly formats.

Day-Timer Digital relies on the strength of Sun's NetDynamics™ 5 application server to handle its heavy traffic. Through its use of Java technology, the NetDynamics 5 server provides record-setting speed and scalability. "The scalability of the NetDynamics 5 application server was the single most important factor in our application serve choice," observes Robert Humphrey. "The large numbers of simultaneous transactions on this calendaring system demanded that we go with the proven solution. Java technology gives us robustness, scalability, and portability."

All This and Paper, Too

Day-Timer Digital is in the process of launching full synchronization capabilities with consumer hand-held devices, such as pagers, cell phones, and Palm organizers. In addition, the company will soon offer products designed to be compatible with old-fashioned paper planner that will print out paper in both popular and customized, loose-leaf formats. "Our research shows that 85% of people using an electronic calendar still use paper in some form," notes Robert Humphrey.

When.com: Free Web-Based Calendaring

When.com, based in Redwood City, California, officially launched its event directory and calendaring service in January 1999. Through an agreement with Netscape's NetCenter to become a part of Netscape Contact, an integrated communications service, When.com's calendaring service is now available to almost 17 million users. In addition, When.com's relationship with Netscape, now a part of America Online, means they have access to AOL's customer base.



Sample Screenshot from When.com's customized calendar

Tailored to Consumer Interests

When.com, one of the first companies to see the connection between dynamic Web content and personal calendars, is also among the first free online calendaring services to offer data streams from a diverse selection of databases -- sports, TV, weather, news, and others -- that can be piped to one's personal or group calendar.

Users of When.com decide which kinds of events they want to track. When.com has partnerships with barnesandnoble.com for book sales, Music Boulevard for CD releases, and RealNetworks for Web events. A dozen partnerships enable When.com to cover news, trade shows, cultural events, and other areas of interest. Users can change profiles at any time, or add new services as they become available.

MAFJET: Built on the Java™ 2 Platform



MAFJET, a timetabling software based in France, allows users to better manage their schedules, both individually and in groups, over an intranet. Built on the Java 2 Platform, Standard Edition on both the client and server side, MAFJET uses RMI (remote method invocation) and Java Database Connectivity (JDBC™) technology on the server end. On the client side, it relies on Project Swing-based components and performance improvements with the Java HotSpot™ performance engine. MAFJET is used primarily in schools, where scheduling needs are highly specific and dependent upon classroom and resource availability.

"Put Me on Your Calendar" Has New Meaning

With the calendaring market in rapid and unpredictable flux, the only thing certain is that Web-based calendars, powered by Java technology, are building marketplace momentum, and will ultimately influence how we organize our lives, both at work and home.

See Also

[Timecruiser Computing Corporation](http://www.timecruiser.com/)
(<http://www.timecruiser.com/>)

[Day-Timer Digital](http://www.digital.daytimer.com/)
(<http://www.digital.daytimer.com/>)

[When.com](http://www.when.com/)
(<http://www.when.com/>)

[MAFJET](http://www.mafjet.fr/)
(<http://www.mafjet.fr/>)

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