information services and technology

IS&T

News about Information Services and technology throughout MIT

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Inside! Schedules of Hands-on Training Courses and Free Computer Events

Cell Phone Project Counts Owls Through Call and Response

• Robyn Fizz

A big fan of the natural world, Dale Joachim is thrilled when his research takes him outdoors late at night, where all he hears are his own footsteps, those of a few volunteers, and the occasional hoots of nearby owls. The Martin Luther King, Jr. Visiting Professor has his home base at the MIT Media Lab, but heads to the woods to direct a study that uses cell phones to interact with owls.

Joachim, an electrical engineer, is not channeling Dr. Dolittle. In partnership with the Maine Audubon Society, he and his Owl Project team are testing a new method for monitoring Maine's owl population. Data collected via cell phone and sent to a server may enable more sophisticated analysis of the locations and species of owls that respond. Joachim is also interested in assessing how humans and machines can collaborate effectively in collecting and interpreting data. And both he and Maine Audubon are devoted to conservation, the motivating factor for the owl census.

The Connecticut Pilot

Joachim developed his cellular methodology for a census of owls in Connecticut in the summer of 2006. Before this, the standard procedure had been for volunteers to take boomboxes to survey points in the woods and play recordings of owls from tracks on a CD. They would then listen for responses from owls and jot their observations on a data sheet – including the number of owls they heard and their best guesses as to species.

For the Connecticut pilot, Joachim and his colleague Eben Goodale set up a server at MIT with a database scheduler and a signal processing engine. Using the Voice over IP (VoIP) network provided by IS&T, they linked the server to high-end cell phones from Nokia.

"Night owl" volunteers took these cell phones to the woods in lieu of boomboxes. Some of the phones were attached to loudspeakers; these phones played owl tracks ("playbacks") sent by the MIT server at programmed times. Other cell phones, hooked up to microphones, recorded owl responses and sent them back to the server. Multiple microphones were used to provide directional data.

The pilot study suggested that owls respond to owl recordings broadcast by cell phones. This was not a foregone conclusion. Cell phone signals are tailored for the human voice and ear. When compressed and sent wirelessly, these signals contain only the bare minimum of information needed for humans to recognize and be satisfied with the sound. It wasn't clear before the pilot study how owls might respond to this format.

The Connecticut study also showed that the owl sounds within the signals channeled back were in large part

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Call and Response

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recognizable. Owl Project participants at MIT who listened to the cellular feedback heard almost the same percentage of owl calls as volunteers in the field.

Maine Points

With data supporting cell phones as a viable technology for counting owls, Joachim began collaborating with the Maine Audubon Society and its Maine Owl Monitoring Project (MOMP), led by Susan Gallo. The Maine census, in its fifth year, counts six species of owl.

This past spring, over 135 volunteers in central and southern Maine conducted the owl census for several weeks between midnight and 4 a.m. Professor David Potter and his graduate students from Unity, an environmental college in Maine, also contributed to the study.

Joachim and his collaborators tested the cell phones alongside volunteers doing conventional surveys. The volunteers were assigned to routes: each route has 10 survey points a mile apart along a wooded road. Whichever technique was used, the track for the smallest owl, the northern saw-whet, was played first, eventually working up to the track for the great-horned owl, which preys on other owls. If the great-horned owl track had been played first, none of the smaller owls would have responded.

Next spring, Joachim and MOMP plan to deploy 64 cell phones among volunteers. The extensive use of cell phones may lead to more accurate data.

Refining Owl Counts

Much like cell phone service providers, the server at MIT keeps records of the times and owl tracks that are broadcast, so there's no confusion between virtual owl sounds and the real thing. The owl count, however, is not as precise. An owl might travel a mile to follow the volunteers; responses at two different survey points might be from the same owl. It's also possible that playbacks at one survey point affect owls further down the route.

Part of Joachim's work on sensor systems will focus on how to distinguish Owl A from Owl B, in part by recognizing their individual voices. Cell phone technology may also be able to shed light on how playbacks affect owls at adjacent survey points by allowing for simultaneous recordings from multiple points for long periods of time.

Another task on the Owl Project's radar is estimating the hearing range of owls. This too could improve the accuracy of counts.

Collective Energy

Joachim and Maine Audubon want to engage people in reconnecting with nature. At the same time, they don't want to disturb the natural order unduly. Down the road, the cell phones might be configured to call back when they hear an owl, rather than having the server instigate the call and response.

Joachim's team has also been working on a web site for community collaboration. This would enable people at home to participate in the census, working remotely with volunteers in the field. Those at home could help count owls or provide other feedback through the web site.

As leader of the Owl Project, Joachim wants to better understand what's involved when a group of participants annotates and interprets a shared database. Related to this is his desire to discover how humans and machines can work together to do a better job – in this case, letting the owls of Maine tell us about their habitat.

To learn more about the Owl Project and MOMP, visit

`owlproject.media.mit.edu`

and

`www.maineaudubon.org/conserve/citsci/owl.shtml`

ACCORD Helps Faculty Teach with Technology

Faculty and instructors at the Institute can tap into multiple services and resources to leverage technology in their courses. To make these options easier to discover, ACCORD – MIT's Academic Computing Coordination group – recently revamped the Teaching with Technology web site at

`web.mit.edu/teachtech`

Here are some of the highlights.

- *Class Management Tools*. MIT offers a rich set of choices for communicating and collaborating with students. These range from tried-and-true email lists and discussion boards to class blogs and wikis. Stellar, MIT's course management system, makes it easy to build class web sites.
- *Multimedia, Software, and Digital Documents*. MIT offers many services for creating online course materials. Among them are video capture and editing, podcasting, webcasting, streaming media, web site design, educational software support, digital conversion, and e-reserves.
- *Learning Spaces*. At MIT you can find technology spaces designed for a variety of learning activities. These include electronic classrooms, collaborative spaces, Athena clusters, and the New Media Center.

About ACCORD

ACCORD brings together the many educational technology service providers that support teaching and learning on campus. Participants include ACCORD's core group – the Libraries, the Office of the Dean for Undergraduate Education (DUE), and Information Services and Technology (IS&T) – as well as the Office of Educational Innovation and Technology (OEIT), OpenCourseWare (OCW), and academic departments.

To find out more, visit the Teaching with Technology web site or request an ACCORD brochure by sending email to accord@mit.edu or by going to

`web.mit.edu/accord`

These sources also provide contact information for support and training.

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Mobile Devices at MIT: Windows Mobile and Palm OS

• Lee Ridgway

Today's mobile devices – smartphones and PDAs – have evolved technically to the level that they can be considered just another computer, running the most common applications, albeit in a small size and usually with a cell phone. The use of mobile devices is growing rapidly at MIT, and their popularity among faculty, staff, and students has created a demand for support that includes configuration for use within the MIT environment, along with troubleshooting. Complicating the delivery of support is the fast-changing landscape of the devices themselves and the carriers providing phone and data services to them.

In its development of support for mobile devices, IS&T recently concluded a release project that focused on

- the Windows Mobile and Palm OS platforms and operating systems
- email on these platforms
- the SyncML application for wireless synchronization with MIT's TechTime (for details, see page 7)

Palm OS

IS&T announced support of the Palm OS on Palm Treo devices in 2004. Palm devices were among the first of the smartphones with the capabilities needed by MIT users: handling of e-mail, synchronization with TechTime, web browsing, and handling of common file types. Subsequently, development and innovation of Palm OS by Palm, Inc., began to lag, which led to a lack of selection in devices and a declining interest from the phone and data-service carriers. This, coupled with the introduction of new devices and operating systems – primarily Microsoft's Windows Mobile – has led vendors in the U.S. and users away from Palm OS.

MIT still has a broad base of Palm OS users, and IS&T will continue to support current users for the foreseeable future. IS&T also wants to reassure existing users that there is no need to change devices in the near future. Given trends in the industry, however, IS&T does not recommend Palm OS for those purchasing a new mobile device.

The Palm Treo 750 runs on the Windows Mobile 5 Pocket PC operating system.

Windows Mobile

Microsoft released its first mobile-device operating system, Pocket PC, in 2000, followed by Windows Mobile in 2003. Since then, Windows Mobile has become one of the dominant mobile-device operating systems, with more and more carriers and device makers, including Palm, offering it. With each new release, Microsoft has made gradual improvements in its device software. Windows Mobile features mobile versions of Microsoft Office (Word, Excel, PowerPoint), and Outlook (email, contacts, calendar). Files for these and other applications can be exchanged between Windows and Mac OS X-based computers through synchronization applications.

IS&T recently announced support for Windows Mobile 5 and Windows Mobile 6. What may be a point of confusion is that each of these versions comes in two "flavors," and each of the two flavors, although essentially identical, has a different name. The main differences between the flavors is in the interface, as shown in the accompanying table, which also gives examples of models from various device vendors and carriers.

Which version and flavor of Windows Mobile you get will depend on the cell-phone carrier and device you select (see page 7 for more on MIT's preferred cell-phone vendors).

Windows Mobile offers several features of interest to MIT mobile users:

- A wide variety of Microsoft and third-party applications are compatible with MIT's applications.
- MIT certificates are supported.
- Wi-Fi connection to MITnet is supported on most Windows Mobile devices.
- MIT provides SyncML at no charge for synchronizing with TechTime.

Support

For help with Windows Mobile or Palm OS, contact the Help Desk at <computing-help@mit.edu> or 253-1101. For more information on Windows Mobile, Palm OS, and other mobile devices at MIT, see

`web.mit.edu/ist/topics/pda`

Under Evaluation at MIT: The iPhone and BlackBerry

IS&T is testing and evaluating Apple's iPhone and Research in Motion's BlackBerry (including the World BlackBerry) within the MIT environment. At this time, IS&T is planning to provide limited support for the iPhone and the World BlackBerry within the next few months. For the latest on support of these and other mobile devices at MIT, see

`web.mit.edu/ist/topics/pda/support.html`

Flavors of the Windows Mobile Operating System

Interface Flavor	Version and Name	Examples
Touch screen: tap the screen to operate the device, or use the keypad	Windows Mobile 5 Pocket PC Windows Mobile 6 Professional	Palm Treo 700wx Palm Treo 750 Sprint Mogul (PPC-6800) AT&T 8525 (HTC) Verizon XV-6700 T-Mobile Wing
Non-touch screen: control all operations through the keypad	Windows Mobile 5 Smartphone Windows Mobile 6 Standard	MotorolaQ Motorola Q9m T-Mobile Dash Samsung BlackJack

MIT Launches the Kerberos Consortium

• Stephen Buckley

On September 27, MIT launched the Kerberos Consortium, embarking on a mission to establish Kerberos as the universal authentication platform for the world's computer networks. The Consortium will permit greater participation by industry, academia, and the business community in the funding and development of Kerberos, allowing it to evolve into the universal single sign-on mechanism users need but do not yet have.

Paul Montie

Yesterday and Today

The Kerberos network authentication protocol was originally developed for MIT's Project Athena in the 1980s. It was released under an open-source license in 1987. Development continued after Athena merged with the former Information Systems, and has continued over the years under the aegis of Information Services and Technology (IS&T).

The Kerberos protocols invented and popularized by MIT have become fundamental building blocks of major desktop and server operating systems, core networking infrastructure, global file systems, global messaging systems, and much more. Even so, much work remains to be done.

After many years of developing Kerberos internally at MIT, it became clear that the needs and requirements of the wider Kerberos community exceeded the ability of MIT to fund future Kerberos development. The success of Kerberos has caused it to grow far beyond the original user community and the original scope of MIT's own Kerberos efforts. A wide variety of issues that are important to operating system vendors, application vendors, and end customers lie beyond what the Institute could reasonably afford on its own. However, with the support of other organizations, this effort will continue at the Institute under the umbrella of the MIT Kerberos Consortium.

The Work of the Consortium

While users need a secure single sign-on infrastructure that is ubiquitous, flexible, and unobtrusive, vendors and system administrators do not yet have the tools to provide it. Kerberos not only provides a single sign-on environment, but also has the potential to integrate other security frameworks (e.g., public key infrastructure) and password-less initial authentication mechanisms to form a complete solution across all aspects of the world's communication infrastructure.

The Consortium will develop and document open-source software to meet this vision. "We foresee a day when Kerberos-based authentication and authorization will be as ubiquitous as TCP/IP-based networking itself," says Sam Hartman, chief technologist for the Kerberos Consortium and the architect and manager of security services in IS&T. "We want to make Kerberos more useful and available than ever before."

As an example, Hartman notes that if Kerberos were available on mobile devices, it would be more attractive in the health care industry as a mechanism for securing privacy of health records. If made available to consumers, it could make electronic commerce less susceptible to phishing and identity theft.

Sponsors

Founding sponsors of the MIT Kerberos Consortium include Centrify Corporation, the Financial Services Technology Consortium, Google, Stanford University, Sun Microsystems, TeamF1, and the University of Michigan. The Consortium will also receive generous support from Apple.

More to Come

To keep up with Kerberos Consortium developments, including events and blog postings, go to

`www.kerberos.org`

This column presents announcements about IS&T-supported software. For more information about recent releases, see `web.mit.edu/swrt`

Update on the Status of Windows Vista at MIT

IS&T offers full support for Business-class editions (Business, Enterprise, and Ultimate) of Windows Vista *on new systems purchased with the Vista operating system*. If you decide to buy a Windows Vista machine, IS&T recommends that you select a system bundled with the Vista Business edition. This version provides more functionality than the Home edition, and it is easy to upgrade from the Business to the Enterprise edition. Note that you can't upgrade from the Home edition to Enterprise, and that the Home edition can't be a member of any Windows domain.

IS&T will continue to support Windows XP and does not recommend that you upgrade your existing system to Windows Vista at this time. Migrating to Vista is a very involved process that requires a lot of preparation and preplanning. The Vista Release Team (vista-release@mit.edu) will provide detailed migration guidelines for DLCs and individual users later this fall.

For full details on Vista support at MIT, go to

`itinfo.mit.edu/article.php?id=8544`

Maple 11 and Other Math Software

Maple 11 is now available for download from the Volume Site License Software page at

`web.mit.edu/ist/products/vsls`

Maple is an all-purpose analytical tool, powered by an advanced math engine. Maple lets you explore and visualize mathematical concepts, develop technical applications, and share information with the Web, Excel, MATLAB, and your own programs. Its worksheet environment lets you create professional reports, presentations, and interactive technical documents for teaching.

For more information about Maple and other math software packages, including MATLAB and Mathematica, see the Mathematical Tools at MIT page at

`web.mit.edu/ist/topics/math`

Risky Business: The Perils of P2P File Sharing

• Monique Yeaton

Most stories in the news about peer-to-peer (P2P) file-sharing focus on the copyright infringement lawsuits issued by the entertainment industry, notably by the Recording Industry Association of America (RIAA).

While most computer users have heard of these lawsuits, many are not aware that there are other risks associated with file sharing – the practice of swapping files over the Internet or private networks. According to Mary Engle of the Federal Trade Commission (FTC), "Although P2P technology confers significant benefits, such as allowing for faster file transfers, conserving bandwidth and storage requirements, and saving on maintenance and energy costs, it also has been associated with risks to consumers."

Imagine this scenario. Your employer provides you with a computer so that you can work from home. A family member gains access to this computer and installs P2P software. Suddenly all of your files – not just media files – are being shared around the world: email messages, employee data, tax returns, medical records, personal ID information, and more. This happened to a Pfizer employee earlier this year, affecting over 17,000 current and former employees of the pharmaceutical company.

These data leaks often occur due to a lack of understanding of how file sharing works. Depending on the P2P software you install and the settings you choose, you can inadvertently share files you don't intend to share – which any anonymous user may then stumble upon.

Recommendations

IS&T strongly recommends that users select the appropriate security settings after installing file-sharing software. IS&T also recommends running anti-virus and anti-spyware software, since shared files can contain viruses and spyware can come bundled with file-sharing programs. To learn more, visit the Onguard Online web site at

`onguardonline.gov/p2p.html`

Be Cognizant of Copyright

While most P2P software is legal to use, it's important to understand the difference between copyrighted and public domain material and to share responsibly. When in doubt about a file, it's best not to share it.

For more about the ins and outs of copyright, see the accompanying article below.

MIT Policy on Unauthorized Sharing of Copyrighted Material

• Tim McGovern

Most members of the MIT community are aware that in the past few years, companies in the entertainment industry have aggressively attempted to stop unauthorized downloading, copying, and sharing of music and video by college students and others. Community members may also be aware that unauthorized downloading and sharing of copyrighted materials can have serious consequences. A letter sent to MIT students this fall spells this out; for an online copy, see

`web.mit.edu/ist/topics/security/copyright/2007_letter.html`

Copyright Enforcement Activities

The Recording Industry Association of America (RIAA) acts as an agent for many major record companies. The RIAA monitors the Internet daily for unauthorized sharing of music. This monitoring allows the RIAA to identify Internet Protocol ("IP") addresses, but it cannot identify users of those IP addresses.

When the RIAA determines that an IP address has been used to violate its copyright, it sends a takedown notice – under the Digital Millenium Copyright Act (DMCA) – to Internet Service Providers (ISPs) requesting the ISP's registered agent to forward the notice to the user of that IP address. The notice describes the alleged unauthorized downloading and sharing of copyrighted files and requests that access to the infringing files be removed or disabled. Through the ISP, the RIAA also sends the user a pre-litigation settlement letter. If no settlement is made, the RIAA may file a copyright infringement suit against the user.

The RIAA has notified MIT and other universities of its intention to continue to sue students and staff for infringing their members' copyrights. As of the start of 2006, the RIAA has reportedly filed over 17,500 lawsuits. MIT believes this campaign will continue and expand. The RIAA maintains a web site about these lawsuits at

`www.p2plawsuits.com`

In addition to the RIAA, many other content owners, including the Motion Picture Association of America, send takedown notices under the DMCA for videos, movies, games, and software.

The View from MIT

Simply put, unauthorized downloading and sharing of copyrighted material is illegal, and contrary to MIT policy. MIT strongly discourages unauthorized downloading and sharing of computer files.

It has been MIT's practice to forward takedown notices to the users in question. However, MIT does not provide any identifying information to the content owner unless it is required to do so in response to a valid, enforceable subpoena for records.

For a statement of the Institute's policies, see the Copyright at MIT page at

`web.mit.edu/copyright`

How to Protect Yourself

What can you do to protect yourself from being sued by media owners? The simplest solution is to make sure that you don't place in your file-sharing folder any copyrighted materials that you don't have authorization to distribute. If you rip your CDs to your computer or download music from licensed retail music sites, don't keep these files in a publicly accessible folder.

Tech Tips: Smartphones Abroad

This column presents tips about computing. For more information technology Q&As, check the IS&T Stock Answers database at

`itinfo.mit.edu/answer`

Q I used my smartphone while traveling overseas to check email and browse the Web. On my return I got a bill for hundreds of dollars in data usage fees. How can I minimize these charges on my next trip?

A Using smartphones abroad can be costly both for voice and data roaming. While a typical traveler may be aware of how many voice minutes are used during the trip, monitoring data usage can be difficult.

Carriers charge about $0.02 per kilobyte (KB) of data for international roaming. Downloading 10 megabytes (MB) of data would cost $200. With some devices giving access to the full content of web sites (e.g., Apple iPhone), it it is not difficult to download 100MB in a short period of time, resulting in a $2000 charge.

Here are some ways to minimize costs during trips outside the U.S.

1. *Check with your carrier and sign up for international data roaming service before the next trip.* Some carriers offer a discounted international data roaming service for smartphones. For some devices, the carrier may offer either bulk data access (e.g., 20MB) or unlimited data access for a fixed monthly fee.
2. *Consider switching to a smartphone with built-in Wi-Fi.* Use Wi-Fi instead of cellular data connections as much as possible during the trip. There are many smartphone devices that include Wi-Fi capability (e.g., Verizon XV6700, Sprint Mogul, AT&T 8525, T-Mobile Dash).
3. *Minimize data download.* For email, configure the setting to download only the headers and then download only the messages you want to read in full. Avoid downloading large attachment files.

   For web browsing, use sites designed for mobile viewing. For example, the regular *New York Times* home page may contain 600KB of data, whereas the mobile version will contain 30KB. Use mobile portal sites (e.g., `mobile.palm.com`, `google.com/m`) to access popular mobile sites.
4. *Don't stream video, audio, or other large files over a cellular data connection.* Make sure to use Wi-Fi when you need to download large files.

Note: IS&T is evaluating World BlackBerry devices. Most carriers offer unlimited international data roaming service for World BlackBerry devices for a fixed price (~$70/month).

Computer Currents

N42 Audit Will Help Power Energy Savings at MIT

• Laxmi Rao and Robyn Fizz

Located on the corner of Massachusetts Avenue and Smart Street, MIT Building N42 houses key IS&T services, including the Hardware and Software Service Center. For the next year, N42 will also be the site of an energy audit and student research project in building technology systems. Sponsors include the MIT Energy Initiative's Campus Energy Task Force, the Department of Facilities, and IS&T.

A Brief History of N42

The brick building dates back to 1904, when it served as a laundry. In 1948, N42 housed Project Whirlwind, which developed the first large-scale, real-time digital computer. Later the building was occupied for many years by MIT Graphic Arts.

MIT undertook a major renovation of N42 in 1998 to create offices and open-layout work areas for IS&T staff. The 32,597-square-foot building is now home to 94 staff and 5 students.

Project Goals

Professor Leon Glicksman, co-chair of the Campus Energy Task Force and head of MIT's Building Technology Program, notes that buildings consume about 40 percent of all energy and over two-thirds of electricity used in the U.S.

The goal of the N42 audit is to identify strategies to reduce energy use in the building and to increase energy efficiency through improved operations and control of equipment. Key deliverables include

- A baseline of energy-use metrics and conversion-to-carbon footprint data
- A description of the building design and systems control
- Creation of an occupant thermal-comfort survey to collect data on perceived temperature and air quality
- An inventory of computer equipment and other plugged-in devices
- Documentation of the energy audit methodology
- Recommendations for improvements and best practices that can be used in other buildings
- Support for student research

Measuring End User Comfort

As a first step, MIT doctoral student Stephen Samouhos will evaluate an area in N42 occupied by five IS&T staff. He will collect data from temperature, daylight, and power use sensors from a commercial vendor, in parallel with more experimental sensors that don't need wiring. These data will measure the effectiveness of existing control systems. The study will also compare the sensor data with the perception of local variations in temperature by building occupants.

Collaboration

The N42 energy audit is a joint effort led by Peter Cooper (Facilities) and Laxmi Rao (IS&T). In addition to the active participation of four graduate students, the project is being supported by a Sustainability UROP and staff from Facilities and IS&T.

Stay tuned for progress reports about the N42 audit: these will eventually be posted on the IT Energy@MIT Initiative page at

`web.mit.edu/ist/initiatives/it-energy`

Preferred Cell Phone Vendors Have the Best Offerings

• Piedad Valencia

The MIT community can take advantage of discount pricing on cell phone service plans, equipment, and accessories. Special rates are available for departmental and affiliate purchases, as well as for employee and student personal purchases. The discounts apply to both existing and new cell phone service plans.

Available Plans

IS&T and Procurement have selected Sprint/Nextel and Verizon Wireless as preferred vendors. Preferred-vendor relationships indicate not only special pricing, but the highest quality in customer service and functionality.

If neither Sprint/Nextel nor Verizon Wireless can meet your service requirements, MIT also has relationships with AT&T (formerly Cingular) and T-Mobile. AT&T also offers discount pricing.

For an overview of plans, go to the Cellular Telephones web page at

`web.mit.edu/ist/topics/telecommunications/cellphones.html`

From this page, you can also compare discounts for services across vendors, for Institute or personal use, by selecting the *discount page* link.

If you have questions about the cell phone plans offered through MIT, call Catelin Matos in Procurement at 253-8345 or send mail to <cmatos@mit.edu>.

Donating Used Cell Phones

If you're upgrading to a new phone, plan to repurpose your old one. Sprint/Nextel account holders may donate their phones back to the company. The Verizon Wireless HopeLine program distributes previously owned Verizon phones to victims of domestic violence. For more information, see

`web.mit.edu/ist/topics/telecommunications/disposal.html`

International and Rental Options

All major cell phone carriers offer international cell phone service, but provide it in different ways. Sprint/Nextel, for example, offers international roaming service through GSM or WCDMA (Japan) phones. Verizon Wireless provides a Global Phone.

In addition, IS&T offers the MIT community cell phone rentals through Verizon Wireless – for domestic or international use. For more information, contact the IS&T Telephone Customer Service Center at 253-3654 or <telecom-csr@mit.edu>, or visit the Cellular Telephone Rental Rates page at

`web.mit.edu/ist/tel/cell-rates.html`

IS&T and Procurement have also negotiated an agreement with MobileSphere CellularLD to provide MIT staff and students with reduced international per-minute rates for calls made from registered cell phones. CellularLD services, provided on a prepaid basis, are for calls originating in the U.S. and 16 other countries. For details, see the Cellular Telephones web page.

SyncML: Bringing TechTime and Mobile Devices Together

• Lee Ridgway

IS&T continues to develop support for mobile devices at MIT. As part of this effort, IS&T now supports SyncML, from Synthesis AG, for wireless synchronization of MIT's TechTime calendar with mobile devices running Windows Mobile or Palm OS. SyncML works with many mobile devices and groupware applications as an interoperable, vendor-independent way to keep data synchronized.

Synchronization through SyncML is done via either the device carrier's data network, or a Wi-Fi connection if that is supported by the device. No connection to a laptop or desktop computer is necessary. SyncML on a mobile device is designed to synchronize with any compliant SyncML server, which includes Oracle Calendar, on which TechTime is based.

To encourage use of SyncML at MIT, IS&T is making 500 licenses available to members of the community at no charge, on a first-come, first-serve basis. The version being distributed is SyncML Client STD Version 3.0 for Windows Mobile or Palm OS. To request a copy, go to

`web.mit.edu/mobile2/www`

You can install SyncML directly onto your mobile device using the device's web browser. SyncML can also be installed through device-synchronization software installed on your computer.

Feature Support: Yes and No

IS&T tested SyncML Client STD Version 3.0 on a variety of Windows Mobile and Palm OS devices, from several different carriers, synchronizing with TechTime. From this testing, IS&T determined that one-way or two-way synchronization of calendar events and notes works consistently. Testing did reveal issues with synchronizing tasks and contacts in TechTime. Accordingly, at this time, IS&T fully supports synchronization of calendar events using SyncML, but can provide only best-effort support of task and contact synchronization.

Key Considerations

When setting up and using SyncML, keep the following in mind:

- Make sure your data connection is available before synchronizing.
- Mixing different methods of synchronization, such as Oracle Palm Sync, Palm Desktop, and SyncML, will result in the loss or duplication of information.
- When setting up SyncML, be reasonable in setting the date range for synchronizing the calendar (e.g., 30 days before the current date and 90 days after). The larger the date range, the longer it will take to synchronize.

Support

For installation and configuration instructions and details about known issues, visit the SyncML at MIT page at

`itinfo.mit.edu/product.php?name=syncml`

To learn more about mobile devices, join the Mobile Partners User Group. The group maintains a web page at

`web.mit.edu/mobilepartners`

If you have questions about using SyncML, contact the Computing Help Desk or send email to <mobile-help@mit.edu>.

Getting Help

If you don't know where to get help for your computer, network, or telephone problems, dial one of the help lines listed to the right.

If you prefer to use email, you can send your questions to the corresponding email addresses on the far right. (When logged into Athena, you can also use the `olc` command to send questions to Athena's online consultants.)

You can also submit a question online via the Request Tracker link on the Getting Help page at

`web.mit.edu/ist/help`

For help with…	Dial…	Or send a message to…
General computing questions Macintosh, Windows, network/ connectivity, business applications, computer buying advice, repairs	253-1101	computing-help@mit.edu
Athena Computing Environment	253-4435	olc@mit.edu
Disabilities and computing	253-7808	atic@mit.edu
Telephone and voice mail services	253-3670	telecom-csr@mit.edu
Telephone repairs	253-4357	3help@mit.edu
Unix/Linux	253-1103	unix-linux-help@mit.edu

Surf Sites: Call of the Wild

In collaboration with Maine Audubon, the Media Lab's Owl Project brings high tech into the woods (see lead article). Using cell phones to track owls in the wild may not seem like the most natural thing in the world, but nature conservancy is central to the work.

While most nature-oriented web sites don't have a high-tech angle, many have a science focus – reflecting the long, rich tradition of scientists studying nature for insights into the web of life. Some of the sites on the right offer field guides and science lessons, others offer nature photos or conservation tips. Take a walk on the wild side and discover how you can do your part.

Cornell Lab of Ornithology
`www.birds.cornell.edu`

eNature – America's Wildlife Resource
`www.enature.com`

National Audubon Society
`www.audubon.org`

National Geographic – Animals
`animals.nationalgeographic.com`

Nature Conservancy
`www.nature.org`

Nature of New England – Birds, Butterflies, Mammals
`www.nenature.com`

World Wildlife Fund
`www.worldwildlife.org`

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