Can't Get to the Lab? Let the iLab Come to You!

• Lee Ridgway

For engineering and science students, hands-on experience in laboratories provides tremendous educational value. Ideally, a student lab would use state-of-the art equipment like that found in the real world. It would also have multiples of the same equipment, so that all of the students could have timely access to the equipment and materials needed to get their lab work done. That is why educational institutions go to the expense and trouble of setting labs up for their students.

That expense – space, equipment, safety measures, maintenance, and support – is why schools usually don't have as many labs as they would like. This is where the Web comes in, as it has in so many other educational innovations over the past ten years. And this is where Prof. Jesus del Alamo, of Electrical Engineering & Computer Science (EECS), comes in with iLab, an iCampus project to develop remote, online laboratories, or WebLabs. Project leaders for iLab are Prof. del Alamo and Prof. Steve Lerman, Director of the Center for Educational Computing Initiatives (CECI).

Prof. del Alamo teaches the EECS undergraduate course on introductory microelectronics (6.012), which usually enrolls over 100 students whenever it is offered. Traditionally, this course

lacked a lab component, due mainly to the costs and logistics involved for a lab with that many students. Looking for a way to integrate the theory learned in class with the practical experience of lab experimentation, del Alamo conceived the idea of a lab setup that students could access remotely, over the Web, from their own computers at any time. Thus was the MIT Microelectronics WebLab born. First used in del Alamo's class in 1998, it became the basis for other remote labs under the umbrella of iLab, an iCampus project that Prof. del Alamo launched in 2000.

The Microelectronics WebLab is for performing current-voltage measurements on microelectronic devices such as transistors. In 2001, Prof. Clark Colton in Chemical Engineering developed a heat exchanger WebLab that lets students explore the basic thermal dynamics of heat exchange. One of the more unusual early iLabs was the instrumentation of a flagpole in Killian Court by a group from Civil and Environmental Engineering, led by Assoc. Prof. Kevin Amaratunga. The purpose was to study the behavior of the flagpole as it responds to wind, as part of a course on the engineering of structures.

Phase One
In the first phase of iLab, each design and development project was very much a custom job. The components and architecture of a first-generation iLab were built specifically for it by the specialists in that particular disci-

pline. With such a development process there was very little code from one project which could be recycled into the development of another project.

Early on, the iLab project leaders knew that this was not an efficient development process and way to move iLab into wider use, so they turned their attention to developing a shared architecture that would provide a stable, sustainable infrastructure, with more interchangeable components.

iLab Shared Architecture

Under the Shared Architecture scheme, the design of a WebLab is separated into three distinct parts.

- The Lab Server is connected to the lab equipment and deals with the actual operation of the equipment.
- The Lab Client is installed on the student's computer and is the interface to the operation of the lab.
- The Service Broker connects the Lab Server and Lab Client over the Web. In addition to communications, the Broker provides data storage and administrative services – such as user authentication – that are common to multiple WebLabs within the hosting institution.

In the Shared Architecture development process, there is a clear division of labor. The lab specialists deal only with the lab-specific Server and Client components, while the functions generic to all WebLabs are handled by the Service Broker. One clear advantage of this scheme is that students in the hosting institution need login only once to get to all of the WebLabs for which they are authorized. The Shared Architecture framework is being developed under the leadership of Dr. Judson Harward of CECI.

Del Alamo's Microelectronics Web-Lab was redeployed in February 2004 in the iLab Shared Architecture. Also within EECS, a dynamic signal analyzer was developed from scratch, in nine months, by lecturer Kurt Lundberg and grad student Gerardo Viedma using the iLab Shared Architecture. This WebLab made its debut last fall in a class on feedback systems (6.302). As an indication of iLab's diverse possibilities, other Web-Labs at MIT include the real-time study of polymer crystallization through a remotely operated optical microscope, developed by a group working under Prof. Gregory Rutledge, in Chemical Engineering. Then there is the shake table, developed under the direction of Prof. Eduardo Kausel, in Civil and Environmental Engineering, for studying how models of buildings behave in a simulated earthquake.

iLab's innovation is not confined to MIT. Through del Alamo's efforts, and publication of class materials on MIT's OpenCourseWare, word of iLab is spreading around the world. For example, the MIT Microelectronics WebLab is being accessed from Singapore, Sweden, Greece, Taiwan, and Africa. Last fall saw the initial open-source release of the iLab Shared Architecture code and the first installation of the iLab Service Broker outside of MIT – at Makerere University in Kampala, Uganda.

Making the Grade

What does a WebLab mean for students? In del Alamo's class, assignments that involved the WebLab were done at a much higher rate (about 95%, with significantly higher average grades) than assignments done with pencil and paper (about 80%). With WebLab, the excuse of not being able to get to the lab no longer applies!

To Learn More

For an in-depth look at iLab, see

`http://icampus.mit.edu/iLabs/` ✇

Enterprise Architecture Guide Documents MIT Standards

The Information Technology Architecture Group (ITAG) is responsible for defining, maintaining, improving, and communicating MIT's information technology architecture. Recently, the group published the first version of MIT's *Enterprise Architecture Guide (EAG)* at

`http://web.mit.edu/itag/eag/`

The *EAG* documents MIT's architectural principles and goals, the current state of the enterprise architecture, a future-state vision, and the ITAG architectural consultation process.

Audiences

The *EAG* strives to provide information to several audiences:

- By learning about recommended technical standards, *project teams* can re-use existing applications and create new ones that fit into MIT's long-term architectural vision.

- *Sponsors* can gain an understanding of the technical direction of the Institute as well as the Architectural Governance Process. This knowledge can be used to shape decisions regarding IT investments.

- *Departments, Labs, and Centers (DLC) leadership* can use the *EAG* to spot potential risks in IT projects, and to identify individuals to help mitigate those risks.

- *ITAG members* will use the *EAG* during the project review process to provide a consistent representation of the context and principles of both the current and future state.

Getting in Touch

Since the *EAG* is an evolving document, feedback from the community will help shape ITAG agendas and influence content in future versions of the *EAG*. ITAG expects to update it on a quarterly basis.

If you have comments or questions about the *Enterprise Architecture Guide*, send mail to <itag-eag@mit.edu>. ✇

IS&T Now Supports E-Mail, TechTime on Mobile Devices

• Kyle Pope and Lee Ridgway

Information Services and Technology (IS&T) recently launched support for accessing e-mail and TechTime calendar services on PalmOS-based mobile devices. This support begins to address the needs of the MIT community with respect to the variety of mobile devices, vendors, and applications available today. IS&T is not currently supporting devices based on operating systems other than PalmOS, such as PocketPC, Linux, and Symbian.

IS&T can help PalmOS users configure either of two e-mail clients, VersaMail 2.7 and higher, and SnapperMail 2.1. This is in addition to the support already in place for the Oracle Calendar Sync for Palm conduit to connect to the TechTime calendar.
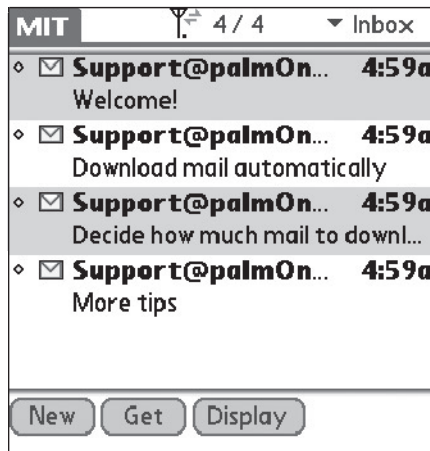
VersaMail

The VersaMail application is from PalmOne. VersaMail 2.7 and higher fully meets MIT's security requirements. It uses Secure Socket Layer (SSL) protocol and supports Simple Mail Transfer Protocol (SMTP) authentication. Version 2.7 can't do scheduled mail retrieval from an SSL server, but 2.7.1 and 3.0 can.

The version of VersaMail you will use depends on your device. The Palm Zire 72 comes with VersaMail 2.7 on the CD supplied with the device. The Treo 600 can also use version 2.7, but it does not come with the device. It's available from PalmOne for $29.99. The Tungsten T5 comes pre-installed with VersaMail 2.7.1, and the Treo 650 with VersaMail 3.0. VersaMail 2.7.1 and 3.0 are included as part of the purchase price of the Tungsten T5 and the Treo 650, respectively.

SnapperMail

SnapperMail 2.1 from Snapperfish is a device-independent application that can run on any device using PalmOS 3.5 or higher. SnapperMail fully supports SSL connectivity and SMTP authentication.

SnapperMail is not included on any device, but can be purchased separately. IS&T has negotiated a discounted price ($44.96) from the vendor for MIT affiliates.

This VersaMail screen displays the basic interface of an Inbox on a PDA.

You can reach the VersaMail and SnapperMail web sites via the PDA/Mobile Devices at MIT page at

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

Click on the link for the version of the e-mail software that you are using.

Making the Connection

To use MIT e-mail services, mobile devices need a way to connect to MITnet. That may be through an 802.11 wireless (Wi-Fi) connection, as is built into the Palm Tungsten C or available as an additional card with the Palm Tungsten T3, Tungsten T5, or Zire 72. Or the connection may be cellular, as part of a cell phone/PDA device such as the Treo 600 or Treo 650.

To connect a Wi-Fi PDA to MITnet your PDA must have

• either an integrated or a plug-in 802.11b/g communications interface

• a web browser capable of connecting to secure web sites

• an MIT username and password

For instructions on how to register your PDA for wireless networking, see the PDA/Mobile Device Support at MIT page at

`http://web.mit.edu/ist/pda/support.html`

Note: To sync with TechTime, you will need to connect your mobile device directly to your computer (see box).

Getting Help

If you need assistance configuring or troubleshooting e-mail or TechTime synchronization on a PalmOS device, contact the Computing Help Desk at <computing-help@mit.edu> or 253-1101. Help Desk staff will work closely with other teams in IS&T to meet the PalmOS support needs of the MIT community.

Due to the complexity and variability of PDAs, IS&T cannot offer device-specific help, except for supported applications. For basic PDA operations (e.g., synchronizing with the desktop computer, installing software), you will be best served by consulting the vendor's printed documentation, web site, and customer assistance facilities; user groups can also help. ✖

TechTime Calendar Synchronization

To synchronize your TechTime calendar with your PDA, IS&T supports the Oracle Calendar Sync for Palm conduits for Macintosh OS X and Windows. This application replaces the Date Book function of the Palm Desktop application and redirects to your TechTime calendar. The Windows version also supports synchronization of the Address Book and Task Lists.

Calendar Sync for Palm is available as a free download (MIT personal certificate required) from the MIT Software site at

`http://web.mit.edu/software/`

For details on Palm synchronization, including system requirements, see

Mac OS X
`http://itinfo.mit.edu/product?vid=616`

Windows
`http://itinfo.mit.edu/product?vid=617`

For information on the TechTime service, including how to activate your free account, go to

`http://web.mit.edu/ist/services/calendaring/techtime.html`

Virtual Private Network Improves Off-Campus Connections

• Tim Brennan

Information Services and Technology (IS&T) recently released Virtual Private Network (VPN) 4.6 to assist MIT users with connectivity to MITnet from off campus. This software, from Cisco Systems, works with MIT's VPN to provide a way to work through various port blocks and other things that Internet Service Providers (ISPs) have done to protect their subscribers and prevent spam, virus outbreaks, and other network abuse. These measures often interrupt or prevent legitimate work from happening. The MIT VPN can help resolve a number of problems associated with e-mail, Windows file sharing, and other network-based applications without needing to determine which measures your ISP has implemented.

Put another way, VPN provides a consistent set of policies for Internet connectivity regardless of where you are connecting from.

Basic Features and Requirements

IS&T supports VPN 4.6 on the Windows, Macintosh, and Linux platforms. This new version includes an MIT Profile to facilitate connecting to MIT's VPN. The profile is installed automatically by MIT's custom 4.6 installer. VPN 4.6 also uses the Kerberos principle for authentication; you don't need a separate VPN password.

To use VPN 4.6, your setup must include

• 50MB of disk space
• TCP/IP
• A high-speed network (e.g., cable or DSL) or dial-up connection
• A Kerberos username and password
• Administrator privileges
• A single interface FastEthernet network adapter (multiport adapters are not supported)

Known Issues

In testing VPN 4.6 in the MIT environment, IS&T has identified a few issues, including the following:

• If you haven't changed your Kerberos password in more than three years, you will need to change it before you will be able to connect to MITnet via the VPN.

• When connecting to the VPN, all network connections will be severed for a few seconds. Programs that rely on a persistent network connection (e.g., instant messaging, MIT TechTime) may lose their connection, and you may need to manually reconnect them. IS&T recommends that you close any open applications before launching VPN.

• Starting or stopping VPN will disrupt existing Secure Shell (SSH) sessions. This happens because the VPN changes your computer's IP address. Make sure you log out of any SSH sessions before starting or stopping the VPN.

• When connected to MITnet via the VPN, you may experience some degradation in performance. This will depend on the speed and type of your network connection, and what the VPN service allows.

• On reconnecting to the VPN from off campus, you may be prompted for Kerberos 4 tickets even though you've already obtained them. You may also see a "Lost contact with the security gateway" error message. When the VPN connection starts, the IP address list on the machine will change, which may invalidate the tickets. If the tickets can't be renewed automatically, you will be prompted to obtain new tickets.

For a complete list of issues identified at MIT, as well as a link to issues identified by the vendor, see

http://itinfo.mit.edu/article?id=7432

Support

You can access the Virtual Private Network at MIT page at

http://itinfo.mit.edu/product?name=vpn

It links to a summary page for each platform that includes information on how to obtain and install VPN.

VPN 4.6 provides an extensive online help facility. To access this, choose **Help VPN Client** from the application's **Help** menu.

If you need assistance installing or using VPN, or in determining the age of your current Kerberos password, contact the Computing Help Desk at <computing-help@mit.edu> or 253-1101. ✿

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

IS&T Releases Oracle Connector for Outlook (OCFO)

OCFO is an add-in for Microsoft Outlook Professional that enables Outlook users to access and manage their TechTime calendars, task lists, notes, and contacts through the Microsoft Outlook interface. Note that you need an active TechTime account to use this product. If you haven't already done so, you can activate your TechTime account at

https://calendar.mit.edu/register/

The installation process for OCFO is complex, so it's important that you thoroughly review the installation instructions and follow them exactly. If you have a departmental IT administrator, IS&T recommends that you contact this person for assistance. You can find information on downloading and installing OCFO on the Oracle Connector for Outlook at MIT page at

http://itinfo.mit.edu/product?vid=652

For assistance with OCFO, contact the Computing Help Desk at <computing-help@mit.edu> or 253-1101.

Support for OpenOffice 1.1.0 for Linux

IS&T now supports OpenOffice 1.1.0, which ships with Red Hat Enterprise Linux 3.0 and is installed by default. This productivity suite, a work-alike for Microsoft Office, enables Linux users to create documents, spreadsheets, drawings, and presentations.

As part of the OpenOffice release effort, IS&T tested document compatibilities with different versions of Microsoft Office. Not all features are implemented, and fonts and spacing rarely translate properly. For details on what is and is not supported in file exchange between the two suites, see

http://itinfo.mit.edu/answer?id=7511

For more information, see the OpenOffice at MIT page at

http://itinfo.mit.edu/product?name=openoffice&platform=Linux

If you need assistance with OpenOffice, contact Athena Consulting at <olc@mit.edu> or 253-4435. ✿

Yikes, I've Lost My PDA: Consider the Consequences!

• Linda A. LeBlanc

Many of us rely heavily on mobile devices – such as PDAs and cell phones – to provide record-keeping, note-taking, and scheduling at a moment's notice, in any location. If and when your device goes missing, you'll probably experience a rush of panic.

What's really at risk? Unless you back up your data to some other device or drive, you stand to lose your contact list and appointment calendar, and whatever other data you've created or downloaded – such as sketches, notes, and digital photos.

Let's take this scenario a step further. If you leave your mobile device on a train, bus, or plane, or in a public place, someone else is likely to find it. You may get lucky, and have it returned to you. But what if someone less ethical finds the device? He or she may call relatives in another country with your cell phone or auction off your PDA on eBay.

But wait! Were all your usernames and passwords on the missing PDA? What about your bank account or credit card numbers? If someone scoops up your mobile device, will you be an easy target for identity theft?

Playing It Safe

With most mobile devices, you can protect data in two different ways:

• backups, so that you can recover data

• password protection or encryption, to make sure that no one else can use your mobile device or view the information on it

With PDAs, you can back up to your desktop or laptop computer; while synching, take the time to eliminate duplicate or unnecessary data. For cell phones, contact the vendor for the preferred backup method. No matter what kind of device you have, be sure to back up often.

If you want to protect data from prying eyes, turn on the device's password protection. If, in addition, you want to be sure that your messages are safe from network eavesdropping, you can use encryption software. Check with the vendor or do your own research to find out what encryption packages work with your device.

Be aware that both password protection and encryption have a single point of failure. If you forget the password, there is no hope of recovery. The data is safe from everyone, including you.

Given the risks, it's important to think in advance about the implications of losing your mobile device. If you don't want to use password protection or encryption, you won't want to keep passwords, credit card numbers, or bank account numbers on your mobile device. On the other hand, it is reasonably safe to use your mobile device to store business and personal contacts, notes, and appointments – as long as that data isn't confidential. ◙

Computer Woes? N42 Service Center Is at the Ready

• Robyn Fizz

Last fall, Information Services and Technology (IS&T) launched a combined Hardware and Software Service Center in Building N42 for repairs, consulting, and troubleshooting. With continued staff cross-training and a new simplified pricing structure, this single "front door" at 211 Massachusetts Avenue makes it easy for members of the MIT community to get expert diagnosis and help. You don't need to know whether your computer woes are caused by a hardware malfunction, software conflicts, corrupted operating system, virus – or a combination of factors.

How It Works

Call the Computing Help Desk at 253-1101 to talk to a consultant before bringing your computer to N42. Depending on the nature of the problem, a phone call may be able to save you the trip. If not, you can make an appointment for an in-person consultation or a drop off.

Note: If you prefer, IS&T will pick up equipment from on-campus Institute offices, with a turnaround time of one to two days. There is a $35 fee for pick-up and delivery.

When you arrive at N42, a Help Desk consultant will ask you a series of diagnostic questions about your computer. There is no charge for the first 15 to 30 minutes you spend with the consultant. If the problem has not been resolved in that time, you can choose to leave your machine at the Service Center for repair.

At this point, you will be charged billable rates ($60 an hour plus the cost of any parts). Most jobs are fixed in an hour, though some, such as data recovery, take longer. There is no charge for work on hardware under warranty – although you will need to bring proof of warranty. Since applications do not come with warranties, any software-related work is billable (for example, installing an operating system and patches – even if on a new hard drive).

Payment is due in full upon completion of the repair. You can pay using an MIT Cost Object (account number) for Institute computers, or by check, Visa, or Mastercard.

Getting Down to Specifics

Vendor-certified Service Center staff diagnose and repair Institute or personally owned Apple, Dell, and IBM computers, as well as selected HP computers and printers. Work on equipment from other vendors is done on a "best effort" basis. Typical jobs include replacing parts and installing upgrades, doing system tune-ups, and defragmenting hard drives. The Service Center also sells maintenance agreements for HP laser printers.

On the software side, Service Center staff repair or reinstall operating systems, recover data, remove viruses, and install MIT-supported software.

The Full Story

For more details on these services, see the Computing Help Desk page at

`http://web.mit.edu/ist/helpdesk/` ◙

This column presents tips about computing. If you have a question you would like to see answered here, send it via e-mail to <techtips@mit.edu>.

For more information technology Q&As, check the IS&T Stock Answers database at

`http://itinfo.mit.edu/answer/`

IS&T is now offering limited support for e-mail and calendaring on PalmOS mobile devices. Here are some Q&As to help you get started.

Q What are some things I should consider before purchasing or upgrading to a new PDA?

A There are many issues to keep in mind when buying or upgrading to a new mobile device. However, two of the biggest concerns are usability and compatibility. Before you even start looking at devices, you should give a lot of thought to how you intend to use one. For example, are you just looking for an organizer or is checking e-mail while out of the office an important feature for you? Also, where will you be using your device most of the time? In your office (where there might be Wi-Fi access) or out in the field (where a cellular Internet connection would be preferable)? Once you've answered these questions, ask around to see how others are using their PDAs. This way, you will have absorbed a great deal of valuable information before you go to try out models at the store.

You should also be concerned about compatibility with your primary applications. Compatibility varies from device to device and also depends on the version of the operating system the device uses. Existing applications may not be fully compatible with the newest PDA on the market. For example, the enterprise-level software you may be using to synchronize your calendar with your current PDA may not be compatible with the cutting-edge device that was just released.

Q How do I register a PDA with 802.11b wireless (Wi-Fi) for use on the MIT network?

A The general instructions for registering your PDA for wireless access to MITnet are as follows:

1. Find a spot on campus with a strong MITnet wireless signal.
2. Your PDA should see a wireless network called "MIT"; connect to it.
3. Once connected, open an SSL-enabled web browser on your PDA and go to any web page (for example, `http://www.google.com/`).
4. You should be redirected to MIT's network registration page.
5. Click on the appropriate link (Faculty, Staff, Student, or Visitor) and follow the instructions to register.
6. After your device is registered, wait 15 minutes and turn off the wireless interface, then turn it back on.

You can find more detailed information at

`http://itinfo.mit.edu/answer?id=7366`

and

`http://web.mit.edu/ist/topics/pda/` ⊘

MIT Gets Fit, and Technology Keeps Track

• Kim Schive and Robyn Fizz

What's the latest craze at MIT, involving over 1200 community members for a 12-week period? You don't have to be a rocket scientist to guess the answer: getfit@mit.

Spearheaded by MIT Medical with support from several sponsors, getfit@mit is helping participants harness the benefits of positive peer pressure through a three-month, team-oriented fitness challenge. The goal is to foster a healthier MIT by encouraging participants to exercise at least 30 minutes a day, five days a week.

Activities got under way the first week in January, with a roster of 173 teams with five to eight members each. Team names range from the prize-winning Darned Nice Abs (DNA) to Fat Chance. A spotlight on the MIT home page gave the program a high profile and helped boost enrollment.

Teams are participating in individual or group activities of their own choosing, with members keeping track of their individual minutes. Team captains submit time totals each week, and an online database maintains individual records and calculates an average for each team. You can sort rankings by team or individual. Participants are also able to link to fitness resources, message boards (MIT personal certificate required), and an events calendar through the web site at

`http://getfit.mit.edu/`

Events have ranged from tunnel walks to Take the Stairs Day. Fitness resources include maps of local walking routes and links to useful health and exercise web sites (for these and more, see Surf Sites on page 8).

Promoting Fitness with a Boost from IT

One key element that makes it possible to offer a program as popular as getfit@mit is the technology behind the scenes. Substantial support has been provided by two Information Services and Technology (IS&T) teams: Web Communications Services and Data Center Operations Services.

A custom-built web application logs minutes in a MySQL database and generates reports. (By the program's third week, well over one million "getfit" minutes had been logged!) This web application lives on an Apple Xserve G5 server housed in the W91 Data Center.

In addition to building the application, IS&T is donating both first line technical support and server hosting and maintenance for a year. Technical support has ranged from letting teams change their names to developing personalized team and individual reports.

Getfit@mit also takes advantage of the Stellar course management system to organize resources and host its message boards. Stellar was developed and is maintained by Academic Media Production Services. To learn more about Stellar, see

`http://stellar.mit.edu/` ⊘

MIT Offers a Range of Online Publishing Resources

• Bara Blender

Whether you're working on a brochure for a new program, giving a PowerPoint presentation, or updating the look of your web site, check out MIT's online publishing tools. These tools can save you significant time and effort, and provide insights on how to prepare clear, effective communications. The Publishing Services Bureau (PSB) and other communications professionals across the Institute have developed these resources for the community.

Business Templates and Logos

You can download professionally designed PowerPoint and Word templates from the MIT Graphic Identity web site at

`http://web.mit.edu/ graphicidentity/downloads/`

The templates, formatted for both Windows and Macintosh, are intended for more than external purposes; you can also use them for internal memos or presentations to create a consistent, professional look.

The PowerPoint templates are offered in three color options designed to enhance readability in various viewing environments. If you are already working with a PowerPoint template but would like to include the MIT logo, two footer choices are available.

The Word templates follow the three design options for official MIT stationery and are formatted for use with either preprinted or blank letterhead and envelopes. On the templates for use with preprinted letterhead, the margins are preset; the text is automatically positioned in relation to logos, headers, and footers. The ECAT stationery web site at

`http://web.mit.edu/ecat/ minutemanpress/`

takes you through the steps of ordering preprinted, official MIT stationery online. The templates for use with blank paper can be customized for fax cover sheets and PDF memos as well as for departmental and personal letterhead.

You can also download the MIT logo from the Graphic Identity web site. The logo comes in specific file formats for print and the Web, each with several variations in color and layout. The Logo Lab wizard shows how various color combinations of the logo will look against your specific web site background colors and generates programming code for the chosen logo colors.

This is one of six logo styles available from the MIT Graphic Identity web site.

MIT Image Library

PSB maintains a photo library at

`http://web.mit.edu/psb/resources/ photographs.html`

that features images of campus buildings and students in classrooms and laboratories. The images can enhance your messages and may be used in a variety of publications, such as brochures, event posters, web sites, and PowerPoint presentations. The photos are available for a fee of $20 each, which supports periodic additions to the collection.

PSB is exploring solutions for a more robust system that includes search options by various criteria, including subject matter, photographer, and date. Many departments at MIT maintain their own photo collections, and the new system would enable departments to share certain images while keeping others for their internal use only. You can visit the Image Library web site at

`http://web.mit.edu/psb/imageteam/`

and share your suggestions about desired features and functionality.

Web Guidelines

If you are about to create a web site or would like tips on maintaining one, the Web Publishing Reference pages at

`http://web.mit.edu/ist/web/ reference/`

are a good start. They provide guidance on ensuring cross-platform compatibility, usability, and accessibility; using MIT-specific tools such as the search engine and custom events calendar; and locating resources for planning and development. These pages are maintained by Web Communications Services (WCS) in IS&T and were developed with input from several IS&T teams and from the Web Writers Toolkit, a web site developed by the Office of Academic Services.

Communications Workshops

Over the past several years, PSB has offered workshops on best publishing practices for MIT communicators at all levels of expertise. PSB maintains an archive of these workshops and corresponding handouts at

`http://web.mit.edu/commworkshops/`

Developed collaboratively by several MIT communications professionals, these workshops covered effective messaging, working with the news media, and key Institute priorities and communications initiatives. The downloadable tools you might find especially handy when working on publications come from the workshop on managing the publication process:

• Stages in the publication process
• Market rates for creative-service providers
• Procurement guidelines
• Information to include in a request for proposals for creative services
• Sample project schedules for print and web projects
• Links to publishing-related campus departments and groups
• Links to professional organizations, publications, and online resources

If you would like to be notified about upcoming workshops, as well as seminars by local vendors on publishing industry trends, subscribe to the mailing list using the link on the Communications Workshops web site.

Getting Help

PSB is available to assist all departments, labs, and centers with their print and Web publications. Visit the PSB web site at

`http://web.mit.edu/psb/`

to see samples of projects that they've facilitated and to learn more about how they can help you.

WCS promotes the effective use of the Web and other electronic publishing tools at MIT. Services range from web site design consultation, to information architecture, to web site production and maintenance. To learn more about WCS offerings, see

`http://web.mit.edu/ist/web/` ⊘

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 e-mail, you can send your questions to the corresponding e-mail 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 Casetracker at

`http://casetracker.mit.edu/`

For help with...	Dial...	Or send a message to...
General computing questions (Macintosh, Windows, and network/connectivity)	253-1101	computing-help@mit.edu
Academic computing	253-0115	f_l@mit.edu
Administrative applications	253-1101	computing-help@mit.edu
Athena Computing Environment	253-4435	olc@mit.edu
Computer and printer repairs	253-0815	pcservice@mit.edu
Computer presales consulting	253-7686	mcc@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: Exercise and Fitness

It's winter, a time when many of us resolve to get in better shape – toning muscles and challenging ourselves aerobically. The popular getfit@mit program is helping members of the community do just that (see page 6). Among the resources at

`http://getfit.mit.edu/`

are links to health and fitness web sites. These are spotlighted on the right, with a few extra ones thrown in for good measure.

P.S. You don't have to be on a getfit team to take advantage of these web sites!

American College of Sports Medicine
`http://www.acsm.org`

American Council on Exercise
`http://www.acefitness.org/getfit`

American Heart Association
`http://www.justmove.org/`

BBC Health – Fitness
`http://www.bbc.co.uk/health/healthy_living/fitness/`

Centers for Disease Control: Physical Activity
`http://www.cdc.gov/nccdphp/dnpa/physical/`

Mayo Clinic – Healthy Living (click on Fitness & Sports Medicine)
`http://www.mayoclinic.com/findinformation/healthylivingcenter/`

National Strength and Conditioning Association
`http://www.nsca-lift.org/`

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