Task force approves of Kendall plan
Facility demand comprehensive plan before building begins
By John A. Hawkins

A faculty task force has recommended to the Provost that MIT proceed with its east campus (Kendall Square) renovation proposal, but to consider the land as “an extremely precious resource” and to drive the process with a new comprehensive design plan, rather than commercial interests. The report was discussed at Wednesday’s faculty meeting and released later that day.

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The report enumerates eight findings of the committee, three conclusions, and five design constraints going forward. See sidebar, p. 13.

Need for academic use
The report’s criticism of MITIMCo’s past approach seems stark. From the report:

“This area of land is also the last piece of undeveloped, contiguous campus space lying between Kendall and Nightingale avenues.

Kendall plan, Page 13

Graduate student Allison Tovo-Dwyer passes away

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“Alison was a brilliant woman who would have developed into a great scientist,” Chakraborty said. “Her first publication was accepted into a top journal just a week before she passed away. I wasn’t able to tell her in person about her hospitalization, but her mom told me the news bought a smile to her face. I will miss her very much.” —Deborah Chen

4.0 quake takes New England by surprise

A 4.0-magnitude earthquake shook southern Maine at approximately 7:12 p.m. on Tuesday, resulting in a shockwave felt all across New England. The quake, which was downgraded from its initial estimated magnitude of 4.6, caused no apparent injuries or property damage. Cambridge residents reported experiencing weak shaking.

At MIT, the dormitory mailboxes were abscessed with expressions of surprise, nonchalance, and momentary confusion, including one thread claiming that “Next House is made of jello.” A few more incredulous students sought confirmation from others that the shaking was indeed the result of an earthquake.

The U.S. Geological Survey reports that the quake was felt most strongly in Maine, Massachusetts, and New Hampshire. Tremors were also felt in other parts of New England, as well as parts of New Jersey, New York, and even southern Quebec, Canada. East Coast earthquakes — particularly ones in New England — are rarer than their West Coast counterparts but can be felt up to 10 times farther away due to the solidity of the region’s underground rock.

This was the first major quake to be felt in the area since August of last year when a 5.8-magnitude tremor centered in Virginia shook Boston — the East Coast’s most powerful earthquake in 67 years.

—Stephen Sun

IN SHORT

The Head of the Charles starts tomorrow! Support MIT crew in the largest 2-day regatta in the world!
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Join the MIT-wide “Gangnam Style” flashmob this Sunday at 2 p.m. in Killian Court!

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A closer look at the Kefi Pavilion.
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A vision for the classroom of tomorrow.
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A day by day account of his visit to MIT
Page 10

Educational services company will provide content to edX students
By Leon Lin

On Wednesday edX announced a new collaboration with Cengage Learning, a large Connecticut-based provider of educational content and software. The company will both supply content to edX and work with edX to improve pedagogy.

Cengage publishes Principles of Biostatistics, the textbook for one of Harvard’s edX classes, Health in Numbers: Quantitative Methods in Clinical & Public Health Research. Harvard School of Public Health professor Marcello Pagano, a co-instructor of the class, is also one of the co-authors of the text. The book, like the rest of edX’s content, will be free for students.

“edX students worldwide will benefit from both Professor Pagano’s in-class lectures and his classic Cengage Learning textbook in biostatistics [sic],” edX president Anant Agarwal said in a press release.

Over 370,000 people have registered on edX, according to Director of Communications Dan O’Connell. Some people enroll
India opens inquiry into Wal-Mart

MUMBAI, India — Indian regulators are investigating alle-
gations that Wal-Mart Stores violated rules restricting foreign
investment in the country’s retailing industry.

The regulators are looking into a nearly $100 million invest-
ment Wal-Mart Stores made in an Indian company, Bharti Re-
tail Pvt. Ltd., that operates two supermarket chains, at a time
when India restricted investments in the retailing industry.

The investment was made in the form of debentures and became
convertible to equity in early July.

India had long prohibited foreign equity investments in re-
tailing. But in 2007, it allowed up to 51 percent of such stores.

Wal-Mart, which is in the midst of an investigation involving
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Two-day summit meeting aimed at how to secure the longevity of the single currency easing, at least for now, there were already signs that France and Germany on whether to meet that deadline.

French leaders have also pressed for speedy adoption of European legislation to tighten budget discipline across the eurozone, as well as measures to pool at least some of the eurozone countries’ debt. Germany, by contrast, has emphasized a more cautious approach, with the country’s finance minister, Wolfgang Schäuble, reminding peers that the euro is not a common currency for the 17 European countries that use it.

Ahead of the Brussels meeting, Chancellor Angela Merkel of Germany said that she would seek the European leaders’ support for a new combined European budget discipline package and a much grander vision for how to secure the longevity of the euro.

"We are of the opinion — and I speak for the whole German government on this — that we could not and should not give up the guarantee of the real rights of intervention in national budgets," Merkel told lawmakers on Thursday. That earned a tart riposte from President François Hollande of France, who has threatened to drag an issue as soon as the current term.

"The idea was easily sponsored by Ireland, Italy and Spain, because it would be a powerful lever for weakening banks in those countries" European leaders have been discussing earlier this month.

The federal law was “not related to the fiscal discipline or to any solemn public,” Mr. Ponsky, a commission attorney, said in court.

"This has nothing to do with the pending court proceedings but it is connected to the ruling by the PUC where local residents and others had requested a review of the regulations of the municipalities’ ordinances," Kocher wrote in an email.

One of the landowners, Tony Ponsky, said in a filing with the commission that Mountain Pleasant Township should not receive impact fees of $33,885 until it brings its regulations into compliance with the law.

Two of the three judges on the Maryland Court of Appeals ruled against the company, which could demand to have the regulations declared invalid in court.

"There is no reason that Google’s net revenue and earnings per share growth will not continue — and at the same time, the company is returning a record amount of money to shareholders" Google said in announcing its earnings on Thursday.

"It is not just a surge in advertising revenue that is driving Google’s growth" Mr. Ponsky said in a filing with the commission. "It is very likely that the company’s ongoing growth will continue to be driven by continued improvements in its search engine, targeted advertising and other products."
MIx and the classroom of tomorrow

A vision for the future of edX and MIT

By Sam Shames

In recent years, there has been much energy and enthusiasm about both MITx and its multi-institutional counterpart edX. Listening to the debate over how MITx can be integrated into the residential experience, I am impressed by how much thought all affected parties have invested. We as a community are at a crossroads. We have been presented with an opportunity to substantially change what we mean to college education: an opportunity so exciting, but for others it may seem slightly frightening. Many people are concerned about what we may lose in the process of integrating online education into our current system. While these concerns are certainly valid, I am still optimistic. Rather than focus on how MITx might harm, I focus on how it can transform. What follows is my vision of how this transformation might play out.

One of the biggest concerns about MITx is how it may try to replace the traditional classroom. But rather than replace, MITx helps reinforce and supplement the traditional lecture format by allowing students to learn and the teacher to teach more effectively. With MITx, a student who is struggling needs extra help can use the course material on MITx to review previous lectures and complete extra practice problems. Having the opportunity to see the same material again, but presented differently, will help these students grasp different concepts. At the same time, instant feedback shows their progress and allows them to see what they have mastered. What’s more exciting as a learner than watching yourself improve?

While helping students master course material, MITx helps professors and faculty measure exactly what their students have and have not learned. Providing this type of feedback allows for more focused and effective teaching. When professors know exactly what a class does and does not understand, they can use class time more efficiently.

Not only would the integration of MITx improve the traditional classroom setting, but it would also empower students by giving them the resources they need to take control of their education. Currently, if a student is very interested about a subject and wants to study it, the only option they have is to read the textbook. Not only is this not a very effective way to learn, but it is as common as turning in optional problem sets. MITx offers a better platform for enthusiastic students to explore the material at their own pace. It provides students with an unprecedented level of control over their education, a level of control that is sure to be prized by the self-sufficient learning community that is MIT.

edX provides students with a level of control that is sure to be welcomed by the self-sufficient learning community that is MIT.

At the same time, learning through MITx allows students to engage course material more completely and creatively. In the future, courses on MITx could be organized both by department and by interdisciplinary topics. For example, one section of MITx could be thermodynamics. Included in this section would be all the thermodynamics classes across majors. For the first time, a student could explore thermodynamics from a course 10; 3, and 2 perspective. Presenting the material in this format highlights the interdisciplinary nature of so much of what we learn, while also showcasing the connections between different fields.

When a group of independent learners can use MITx in this manner, they will be able to reinvent their residential education and delve into a project-based curriculum. These students, who use MITx to learn everything that they have received in a traditional lecture and during class, will work on interdisciplinary projects, bring the online to live material through hands-on experience. Working together with faculty, these students get exposed to applications of what they have learned and have yet another chance to be the driver of their own education. Of course, this is only possible when students are able to get all the background skills needed to complete a project online.

What excites me most is that many projects will be inherently interdisciplinary and will unite students across depart- ments. Furthermore, if MITx is organized by interdisciplinary topics, it will be easier for students to learn the relevant information for their project, even when they need information outside their department. For example, a student who wants to build a biosensor project for a project would need to understand chemical engineering, mechanical engineering, electrical engineering, etc. With MITx, this student could map out a focused course of study across those departments and learn everything they need in order to complete their project. Never before have students had this much flexi- bility to choose their course of study.

The ideas I have presented are just some of the possibilities. The beauty of MITx is its flexibility, as there are many more ways to integrate residential and online education. MITx can enhance residential education, and encourage others to start innovating. Instead of wasting energy worrying about how MITx can harm MIT, we should let our imaginations run wild. If we dream about how MITx can transform and improve our education, we can invent the education of tomorrow.
Beaver Tails by Ranbel Sun

Uppercut by Steven Sullivan

WE DO CALCULUS by Paeule Powell Oct '12

Sudoku
Solution, page 16

(8953647297694321)

Techdoku
Solution, page 16

(20+  15x  4x  24x  24x  6x  6  2  2  5  6  7  1  5  4  19+  10+  1−  2  4  12x  24x  24x  24x  24x  24x)
[xkcd 1121] Identity by Randall Munroe

Hey, I lost the server password. What is it, again?

It's... wait. How do I know it's really you?

Ooh, good question! I bet we can construct a cool proof-of-identity protocol. I'll start by picking two random--

Oh, good, it's you. Here's the password...

No!

Sketchy by Dohyun Lee

Reality of P-sets...

Lecture

1 + 1 = 2

Yeah, this weekend is going to be great!

PART AFTER P-SETS...

PROVE

1 + 1 = 2

Actual P-sets...
Students gathered Wednesday evening outside of the Student Center for a candlelight vigil honoring victims of domestic violence.
The Kerf Pavilion, unveiled near the Green Building in the beginning of July, has piqued many curious minds on campus. Here, team members Tyler Crain, Brian Hoffer, Chris Mackey, and Dave Miranowski discuss the surprising design and purpose of their project.

**The Tech:** What is the concept behind this project?

**Tyler Crain:** We were given the task to design a temporary pavilion structure that would address an architectural fabrication problem in a new way. When we sat down and discussed ideas, we agreed that it should be something that would generate some physical interest and thought and should work with a traditional material in a new production method. In the fabrication process of furniture and other small-scale products, techniques such as vacuum forming, steaming, laminating and mold-making are common. We were looking at simpler, less labor-intensive ways of forming this natural material. Kerfing is a common technique for bending plywood that has been used in many industries for years. It involves the removal of material at points where a radius is desired (typically run over a table saw with a shallow depth). We were able to utilize tools that would scribe precisely calibrated radial dash patterns in a way that could convert flat sheets into something spatial and retain strength through the assembly.

**From conceptualization to final product, can you estimate how many hours the team spent over the summer?**

**Chris Mackey:** We found through our experience that we are not quite at the point of software capability where we can make any change to the geometry of an object and have all of the bolt-holes and kerf lines readjust. However, we found that we still had a lot of freedom and that we could make tweaks to, for example, the height of our structures or the width of seats and have all of the final information output well. The ability to change and adapt the model to new criteria is a huge benefit that I think will only become more helpful in the future.

**This is the first of a two-part Tech series spotlighting two campus pavilion projects designed and built by MIT Master of Architectural students. Also be sure to head over to the blogs at techbots.mit.edu for the extended interview!**

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**BOOK REVIEW**

**A magnificent visual guide to the universe**

*Universe* is a feast for the eyes and a treat for the mind of any sky lover

**By Roberto Perez-Franco**

The new edition of *Universe* is nothing short of what it promises. Edited by Astronomer Royal Martin Rees and published for the Smithsonian Institution by DK, the book is a comprehensive, up-to-date, and vivid guide to the cosmos and what we know of it. Its 590 pages are divided into three sections: astronomy in general, the cosmos, and the night sky.

The first section is mostly about the theories of physics, cosmology, and astronomy. It addresses basic questions about matter, energy, and space-time, presents current theories about the beginning and eventual end of the universe, and offers a primer on astronomy, to help the reader make sense of the changing appearances of the heavens. The graphics are breathtaking. A two-page plate titled "The scale of the universe" conveys a visceral sense of the immensity of the cosmos through a sequence of nested zoom-ins from the earth to superclusters. A four-page plate titled "The Big Bang" shows the birth of the universe from the Plank era to the appearance of matter.

The second section is mostly known facts about the universe at different scales. Our Solar System comes first, starting with the Sun itself and working outwards towards the Oort Cloud. As always, images are juxtaposed with the latest data. Close-ups of spots on the Sun, the rings of Saturn, and the scars on Jupiter are named. Then comes our galaxy, in all its splendor, with jaw-dropping photos of nebulas and star clusters, and after that a section on what lies beyond the Milky Way: nearby galaxies, galaxy clusters, and finally superclusters. There is not a single page without magnificent photos and a pile of scientific facts. It is hard to pick a favorite, but if I had to, it would be the all-sky survey showing the distribution of galaxies as seen from Earth.

The third section is about the night sky; the constellations, their history, and skyscapes a-plenty, for different latitudes and all seasons. The charts are carefully explained, rich in practical details for using them in backyard observation of the heavens with binoculars, a small telescope, or the naked eye.

This is the book I wish I had while growing up in the countryside of Panama, an equatorial country where most of both celestial hemispheres are visible. It would not only have replaced about a dozen other books I had to keep handy, but it would have given me information I would never have dreamed of having. Human understanding of the universe is expanding at most as fast as the thing itself. There is a revolution taking place in cosmology. The night sky is alive. No matter if you are a layman or an advanced amateur astronomer, you will enjoy this book. As a person who has loved books and the night sky since I can remember, I wholeheartedly recommend *Universe*. It is a real treat for the curious mind and a feast for the eyes.

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The Tech Friday, October 19, 2012

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**Arts Arts Arts Arts Arts Arts Arts Arts Arts Arts Arts Arts Arts**
Back to the grind
The popular first-person-looter is back!

By Keith Yost

If you played the original Borderlands and liked it enough to do a second play-through, there is no point in reading this review past the next sentence. Borderlands 2 is worth its cost at $60; it has everything the original has, plus a real plot and an almost seamless co-op multiplayer experience.

If you haven’t played Borderlands, then this review is a bit tricky. Borderlands 2 is a great game, but it belongs to a very specific genre, one that is very hit-or-miss with most gamers. Knowing whether the game is worth buying depends very much on understanding what sort of experience you’re in for.

Technically, the game is listed as a first-person-shooter; a genre which calls to mind Halo or Call of Duty. This is a very misleading label. Borderlands 2 is more aptly described as an arsenal management simulator. Almost a third of your time playing Borderlands 2 is spent grinding through hordes of enemies, hoping that the boss drop an even better shotgun. In many cases, between long-range and short-range combat, the best way to keep pace with challenges and firepower — all while continuously upgrading to keep pace with challenges and maintaining access to the game’s range of weapons — is a serious challenge. Failing to get your character with a balanced loadout often makes the difference in missions, sometimes turning an already grindy game into an extremely grindy, if not impossible, game.

The combat is well done. Again, how the combat proceeds depends strongly on how you choose to equip and spec your character, but I found it both appropriately challenging and varied. These are traits that are very hard to find in a loot-and-grind style game, particularly when it comes to managing the game’s difficulty. Usually, game developers seem to focus their balancing efforts on a single design-basis threat, making the game near impossible for a single player who skips a significant portion of the quests, or a complete walkover for larger, more completionist parties.

To boot, Borderlands 2 brings to the table a set of qualities that fit well in virtually any genre. The well-voiced dialogue has a combination of dark, witty, juvenile, and self-referential humor. The game’s cel-shaded graphical style is a welcome break from the usual grey and brown shooter style, while having the added benefit of reducing the jarring effect of texture pop-in. The plot is... well, nothing that would win a storytelling award, but certainly better than the first game which had virtually no plot. Finally, the game handles multiplayer cooperation with very few hiccups, making it easy to join in with friends online.

However, there are still some complaints to lodge. In multiplayer games, loot should be randomly distributed among the players instead of going to whoever grabs it first as it does in Borderlands 2. Vehicle handling could stand improvement, as could some of the game’s menus. And there is no good reason for why the game only allows one quest to be active on your heads-up display at a time. None of these problems are deal breakers (except the loot distribution system in regards to playing the game with strangers).

For the most part, the question of whether or not you will like Borderlands 2 depends on whether looting and grinding is something that thrills or bores you. For enthusiasts of the genre the game is one of the rare few that deserves its full price tag — at the very least, pick it up in a few months when the price has fallen to around $40. For those turned off by grinding, even if first person shooters are your bag, Borderlands 2 is a game only worth considering in the $10 range, and even then maybe not.
The Dalai Lama
This past Sunday, the Dalai Lama visited the Institute for three days of panel discussions with members of the MIT community. Here’s a look at what happened during his stay.

SUNDAY

The Dalai Lama arrives
By Austin Hess
ASSOCIATE NEWS EDITOR

Terence Groves, the Dalai Lama and Kenneth Quine in Boston for three days of panel discussions with members of the MIT community. The Dalai Lama arrived Sunday morning. "Stages of Meditation: Buddhism for the 21st Cen-
tury," an event for the general public, was the first event of the day.

On Monday, Oct. 15, the Dalai Lama presented a full day of talks, in which he discussed topics from his new book, "Global Ethics Beyond Religion." He showed up at 10 o’clock, and by 10:03 a.m., the room was packed with people ready to hear his words. He greeted the crowd, saying, "Hello! I feel like I have a lot of work to do today."

His Holiness presented a talk on meditation titled "Stages of Meditation: Buddhism for the 21st Century," an event for the general public, was the first event of the day.

Also present for the event were John D. Sterman, John Seeman, and David Stendl-Rast. They introduced the Dalai Lama and gave brief remarks before the presentation began. The Dalai Lama then presented a talk on meditation titled "Stages of Meditation: Buddhism for the 21st Century." He began by speaking about the importance of meditation and how it can help us to overcome our own personal problems and obstacles. He also discussed the benefits of practicing meditation regularly, especially for those who are suffering from mental illness or trauma.

The Dalai Lama talked about the need to care for our planet in the morning session on Monday, as well.

The Dalai Lama bows with others.

TUESDAY

Buddhism and meditation
By Janice Manfield
ASSOCIATE NEWS EDITOR

On Tuesday, the Dalai Lama spoke about Buddhism in the modern world and how it can bring change to the world. He talked about the importance of having a good relationship with others and how this can help us to achieve our goals in life.

He also discussed the importance of listening and being open to new ideas. He said, "If we are open to new ideas, we can learn from others and grow as individuals.

The Dalai Lama concluded his talk by reminding the audience of the importance of compassion and kindness. He said, "We must always try to be kind to others and to ourselves, and to remember that we are all connected in some way.

The Dalai Lama bows with others.

The Dalai Lama greets the crowd standing for national anthem.

Adrian Anawatseven, a renowned volunteer born without a right hand, opens the event on Sunday with a volunary email.

Monday, October 19, 2012

The Tech 10

The Dalai Lama speaks with a panel including Father Thomas Keating and Brother David Steindl-Rast to a large crowd on Sunday.

The Tech 11
A water drop, dripping from a dorm faucet, appears frozen in space by using a fast shutter speed.

By James Sun

Aperture: f/4.5
Exposure Time: 1/4000 sec.
Sensitivity: ISO 12,800
35mm Equivalent Focal Length: 35 mm
Kendall plan, from Page 1

the Charles River, Main Street and Ames Street, with ready access to the MBTA Red Line, representing an extremely precious resource.

The planning and development process affecting this part of campus has become intertwined with MIT’s commercial real estate investment goals. Therefore, it is important to consider how these goals might affect the planning process. The current planning process (as outlined by MITIMCo) for development of the Kendall Square area falls short of the aspirations described above.

But “I didn’t read it that way,” says Marsh. Marsh sees a lot of alignment between the task force’s recommendations and what MITIMCo has been working on. He cites the importance of an east campus gateway that would mirror the prominence of "7 Massachusetts Avenue, as well as the desire for ground-floor retail and amenities in new buildings. Both featured prominently in MITIMCo’s original proposal from April, 2011, and are key points in the task force report.

Kochan thinks that MITIMCo has been doing the job is was "entrusted to do" and said that MITIMCo staff are professionals who are well-equipped to execute the revised vision articulated by the task force.

Landmark confusion

There has been substantial confusion over the precise landmark status of buildings E38, E39, and E48: the MIT Press building, Rebecca’s Café, and the Kendall clock tower building.

The executive director of the city’s historical commission has expressed a desire to see those buildings preserved in their current form. But for them to become landmarks, the six-member commission would first have to vote to recommend them as landmarks, and then the nine-member City Council would have to vote in advance to accept that recommendation.

The task force report says that the buildings have been designated as landmarks that must be preserved. That is wrong. In fact, the negotiation on the landmark status of those buildings seems likely. Kochan said, “We’re recommending that MIT and the representatives of the city sit down and look at a range of options for preserving and honoring the historical significance of Kendall Square. There are a variety of ways to do that that are not just limited to preserving the three buildings in question.”

“I think we could be really creative,” Kochan said. MIT could build something that honors the history in a very interactive visual kind of way, with some of the physical artifacts of the old buildings. But do it in an MIT style, with educational materials, videos, interactive simulations of what Kendall Square used to look like and looks like today. I think that would be a way to achieve the objectives of historical preservation, but also demonstrate that it’s an area on the move, and will be an important part of the future.

Of course, MIT has been looking at such options for some time. Discussions with the historical commission began in the summer of 2011, and Marsh has previously told the planning board he is trying to “make it work.”

The text of the report seems to have caused some confusion. When Kaiser introduced the task force results at the faculty meeting, both he and Allen indicated the buildings were landmarks. But, according to Nathaniel W. Nickerson, director of communications at MIT, both the provost and the task force members understood on Wednesday that the buildings had not been designated as landmarks.

A question of timing

At the faculty meeting, Professor Richard de Neufville ’60 (EECS, Civil Engineering) praised the report, but expressed concerns about the timing and sequencing of events. de Neufville asked why MIT would re-submit its zoning proposal in advance of preparing a comprehensive plan. He suggested there was no particular hurry to submit the zoning petition, and that the planning board would look more favourably upon an upcoming petition that includes features of interest to the city, such as graduate student housing.

Provos Kaiser replied that there was a window of opportunity which might not exist in future.

“There’s a window, so I really wouldn’t want to miss that window,” he said. However, Kaiser didn’t see it as a major concern, and the task force report didn’t depend on the zoning petition appearing to depend on the zoning petition being filed.

But with due respect, I would challenge that”, de Neufville said. He suggested there was no particular reason why a zoning petition could not be filed later, and asked for specifics. Kaiser offered to speak with him offline, but did not reply with substance.

Kochan, the committee chair, told The Tech that there is a lot of energy on the city’s side that supports acting now. The city manager, the planning board, and city staff have all been working to respond to MIT, and have given feedback, he said. “They are interested in having us come back as soon as possible,” he said.

Additionally, the city’s Kendall Square Central planning process (K2C2) is winding down, and the outside consultants who are assisting with the process, Goody, Clancy & Associates, are only available for a limited time.

But to a certain extent, the city is expecting MIT’s zoning petition because it has been told to expect it. It could certainly choose to proceed with the non-MIT-specific portions of the Kendall zoning in the interim. Zoning in Kendall Square is divided up into large units by property owner, and the city and the planning board had chosen to tackle MIT’s zoning first, because its zoning unit had the most potential for development, and it had previously filed a zoning petition. But there is nothing about the process that requires MIT’s unit to be handled first.

It is unclear how soon MIT might refile its zoning petition. Kochan said “I think it’ll be ready to be filed soon,” but Marsh seemed less certain. For Marsh, refile the petition appeared to depend on the negotiations about the landmark status of the three buildings, but it is unclear when those discussions will reach a conclusion.

— John A. Hawkinson

Old plan ‘fell short’ MIT faculty say

John A. Hawkinson

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— John A. Hawkinson

High points of the 2030 report

Findings

1. The affected real estate represents “an extremely precious resource.”
2. Prior planning and development here have been “intermittent with MIT’s commercial real estate investment goals,” and have typically taken place a significant distance from main campus.
3. Financial return should not be the “principal criterion” for this area.
4. The previous zoning plan “falls short of the aspirations” in points 1–3.
5. MIT needs to carefully consider additional housing for the community, especially graduate students. Such housing could be on-campus or off-campus.
6. Traffic impact needs to be considered.
7. The Cambridge Historical Commission has expressed an interest in designating E38, E39, and E48 as landmarks.
8. The City Manager and the Planning Board have asked to see MIT’s petition soon.

Conclusions

A comprehensive urban design plan should be completed, after the petition is approved but before anything is built.
2. The Task Force should participate directly in the planning process.
3. The plan should be guided by several design principles, listed below:

Design Principles

1. There must be an east gateway to MIT worthy of MIT and its aspirations, missions, and excellence.
2. The new buildings must “convey a campus feeling”; their ground floors should be reserved for inviting academic, student life, or retail uses and should not be gated or private.
3. Commercial space in Kendall Square should extend the campus, not the other way around.
4. Commercial development should generate an appropriate financial return, but perhaps not the same return as properties further from campus.
5. Commercial development should only happen in the context of the comprehensive design plan.
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School of Engineering contact: Maria Marangiello, x3-8012, mariam@mit.edu
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Aaron Swartz asks court to suppress data from MIT

Does MIT follow policy (requiring a court order) when releasing network history information?

By John A. Hawkinson

MIT released details and logs of Aaron Swartz’s use of the MIT network to law enforcement without a warrant or subpoena, according to court documents filed on Friday, Oct. 5.

The release violates MIT’s written policy on network information disclosure, Swartz’s filings say, but MIT Information Services & Technology disagrees. Swartz’s motion asserts MIT’s policy permits disclosure “only” in the face of a “court order or valid subpoena,” but the policy does not contain the word “only.”

The details of MIT’s disclosure of this information are important to students because the same policies govern the release of information for other kinds of activities, such as illegal downloading and file-sharing. MIT has defended its actions as necessary to “protect its network,” but has refused to explain that comment further.

Background

Swartz is accused of downloading millions of documents from JSTOR, an online journal archive, by hiding a computer in a network closet in the Building 16 basement. He has pleaded not guilty to 13 counts of federal law violations, and a jury trial is scheduled for Feb. 4, 2013.

On Jan. 4, 2011, the day after MIT was notified about Swartz’s third episode of JSTOR downloads, “the Secret Service assumed control of the investigation,” according to the filings.

MIT provided the Secret Service with “network flow data” and DHCP log information for Swartz from the prior 38 days, and packet capture of traffic to and from Swartz’s hidden laptop.

Network flow data is collected by the MIT network in an automated fashion, and consists of timelagged records summarizing source and destination Internet addresses, timestamps, number of bytes and packets, and network protocol. That information is sufficient to identify the kind of network use associated with a computer on the network. The information can translate to a list of the websites a person visits, whether they are engaging in peer-to-peer downloading through means such as BitTorrent, whether a computer is running a webserver, and similar activities.

DHCP log data, on the other hand, identifies the hardware address of a particular computer, and records the Internet IP address that the computer is automatically assigned by the network.

Packet capture data is actual real copies of the information sent over the network, it is not summarized or aggregated like network flow data, but it is not collected automatically and requires a lot of space to store. It’s not practical for MIT to collect packet capture data for more than a handful of computers on the network; but network flow data is much smaller and more manageable and can be collected for all machines on the network.

Because this data is so sensitive, MIT does not disclose it lightly. IS&T has a written policy that covers DHCP data, but does not explicitly mention network flow data or packet capture data.

The filing that provided this information was a 21-page motion to suppress evidence filed on Oct. 5. But it is not typical for courts to suppress DHCP logs and similar network information.

Martin G. Weinberg, Swartz’s attorney, wrote in an email that while some of the motions raise traditional Fourth Amendment challenges, “certain of the motions raise novel Fourth Amendment challenges with respect to ‘new technologies’”.

MIT’s explanation

When asked about MIT’s disclosure of network data without a subpoena, Marilyn Y. Smith, head of IS&T, told The Tech in a prepared statement last week that “MIT acted responsibly in unique circumstancesto protect its network and ensure the ability of members of the MIT community to access important scientific journals.”

Smith was unable to explain how MIT’s decision not to wait for a subpoena before disclosing the information “protected” the MIT network, or afforded “ability to access” scientific journals. Smith repeatedly declined to add more information, saying that MIT does not comment on matters related to active criminal proceedings.

Smith did say that MIT “has not changed its historical practice around the disclosure of personal information to law enforcement.”

Did Swartz break in?

The indictments against Swartz charge him with “breaking” into a restricted-access computer wiring closet in Building 16. But in Swartz’s second motion to suppress evidence filed on Oct. 5, Swartz claimed not to be a trespasser, and claimed not to have forfeited his expectation of privacy in his laptop “because he did not ‘abandon’ the laptop in a legal sense.”

Swartz’s motion describes the network closet as within a network of hallways which are used by people to travel between MIT buildings.

“There were no signs ordering people to keep out, … and the door to the data room opened readily with a ‘quick jerk,’ the motion said.

Swartz also argues that to find abandonment, “there must be ‘clear and unequivocal evidence’ that he intended to abandon the laptop. The fact that law enforcement expected him to return — and that they set up video surveillance in anticipation of that — means that he did not abandon the laptop,” the defense claims.

History

Swartz’s saga with MIT and JSTOR began in September 2010. He began mass downloading JSTOR documents on or around Sept. 24, and JSTOR first blocked his access on Sept. 26. He resumed his downloading on Oct. 2, and was blocked again on Oct. 9. Another episode occurred on Oct. 26, and again on Jan. 4. He was spotted and apprehended on Jan. 6.

Swartz was originally indicted on four counts on July 11, 2011. The indictment was superseded on Sept. 12, 2012, and the revised indictment is for thirteen counts. He appeared in court and pleaded not guilty on Sept. 24, 2012.

His trial is currently set for Feb. 4, 2013 in United States Federal Court before judge Nathaniel M. Gorton at the Moakley Courthouse on the Boston waterfront.

John A. Hawkinson
EdX and Cengage collaborate

Over 370,000 registered on edX now have access to additional Cengage content

in more than one course, bringing course enrollments up to over 500,000. "With the expansion of our course offerings in Spring 2013 to between 20 and 30 courses, enrollments will continue their rapid climb and we expect to hit the million course enrollment mark early in 2013," O’Connell said in an email to The Tech.

EdX declined to provide a breakdown of enrollments by course.

The eight courses on edX represent just a fraction of the massive online classes (MOOCs) that have been cropping up in the past couple of years, including 18 from Udacity and 198 from Coursera, two platforms that grew out of projects at Stanford. Both of HarvardX’s classes started on Monday, the same day the University of Texas system announced that it was joining edX. In addition, a new course from the University of California, Berkeley, which joined in July, has appeared on the edX website.

The course is called Foundations of Computer Graphics, to begin on Nov. 5, the third class from Berkeley, and the sixth class in computer science or electrical engineering.

Open Access

A Conversation with:

Peter Suber, Open Access author
Richard Holton, MIT professor of Philosophy and Chair of the Faculty Open Access Working Group

Panelists will respond to questions about open access and its importance for scholarship and research at MIT and beyond.

Moderated by Ann Wolpert, Director of MIT Libraries.

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The Tech, October 19, 2012
The Pittsburgh Steelers are one of the top offensive teams in the NFL, mostly due to their great balance. If the Jaguars can’t take New England’s running game, they will have to force them to a one-dimensional game early on the ground and defenses, so the longer the explosive running team, the better. The defense off the field. The defense should be able to, especially coming off a bye week, the Jags will not be able to implement a good enough game plan to earn their second win.

Pittsburgh Steelers @ Cincinnati Bengals
Sunday, Oct. 21, 8:20 p.m.

The Pittsburgh Steelers are banged up. Troy Polamalu, LaMarr Woodley and Rashard Mend-\n\n-\nder head an injury report that lacks receiving yard yards per game. This could prove disastrous to their Super Bowl as-\n\n-pirations, as their defense was already looking uncharacteristically shaky this season. Buffalo has allowed a touchdown in over two seasons, and he was developing into one of the best corners in the NFL. Houston will look to take advantage of Webb’s and Lewis’ inj\n\n-\n\n-\n\n-s. This game should be a shoot\n\n-out. Both teams allow over 30 points on average and the Bills’ rush defense has been awful this season.

Cleveland Browns @ Indianapolis Colts
Sunday, Oct. 21, 1 p.m.

In a battle of rookie QBs, the Colts definitely have the advantage. Andrew Luck has shown po-\n\n-tential and poise early in his NFL career. Brandon Weeden also has improved since his first few starts, and he earned his first NFL win last week by shredding the Beng\n\n-al defense. The Colts have played well against the pass this season, and the Browns do not have any running game to speak of. Trent Richardson has been disappointing, and he will really need to step up if the Browns want a chance at a win. The Colts should be able to move the ball through the air, as the Browns al-

low almost 300 yards passing per game.

Production: 27-20 Bills

New York Jets @ New England Patriots
Sunday, Oct. 21, 4:25 p.m.

This is a key game in the AFC East, especially due to the Patriots’ weak start. They had trouble run-\n\n-\n\n-\n\n ning the ball last week against the Seahawks and that definitely contributed to their loss. The Pa-\n\n\n-triotics currently have the top ranked offense in the NFL, mostly due to their great balance. If the Jets can take away New England’s running game, they will have to force them to become one-dimen-\n\n-sional. Mark Sanchez played well enough last week to stay out of critical sit-\n\n-\n\n-uation calling for Tim Tebow, but now he has a tough matchup against a division rival. All eyes will be on him this week and he must control the game if the Jets hope to shock the Pats.

Production: 38-20 Patriots

Jacksonville Jaguars @ Oakland Raiders
Sunday, Oct. 21, 4:25 p.m.

Even in their loss last week, Oakland did a good job stopping Atlanta’s running attack. They held the Falcons to three yards per carry, and they hope to do the same this week against the jag\n\n\ns. If the Raiders can contain Maurice Jones-Drew, the Jaguars star running back, they will force Blaine Gabbert to heat them through the air, which is actually what they want. Gabbert leads the league’s worst passing game, aver-\n\n-ageing only 142 yards per game. Jacksonville lacks receiving weapons, so once their run-\n\n-\n\n-ning game is slowed, they are one of the worst offensive teams in the NFL. Even coming off a bye week, the Jags will not be able to implement a good enough game plan to earn their second win.

Production: 13-7 Raiders

Women’s soccer victorious
Team defeats nationally ranked Wheaton College

The MIT women’s soccer team edged out No. 7 nationally ranked Wheaton College 2-1 on Tuesday after-\n\n-\n\n-noon, ending the Lyons’ undefeated season. The Engineers are now 11-1-3 for the season and 6-1 in confer-\n\n-\n\n-ence play, while Wheaton dipped to 13-1-2 and 6-1 in NEWMAC play.

Michaelann Rodriguez ’14 scored the game-winning goal 35 minutes into the game. Ten minutes into the first half, Leslie A. Meyer ’13 scored the first goal of the afternoon, and her first this season, when she received a cross from Rachel A. Dias Carlson ’14. Exactly ten minutes later, Julia Cipriano put Wheaton on the board, tying the game at 1-1. In the 33rd minute, Rodriguez lobbed the ball past goalkeeper following a pass from Priyanka Gaur ’16, giving the Engineers a 2-1 lead over the Lyons going into the second period.

With a one-point advantage over Wheaton, MIT fought to keep ahead for the remaining 45 minutes. MIT outshot the Lyons 5-3 in the second half, but none of its shots needed to be saved while keeper Meghan S. Wright ’13 had to save two of Wheaton’s shots. The clock ran out on another game in which the team scored two goals, leaving MIT with a 2-1 victory over the Lyons.

MIT will host its final home game of the 2002 season on Saturday, Oct. 20, at 4:00 p.m., when NEWMAC foe Coast Guard comes to town.

This coincides with Senior Day, when the eight graduating seniors will be honored.
Seven MIT Cycling members descended on the 45-degree banked 250-meter wood- en velodrome in Frisco, TX, for the USA Cycling Collegiate Team National Cham- pionships on September 20 through 22. Their mission? Gold medals, Stars and Bars jerseys, and the hotly contested DII National Championship title.

Track cycling is one of the most dynamic disciplines of cycling with events that challenge athletes not only to overpowered their opponents, but also to outwit them. Cyclists ride counterclockwise on fixed gear bicy- cles without brakes on a 250m or 333m oval track or velodrome with banking up to 55 degrees.

"Apart from racing, just riding on the track is flat-out fun!" says Spencer Daniel Schaber G. "The 45 degree banking is daunting at first because you have to ride 17 mph just to stay on it, but after getting the hang of it, it’s like a roller coaster!"

Katherine A. Wymbs ’14 was pure en-thusiasm at the event. "Nothing quite com- pares to dressing into the spinter’s lane from high on the ramp and then lighting bolt into the velodrome. It’s a 100-meter sprint into the maintaing speed around the [final] turn!"

The MIT Cycling Track National Cham- pionships consists of seven events across three days: some events are performed solo (long and short individual time trials called sprints), some raced as a team (team pursuits and the co-ed sprint), and some against all other athletes simultaneously (points race and scratch race).

With a record turnout of 120 riders, the MIT team had to rely on each other to either secure team spots or bring home gold medals. In the end, the MIT team had to rely on each other to either secure team spots or bring home gold medals.

The women’s team, comprised of Birch and first-year track cyclists Wymbs and Edrie Buenaventura Ortega G, finished the 3-kilometer team pursuit first among teams fielding only 3 out of 4 possible riders. The men’s team included Garrett, LaBry, Scha- ber, and Zachary Seth Hartwig G, and fin- ished the individual pursuit at 4:03 for a 3-kilometer individual pursuit, only a second apart with times of 4:58 and 4:59.

The men’s team arrived at the track before sunrise, warmed up under stadium lights, raced until 3 p.m. in increasingly difficult conditions, only occasionally with a 1-2 hour break for lunch and air conditioning, and then returned to the track at 5:00 p.m. for racing well past nightfall. Wymbs con- fessed MIT’s secret for success: "I think that one of the reasons MIT did so well was that we have more experience than other teams at operating on less than eight hours of sleep."

Garrett, by far the most experienced track cyclist of the troupe, noted that ca- maraderie was at the heart of the MIT vic- tory. "It was great to have seven riders who gave each race 100% and then spent the rest of the time supporting their teammates — truly an MIT team effort."

USA Cycling will remember MIT’s gold- winning performance on the track as well as Ortega’s breathtaking rendition of the Na- tional Anthem on the final day of competi- tion. Ortega is a newcomer to track cycling but already understands many of its man- euvres: “It takes more than having the strongest riders to win. It takes patience, control, and awareness to take the gold.”

Women’s volleyball team beats Babson on Tuesday

Leonard, Spielbauer lead team to victory, bring overall record to 24-3, 6-1 NEWMAC

By Christina Birch

MIT received 25 combined kills from senior Trinity P. Leon- ard, junior Ada V. Taylor and first-year Babson (18-6 overall, 3-4 NEWMAC) will need to win each of its final six matches against first-place Wellesley.

Meanwhile, fifth-place Babson (6-9 overall, 3-3 NEWMAC) will need to win each of its final six matches against first-place Wellesley.

The teams traded the first two sets. With Babson taking the opening set, Leonard put the Engi- neers back up by one, and Rachel A. Hunt ’14 followed with a kill down the right sideline off a Roth- man set to clinch the frame, 26-24. After exchanging 3 runs to start the fourth and final set, nei- ther squad led by more than one point until a 6-0 burst by MIT turned a 14-11 deficit into a 14-9 advan- tage midway through. The visitors’ lead would balloon to as many as seven on three different occasions down the stretch before junior Kristine A. Bunker’s kill finished off the set and the match, 25-18.

THE VICTORS SPOUT THEIR STARS AND BARS NATIONAL CHAMPIONS JERSEYS AND GOLD MEDALS WHILE LEANING AGAINST THE 44.6-DEGREE VELDROME RACING SURFACE.
Friday’s Beaver Madness to kick off basketball season

By Ethan A. Klein

The days are getting a bit chillier, which means basketball season is heating up. This Friday’s Beaver Madness marks the ceremonial kickoff to the start of the men’s and women’s basketball seasons at MIT, two campaigns that should be jam-packed with excitement.

The women’s squad boasts a great mix of veteran leadership this season along with a highly prized recruiting class. The Engineers notched key wins over WPI and Springfield last season, as well as a double-overtime thriller versus Wheaton College. During their trip to California, they womped MIT’s cross-country academic rival, CalTech, 100-26. Expect to see some even bigger wins this year from the women’s squad.

The men’s team is coming off an incredible 28-2 season, which saw them advance all the way to the Final Four in Salem, Virginia where they were one game away from the National Championship. The Engineers were ranked as high as #3 in the country last year, and are #1 in the national pre-season rankings. This year, they are returning almost all of their firepower while adding one of the top recruiting classes in the nation. Having advanced to the NCAA Tournament for the past four years, the Engineers have established themselves as a basketball powerhouse.

Needless to say, it is a great time to be a Beaver Basketball fan. In fact, it’s a great time to be a Beaver sports fan in general, with numerous teams dominating their respective sports. This Friday night at 7 p.m., the MIT Football team takes on Salve Regina in their last home game of the season. Immediately following the game at 10 p.m., in Rockwell Cage, Beaver Madness promises high-flying slams dunks, a faculty show-down, and prizes for fans.

National Football League predictions: Week 7

Packers will defeat Rams, Panthers will fall to Cowboys, Pats to dominate Jets

By J. Austin Osborne

Arizona Cardinals @ Minnesota Vikings

Sunday, Oct. 22, 1 p.m.

After their hot start this season, Arizona has started to slip the last couple of weeks, losing both games. After their thrilling loss to Buffalo (which also cost them starting QB Kevin Kolb), they look to steal a victory in Minnesota with John Skelton as quarterback. Despite their 4-2 record, Arizona has one of the worst offenses in the NFL. They win games with their stifling defense and the pressure they put on the quarterback. Adrian Peterson has returned in impressive form for the Vikings after his major knee injury last season, and has rushed for almost 500 yards. If Christian Ponder can hold onto the ball and avoid making costly mistakes, the Vikings should be able to control the game and win a close one.

Prediction: 23-17 Vikings

Dallas Cowboys @ Carolina Panthers

Sunday, Oct. 22, 1 p.m.

Dallas came up just short this week against the Ravens as Dez Bryant, despite his otherwise stellar game, dropped a two-point conversion to tie the game. Tony Romo was good in the loss, especially at the end of the game. The Cowboys running game, however, was the real star, rushing for over 200 yards against the usually tough Baltimore defense. However, they received some bad news as DeMarco Murray will be out for their game against the Panthers. Luckily, Felix Jones and Phillip Tanner are capable enough to shoulder the load this week. Carolina has underachieved this season. After entering the year as a sleeper pick by many, Cam Newton has been unimpressive and their defense hasn’t been able to hold teams. Even without Murray, the Cowboys should be able to make some progress running the ball and they will control the game.

Prediction: 27-14 Cowboys

New Orleans Saints @ Tampa Bay Buccaneers

Sunday, Oct. 22, 1 p.m.

The Saints got their first win two weeks ago against the Chargers, and there is still no doubt that they have an incredibly explosive offense. They lead the league in pass yards and Drew Brees is racking up the stats once again. New Orleans’ main problem, however, is their abysmal defense. They’ve allowed at least 24 points in every game, and they’ve been forced to outscore teams to win (which hasn’t worked out well). Lucky for them, Tampa Bay has one of the worst pass defenses in the league, and Brees will be able to pick through their secondary with ease. Bucs rookie RB Doug Martin should have a great game against this weak run defense, but it won’t be enough to keep up.

Prediction: 34-20 Saints

Green Bay Packers @ St. Louis Rams

Sunday, Oct. 22, 1 p.m.

St. Louis desperately needs consistent play from Sam Bradford. He was good last week against Miami, even in their loss, but the Rams still rank 27th in passing attack. Their defense has been much better than expected so far, but they will need an outstanding effort this week against a rejuvenated Packers team. Green Bay had a lethargic season until they traveled to Houston last week. With a strong performance by Aaron Rodgers, they showed why they were almost undefeated last season. He threw six touchdowns and looked sharper than he has all season. Carolina has one of the worst defenses in the league, and Brees will be able to pick through their secondary with ease. Bucs rookie RB Doug Martin should have a great game against this weak run defense, but it won’t be enough to keep up.

Prediction: 27-10 Packers

Washington Redskins @ New York Giants

Sunday, Oct. 22, 1 p.m.

Robert Griffin has improved the Washington running game, and it really will need to step up this week, though, if they want to challenge the Giants. The Redskins have the worst pass defense in the league and Eli Manning should feast on their secondary. Washington cannot match up with all of the receiving weapons the Giants have. The Giants come into this game brimming with confidence after thoroughly dominating the 49ers. NFC East games are always close, however, and the Giants are known to have trouble with running quarterbacks. Giants win in a battle of reserves.

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