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# is&t

News about information services and technology throughout MIT

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## Proof of Concept: A Garden Grows in CSAIL

• Robyn Fizz

“Robots Rumba with Cherry Tomatoes!” would make a great headline, but these two partners are doing a different kind of dance on the third floor of Building 32. Students there have programmed robots to water cherry tomato plants and then pluck the fruit once it turns red.

This work on a robot-tended garden – guided by Professor Daniela Rus, Director of the Distributed Robotics Laboratory at the Computer Science and Artificial Intelligence Laboratory (CSAIL), and Postdoctoral Associate Nikolaus Correll – started as a UROP project in the summer of 2008. That fall, the project morphed into a Challenge Class, Robotic Science and Systems II (Course 6.084/85). Students learned theory first, then were assigned to teams charged with creating different software modules, such as navigation, object recognition, and networking. Work continued during IAP 2009, and is being picked up this summer by three new students.

These spiraling efforts, each building on what’s been done before, have created a working proof of concept for what Correll calls a distributed robot garden.

### Multiple Motivations

While harvesting of broad-land crops like wheat and hay is already fairly mechanized, cultivating and picking fruits and vegetables requires intensive manual labor and significant resources. If robots could be programmed to water and fertilize greenhouse plants on an as-needed basis and harvest them when ripe, such systems could minimize tedious human labor and reduce the use of water and fertilizers.

While such a system is still far from reality, Rus and Correll believe the project has already inspired the students – potential roboticists – with a vision of what is possible. The work, based on open-source technology, may also lead to new applications that can be adapted for other uses.

### Back to the Garden

CSAIL’s experimental garden is small and simple, built on a raised indoor platform covered in AstroTurf. Potted cherry tomato plants are set on a grid beneath grow lights. Embedded sensors monitor soil humidity and the state of the tomatoes. The plants are also equipped with wireless routers that have a flash file system.

The robots have a higher geek factor. The movable base, an iRobot Create, is cousin to the Roomba vacuum-cleaning robot. This base holds a Dell Latitude notebook, running Linux, with a Lightweight Communications Marshaller (LCM) on board that enables modules to communicate with each other. The robot also has an arm

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## Proof of Concept

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with an onboard webcam and grippers, and a watering tank and pump.

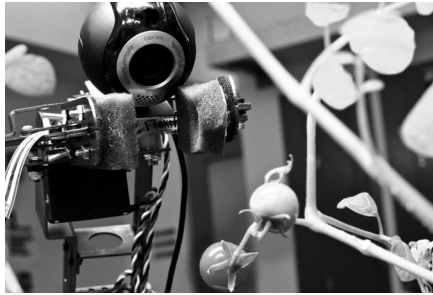
Plants and robots communicate through a wireless (8.0211B) mesh network with optimized link state routing (OLSR). The OLSR standard is the same one used by cities that have free networks for citizens.

As Correll points out, the system is fully distributed. There is no central server; data is stored on the plants. He and Rus made this choice because they want the system to be scalable. You can continue to add nodes and the system will stay robust. If the garden were based on a central server, it would not be maintained if the server failed.

### How Does Your Garden Grow?

On the surface, MIT's distributed robot garden works something like this. (The deeper you dig, the more technical it gets.)

The plants ask for services from the robots. For example, a watering request is prompted when a plant's soil humidity – which it's programmed to measure every 10 minutes – drops beneath a threshold.



Jason Dorfman CSAIL / MIT

The plant picks the robot to water it that has the best estimated time for completing the task, based on the robot's distance and task queue. In essence, plants auction tasks to all robots within their communication range and the robot that can do the task fastest gets the assignment.

The robots also take snapshots of plants using their onboard webcams. They use these images to decipher the location of cherry tomatoes and their maturity (green or red). This data is uploaded to the plants.

An end user (human!) can send out a request to the plants: "Who has a ripe fruit?" For now, this data is preprogrammed: the system only stores data about one ripe fruit at a time. Again, the robot that can do the harvesting most quickly gets the job.

Correll acknowledges that more work needs to be done on what is a very generic distributed task and location problem. The model will be to pick the ripest fruit first, based on color and random selection.

### A Long Row to Hoe

CSAIL's distributed robot garden is still a seedling. The system does coordinate plant requests and robot responses for watering, fruit inventory, and harvesting. That in itself marks the proof of concept.

On the other hand, the system has weaknesses that need to be addressed. The robots can not always recover from navigation errors. The hardware and arm need to be sturdier. Foliage and the sheen of the tomatoes make it difficult for the system to "see" all of the fruit.

New student recruits will continue the spiral approach to improving the software. It's too soon to say that CSAIL's distributed robot garden will lead to an era of autonomous greenhouses. But, says Correll, the lessons learned along the way have already begun to bear fruit.

### Sneak a Peek

To learn more about the distributed robot garden and to watch a video of it in action, go to [www.csail.mit.edu/feature9](http://www.csail.mit.edu/feature9). §

## Renew Your MIT Personal Certificates

Certificates are your key to secure web services at MIT – including ECAT, SAPweb and SAPweb Self Service, and WebSIS. Personal certificates expire by default each July 31, and renewal is not automatic. Personal certificates obtained starting June 2009 are good until July 31, 2010.

Before you renew your certificate, check to see that your web browser is up to date. IS&T supports the following:

- Windows  
*Internet Explorer 7 (IE7) or Firefox 3.0.x*
- Macintosh  
*Safari 3.x or Firefox 3.0.x*
- Linux 4.7 and 5.3  
*Firefox 3.0.x*
- Athena  
*Firefox 3.0.x*

**Note:** IS&T does not yet support IE8 and recommends that users wait to install it.

It is important that you apply all critical operating system and web browser updates. For instructions on how to do this automatically, go to [web.mit.edu/ist/topics/security/protect/patches.html](http://web.mit.edu/ist/topics/security/protect/patches.html). You'll also need to set your browser to accept cookies to get a new personal certificate.

### Mobile Devices

MIT certificates may also be installed on the Apple iPhone and iPod Touch, and on Windows Mobile 5 and 6 devices.

### Installing Your Personal Certificate

To get a new certificate, go to the Certificates at MIT page at [web.mit.edu/ist/topics/certificates](http://web.mit.edu/ist/topics/certificates) and click the Get MIT Personal Certificate link. If you'd like instructions to step you through, go to the Getting Started section on the Certificates at MIT web page and select the link for the browser or mobile device you use.

If you use multiple machines, you will need to get a new certificate for each browser on each machine. §



### Managing Editor

Robyn Fizz

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# Software Spotlight

## FileMaker 10 Offers Streamlined Interface and Features

• Lee Ridgway

In January 2009, FileMaker, Inc. released version 10 of its popular product family, and in May 2009 IS&T announced support for FileMaker Pro 10 and FileMaker Server 10. All FileMaker 10 software is compatible with IS&T-supported operating systems.

### New Features in FileMaker Pro 10

FileMaker Pro 10 has a significantly different user interface from previous versions. Most notably, the Status Area that ran down the left side of the window has been combined with the Standard Toolbar into a single Status Toolbar that runs across the top of the window. The Status Toolbar has been streamlined and its icons have been updated. Also, several menu options are now available as buttons.

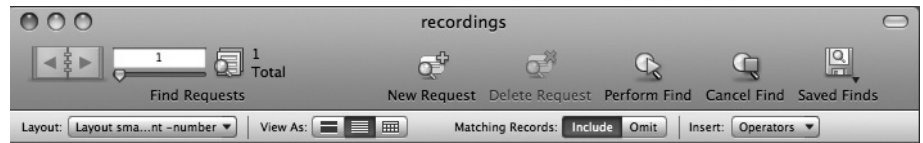
In earlier versions of FileMaker, you could only view reports with grouped data, such as subsummary reports, in Preview mode. FileMaker Pro 10's Dynamic Reporting feature lets you view these reports in Browse mode, where you can add, edit, delete, or omit records. You can see your refreshed results without leaving Browse mode.

When records are modified, FileMaker automatically recalculates summary values and regroups the updated records, according to the original sort order. Working in Browse mode also lets you use other interface features, such as buttons, which are not available in Preview mode.

With Saved Finds, you can now save a set of find requests to perform again later. Also, the most recent find requests are saved for later use. Saved Finds are listed in a menu accessed by a button in Find mode, or by clicking and holding the Find button in Browse mode. You can give each Saved Find a unique name, which appears in the Saved Finds list.

### New Features in FileMaker Server 10

With FileMaker Server 10 you can create scheduled import and export scripts for automated reporting. You can also run data-



The new FileMaker 10 Status Toolbar, in Find mode. Note the Saved Finds button on the right.

base verification tests to check for consistency and errors. To help pinpoint trouble spots quickly, the new Log Viewer gives you a snapshot of your database logs.

### Upgrading

IS&T recommends FileMaker 10 for all new users, and those upgrading from versions prior to FileMaker 9. Current users of FileMaker 9 may continue with that version, or upgrade to FileMaker 10 if they want or need its specific features.

While IS&T continues to support FileMaker Pro 9 and FileMaker Server 9, support for FileMaker Pro 8.5 has been discontinued. Current users of FileMaker version 8.x or earlier are encouraged to upgrade directly to FileMaker 10.

### External SQL Sources (ESS) and Security Guidelines

FileMaker 9 introduced tools, enhanced in FileMaker 10, to create a live, secure connection to external SQL data sources, such as the MIT Data Warehouse. With these tools you can interact with SQL data as you would with FileMaker data, to create reports.

IS&T reminds you that the ability to use ESS to connect a FileMaker database to MIT's Data Warehouse brings with it the responsibility to ensure the continued security of the Warehouse and its data.

- Do not store Data Warehouse usernames and passwords in FileMaker databases. Each FileMaker user should be prompted to enter his or her Warehouse login information when connecting from FileMaker to the Warehouse.
- Do not share your Warehouse password with anyone.
- Do not import Warehouse data into a FileMaker database.

### Get the Software

MIT faculty and staff are eligible to use FileMaker Pro, FileMaker Pro Advanced, and FileMaker Server Advanced for Institute

purposes only, on computers owned or administered by MIT. MIT students can use FileMaker Pro only on personally owned machines, for academic or MIT-related purposes only. In a change from past policy, there is no longer a processing fee for any FileMaker product distributed by IS&T.

For details and online request forms, go to [web.mit.edu/ist/products/vsls/mitfpro](http://web.mit.edu/ist/products/vsls/mitfpro).

### Support

FileMaker users and developers at MIT can tap IS&T for support with FileMaker Pro 10 and select features of FileMaker Server 10.

- *Documentation.* For help installing and using the software, start at the FileMaker at MIT page at [itinfo.mit.edu/product.php?name=filemaker](http://itinfo.mit.edu/product.php?name=filemaker). For guidelines on implementing FileMaker databases in the MIT environment, go to the FileMaker and Departmental Database Applications page at [web.mit.edu/ist/db/fm](http://web.mit.edu/ist/db/fm).
- *Training.* IS&T offers several hands-on FileMaker classes, including one covering new features in version 10. For details, browse the online Training Catalog at [web.mit.edu/sapwebss/PS1/training\\_home.shtml](http://web.mit.edu/sapwebss/PS1/training_home.shtml).
- *FileMaker User Group.* Meetings are held the first Friday of the month in the N42 Demo Center. See the group's web page at [web.mit.edu/ist/usergroups/filemaker/fmug](http://web.mit.edu/ist/usergroups/filemaker/fmug).
- *Database development.* IS&T's Departmental Consulting and Application Development (DCAD) Team offers fee-based development services. Contact DCAD at [db-consult@mit.edu](mailto:db-consult@mit.edu).
- *End-user help.* If you need help with tasks like installing FileMaker, sharing databases, importing and exporting data, or printing, contact the Computing Help Desk at 617.253.1101 or [computing-help@mit.edu](mailto:computing-help@mit.edu). \$



## Network Notes

### Cut Down on Spam with Symantec's Brightmail Solution

• Deb Bowser

IS&T has introduced new anti-spam technology from Symantec to help combat the increase in malware, phishing, and spam. Based on feedback from the community and early test results from the Microsoft Exchange pilot, it was clear that MIT's current spam screening service was no longer sufficient.

#### How Does It Work?

Symantec's Brightmail technology scans all of your incoming email before delivering it to your Inbox. It identifies potential spam using a series of tests, and filters these messages to its Spam Quarantine server. The storage of spam messages in a location outside of your mailbox helps conserve valuable resources such as disk space and email quotas.

Once a day, at 6 am, the Brightmail spam service sends you a summary of messages filtered to Spam Quarantine. You can manage these messages by clicking on the URL provided in the email and logging in to the Brightmail Gateway. Another option is to click on the **View** or **Release** links within the email: this also logs you in and takes you to Spam Quarantine. Be aware that clicking a **Release** link will send the selected message to your Inbox.

If no action is taken, after seven days the messages will be purged automatically.

You can customize your settings while logged into the Symantec Brightmail Gateway. For example, you can recreate your MIT email allow and deny lists (i.e., good and bad senders) and manage the language settings.

#### How to Get It

Over the summer, IS&T will work closely with representatives from departments, labs, and centers to transition the MIT community from the current spam screening service to Symantec's Brightmail technology.

If you would like to move to the new anti-spam solution before your area is transitioned, you can enable Spam Quarantine now at the Spam Screening Settings page at <https://nic-too.mit.edu/cgi-bin/spamscreen> (certificates required).

Once you enable Spam Quarantine, IS&T recommends turning off Junk Mail filtering in your email programs to avoid potential conflicting results and preventing your allow/deny lists from working as intended.

#### Thanks and Accolades

IS&T thanks members of IT Partners and other early adopters who assessed this service and provided support and guidance throughout its implementation and release. These early adopters found the Brightmail Gateway easy to configure and gave it high marks across the board.

#### Support

For more information on setting up and using Symantec's Brightmail technology, see [web.mit.edu/ist/topics/email/nospam/spamquarantine.html](http://web.mit.edu/ist/topics/email/nospam/spamquarantine.html). §



## Bits and Bytes

This column presents announcements about MIT-supported software. For more information about recent releases, see [web.mit.edu/swrt](http://web.mit.edu/swrt).

### Security Vulnerability in TSM Backup Software

IBM Tivoli has notified IS&T that there are security vulnerabilities in its Tivoli Storage Manager (TSM) backup software. IS&T strongly recommends that you update your TSM software for each of your accounts. You can find the patched versions of TSM on the MIT Software Distribution page at [web.mit.edu/software](http://web.mit.edu/software).

Depending on your operating system, the patched version numbers are as follows:

- *Windows XP and Vista*: TSM 5.4.2.7
- *Macintosh*: TSM 5.4.2.7 (Mac OS X 10.4) and TSM 5.5.2.0 (Mac OS X 10.5)
- *Linux*: TSM 5.4.2.7

If you have questions, contact the Computing Help Desk at 617.253.1101 or [computing-help@mit.edu](mailto:computing-help@mit.edu).

### MIT Libraries Support Bioinformatics Software

Bioinformatics uses computers to manipulate vast amounts of data to solve biological problems on a molecular level. The ability to store, retrieve, and analyze biological data has led to significant advances in the study of genomics, biomolecular structures, proteome analysis, cell metabolism, and drug design.

The MIT Libraries' bioinformatics librarian, Courtney Crummett, works with members of the community who want to know more about bioinformatics resources, programs, and databases. Crummett has prepared a bioinformatics research guide at [libguides.mit.edu/bioinfo](http://libguides.mit.edu/bioinfo).

Bioinformatics resources licensed by the MIT Libraries include BIOBASE and Gene-Go. Publicly available resources include NCBI and Ensembl. Visit the research guide to find out about these resources and to learn about bioinformatics news, tools, training, and journals. If you have questions, you can reach Crummett at 617.324.8290 or [crummett@mit.edu](mailto:crummett@mit.edu). §

### IS&T to Launch Redesigned Web Site in July

Keep an eye out for the redesigned IS&T web site, set to launch in July. The new site has a grid layout to streamline navigation, and icons associated with key services. New features include the Top 5 Help Desk Q&As and a software download page that can be filtered by software type and platform. The redesigned site will run on a Drupal content management system for more efficient maintenance.

If you have questions or feedback, send email to [istweb@mit.edu](mailto:istweb@mit.edu).





# Safe Computing

## Summer Daze? Relax, But Keep Your Data Secure

• Monique Yeaton



In the summer, many of us take time off. But being away from MIT doesn't always mean that we're off line. Some of us will still check our MIT email or

try to get some work done. While summer can feel more relaxed, don't forget to take precautions to secure important data when working from home or from a distance.

### Safety While Telecommuting

Whether you're working from home sporadically or for an extended period, there are risks associated with off-campus computing. Wireless (wifi) networks have security flaws, as does working over the Internet. IS&T recommends the following measures to help secure data on your home computer or laptop:

- Brush up on the Top 10 Safe Computing Tips at [tinyurl.com/mit-top10tips](http://tinyurl.com/mit-top10tips).
- Use an encrypted wireless network (i.e., one that has a password to log on). If that's not an option, use MIT's Virtual Private Network (VPN) to access or transmit MIT files.
- Don't use a personal email account (such as Hotmail or Gmail) to send MIT-related email; instead, use your MIT email account, which allows email to stay within MIT.
- Give other people in your home a separate user account if they need to log on to the computer you use for work.
- If you are using a laptop from work, make sure it is in a secure location (not in the back seat of your car).

### Safety While Traveling

Every week in the U.S. about 12,000 laptops are lost or stolen in airports around the country. And that's just at airports! Smartphones carry similar security risks because they can store lots of data. Last year an estimated 8 million smartphones were lost or stolen in this country.

Given these numbers, be prepared! To keep your data secure when traveling:

- Back up your data onto a secure drive or server before traveling.
- Leave nonessential data at work and remove it entirely from your laptop or smartphone. Make sure the data is wiped by overwriting it, not just deleting it or putting it in the trash; free wiping programs are available online, or you can buy them at most office supply stores.
- Encrypt sensitive data you need to take with you; there are many products that can do this on a thumb drive, laptop, or smartphone, including some built into your device's operating system.
- Avoid sending sensitive data by email, instant message (IM), or a public web browser; instead use MIT's VPN or, if you know how, encrypt your email.

### Learn More

For additional tips and related security information, visit the IT Security web site at [web.mit.edu/ist/security](http://web.mit.edu/ist/security). For more on mobile devices, see [web.mit.edu/ist/topics/pda](http://web.mit.edu/ist/topics/pda). §

## DLCs Can Benefit from Managed Data Services

• Robyn Fizz

Departments, labs, and centers (DLCs) around the Institute may want to take advantage of IS&T's Managed Data Services (MDS). This new offering by the Data and Reporting Services (DRS) Team has been successfully piloted with the MIT Office of Minority Education (OME).

MDS's main goal is to reduce the storage of sensitive Institute data on departmental machines. In the MDS realm, a DLC's local data is transferred from computers within the DLC to a database on a secure, centrally managed server. When stored in an MDS database, a DLC's data is available, backed up, recoverable, and less prone to breaches.

Once a database for a DLC has been designed and the data imported into MDS, the DRS Team will maintain it. DLCs can update and add data using their chosen application (e.g., FileMaker Pro, Microsoft Access, or Microsoft Excel). They can also join their data to enterprise information in the MIT Data Warehouse.

### Many Benefits

MDS offers many benefits to DLCs:

- The service is robust, cost-effective, and professionally managed, so DLCs don't need their own database administrator or space to house local servers.
- Local and central data can be accessed through a single interface, increasing functionality and saving staff from having to re-enter data.
- There's flexibility in choosing the user interface. DLCs can leverage the interface they know, or work with IS&T or other vendors to create a new one.

- The interface can be customized to DLC needs. For example, the OME's interface can generate personalized letters and emails that combine local and central data. Visually appealing reports can be distributed as PDF files.

All in all, MDS offers a highly integrated approach to doing administrative tasks.

### Interested?

If your DLC would like to explore MDS offerings, contact the DRS Team at [isda-drs@mit.edu](mailto:isda-drs@mit.edu). Those planning to develop a FileMaker interface may want to contact IS&T's Departmental Consulting and Application Development (DCAD) Team at [db-consult@mit.edu](mailto:db-consult@mit.edu).

The initial assessment for this service is free. If there's a good match between MDS offerings and your DLC's needs, IS&T provides fee-based database development and support. §

# ? Tech Tips: FileMaker Pro 10

This column presents tips about computing. For more information technology Q&As, check the IS&T Hermes knowledge database at [kb.mit.edu](http://kb.mit.edu).

**Q.** How do I save a find request in FileMaker Pro 10, so I can perform it again?

**A.** Here's the procedure:

1. Perform your find as usual, then go to **Records** and select **Saved Finds**.
2. From the submenu, choose **Save Current Find**.
3. When prompted, enter a **Name** for this find request. This name will appear in the **Saved Finds** list.
4. Click **Save**.

The item is added to the **Saved Finds** section in the **Saved Finds** menu. The next time you need to perform this find, in **Browse** mode go to **Records>Saved Finds** and select the request.

Using your saved finds is even more convenient if you add the **Saved Finds** icon

to your Status Toolbar in **Browse** mode. You can then access your saved finds by clicking this button instead of going to **Records>Saved Finds**.

**Q.** How do I add or remove a button from the Status Toolbar in FileMaker Pro 10?

**A.** Follow these steps:

1. Go to the **View** menu and select the mode whose toolbar you want to edit.
2. Go back to the **View** menu and select **Customize Status Toolbar**. (If you're working in Windows, click the **Commands** tab.) You should now see a set of icons appropriate to the mode selected.
3. To add a button, drag its icon onto the toolbar. To remove a button, drag it off of the Status Toolbar.
4. When you've finished making your changes, click **Done** (Macintosh) or **Close** (Windows).

**Q.** How do I limit the size of my log files in FileMaker Server?

**A.** Launch the FileMaker Server 10 Admin Console, then follow these steps:

1. Go to **Database Server>Logging**.
2. Specify the maximum size, in MB, of the **Acces.log**, **Event.log**, and **Stats.log**.
3. Click **Save** to preserve your changes.

**Q.** How do I encrypt traffic between FileMaker Server 10 and FileMaker Pro?

**A.** To enable SSL encryption:

1. Open the FileMaker Server 10 Admin Console.
2. Go to **Configuration>Database Server>Security**.
3. Click to check the box for **Secure connections to Database Server**.
4. Click **Save**.
5. Stop the database server software: click the **Stop Database** button, set the desired delay time, and click **OK**.
6. After the delay time has elapsed, restart the database server software: click the **Start Database** button. §

## MIT SMS Service (Beta) Offers Interactive Text Messaging

• Andrew Yu

IS&T recently launched a beta version of MIT SMS, an interactive text messaging service. (The acronym SMS stands for Short Message Service.)

Along with the MIT Mobile Web at [m.mit.edu](http://m.mit.edu), MIT SMS provides a way for community members to access information on the go. Anyone with a text-messaging-capable phone can use the service to connect to the following sources within seconds:

- People Directory (based on MIT's online directory)
- Shuttle Bus locations (via GPS)
- Stellar (for retrieving class announcements)

To get instructions on using the service, simply text INFO to 648338 (which spells MITEDU on a phone dial pad) or visit [mobi.mit.edu/about/sms.html](http://mobi.mit.edu/about/sms.html).

**Note:** While MIT provides this service for free, users may be subject to text-messaging fees from their carriers, depending on their plan.

### Expansion

In the future, community members will be able to gain access to even more information via SMS – such as MIT news and the Events Calendar. MIT SMS may also expand to provide opt-in notification services for classes, emergencies, commencement, and other events. Researchers working on mobile applications may be able to use MIT SMS to facilitate their projects.

For questions and feedback, send email to [mobiweb@mit.edu](mailto:mobiweb@mit.edu).



### MIT Mobile Web Updates

The MIT Mobile Web ([m.mit.edu](http://m.mit.edu)) has recently added new features and content. Here are some highlights:

- **Customization (all mobile devices):** Users can customize the initial Mobile Web home screen to reorder or remove modules.
- **TechCASH (iPhone only, beta):** iPhone users can now check their recent transactions from the MIT Mobile Web. Other mobile platforms that support certificates will be added, along with the ability to add funds to one's TechCASH account from the mobile device.
- **Shuttle Schedule:** Route maps for Tech Shuttle and Northwest Shuttle have been updated.
- **Support for Android Devices (beta):** Users of these devices are presented with an enhanced user interface.

IS&T is also working with the MIT Libraries to enable a mobile version of their site. The Libraries module is expected to be in beta by July 2009. §

# Research Databases for Tracking IT Trends

• Maggie Bartley

Market analysis and trend forecasting are central to market research. Although market research abounds on the Web, it usually carries a hefty price tag. Fortunately, the MIT Libraries subscribe to several market research databases. Six of these services focus on information and communication technologies, giving MIT students, faculty, and staff access to reports, analysis, and data for their research and coursework in these fields.

## Gartner Group

[libraries.mit.edu/get/gartner](http://libraries.mit.edu/get/gartner)

With coverage ranging from semiconductors to software, Gartner Group is widely recognized for its research on information technology (IT). Interested in market share analyses or evaluations of IT products and vendors? Gartner is the place to start your search. Gartner analysts track IT developments across nine industry sectors, including energy, education, and health care.

## Frost & Sullivan

[libraries.mit.edu/get/frost](http://libraries.mit.edu/get/frost)

Frost & Sullivan takes a global turn, covering markets in nine high-tech sectors. Its analyses and impact assessments of emerging communication technologies – digital media, conferencing, and mobile broadcasting, for example – complement

Gartner's focus on IT. Frost's license with MIT restricts downloading, but users can copy and paste or print.

## Burton Group

[burtongroup.com](http://burtongroup.com)

Managing the impact of new technologies on organizational infrastructure is a growing challenge. The Burton Group specializes in this aspect of IT by focusing on the unique needs of enterprise organizations. Turn to Burton for analyses of best practices and decision support on issues ranging from management of company intranets to planning IT investments. From the Burton web page above, register as a guest using your MIT email address. Burton will email you a password.

## InfoTech Trends

[libraries.mit.edu/get/infotech](http://libraries.mit.edu/get/infotech)

Eager to do your own analysis but need numbers? You can reap data from InfoTech Trends. This source extracts tables from IT trade and professional journals and formats them into downloadable spreadsheets. Check InfoTech for data on units sold, market share, and other variables for many products and technologies. To access this database, go to the URL above. You will be redirected to Subscriber Login; click the yellow Login with IP Address button.

## Jupiter Research

[libraries.mit.edu/get/jupiter](http://libraries.mit.edu/get/jupiter)

If you follow trends in online media, social networking, or web technologies, Jupiter Research will be of interest. Focusing on

consumers in online environments, its analysts do primary research on personal technologies and web operations in North America and Europe. Jupiter was recently acquired by Forrester Research. Although its reports are posted at Forrester's web site, Forrester reports themselves are not available through MIT's subscription.

## eMarketer

[libraries.mit.edu/get/estat](http://libraries.mit.edu/get/estat)

eMarketer also tracks developments related to new media technologies and marketing. This service analyzes information from thousands of sources and presents it in articles and graphics. eMarketer's coverage is strong in demographics and usage data for the Internet, digital media, and mobile communications.

## MIT Libraries' Market Research Guide

[libguides.mit.edu/market](http://libguides.mit.edu/market)

Market research sources are by no means oracles, but they can provide insight on developments, provoke thought, and inform strategy. To learn about other market research databases available at MIT, visit the MIT Libraries' guide to market research at the URL above. If you have questions, send mail to [ask-dewey@mit.edu](mailto:ask-dewey@mit.edu).

## Restrictions

Because all of MIT's market research subscriptions are academic, some content may be excluded and the reports can't be used for commercial purposes. Many of the databases require certificates for on-campus as well as off-campus access. §

## is&t Quick Survey

IS&T is exploring the most effective ways, with limited resources, to deliver news about information services and technology to the MIT community.

Please complete this survey and return it to Robyn Fizz, Room N42-290B. Or take the survey online at [tinyurl.com/istquicksurvey](http://tinyurl.com/istquicksurvey)

IS&T will strongly weigh community feedback as it decides what avenues to use to communicate MIT's IT news in the future.

*Thank you for your participation and for reading is&t. This issue is the last one in print.*

Please indicate the usefulness of each of the following IS&T information delivery options, where 1 = Not useful, 2 = Somewhat useful, and 3 = Very useful.

- Headlines and spotlights on the IS&T home page
- A news page with headlines, RSS feeds, and links to IT blogs and wikis
- An online newsletter with an option for email notification
- Email list(s) that send security alerts, tech tips, and news about software and IT services
- An IS&T presence on various social networking sites

IS&T welcomes your suggestions of other ways to inform the community about computing services at MIT.

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If you are willing be contacted about your responses to this survey, please include your name and MIT email address below.

Name \_\_\_\_\_  
Email \_\_\_\_\_



# 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. (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](http://web.mit.edu/ist/help).

For help with...	Dial...	Or send a message to...
<b>General computing questions</b> Macintosh, Windows, network/connectivity, business applications, computer buying advice, repairs	617.253.1101	computing-help@mit.edu
<b>Athena computing environment</b>	617.253.4435	olc@mit.edu
<b>Disabilities and computing</b>	617.253.7808	atic@mit.edu
<b>Telephone support and repairs</b> Traditional and MITvoip phones	617.253.4357	telephone-help@mit.edu
<b>Traditional phone moves/changes</b> For use by AOs/DLC administrators	617.253.3670	telecom-csr@mit.edu
<b>Unix/Linux</b>	617.253.1103	unix-linux-help@mit.edu



# Surf Sites: Green Thumb

Gardens are sprouting everywhere – in containers, back yards, and community plots. Even if you don't have a robot to help with your planting efforts (see the lead article), many online resources provide guidance – from plant lists to videos. See the list on the right to get started.

If you prefer looking at greenery over digging and weeding, check out the guide to MIT's small garden spaces at [web.mit.edu/facilities/environmental/gardens/gardens.html](http://web.mit.edu/facilities/environmental/gardens/gardens.html). For a resource on local garden tours and workshops, check out [bostongardens.com](http://bostongardens.com).

## American Community Gardening Association

[communitygarden.org](http://communitygarden.org)

## Home Gardening

[www.gardening.cornell.edu/homegardening](http://www.gardening.cornell.edu/homegardening)

## National Gardening Association

[garden.org](http://garden.org)

## New England Wild Flower Society

[newfs.org](http://newfs.org)

## Organic Gardening

[organicgardening.com](http://organicgardening.com)

## Pest Tracker – National Agricultural Pest Information System

[pest.ceris.purdue.edu](http://pest.ceris.purdue.edu)

## WonderHowTo – Gardening and Agriculture (videos)

[wonderhowto.com/home-garden/agriculture-gardening-video](http://wonderhowto.com/home-garden/agriculture-gardening-video)



Information Services & Technology

