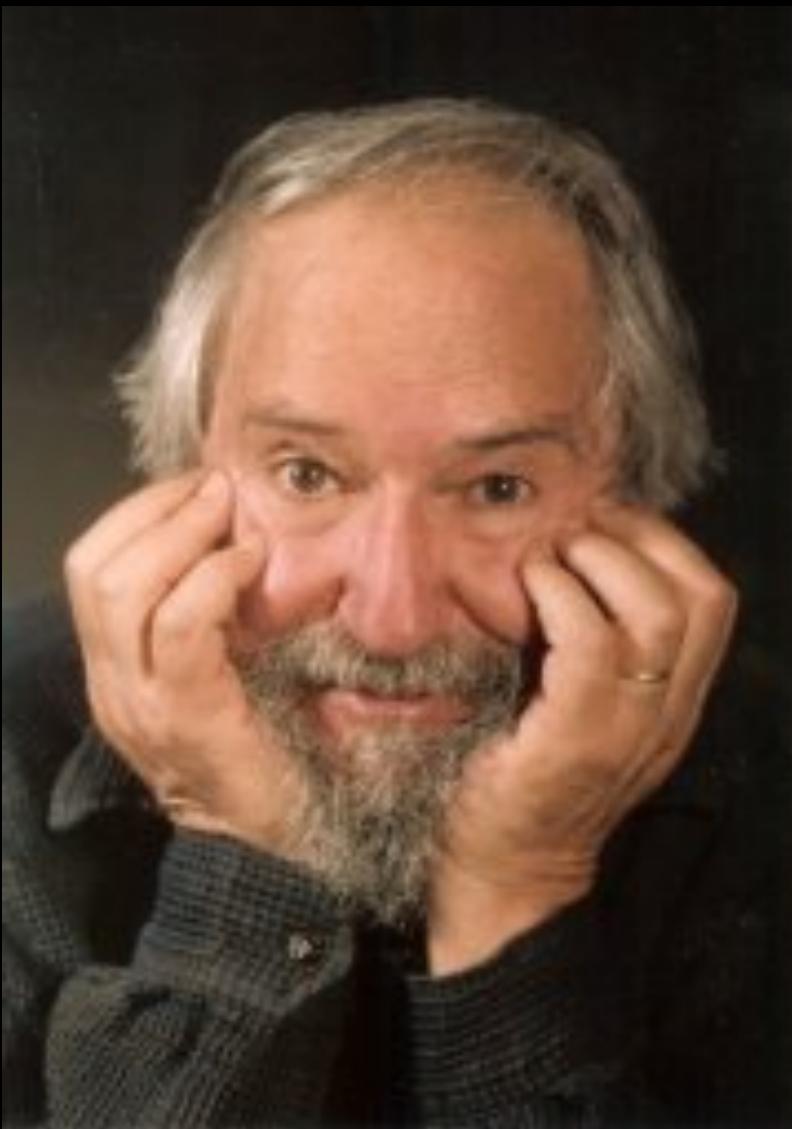


Creative Commons License
This work is licensed under a Creative Commons Attribution
3.0 Unported License.



Seymour Papert

2

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
A.I. LABORATORY

October 1971

Artificial Intelligence
Memo No. 247

LOGO
Memo No. 2

TEACHING CHILDREN THINKING^{1,2}

Seymour Papert*

This report describes research done at the Artificial Intelligence Laboratory of the Massachusetts Institute of Technology. Support for the laboratory's education research is provided in part by the National Science Foundation under grant GJ-1049.

*This paper is deeply influenced by Cynthia Solomon and Marvin Minsky.

¹Presented at the Proceedings of IFIPS World Congress on Computers and Education, Amsterdam, The Netherlands, 1970.

²To be published in Mathematics Teaching (The Association of Teachers of Mathematics, Leicester, England: 1972).

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
A.I. LABORATORY

Artificial Intelligence
Memo No. 247

October 1971

LOGO
Memo No. 2

TEACHING CHILDREN THINKING^{1,2}

Seymour Papert*

This report describes research done at the Artificial Intelligence Laboratory of the Massachusetts Institute of Technology. Support for the laboratory's education research is provided in part by the National Science Foundation under grant GJ-1049.

*This paper is deeply influenced by Cynthia Solomon and Marvin Minsky.

¹Presented at the Proceedings of IFIPS World Congress on Computers and Education, Amsterdam, The Netherlands, 1970.

²To be published in Mathematics Teaching (The Association of Teachers of Mathematics, Leicester, England: 1972).

The purpose of this essay is to present a grander vision of an educational system in which technology is used not in the form of machines for processing children but as something the child himself will earn to manipulate, to extend, to apply to projects, thereby gaining a greater and more articulate mastery of the world, a sense of the power of applied knowledge and a self-confidently realistic image of himself as an intellectual agent.

Structure and
Interpretation
of Computer
Programs

Second Edition



Harold Abelson and
Gerald Jay Sussman
with Julie Sussman

*The computer revolution
is a revolution in the way
we think and in the way
we express what we think.*

Computational Thinking

It represents a universally applicable attitude and skill set everyone, not just computer scientists, would be eager to learn and use.



Computational thinking builds on the power and limits of computing processes, whether they are executed by a human or by a machine. Computational methods and models give us the courage to solve problems and design systems that no one of us would be capable of tackling alone. Computational thinking confronts the riddle of machine intelligence: What can humans do better than computers? and What can computers do better than humans? Most fundamentally it addresses the question: What is computable? Today, we know only parts of the answers to such questions.

Computational thinking is a fundamental skill for everyone, not just for computer scientists. To reading, writing, and arithmetic, we should add computational thinking to every child's analytical ability.

C

omputational thinking builds on the power and limits of computing processes, whether they are executed by a human or by a machine. Computational methods and models give us the courage to solve prob-

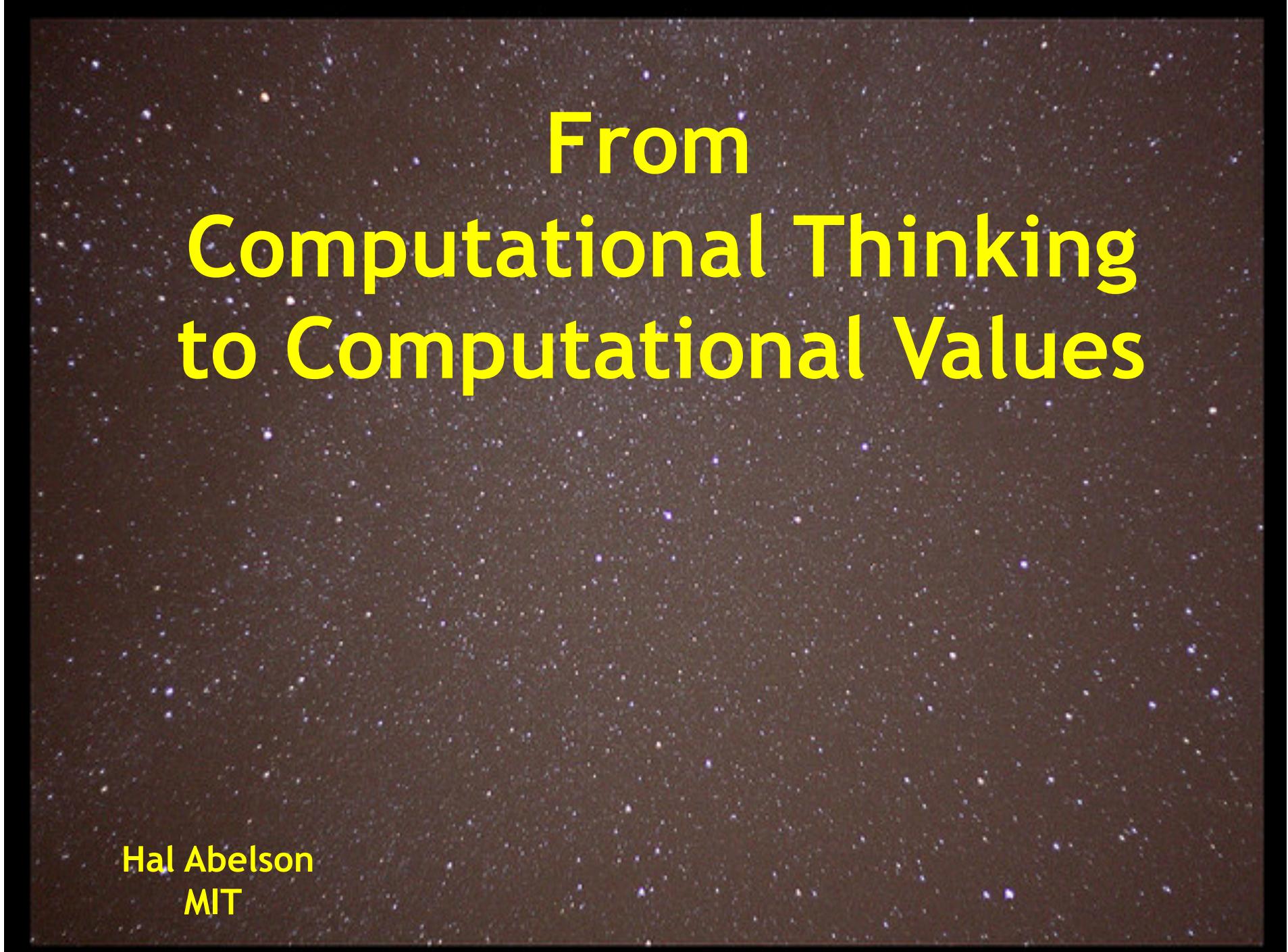
lems and design systems that no one of us would be capable of tackling alone. Computational thinking confronts the riddle of machine intelligence: What can humans do better than computers? and What can computers do better than humans? Most fundamentally it addresses the question: What is computable? Today, we know only parts of the answers to such questions.

In solving a problem efficiently, we might further ask whether an approximate solution is good enough, whether we can use randomization to our advantage, and whether false positives or false negatives are allowed. Computational thinking is reformulating a seemingly difficult problem into one we know how to solve, perhaps by reduction, embedding, transformation, or simulation.

Computational thinking is thinking recursively. It is parallel processing. It is interpreting code as data and data as code. It is type checking as the generalization of dimensional analysis. It is recognizing both the virtues and the dangers of aliasing, or giving someone or something more than one name. It is recognizing both the cost and power of indirect

Computational Thinking

Hal Abelson
MIT



From Computational Thinking to Computational Values

Hal Abelson
MIT

Google's Ngram Viewer: A time machine for wordplay | Digital Media – CNET News

news.cnet.com/8301-1023_3-20025979-93.html

Smart Bookmarks News Reload via MIT L... Center for Mo... Calendar Unilever Centre ... Open and Shut?... tAIR | Tutorial ... progrfree.org/Ne... Bookmarks

c|net News Ad: Manage Packages With UPS My Choice Search CNET Log In | Join

Samsung Galaxy S™ II Skyrocket™ with 4G LTE featuring speeds up to 10x faster than 3G. BUY NOW Rethink Possible® LEGAL

CNET > News > Digital Media

Google's Ngram Viewer: A time machine for wordplay

by Lance Whitney | December 17, 2010 8:26 AM PST

Follow

9 comments

148

1 Like

164

Tweet

2

Google labs Books Ngram Viewer

Graph these case-sensitive comma-separated phrases: spiderman between 1900 and 1970 from the corpus English with smoothing of 3

Search lots of books

spiderman

0.00000000% 0.00000001% 0.00000002% 0.00000003% 0.00000004% 0.00000005% 0.00000006% 0.00000007% 0.00000008% 0.00000009% 0.00000010% 0.00000011% 0.00000012% 0.00000013% 0.00000014% 0.00000015% 0.00000016% 0.00000017% 0.00000018% 0.00000019% 0.00000020%

Search in Google Books:

Recently Viewed Products My Lists My Software Updates Follow: Twitter Facebook Log In | Join CNET

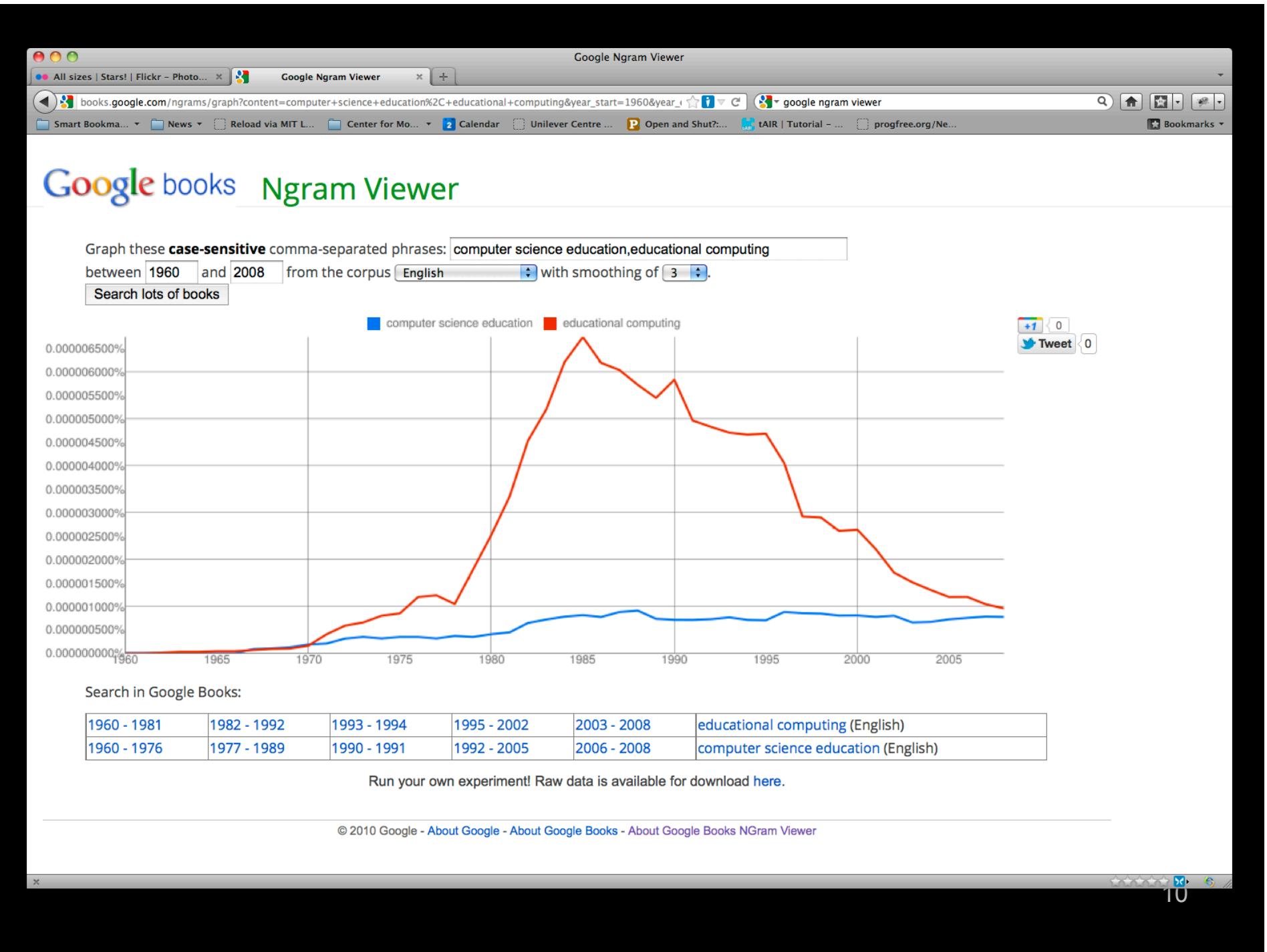
Microsoft UNLOCK INTELLIGENCE Get the Case Study Windows Embedded

CNET Blogs

Startup Secret 36: You're big. But not that big. Rafe's Radar

Friday Poll: Is AT&T data throttling reasonable? Crave

Might Apple lose the iPad trademark? Welcome to the Twilight



Quantitative Analysis of Culture Using Millions of Digitized Books

Jean-Baptiste Michel,^{1,2,3,4*}† Yuan Kui Shen,⁵ Aviva Presser Aiden,⁶ Adrian Veres,⁷ Matthew K. Gray,⁸ The Google Books Team,⁸ Joseph P. Pickett,⁹ Dale Hoiberg,¹⁰ Dan Clancy,⁸ Peter Norvig,⁸ Jon Orwant,⁸ Steven Pinker,⁴ Martin A. Nowak,^{1,11,12} Erez Lieberman Aiden^{1,12,13,14,15,16*†}

¹Program for Evolutionary Dynamics, Harvard University, Cambridge, MA 02138, USA. ²Institute for Quantitative Social Sciences, Harvard University, Cambridge, MA 02138, USA. ³Department of Psychology, Harvard University, Cambridge, MA 02138, USA. ⁴Department of Systems Biology, Harvard Medical School, Boston, MA 02115, USA. ⁵Computer Science and Artificial Intelligence Laboratory, MIT, Cambridge, MA 02139, USA. ⁶Harvard Medical School, Boston, MA, 02115, USA. ⁷Harvard College, Cambridge, MA 02138, USA. ⁸Google, Inc., Mountain View, CA, 94043, USA. ⁹Houghton Mifflin Harcourt, Boston, MA 02116, USA. ¹⁰Encyclopaedia Britannica, Inc., Chicago, IL 60654, USA. ¹¹Dept of Organismic and Evolutionary Biology, Harvard University, Cambridge, MA 02138, USA. ¹²Dept of Mathematics, Harvard University, Cambridge, MA 02138, USA. ¹³Broad Institute of Harvard and MIT, Harvard University, Cambridge, MA 02138, USA. ¹⁴School of Engineering and Applied Sciences, Harvard University, Cambridge, MA 02138, USA. ¹⁵Harvard Society of Fellows, Harvard University, Cambridge, MA 02138, USA. ¹⁶Laboratory-at-Large, Harvard University, Cambridge, MA 02138, USA.

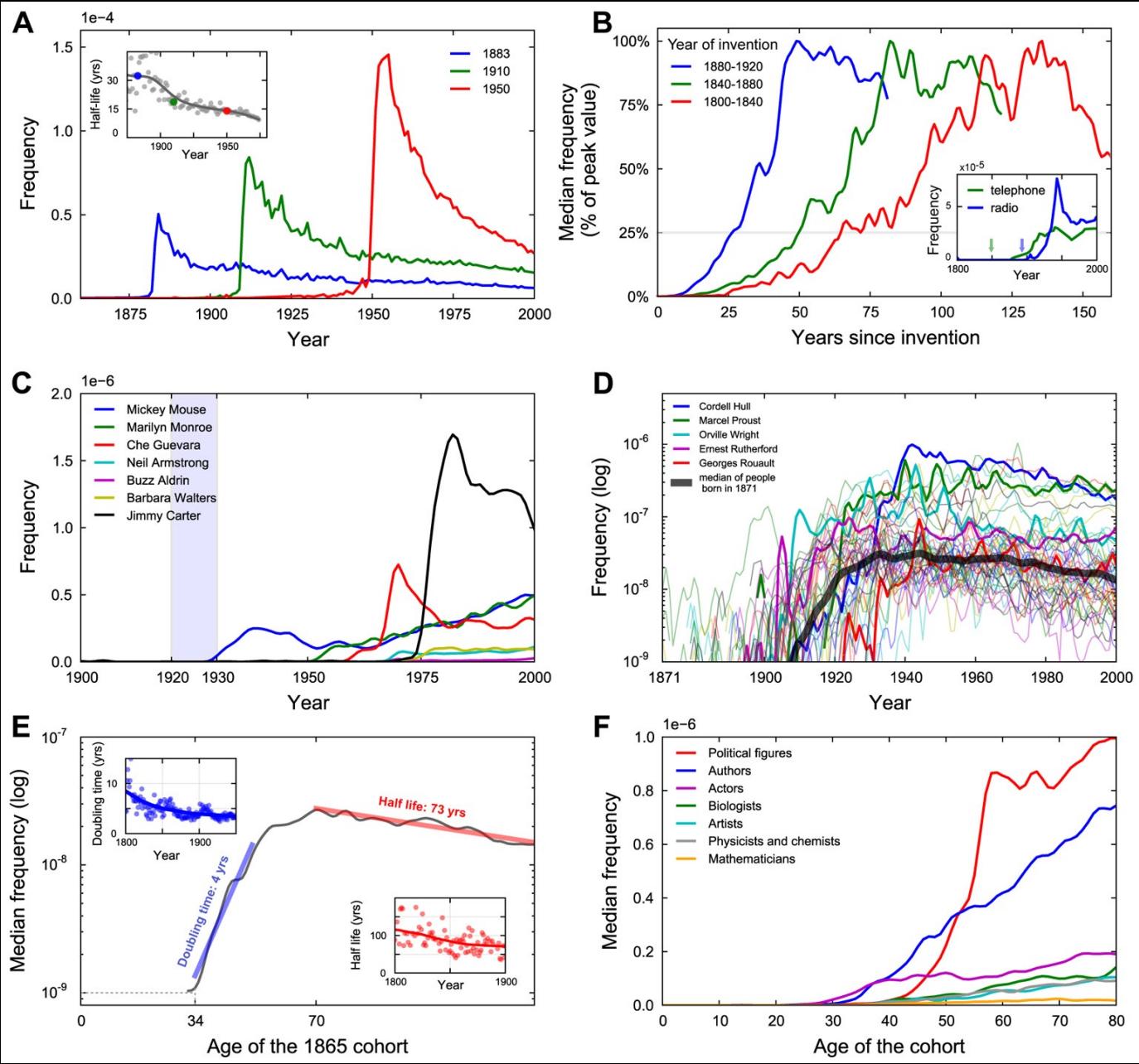
*These authors contributed equally to this work.

†To whom correspondence should be addressed. E-mail: jb.michel@gmail.com (J.B.M.); erez@erez.com (E.A.).

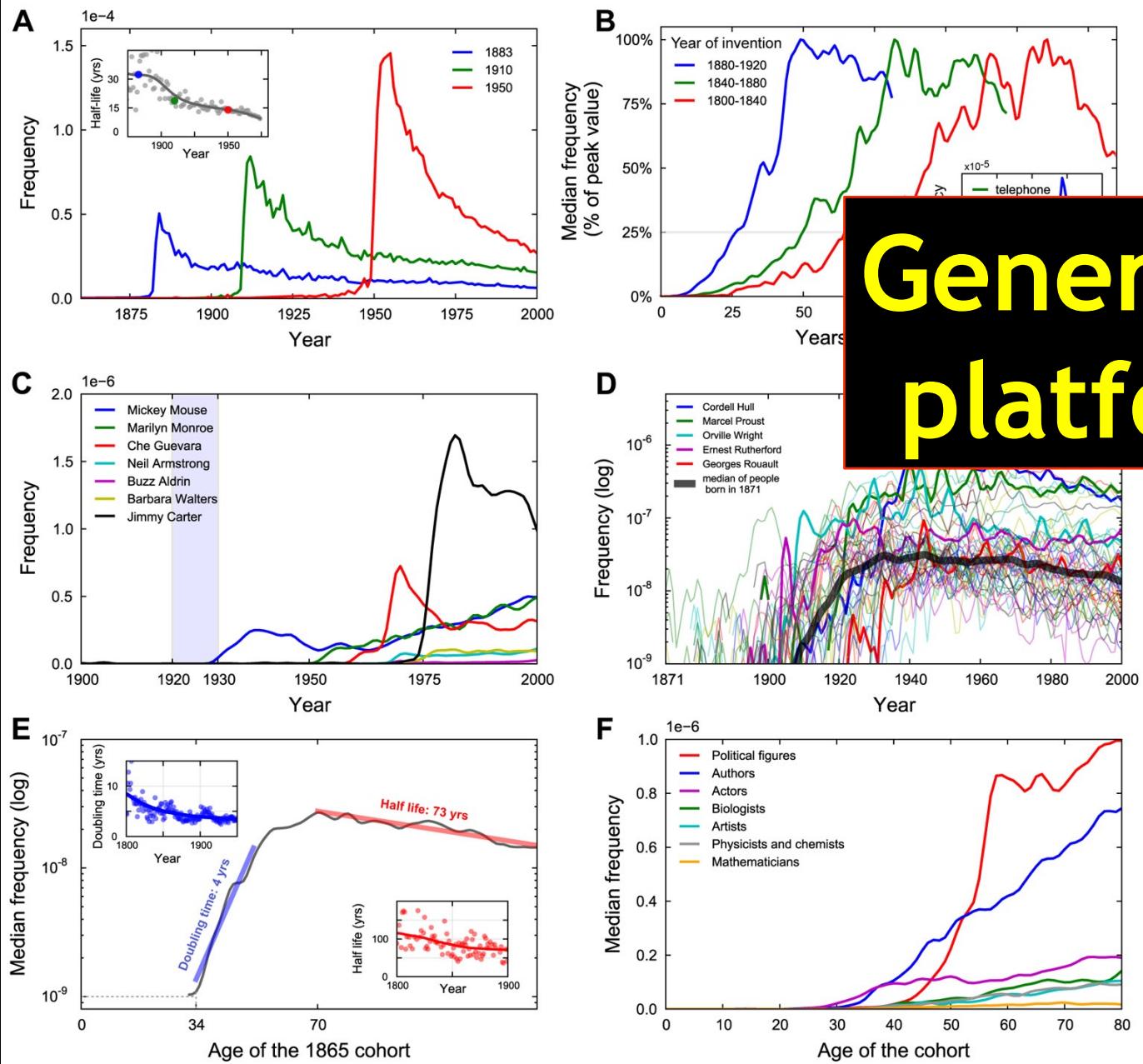
We constructed a corpus of digitized texts containing about 4% of all books ever printed. Analysis of this corpus enables us to investigate cultural trends quantitatively. We survey the vast terrain of “culturomics”, focusing on linguistic and cultural phenomena that were reflected in the English language between 1800 and 2000. We show how this approach can provide insights about fields as diverse as lexicography, the evolution of grammar, collective memory, the adoption of technology, the pursuit of fame, censorship, and historical epidemiology. “Culturomics” extends the boundaries of rigorous quantitative inquiry to a wide array of new phenomena spanning the social sciences and the humanities.

custom equipment (7), and the text digitized using optical character recognition (OCR). Additional volumes – both physical and digital – were contributed by publishers. Metadata describing date and place of publication were provided by the libraries and publishers, and supplemented with bibliographic databases. Over 15 million books have been digitized [12% of all books ever published (7)]. We selected a subset of over 5 million books for analysis on the basis of the quality of their OCR and metadata (Fig. 1A) (7). Periodicals were excluded.

The resulting corpus contains over 500 billion words, in English (361 billion), French (45B), Spanish (45B), German (37B), Chinese (13B), Russian (35B), and Hebrew (2B). The oldest works were published in the 1500s. The early decades



Generative platforms



NATURE | NEWS

Researchers aim to chart intellectual trends in Arxiv

'Culturomics' team pivots from Google Books to scientific preprints.

Eric Hand

24 February 2012

When physicist Paul Ginsparg goes to next week's American Physical Society meeting in Boston, Massachusetts, he plans to take with him a 64-gigabyte flash drive containing all 740,000 or so articles from [Aixiv](#), the preprint repository he founded in 1991 that is managed by Cornell University in Ithaca, New York.

He will pass the data on to researchers from the Cultural Observatory at Harvard University in Cambridge, Massachusetts. They want to break down the full text of the articles into component phrases to see how often a particular word or phrase appears relative to others — a measure of how 'meme-like' a term is. Their goals: to give Arxiv a new tool for identifying original source papers in physics, mathematics and computer science — and to enable historians to spot trends from the 20 years that the repository has existed.

"How do you find the moment when a given scientific transformation occurred?" asks Jean-Baptiste Michel, co-director of the Cultural Observatory and a postdoctoral researcher in psychology at Harvard. "You can help the reader figure out where in time the most relevant papers were located, which has always been difficult to do."



Jean-Baptiste Michel (front) wants to use Arxiv to track how scientific language has changed.

KRIS SNIBBE/HARVARD UNIVERSITY

- [print](#)
- [email](#)
- [rights and permissions](#)
- [share/bookmark](#)

Generative platforms



In this week's Learning section:

States hit back on school reform law
When iPod goes collegiate
Shakespeare is coming your way
When the school bus becomes a scary place
Hard facts on the cost of leaving talent buried
When you can't understand the teacher
A teacher strives to pass 'the Michael test'

XML What is this?

Kidspace

A weekly feature for students aged 6 to 14.

Teachers: Don't miss our [Kidspace archive](#).

SPECIAL PROJECTS



'Don't forget us'



50 years of integration



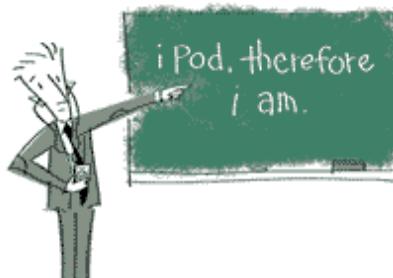
Competition for college

[more projects...](#)

Most-viewed stories:

Learning

from the April 19, 2005 edition



J KEHE

When iPod goes collegiate

By Elizabeth Armstrong Moore | Correspondent of *The Christian Science Monitor*

When Kenneth Rogerson walked into his newspaper journalism class on the first day of the school year, the professor could barely contain his excitement.

After a quick introduction he broke the big news: "We got the grant," he told his class. "You all get iPods."

As if on cue, the students exhaled an audible "whoa" and exchanged elated glances. Duke University in Durham, N.C., had already made many a headline as the first school ever to provide all incoming freshmen with their own 20-gigabyte iPods - enough space to store up to 5,000 songs.

Now, thanks to a grant program set up within Duke, some upperclassmen were overjoyed to also become recipients of the slim white gadgets.

But by this spring, the school had already announced its intention to scale back the iPod giveaway, which initially had cost Duke \$500,000. Next fall, only students enrolled in courses

SUPPORT THE MONITOR

→ [Help the Monitor](#).
[Donate now](#) to support independent journalism.

SUBSCRIBE

Subscribe:

→ [Free sample issue](#)

ADVERTISEMENT

Apparel

[Buy Shoes](#)

Business Resources

[Search Engine Optimization](#)

Financial

[California Mortgage Loan](#)

[Car Insurance](#)

[Personal Loans](#)

Gifts

[Engagement Rings](#)

[Mother's Day Flowers](#)

[Italian Charms Sale!](#)

[Necklaces](#)

Graphic Design

[Logo Design - LogoBee](#)

Home & Garden

[Discount Home Furniture](#)

[Patio Furniture](#)

Real Estate

[Home Foreclosures](#)

[Moving](#)

[Moving Companies](#)

[Mortgage](#)

[Mortgage Advice](#)

[Mortgage Calculator](#)

[Real Estate](#)

Travel

[Airport Hotels](#)

[City Hotels](#)

[Discount Hotel Rooms](#)

[Hotels](#)

[Hotel Reviews](#)

[Vacation Rentals](#)

Web Services

[Internet Marketing](#)

In the Monitor

Friday, 04/22/05

[Moussaoui: a window on terror trials](#)

[China tries to patch its torn image](#)

[Hollywood looks deeper into Africa](#)

[In Little League batter's box, it's safety vs. homers](#)

[COMMENTARY: Fourth 'R' for Earth Day - reduce, reuse, recycle ... repair](#)

Read these and the rest of the Monitor's headlines by e-mail.
[Subscribe for free](#)

"Do they have permission from the person who wrote the lectures to share it?" asks Alan Albright, managing principal and specialist in intellectual property litigation at the law firm of Fish & Richardson in Austin, Texas. "That would be the copyright concern..."



NEW WRINKLE IN LEARNING:
Duke University freshman David Wagner admires the iPod he was given by his school last fall. The iPod case is engraved with the Duke crest and his class year.
SARA D. DAVIS /AP

Professors should be aware, Mr. Albright says, of how easy it is today for students to record lectures or any downloadable class materials and broadcast them over the Internet.

But all this collecting and dispersing red flags: First, how many words and unwittingly and used for unknown pu and where is copyright being infringe faculty make their own recordings?

Rogerson says that as far as his lect students are free to record anything mouth and use it for their own purposes, so long as they don't profit from it.

But not all professors or institutions are so free with their spoken intellectual property.

"Do they have permission from the person who wrote the lectures to share it?" asks Alan Albright, managing principal and specialist in intellectual property litigation at the law firm of Fish & Richardson in Austin, Texas. "That would be the copyright concern. The school wouldn't be liable anymore than Kmart is liable for selling me the iPod; giving me the storage capability isn't the bad thing. But I can't imagine, having been a student myself, that it won't be widely abused."

This concern exists at any school where students have iPods, whether they were gifts or not. Professors should be aware, Mr. Albright says, of how easy it is today for students to record lectures or any downloadable class materials and broadcast them over the Internet.

But even as such discussions persist, it seems clear that iPods are in classrooms to stay.

Duke may have been the first university to hand them out to its students, but it certainly won't be the last. In addition to Drexel's program, iPods have already spawned enthusiastic followings at Georgia College & State University in Milledgeville, which will



TM

MIT's
Oldest and Largest
Newspaper



Volume 125, Number 21

Cambridge, Massachusetts 02139

Friday, April

RIAA Sues 22 Dorm Residents For Sharing Calculus Lectures

By Keith J. Winstein
SENIOR EDITOR

The record industry sued 22 MIT students for copyright infringement last Wednesday. All of the students — as yet unnamed — live in MIT dormitories and are accused of sharing copyrighted songs without permission on the Internet. MIT has already notified the students whose names may be released to the industry.

The lawsuits are part of the industry's campaign, launched in 2003, of suing individual users of file-sharing software who publish songs for others to download without permission. So far, the industry has sued more than 6,000 people across the country — users of KaZaA, Grokster, LimeWire, and other programs.

This time, the record companies sued 405 users of the "ihub" program at 18 colleges. The industry says it is suing the most flagrant "uploaders" — people who make

many copyrighted songs available. "We chose targets based on the egregiousness of the infringement," wrote Cary Sherman, the president of the Recording Industry Association of America, in an online chat with college newspaper reporters last week. "The users sued today had an average of 2,300 MP3 files," he wrote.

The record companies do not yet know whom they are suing. They have asked the federal district court in Boston for permission to send subpoenas to MIT to identify the owners of 22 computers that the industry first identified, by IP address, in early April. The court is likely to grant permission in the next few weeks.

After MIT receives the subpoenas, the students identified will have 14 days to contest the release of their names. If a student does not challenge the subpoena in court, then MIT will send their names to the record companies, who will

amend their lawsuit to name the students as defendants.

The industry's lawsuit names five IP addresses at Baker House, five at Simmons Hall, two each at Senior House, Burton Conner House, Edgerton House, and the west parallel of East Campus, as well as one user at MacGregor House, Next House, Tang Residence Hall, and on MIT's remote access service.

The law entitles copyright owners to at least \$750 for each song that is illegally copied. "But we routinely settle these cases at far less — on average in the \$3,500–4,500 range — for those who work with us to resolve these cases quickly," Sherman wrote.

The industry's lawsuit against MIT students has become part of a larger existing case, *London-Sire Records Inc. v. Does*, No. 04-12434 (D. Mass. filed Nov. 18, 2004).

See page 22 for additional coverage.

The Weather

Today: Mostly sunny, lower
Tonight: Cloudy, rainy, low
Tomorrow: Rain showers
(16°C)
Details, Page



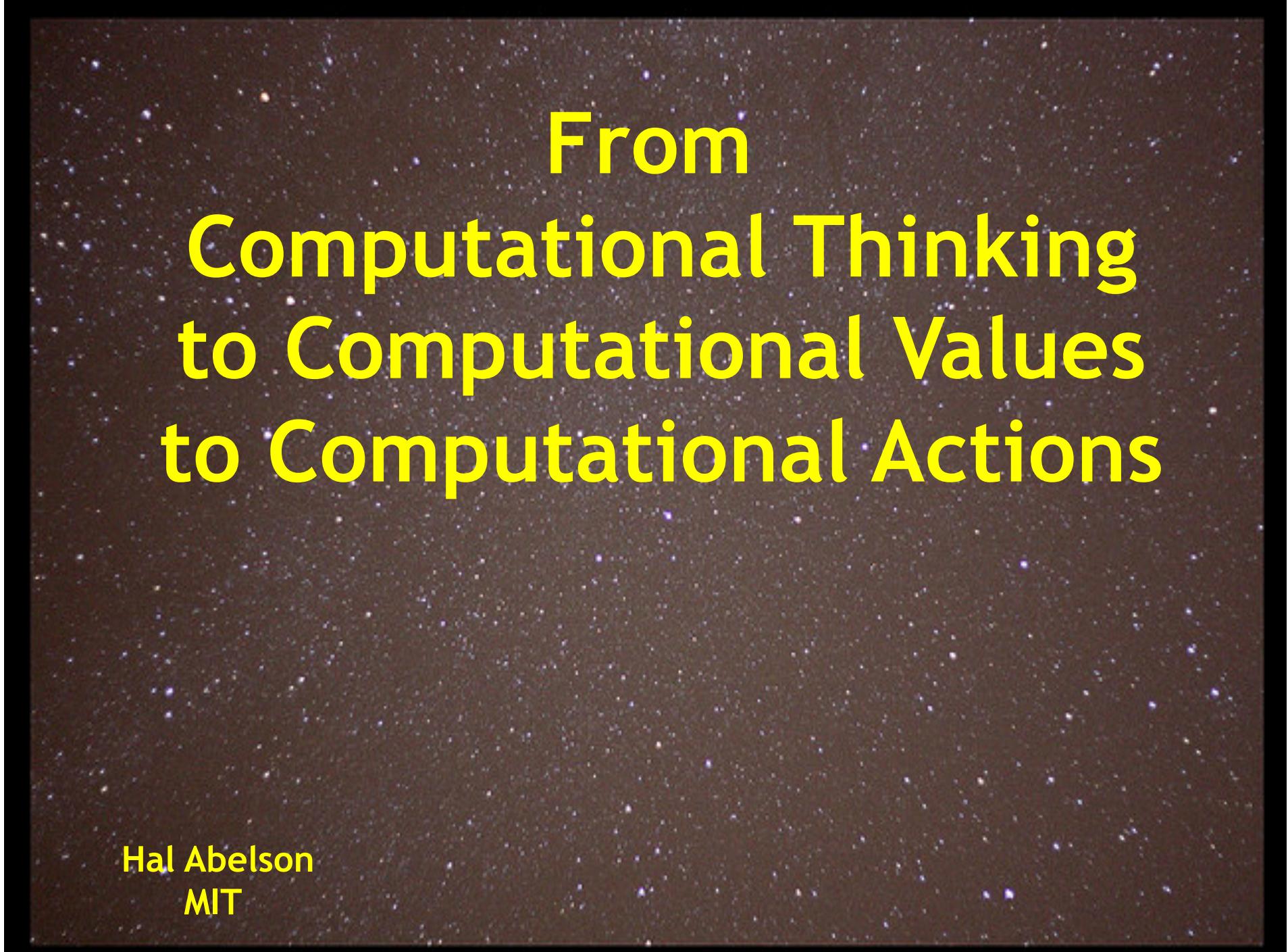
PHOTO ILLUSTRATION BY GRANT JORDAN

Reviving the old "Plano Drop" tradition, residents of Baker House push a dilapidated upright off the dormitory's story roof deck on Thursday, April 21, Drop Date. crash on page 13.

University of Southern California

As an academic institution, *USC's purpose is to promote and foster the creation of intellectual property.* It is antithetical to this purpose for USC to play any part, even inadvertently, in the violation of the intellectual property rights of others.

September 2002, letter to USC students from the Dean of Libraries



From Computational Thinking to Computational Values to Computational Actions

Hal Abelson
MIT



Site Highlights

- ▶ Syllabus
- ▶ Course Calendar
- ▶ Lecture Notes
- ▶ Assignments
- ▶ Exams
- ▶ Problems/Solutions
- ▶ Labs and Projects
- ▶ Hypertextbooks
- ▶ Simulations
- ▶ Tools and Tutorials
- ▶ Video Lectures

MIT OPEN COURSEWARE
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

SIGN UP FOR OCW NEWS

Home Courses Donate About OCW Help Contact Us Enter search keyword Advanced Search Email this page

Get Started with OCW
VIEW ALL 2000 COURSES
Most Visited Courses
OCW Scholar
Editor's Picks
Audio/Video Courses
Translated Courses
New Courses

Find Courses
Architecture and Planning
Engineering
Health Sciences and Technology
Humanities, Arts, and Social Sciences
Management
Science
Other Programs
Cross-Disciplinary Topics
Supplemental Resources
View All Departments

Highlights for High School

Other Resources
Archived Courses
MIT Curriculum Guide

Unlocking Knowledge, Empowering Minds.
Free lecture notes, exams, and videos from MIT.
No registration required.
[Learn more](#)

A DECADE OF OPEN SHARING
CELEBRATING 10 YEARS of OCW
On April 4, 2011, MIT celebrated the 10th anniversary of OCW's announcement. [Learn more](#) about our first decade of open sharing.

SUPPORT OCW
Your contribution helps us share MIT's course materials with the world. [Learn more about giving to OCW](#).

DONATE NOW
Your Amazon.com purchases can help support OCW. [Learn more](#).

The OCW LectureHall App. 

Available on the 

OCW is grateful for the support of:
Ab Initio
Ab Initio and OpenCourseWare:
Built on fundamentals

[Learn more about Corporate support](#)

MIT OCW publication statistics as of February 2012

- 2745 courses published
 - 2103 active, others archived in MIT DSpace
 - Full videos of 42 courses
- 1018 course translations
- 298 mirror copies distributed on hard drives
- 78% of MIT faculty participating

MIT OCW distribution statistics for July-Dec 2011

- 9.6M visits by 5.6M unique visitors
- 51M page views
- 171K visits from within MIT
- 12M views/downloads on YouTube and iTunes
- 54% of traffic from outside North America

Machine Learning

STANFORD
ENGINEERING

Enroll

New Student? Enroll today in our online class for free!

Login

Already enrolled? Click here to login to access course materials and participate in discussion

Preview Videos

Want a preview of what is coming up next? Watch the lecture videos here without creating an account.



New Courses Starting 2012

Medicine



Anatomy

Civil Engineering



Making Green
Buildings

Electrical Engr.



Information
Theory

Complex Systems



Model Thinking

Computer Science



CS 101



Machine Learning



Software as a
Service



Human-Computer
Interaction



Natural Language
Processing



Game Theory



Probabilistic
Graphical
Models



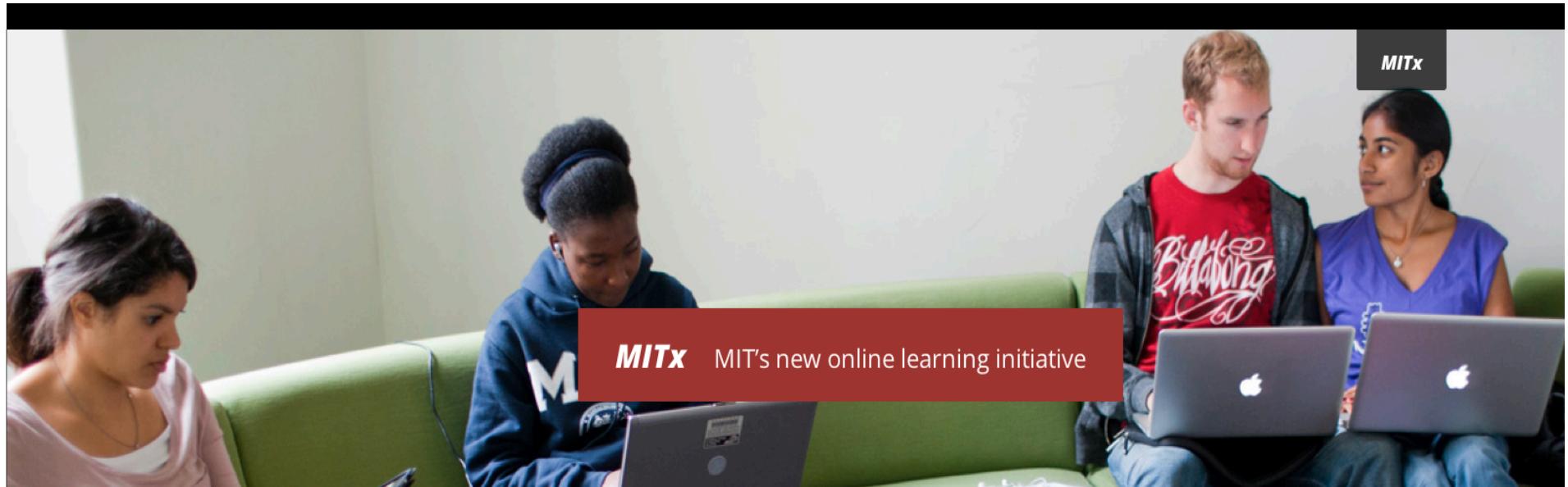
Cryptography



Design and
Analysis of
Algorithms

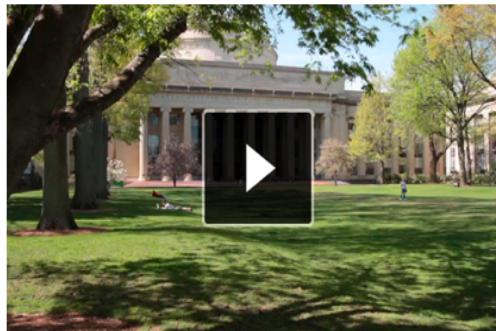


Computer
Security



MITx will offer a portfolio of MIT courses for free to a virtual community of learners around the world. It will also enhance the educational experience of its on-campus students, offering them online tools that supplement and enrich their classroom and laboratory experiences.

The first MITx course, 6.002x (Circuits and Electronics), will be launched in an experimental prototype form. Watch this space for further upcoming courses, which will become available in Fall 2012.

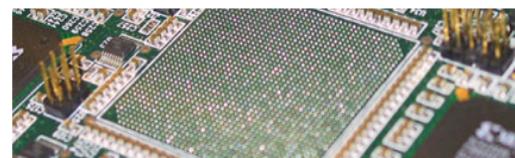


MITx COURSES WILL BE OFFERED ON AN ONLINE LEARNING PLATFORM THAT:

- organizes and presents course material to enable students to learn worldwide
- allows for the individual assessment of any student's work and allows students who demonstrate their mastery of subjects to earn certificates awarded by MITx
- features interactive instruction, online laboratories and student-to-student and student-to-professor communication
- operates on an open-source, scalable software infrastructure in order to make it continuously improving and readily available to other educational institutions, such as universities and K-12 school systems.

Press & links: [6.002x Press Release](#), [6.002x FAQ](#), [MITx overview](#), [Boston Globe](#), [New York Times](#), [MIT Press](#)

SPRING 2012 COURSE OFFERING



Circuits and Electronics

6.002x

[More information](#) [Enroll](#)

Taught by Anant Agarwal, with Gerald Sussman and Piotr Mitros, 6.002x (Circuits and Electronics) is an on-line adaption of 6.002, MIT's first undergraduate analog design course. This prototype course will run, free of charge, for students worldwide from March 5, 2012 through June 8, 2012. Students will be given the opportunity to demonstrate their mastery of the material and earn a certificate from MITx.

Firefox ▾

MITx 6.002 mitx-aa.14x.org/courseware/6.002_Spring_2012/Week_4/Dependent_Sources_and_Amplifiers/ Google Bookmarks

COURSEWARE INDEX

close

- Overview
- Week 1
- Week 2
- Week 3
- Week 4**
- Incremental Analysis
- Lecture Sequence
- Dependent Sources and Amplifiers**
- Lecture Sequence
- Incremental and Amplifiers
- Homework
- Week 5
- Week 6
- GJS testing
- Development

S8E0: DEPENDENT SOURCE

In the following diagram there is a dependent current source driving a resistor. The current in the dependent source may be a function of either v_B or i_B as indicated in the diagram.

Write the algebraic expression required for each question below.

If $i_D = K_1 v_B$ what is v_O ?

If $i_D = K_2 i_B$ what is v_O ?

Check **Save**

S8E1: DEPENDENT CURRENT SOURCE

The following figure shows a circuit with a nonlinear voltage-controlled current source:

Determine the voltage v_O (in Volts) across the dependent source given that $i = f(v) = \frac{K}{v^2}$. Assume that $R = 950.0\Omega$, $V_S = 6.0V$, and $K = 0.072$.

Education

| [Deeper Learning](#)

| [California Education](#)

| [Open Educational Resources](#)

| [Serving Bay Area Communities](#)

| [Staff](#)

Environment

[Global Development & Population](#)

[Performing Arts](#)

[Philanthropy](#)

[Special Projects](#)

[Serving Bay Area Communities](#)

[Past Programs](#)



Follow us
on Twitter.



Join us
on Facebook.

Open Educational Resources



A distance learner attending a tutoring session in Mozambique. The Open Educational Resources portfolio makes grants to make high-quality educational materials available for free, anywhere in the world. Photo: Rosario Passos

Open Educational Resources (OER) are high-quality, openly licensed, online educational materials that offer an extraordinary opportunity for people everywhere to share, use, and reuse knowledge. They also demonstrate great potential as a mechanism for instructional innovation as networks of teachers and learners share best practices.

Since 2002, the Hewlett Foundation has worked with OER grantees to improve education globally by making high-quality academic materials openly available on the Internet. The Education Program continues to work toward establishing a self-sustaining and adaptive global OER ecosystem and demonstrating its potential to improve teaching and learning.

Download a PDF of the

EDUCATION PROGRAM STRATEGIC PLAN

Newsroom

Hewlett Foundation Launches New Initiative to Reform Education Policy in California

[Can Deeper Learning Improve American Competitiveness?](#)

[Education for All](#)

Recent Grants

2011-09-07
Stanford University

2011-08-31
Council of State Governments

2011-07-18
RoadtripNation.org

Companion visions

- OpenCourseWare vision: Universal access to the course content of the world's great learning institutions.
- DSpace vision: Universal access to the collective intellectual resources of the world's great research institutions

DSpace@MIT : Home

DSpace@MIT : Home Google Docs - Home +

http://dspace.mit.edu/ ocw consortium

Google.com - Ca... Smart Bookma... News Latest Headlines Most Visited Getting Started Reload via MIT L... Scenario 2 Prop... Sending Emails ... Bookmarks

Google ocw consort Search Share Bookmarks Translate AutoFill ocw consortium halatm... Login

DSpace@MIT

Search DSpace@MIT

Welcome to DSpace@MIT, MIT's institutional repository built to save, share, and search MIT's digital research materials including an increasing number of conference papers, images, peer-reviewed scholarly articles, preprints, technical reports, theses, working papers, and more. For research materials in print form, please go to [Barton: MIT Libraries' catalog](#).

[Advanced Search](#)

Browse

All of DSpace@MIT

- [Communities & Collections](#)
- [By Issue Date](#)
- [Authors](#)
- [Titles](#)
- [Subjects](#)

Search

Communities

Select a community to browse its collections.

- [Abdul Latif Jameel Poverty Action Lab \(J-PAL\)](#)
- [Air Transportation Research](#)
- [Auto-ID Laboratory](#)
- [Biological Engineering Division](#)
- [Center for Energy and Environmental Policy Research](#)
- [Center for Global Change Science](#)
- [Center for Grid Computing](#)
- [Center for Innovation in Product Development \(CIPD\)](#)
- [Center for International Studies \(CIS\)](#)
- [Center for Reflective Community Practice \(CRCP\)](#)
- [Center for Technology, Policy, and Industrial Development \(CTPID\)](#)
- [Comparative Media Studies](#)
- [Computational and Systems Biology](#)
- [Computer Science and Artificial Intelligence Lab \(CSAIL\)](#)
- [Department of Aeronautics and Astronautics](#)
- [Department of Architecture](#)
- [Department of Biology](#)
- [Department of Brain and Cognitive Sciences](#)
- [Department of Chemical Engineering](#)
- [Department of Chemistry](#)
- [Department of Civil and Environmental Engineering](#)
- [Department of Earth, Atmospheric, and Planetary Sciences](#)
- [Department of Economics](#)
- [Department of Electrical Engineering and Computer Sciences](#)
- [Department of Humanities](#)
- [Department of Interdisciplinary Science](#)
- [Department of Linguistics and Philosophy](#)
- [Department of Materials Science and Engineering](#)
- [Department of Mathematics](#)
- [Department of Mechanical Engineering](#)
- [Department of Nuclear Engineering](#)
- [Department of Ocean Engineering](#)
- [Department of Physics](#)

Latest News

MIT Open Access Articles

DSpace@MIT's [Open Access Articles collection](#) contains over 2500 scholarly articles that MIT Faculty have made openly available on the web under their [Open Access Policy](#). Articles have been viewed more than 100,000 times since the collection was launched in October 2009. [Updated February 2011] | [More information about the policy](#) | [Submit a paper](#) | [Browse the collection](#)

Celebrating two years of the MIT Faculty Open Access Policy In the two years since the establishment of the Policy, articles in the Open Access Articles Collection have been downloaded at a rate that has grown to more than 13,000 per month, with requests from [nearly every country in the world](#).

MIT Thesis Collection Tops 25,000 DSpace@MIT contains selected digital theses and dissertations from all MIT departments dating as far back as the mid-1800s. Since 2004, all new Masters and Ph.D theses have been added to the collection after degrees have been awarded. [Browse the collection](#)

15.2 million downloads in FY2010 Usage of DSpace@MIT continues to dramatically increase as our collections and readership grow. Analysis of usage statistics for last fiscal year indicates that DSpace@MIT content was downloaded directly by end-users over 15.2 million times or, on average, at a rate of over 41,000 files per day. [Contact us](#) to set up a collection for your research group.

DSpace@MIT : Home

DSpace@MIT : Home Google Docs - Home +

http://dspace.mit.edu/ ocw consortium

Google.com - Ca... Smart Bookma... News Latest Headlines Most Visited Getting Started Reload via MIT L... Scenario 2 Prop... Sending Emails ... Bookmarks

Google ocw consort Search Share Bookmarks Translate AutoFill ocw consortium halatm... Login

DSpace@MIT

Search DSpace@MIT

Welcome to DSpace@MIT, MIT's institutional repository built to save, share, and search MIT's digital research materials including an increasing number of conference papers, images, peer-reviewed scholarly articles, preprints, technical reports, theses, working papers, and more. For research materials in print form, please go to [Barton: MIT Libraries' catalog](#).

[Advanced Search](#)

Browse

All of DSpace@MIT

- Communities & Collections
- By Issue Date
- Authors
- Titles
- Subjects

My Account

[Login](#)
[Register](#)

Links

[About DSpace@MIT](#)
[RSS 1.0](#)
[RSS 2.0](#)

Search

Communities

Select a community to browse its collections.

[Abdul Latif Jameel Poverty Action Lab \(J-PAL\)](#)
[Air Transportation Research](#)
[Auto-ID Laboratory](#)
[Biological Engineering Division](#)
[Center for Energy and Environmental Policy Research](#)
[Center for Global Change Science](#)
[Center for Grid Computing](#)
[Center for Innovation in Product Development \(CIPD\)](#)
[Center for International Studies \(CIS\)](#)
[Center for Reflective Community Practice \(CRCP\)](#)
[Center for Technology, Policy, and Industrial Development \(CTPID\)](#)
[Comparative Media Studies](#)
[Computational and Systems Biology](#)
[Computer Science and Artificial Intelligence Lab \(CSAIL\)](#)
[Department of Aeronautics and Astronautics](#)
[Department of Architecture](#)
[Department of Biology](#)
[Department of Brain and Cognitive Sciences](#)
[Department of Chemical Engineering](#)
[Department of Chemistry](#)
[Department of Civil and Environmental Engineering](#)
[Department of Earth, Atmospheric, and Planetary Sciences](#)
[Department of Economics](#)
[Department of Electrical Engineering and Computer Sciences](#)
[Department of Humanities](#)
[Department of Interdisciplinary Science](#)
[Department of Linguistics and Philosophy](#)
[Department of Materials Science and Engineering](#)
[Department of Mathematics](#)
[Department of Mechanical Engineering](#)
[Department of Nuclear Engineering](#)
[Department of Ocean Engineering](#)
[Department of Physics](#)



Latest News

MIT Open Access Articles

DSpace@MIT's [Open Access Articles collection](#) contains over 2500 scholarly articles that MIT Faculty have made openly available on the web under their [Open Access Policy](#). Articles have been viewed more than 100,000 times since the collection was launched in October 2009. [Updated February 2011] | [More information about the policy](#) | [Submit a paper](#) | [Browse the collection](#)

Celebrating two years of the MIT Faculty Open Access Policy In the two years since the establishment of the Policy, articles in the Open Access Articles Collection have been downloaded at a rate that has grown to more than 13,000 per month, with requests from [nearly every country in the world](#).

MIT Thesis Collection Tops 25,000 DSpace@MIT contains selected digital theses and dissertations from all MIT departments dating as far back as the mid-1800s. Since 2004, all new Masters and Ph.D theses have been added to the collection after degrees have been awarded. [Browse the collection](#)

15.2 million downloads in FY2010 Usage of DSpace@MIT continues to dramatically increase as our collections and readership grow. Analysis of usage statistics for last fiscal year indicates that DSpace@MIT content was downloaded directly by end-users over 15.2 million times or, on average, at a rate of over 41,000 files per day. [Contact us](#) to set up a collection for your research group.



[About DSpace Software](#)**Search DSpace**[Advanced Search](#)[Home](#)**Browse**

- [Communities & Collections](#)
- [Titles](#)
- [Authors](#)
- [Subjects](#)
- [By Date](#)

Sign on to:

- [Receive email updates](#)
- [My DSpace authorized users](#)
- [Edit Profile](#)
- [General Help](#)
- [About DSpace@MIT](#)

[DSpace at MIT](#) >

Computer Science and Artificial Intelligence Lab (CSAIL)

Community home page

In:
or browse

Sub-communities within this community

- [Artificial Intelligence Lab Publications](#)
- [CSAIL Digital Archive](#)
- [LCS Publications](#)
- [Project Mac Memos](#)

Recent Submissions

[Bounded CCA2-Secure Non-Malleable Encryption](#)

[Memoization Attacks and Copy Protection in Partitioned Applications](#)

[Distributed Area Search with a Team of Robots](#)

[Materialization Strategies in a Column-Oriented DBMS](#)

[Scoop: An Adaptive Indexing Scheme for Stored Data in Sensor Networks](#)

RSS Feeds

[RSS 1.0](#) [RSS 2.0](#)



vision · collaboration · invention

Copyright © 2002 [MIT](#) and [Hewlett-Packard](#) - [Feedback](#)

[About DSpace Software](#)**Search DSpace** Go[Advanced Search](#)[Home](#)**Browse**[Communities & Collections](#)[Titles](#)[Authors](#)[Subjects](#)[By Date](#)**Sign on to:**[Receive email updates](#)[My DSpace authorized users](#)[Edit Profile](#)[General Help](#)[About DSpace@MIT](#)[DSpace at MIT](#) >

Browse by Title

Jump to: [0-9](#) [A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)or enter first few letters: Go!

Showing items 124-144 of 1947.

[Previous page](#)[Next page](#)

Issue Date	Title	Author(s)
1-Jan-1970	1968-1969 Progress Report	Minsky, Marvin; Papert, Seymour
1-Aug-1990	The 1990 AI Fair	Flynn, Anita M.
1-Aug-2001	2D-3D Rigid-Body Registration of X-Ray Fluoroscopy and CT Images	Zollei, Lilla
1-Dec-1992	3D Object Recognition: Symmetry and Virtual Views	Vetter, Thomas; Poggio, Tomaso; B'ulthoff, Heinrich
1-Jul-1992	3D Pose from Three Corresponding Points Under Weak-Perspective Projection	Alter, T.D.
14-Apr-2004	A 1020-Node Modular Microphone Array and Beamformer for Intelligent Computing Spaces	Weinstein, Eugene; Steele, Kenneth; Agarwal, Anant; Glass, James
17-May-2004	A Combined Pointer and Purity Analysis for Java Programs	Salcianu, Alexandru; Rinard, Martin
28-Apr-2006	A Combined Stochastic and Greedy Hybrid Estimation Capability for Concurrent Hybrid Models with Autonomous Mode Transitions	Blackmore, Lars; Funiak, Stanislav; Williams, Brian
27-Jan-2006	A Consistency Management Layer for Inter-Domain Routing	Kushman, Nate; Katabi, Dina; Wroclawski, John

[About DSpace Software](#)**Search DSpace** Go[Advanced Search](#)[Home](#)**Browse**[Communities & Collections](#)[Titles](#)[Authors](#)[Subjects](#)[By Date](#)**Sign on to:**[Receive email updates](#)[My DSpace authorized users](#)[Edit Profile](#)[General Help](#)[About DSpace@MIT](#)

[DSpace at MIT](#) >
[Computer Science and Artificial Intelligence Lab \(CSAIL\)](#) >
[Artificial Intelligence Lab Publications](#) >
[AI Memos \(1959 - 2004\)](#) >

Please use this identifier to cite or link to this item: <http://hdl.handle.net/1721.1/6701>

Title: 1968-1969 Progress Report

Authors: Minsky, Marvin
Papert, Seymour

Issue Date: 1-Jan-1970

Series/Report no.: AIM-200

Abstract: This report mainly summarizes the Project MAC A.I. Group work between July 1968 and June 1969 but covers some work up to February 1970. The work on computer vision is described in detail. This summary should be read in conjunction with last year's A.I. Group Report which is included at the end of this Memo.

URI: <http://hdl.handle.net/1721.1/6701>

Appears in Collections: [AI Memos \(1959 - 2004\)](#)

Files in This Item:

File	Description	Size	Format	
AIM-200.ps		5444Kb	PostScript	View/Open
AIM-200.pdf		3783Kb	Adobe PDF	View/Open

This item is protected by original copyright

[Show full item record](#)

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Artificial Intelligence

Memo No. 200

PROJECT MAC DOCUMENT ROOM
REFERENCE ONLY
DO NOT REMOVE
FROM DOCUMENT ROOM

1968-1969 PROGRESS REPORT

Marvin Minsky and Seymour Papert

This report mainly summarizes the Project MAC A. I. Group work between July 1968 and June 1969 but covers some work up to February 1970. The work on computer vision is described in detail.

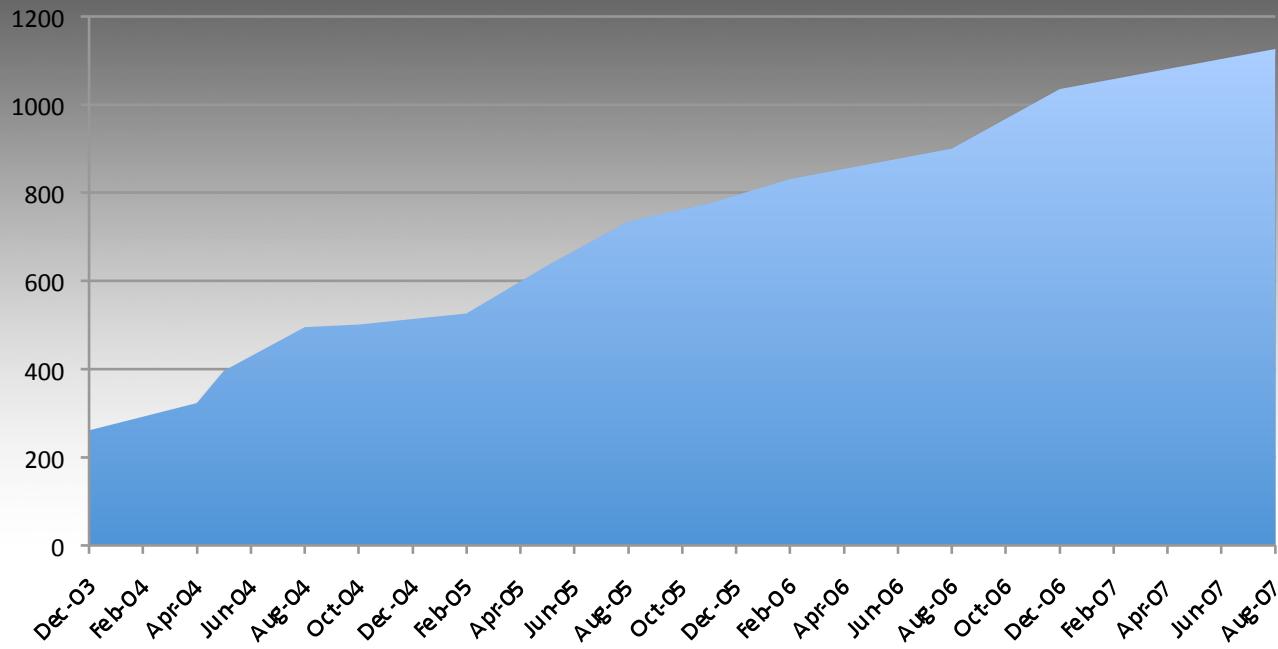
This summary should be read in conjunction with last year's A. I. Group Report which is included at the end of this Memo.

MIT DSpace Overall

■ 30,000
downloads at
day

Number of DSpace Instances

January 2008 thru Sep 2011



Hundreds of new organizations install DSpace each year for their Institutional Repository



From the Archives to NOW!

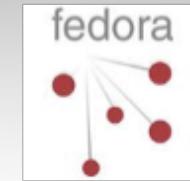
1200 installations

DURASPACE.ORG

DLRG - FEDORA



501(c)



The Future



Pre-history

1998

2001

2007-2008

2009-2011

Companion visions

- OpenCourseWare vision: Universal access to the course content of the world's great learning institutions.
- DSpace vision: Universal access to the collective intellectual resources of the world's great research institutions

Companion visions

- OpenCourseWare vision: Universal access to the world's great educational resources
- DSpace vision: Universal access to the collective intellectual resources of the world's great research institutions

Companion visions

- OpenCourseWare vision:
to the open sharing of educational resources
- DSpace vision: Uploading
collective institutional knowledge
workflows

Open Educational Resources

Institutional Repositories

WHY?

Why should universities support Open Educational Resources and Institutional Repositories?

Why should universities support Open Educational Resources and Institutional Repositories?

Without initiatives like these, traditional academic values will be increasingly marginalized, and university communities will be increasingly stressed.

Many students probably create a work that would infringe a faculty member's copyright, that is, they base their notes on and incorporate her particular expression rather than just state facts and ideas she articulates in more detail. Faculty members have always permitted this kind of activity without actually talking about it. They "implicitly" license students to create a "derivative work" from the lecture. The license is implied through academic tradition -- students are expected to take notes. ...

Now faculty may wish to make the implied license explicit and add some restrictions.

A limited license to take notes could be very important to protecting the intellectual content of lecture materials ...

University of Texas, Office of the General Counsel, August 2001

The suggested license ...

Written and verbal instructions at the beginning of class could look something like this:

My lectures are protected by state common law and federal copyright law. They are my own original expression and I record them at the same time that I deliver them in order to secure protection. Whereas you are authorized to take notes in class thereby creating a derivative work from my lecture, the authorization extends only to making one set of notes for your own personal use and no other use. You are not authorized to record my lectures, to provide your notes to anyone else or to make any commercial use of them without express prior permission from me.

University of Texas, Office of the General Counsel, August
2001

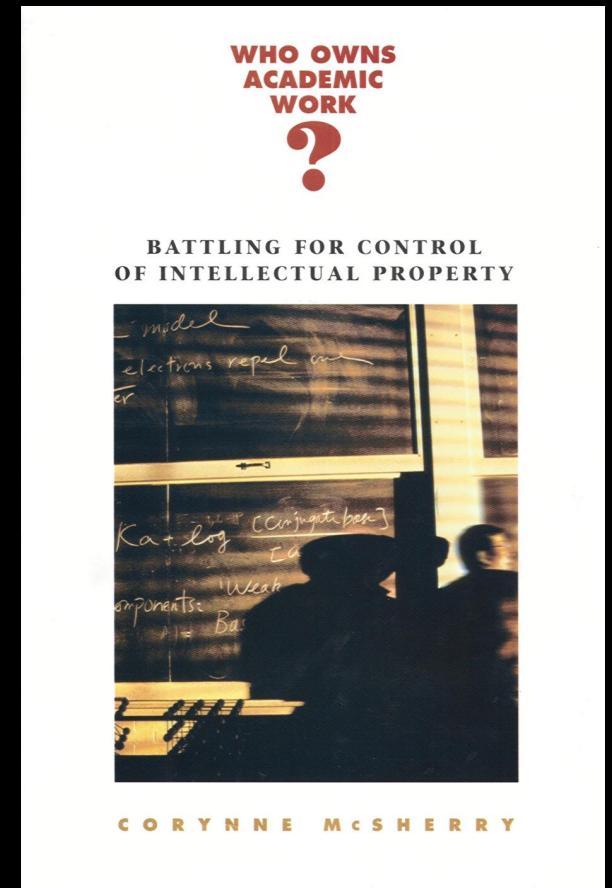
Conflating “freedom of inquiry” with “freedom of property”

Intellectual property law ... embodies the notion that the only forms of cultural work that can be “protected” are those that can be owned. ...

... the conflation of property rights and “academic rights” participates in a set of discourses ... in which freedom can only be understood to mean “individual free enterprise.”

In retelling this tale academics risk losing a language for talking about knowledge as other than private property and the university as other than economically “useful.”

Corynne McSherry, *Who Owns Academic Work?*
(2001)



Why should universities support Open Educational Resources and Institutional Repositories?

- Without initiatives like these, traditional academic values will be increasingly marginalized, and university communities will be increasingly stressed.

Why should universities support Open Educational Resources and Institutional Repositories?

- Without initiatives like these, traditional academic values will be increasingly marginalized, and university communities will be increasingly stressed.
- To keep a seat at the table in decisions about the disposition of knowledge in the information age.

Scientific literature as property: The basic deal

- Scientist authors give their property away to the journal publishers.
- Publishers own this property and all rights to it forever, and they magnanimously allow the scientist author to retain some limited rights that are determined at the publisher's sole discretion.
- The university generally gets no specific rights.
- And the public doesn't enter into this deal at all.

Copyright Transfer

COPYRIGHT
is a bundle of 5 rights:

- to Reproduce the work
- to Prepare Derivative Works
- to Distribute the work
- to Display the work Publicly
- to Perform the work Publicly

AMERICAN GEOPHYSICAL UNION

2000 Florida Avenue, NW, Washington, DC 20009

Tel: 202-462-6900
Author Information: 202-777-7354

FAX: 202-328-0566

PAPER NUMBER: _____

JOURNAL TITLE: _____

PAPER TITLE: _____

AUTHOR(S): _____

This form is to be signed by at least one author. If more than one author chooses to sign, please type or print the name beside each signature. If the article was commissioned by another person or organization or was written as part of the duties of an employee, an authorized representative of the commissioning organization or employer should sign. (See the reverse side of this form for explanation of conditions.)

COPYRIGHT AGREEMENT

I have the consent of each author to transfer copyright of the article referenced above. I hereby assign and transfer to the American Geophysical Union copyright and all rights under it. I further confirm that this article has not been published previously elsewhere, nor is it under consideration by any other publisher.

Signature

Institution Name

Name, Printed or Typed

Street Address

Title (if not Author)

Date

City

State

Zip

Country

CERTIFICATION OF U.S. GOVERNMENT WORK

Sign this section only if ALL authors were U.S. Government employees at the time the work was prepared. Any privately employed authors should sign above. (See reverse side for explanation.)

I certify that the article referenced above was prepared solely by U.S. Government employees as part of their official duties and therefore legally cannot be copyrighted. I confirm that this article has not been published previously elsewhere, nor is it under consideration by any other publisher.

Signature

Institution Name

Name, Printed or Typed

Street Address

Title (if not Author)

Date

City

State

Zip

Country

AGU cannot publish any works without a properly effected copyright transfer agreement. Authors of manuscripts subject to Crown copyright, i.e., those that are prepared solely by official employees of the governments of the United Kingdom, Canada, Australia, New Zealand, or other members of the Commonwealth, should contact AGU for an alternate copyright transfer form.

Please sign and return this form to
Publications Administration, AGU, 2000 Florida Avenue, NW, Washington, DC 20009 USA

FAILURE TO RETURN THIS FORM PROMPTLY MAY DELAY PUBLICATION OF YOUR PAPER.

Typical Publisher Copyright Agreements Control Whether Author:

- May use articles in teaching
- May reuse the text, charts or figures in future work
- May distribute copies of the article to others
- May post a copy of the article



Some rights generously granted by Elsevier

- The right to include the article in a thesis or dissertation.
- The right to make copies for your own personal use.
- The right to retain a preprint version of the article on an electronic public server.
- The right to present the paper at a meeting or conference and to distribute copies of the paper to the delegates attending the meeting.
- The right to post a personal version of the text on your personal or institutional web site

Example of Publisher Agreement Restrictions: Wiley-Blackwell



- Sharing on the Web:
 - Author **may not post**, except for preprint (original submitted manuscript, prior to peer review)
- Reuse in publications:
 - For noncommercial publication, author may reuse figures and tables, and **up to 250 words of text**

In other words ...

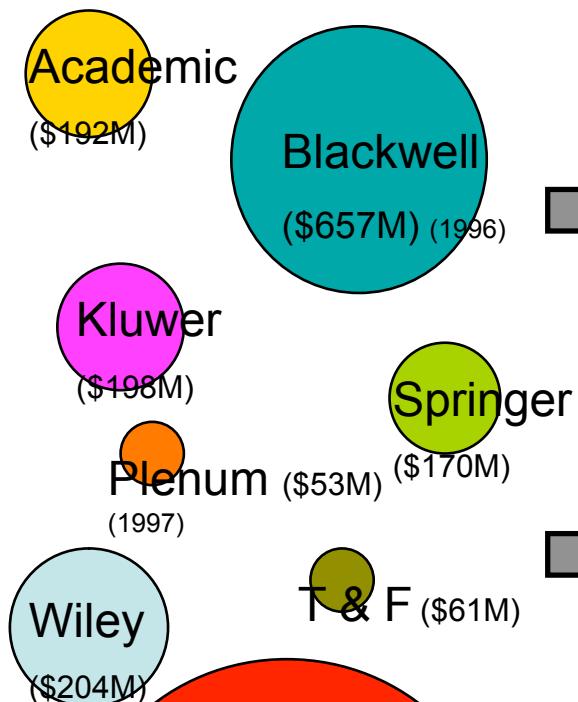
In other words .



We are moving towards
private monopoly control
of the scholarly record

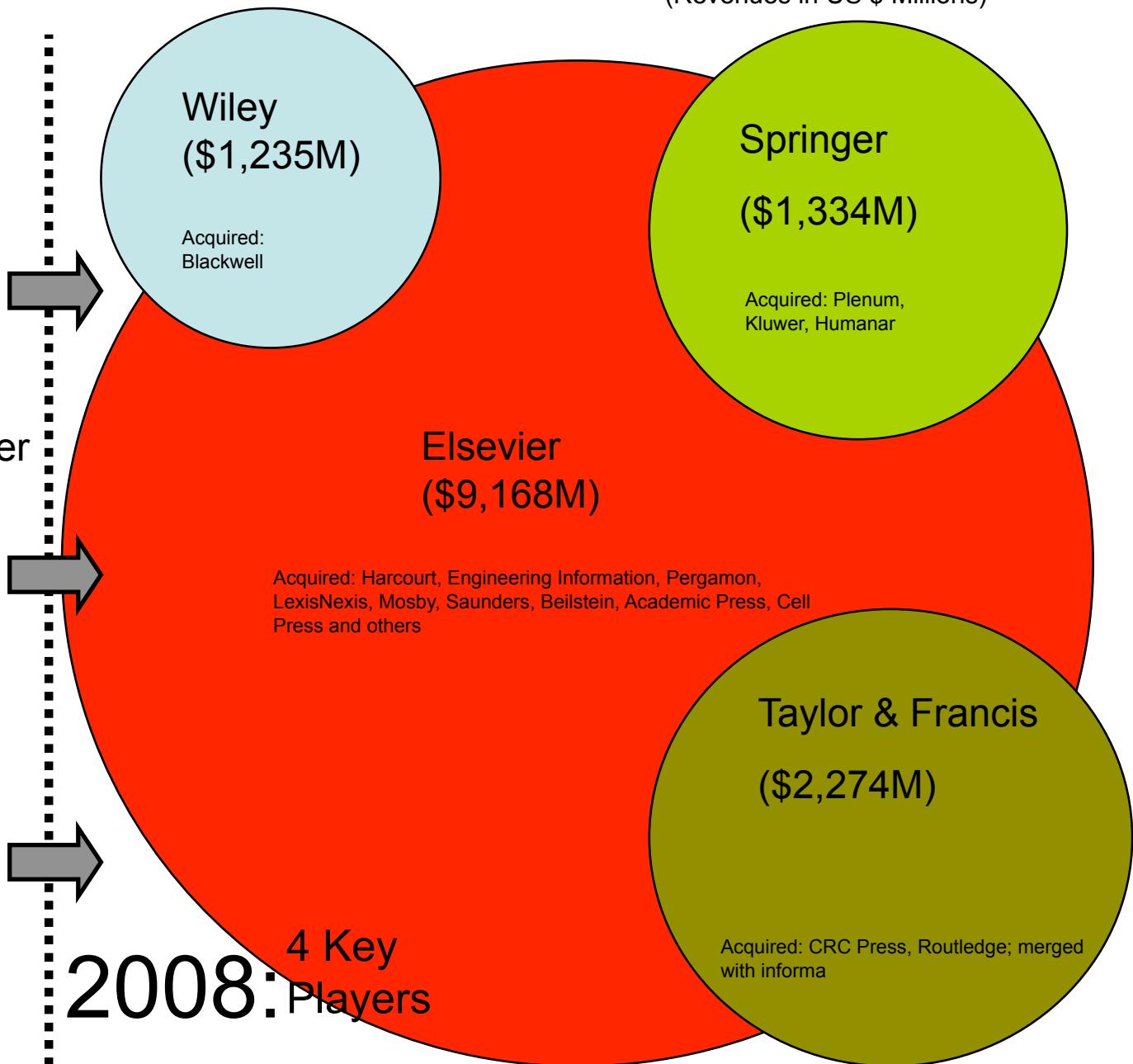
STM Commercial Journal Publisher Consolidation

1998: 8 Key Players

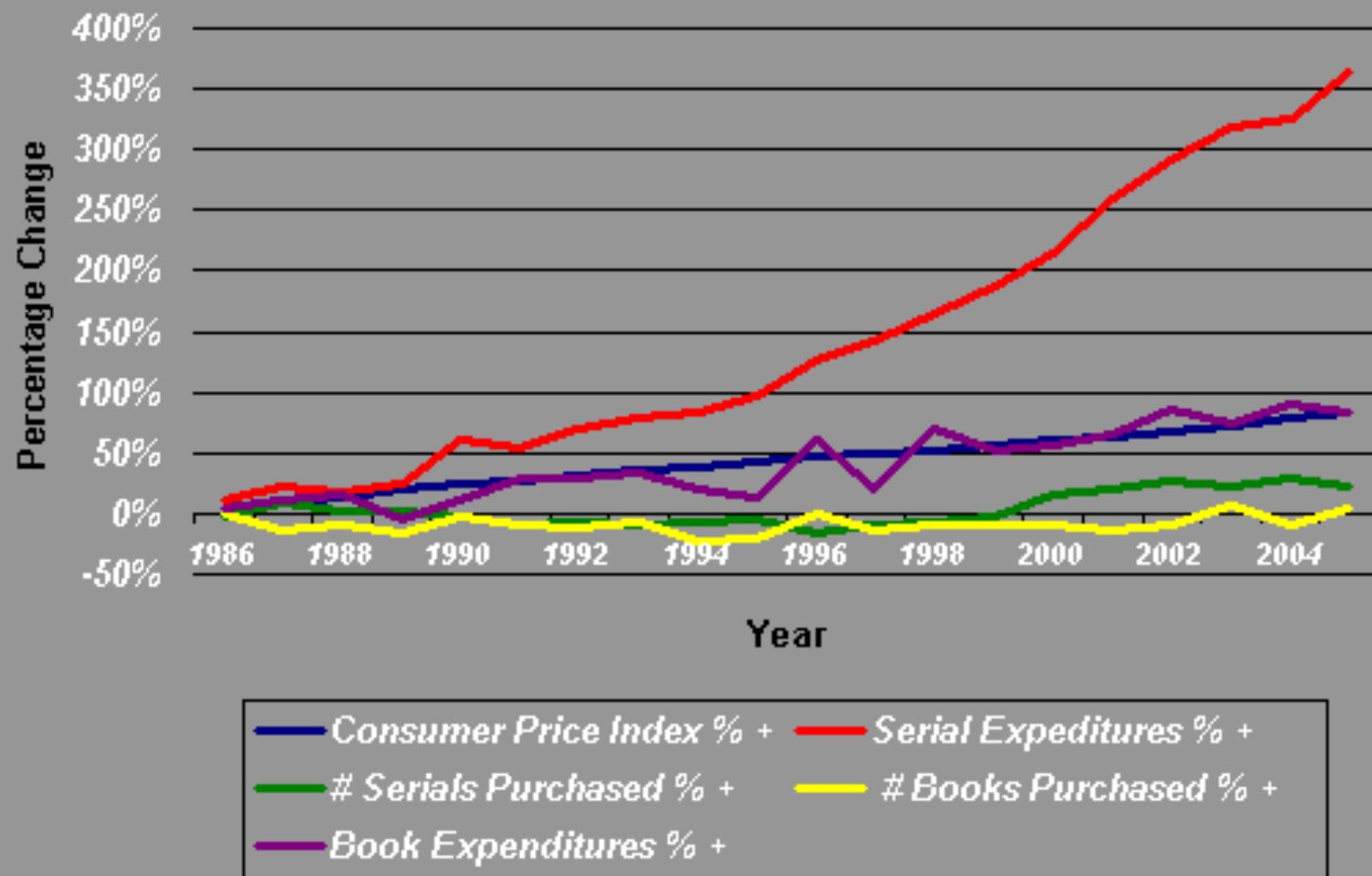


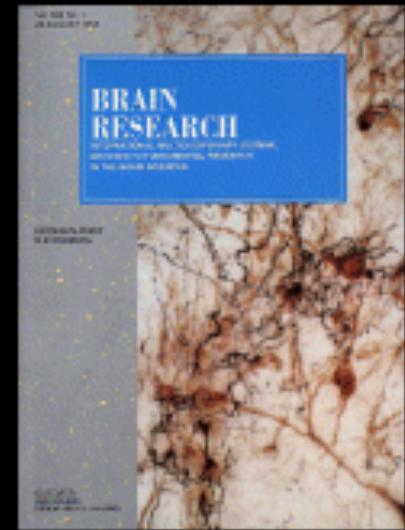
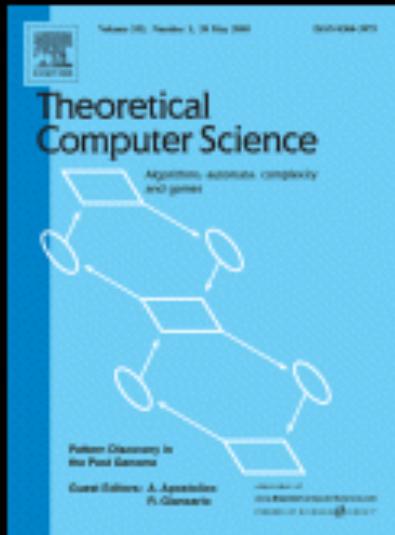
(Revenues in US \$ Millions)

2008: 4 Key Players



MIT Libraries Materials Purchases vs. CPI % Increase 1986-2006





\$5,914



\$8,168



\$22,386



How can it be that this system persists?

- The journal publication is structured as a copyright negotiation between publishers and individual faculty authors
- To prompt a move back toward balance, the faculty must play a role as a collective body, not just as individuals.



Mathematicians Organize Boycott of a Publisher

By THOMAS LIN

Published: February 13, 2012

More than [5,700 researchers have joined a boycott](#) of Elsevier, a leading publisher of science journals, in a growing furor over open access to the fruits of scientific research.

Related

[Cracking Open the Scientific Process](#) (January 17, 2012)

RSS Feed

 [Get Science News From The New York Times »](#)

The protest grew out of a provocative [blog post](#) by the mathematician Timothy Gowers of Cambridge University, who announced on Jan. 21 that he would no longer publish papers in any of Elsevier's journals or serve as a referee or editor for them.

Last week 34 mathematicians issued a [statement](#) denouncing "a system in which commercial publishers make profits based on the free labor of mathematicians and subscription fees from their institutions' libraries, for a service that has become largely unnecessary."

The signers included three Fields medalists — Dr. Gowers, Terence Tao and Wendelin Werner. The statement was also signed by Ingrid Daubechies, president of the International Mathematical Union, who then resigned as one of the unpaid editors in chief at the Elsevier journal Applied and Computational Harmonic Analysis.

[!\[\]\(bd6c8e8903de7e4ca40cb6001e58785d_img.jpg\) RECOMMEND](#)[!\[\]\(f9f2e1a2903d115bdc6ebd27ea45da1a_img.jpg\) TWITTER](#)[!\[\]\(d875b7995d3901809a6c5f1a4ad873dd_img.jpg\) LINKEDIN](#)[!\[\]\(eb348944d469978cd405254dd15f0ded_img.jpg\) E-MAIL](#)[!\[\]\(f077b86c0185cb6d223ecdb1f8608528_img.jpg\) PRINT](#)[!\[\]\(2eddd486ccc1cd698ffac6ae12e07c9a_img.jpg\) REPRINTS](#)[!\[\]\(1a645c13565a17eca9bfc026ba58b474_img.jpg\) SHARE](#)


SOUND OF MY VOICE
IN THEATRES 04.27.2012

[Click to View](#)

GARETH COOK

Why scientists are boycotting a publisher

By [Gareth Cook](#) | FEBRUARY 12, 2012[ARTICLE](#) [COMMENTS](#) [SUBSCRIBE](#)[PRINT](#) [REPRINTS](#) [E-MAIL](#) [SHARE](#) [SAVE](#)[Recommend](#) 186

THE SCIENTIFIC community finds itself at the beginning of its own Arab Spring. At stake are values that all Americans hold dear: the free flow of information and the continued betterment of human life. Success is by no means guaranteed, but it's an important protest movement in which Boston should play a special role.

The central character in this emerging drama may seem an unlikely villain: Elsevier, an Amsterdam-based publisher of scientific journals, including the prestigious titles *Cell* and *Lancet*, which give researchers a platform to share their most important advances.

But Elsevier has settled on a business strategy of exploitation, aligning itself against the interests of the scientific community. Most of the intellectual work that goes into Elsevier's journals is provided for free, by scientists whose salaries are largely paid for by taxpayers. Then Elsevier charges exorbitant rates for its journals, with many titles running in the thousands of dollars a year. This sharply curtails the sharing of results - the fuel of scientific discovery - and makes it prohibitively expensive for the public to read what appears in its pages. Yet for Elsevier, this looks like success: In 2010 Elsevier reported revenues of about \$3.2 billion, of which a whopping 36 percent were profit.

In this section

Opinion

[Cracks in Putin's armor](#)[The brain, weaponized](#)[Will DiMasi tell all?](#)[Maybe Romney needs to get his Rambo on](#)[Can Boston be the hub of the start-up universe?](#)[Big savings for small business in new, innovative health plans](#)[More shame on former Auditor Joseph DeNucci](#)[Editorial cartoon: Scott Brown and birth control](#)[Auditors failed to bring housing chief's pay to light](#)

Elsevier Boycott

Thecostofknowledge.com

The Cost of Knowledge

Researchers taking a stand against Elsevier.

Academics have protested against Elsevier's business practices for years with little effect. These are some of their objections:

1. They charge exorbitantly high prices for subscriptions to individual journals.
2. In the light of these high prices, the only realistic option for many libraries is to agree to buy very large "bundles", which will include many journals that those libraries do not actually want. Elsevier thus makes huge profits by exploiting the fact that some of their journals are essential.
3. They support measures such as SOPA, PIPA and the Research Works Act, that aim to restrict the free exchange of information.

The key to all these issues is the right of authors to achieve easily-accessible distribution of their work. If you would like to declare publicly that you will not support any Elsevier journal unless they radically change how they operate, then you can do so by filling in your details in the box below.

More information: [Statement of Purpose](#) | [PolyMath journal publishing reform page](#)

Show names from
All Subjects

New!

· 6429 people ·

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Guerrero N A Universidad Autónoma de Madrid -
Biology
won't referee, won't do editorial work

Mani A University of Calcutta - Mathematics
won't publish, won't referee, won't do editorial work

Palau Galindo A. General Practitioner, Spain -
Medicine
won't publish, won't referee, won't do editorial work

Roland Vasquez A. Facultad de Medicina
Universidad San Marcos Peru - Medicine
won't publish

Stephen A. French Institute - Biology
won't publish, won't referee, won't do editorial work

Jimenez Ballesta A.E. Universidad Politécnica de
Cádiz - Engineering and Technology
won't do editorial work

Craig Aaen-Stockdale University of Bradford -
Psychology
won't publish, won't referee, won't do editorial work

Scott Aaronson MIT Computer Science and Artificial
Intelligence Lab - Computer Science
won't publish, won't referee, won't do editorial work
I've been boycotting Elsevier and most other commercial
publishers since 2004, and am thrilled to see this movement
picking up momentum!

Russ Abbott California State University, Los Angeles -
Computer Science
won't publish, won't referee, won't do editorial work

Adil Abdullah Institute Technology Brunei -
Computer Science
won't publish, won't referee, won't do editorial work

Mansour Abdullah PNAET-Kuwait - Biology
won't publish, won't referee, won't do editorial work

Hal Abelson MIT Computer Science and Artificial
Intelligence Lab - Computer Science
won't publish, won't referee, won't do editorial work
With the rise of these publishers, we are seeing the
beginnings of a monopoly control of the scholarly record. This does
not serve the needs of scholarship or the needs of the public.

Seye Abimbola National Primary Health Care
Development Agency, Nigeria - Medicine
won't referee

Brett Abrahams Albert Einstein College of Medicine
- Medicine
won't publish, won't referee, won't do editorial work

Sidney C. Abrahams Southern Oregon University
- Physics - Physics

Add your name to the list.

First and Last Name

Affiliation

Institutional email only used once to verify your identity; never displayed, never shared

Subject

Comments optional

Link optional such as a link to a blog post or your explaining your position

I plan to refrain from:
 publishing refereeing editorial work

[Facebook](#) 2k [Twitter](#) 265 [StumbleUpon](#) 80

Please email me if you have any questions
about this page.

[about us](#)

Scholarly Publication – MIT Libraries

Retaining rights & increasing the impact of research

[Home](#) [Research Funder Policies](#) [Faculty and Researchers](#) [Students](#) [MIT Amendment Form](#)

MIT Faculty Open-Access Policy

Policy adopted by unanimous vote of the faculty on 3/18/2009:

The Faculty of the Massachusetts Institute of Technology adopts the following policy: Each Faculty member grants to MIT a nonexclusive, irrevocable, perpetual license to exercise all rights under copyright relating to each of his/her research and scholarship as widely as possible.

that the articles are not sold for a profit, and to authorize others to do the same. The policy will apply to all scholarly articles written while the person is a member of the Faculty except for any articles completed before the adoption of this policy and any articles for which the Faculty member entered into an incompatible licensing or assignment agreement before the adoption of this policy. The Provost or Provost's designate will waive application of the policy for a particular article upon written notification by the author, who informs MIT of the reason.

The Faculty of the Massachusetts Institute of Technology is committed to disseminating the fruits of its research and scholarship as widely as possible.

Scholarly Publication – MIT Libraries

Retaining rights & increasing the impact of research

[Home](#) [Research Funder Policies](#) [Faculty and Researchers](#) [Students](#) [MIT Amendment Form](#)

MIT Faculty Open-Access Policy

Policy adopted by unanimous vote of the faculty on 3/18/2009:

The Faculty of the Massachusetts Institute of Technology adopts the following policy: Each Faculty member grants to MIT nonexclusive permission to make available his or her scholarly articles for the purpose of open dissemination.

Each faculty member grants to MIT nonexclusive permission to make available his or her scholarly articles for the purpose of open dissemination. The Faculty member grants to MIT a nonexclusive, irrevocable license to copy or to reproduce all rights under copyright relating to each of his or her scholarly articles for the purpose of open dissemination. The Faculty member grants to MIT the right to make available his or her scholarly articles for the purpose of open dissemination, provided that the articles are not sold for a profit, and to authorize others to do the same. The policy will apply to all scholarly articles written while the person is a member of the Faculty except for any articles completed before the adoption of this policy and any articles for which the Faculty member entered into an incompatible licensing or assignment agreement before the adoption of this policy. The Provost or Provost's designate will waive application of the policy for a particular article upon written notification by the author, who informs MIT of the reason.

Each faculty member grants to MIT nonexclusive permission to make available his or her scholarly articles for the purpose of open dissemination.

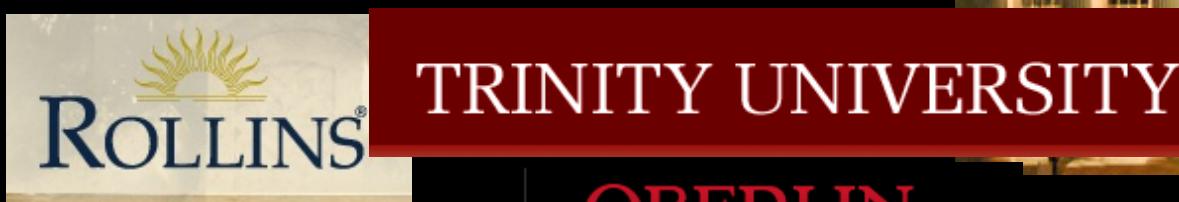
“The vote is a signal to the world that we speak in a unified voice; that what we value is the free flow of ideas.”

--Bish Sanyal

Chair of the MIT Faculty at time of
Vote on MIT Faculty Open
Access Policy & the Ford
International Professor of Urban
Development & Planning



Institutional open access mandates



somebody_

OBERLIN
COLLEGE & CONSERVATORY

The fight against openness





◀ For Authors

Journal Authors' Home

Rights & Responsibilities

Funding Body

Agreements

Access

Author Services

Journal Performance

Book Authors' Home

▶ Products

▶ Support & contact

▶ About Elsevier

▶ User Resources

About Elsevier > Authors' Rights & Responsibilities

Authors' Rights & Responsibilities

At Elsevier, we are dedicated to protecting your rights as an author, and ensuring that any and all legal information and copyright regulations are addressed.

Whether an author is published with Elsevier or any other publisher, we hold ourselves and our colleagues to the highest standards of ethics, responsibility and legal obligation.

As a journal author, you retain rights for a large range of author uses of your article, including use by your employing institute or company. These rights are retained and permitted without the need to obtain specific permission from Elsevier.

Intellectual property	Your role	Permissions	Publishing ethics	Other policies
-----------------------	-----------	-------------	-------------------	----------------

Copyright

Intellectual property, in particular copyright (rights in editorial content), trademarks (rights in brands for services or journals), and database rights (rights in compilations of information), form the foundation of Elsevier's publishing services and communications businesses. We in Elsevier embrace the opportunities the digital environment offers for communication and access, while at the same time we recognize the new risks that this environment poses, that being the ease with which unauthorized copies can be made and distributed worldwide. ▶ [Download your practical guide to Elsevier's copyright policy.](#)

Our objective

We aim to manage digital rights and brands amidst the structural changes that the "information society" represents, while at the same time recognizing the shared goals we have with our customers and authors. These include providing the widest possible distribution of scientific and medical content and services in a financially sustainable business model.

Elsevier wants to ensure a proper balance between the scholarly rights which authors retain (or are granted/transferred back in some cases) and the rights granted to Elsevier that are necessary to support our mix of business models. We routinely analyse and modify our policies to ensure we are responding to authors' needs and concerns, and to the concerns in general of the research and scholarly communities.

What rights do I retain as a journal author?*

- the right to make copies (print or electronic) of the journal article for your own personal use, including for your own classroom teaching use;
- the right to make copies and distribute copies of the journal article (including via e-mail) to research colleagues, for personal use by such colleagues for scholarly purposes*;
- the right to post a pre-print version of the journal article on Internet websites including electronic pre-print servers, and to retain indefinitely such version on such servers or sites for scholarly

Related Links

[SciVerse ScienceDirect](#)

Access peer-reviewed full-text articles through SciVerse ScienceDirect.

[Elsevier Author WebShop](#)

Language editing and illustration services for your manuscripts, personal reprints, Personal Selections for iPads and more.



For Authors

Journal Authors' Home

Rights & Responsibilities

Funding Body
Agreements

Access

Author Services

Journal Performance

Book Authors' Home

► Products

► Support & contact

► About Elsevier

► User Resources

About Elsevier > Authors' Rights & Responsibilities

Authors' Rights & Responsibilities

At Elsevier, we are dedicated to protecting your rights as an author, and ensuring that all relevant information and copyright regulations are addressed.

Whether an author is published with Elsevier or any other publisher, we hold the highest standards of ethics, responsibility and legal obligation.

As a journal author, you retain rights for a large range of author uses of your work, even if you are employed by an employing institute or company. These rights are retained and permitted without permission from Elsevier.

The right to post a revised personal version of the text of on your personal or institutional website

Intellectual property Your role Permissions Publishing ethics Other policies

Copyright

Intellectual property, in particular copyright (rights in editorial content), trademarks (rights in brands for services or journals), and database rights (rights in compilations of information), form the foundation of Elsevier's publishing services and communications businesses. While Elsevier embrace the opportunities the digital environment offers for communication and access, while at the same time we recognize the new risks that this environment poses, that being the ease with which unauthorized copies can be made and distributed worldwide. ▶ [Download your practical guide to Elsevier's copyright policy.](#)

Our objective

We aim to manage digital rights and brands amidst the structural changes that the "information society" represents, while at the same time recognizing the shared goals we have with our customers and authors. These include providing the widest possible distribution of scientific and medical content and services in a financially sustainable business model.

Elsevier wants to ensure a proper balance between the scholarly rights which authors retain (or are granted/transferred back in some cases) and the rights granted to Elsevier that are necessary to support our mix of business models. We routinely analyse and modify our policies to ensure we are responding to authors' needs and concerns, and to the concerns in general of the research and scholarly communities.

What rights do I retain as a journal author?*

- the right to make copies (print or electronic) of the journal article for your own personal use, including for your own classroom teaching use;
- the right to make copies and distribute copies of the journal article (including via e-mail) to research colleagues, for personal use by such colleagues for scholarly purposes*;
- the right to post a pre-print version of the journal article on Internet websites including electronic pre-print servers, and to retain indefinitely such version on such servers or sites for scholarly

Language editing and illustration services for your manuscripts, personal reprints, Personal Selections for iPads and more.



◀ For Authors

Journal Authors' Home

Rights & Responsibilities

Funding Body
Agreements

Access

Author Services

Journal Performance

Book Authors' Home

▶ Products

▶ Support & contact

▶ About Elsevier

▶ User Resources

About Elsevier > Authors' Rights & Responsibilities

Authors' Rights & Responsibilities

At Elsevier, we are dedicated to protecting your rights as an author, and ensuring that all relevant information and copyright regulations are addressed.

Whether an author is published with Elsevier or any other publisher, we hold them to the highest standards of ethics, responsibility and legal obligation.

As a journal author, you retain rights for a large range of author uses of your work, even if you are employing institute or company. These rights are retained and permitted without prior permission from Elsevier.

Intellectual property

Your role

Permissions

Pub

Copyright

Intellectual property, in particular copyright (rights in editorial content), database rights (rights in compilations of information) and邻接权 (rights in the exploitation of works by third parties), are important assets for Elsevier's publishing services and communications businesses. We in Elsevier believe that the digital environment offers new opportunities for communication and access, while at the same time it also creates new risks that this environment poses, that being the ease with which users can copy and distribute worldwide. □> [Download your practical guide to Elsevier's copyright policy](#)

Our objective

We aim to manage digital rights and brands amidst the structural changes that the digital environment represents, while at the same time recognizing the shared goals we have with our authors. These include providing the widest possible distribution of scientific research output and services in a financially sustainable business model.

Elsevier wants to ensure a proper balance between the scholarly rights retained by authors (granted/transferred back in some cases) and the rights granted to Elsevier under our mix of business models. We routinely analyse and modify our policies to take account of authors' needs and concerns, and to the concerns in general of the research community.

What rights do I retain as a journal author*?

- the right to make copies (print or electronic) of the journal article for your own classroom teaching use;
- the right to make copies and distribute copies of the journal article to your research colleagues, for personal use by such colleagues for scholarly purposes*;
- the right to post a pre-print version of the journal article on Internet websites including electronic pre-print servers, and to retain indefinitely such version on such servers or sites for scholarly purposes*;

The right to post a revised personal version of the text of on your personal or institutional website *
(but not in subject-oriented or centralized repositories or institutional repositories with mandates for systematic postings unless there is a specific agreement with the publisher)

[added in 2010]

Research Works Act Could Challenge Public Access to Federally Funded Research

by [Robin Peek](#)

Posted On January 17, 2012

H.R. 3699, the **Research Works Act**, was introduced Dec. 23, 2011, by Rep. Darrell Issa (R-Calif.), chairman of the Committee on Oversight and Government Reform, and committee member Rep. Carolyn Maloney (D-NY). According to the Association of American Publishers (AAP) website, "The legislation is aimed at preventing regulatory interference with private-sector research publishers in the production, peer review and publication of scientific, medical, technical, humanities, legal and scholarly journal articles." Put another way, it is designed to thwart activities such as the National Institutes of Health (NIH) **Public Access Policy**, which requires scientists to submit final peer-reviewed journal manuscripts that arise from NIH funds to the digital archive **PubMed Central** upon acceptance for publication.

The bill is, as noted by the AAP in its **press release**, "significant legislation that will help reinforce America's leadership in scholarly and scientific publishing in the public interest and in the critical peer-review system that safeguards the quality of such research." The argument, an old one at that, is that publishers add value to journal content and requiring them to provide free access denies them revenues. The big ticket players in this game are journals such as *Cell*, *Science*, and *Nature*.

Specifically, according to Section 2. Limitation on Federal Agency Action. "No Federal agency may adopt, implement, maintain, continue, or otherwise engage in any policy, program, or other activity that--(1) causes, permits, or authorizes network dissemination of any private-sector research work without the prior consent of the publisher of such work; or (2) requires that any actual or prospective author, or the employer of such an actual or prospective author, assent to network dissemination of a private-sector research work."

As noted on the AAP website, "The Research Works Act will prohibit federal agencies from unauthorized free public dissemination of journal articles that report on research which, to some degree, has been federally-funded but is produced and published by private sector publishers receiving no such funding. It would also prevent non-government authors from being required to agree to such free distribution of these works."

The **Copyright Alliance**, a group that includes large media organizations such as the Recording Industry of America and Reed Elsevier, Carolyn Maloney (D-NY) for their bipartisan introduction of H.R. 3699, the Research Works Act. The proposal would overturn an unprincipled decision by Congress to ban the NIH public access policy, "which would have a negative impact on certain authors and researchers," according to Copyright Alliance executive director Sandra Aistars. "This reversal of centuries of copyright law is unacceptable and would do a disservice to the public and to the scientific community, and without benefit of oversight by congressional committees with expertise and responsibility for copyright laws and enforcement."

The point about not having input into these congressional committees is wholly incorrect. As a long time columnist on the subject of copyright law, I have had exceptional opportunities to influence copyright decision makers directly. This is an old issue that the Copyright Alliance is hoping to bring back to the debate when the NIH policy was passed in 2008. I covered this extensively in *Information Today* as did others in different publications.

At the time of this writing, six members of the AAP—MIT Press, the Council on Library and Information Resources (CLIR), ITHAKA, Peter Lang University Press, and the University of California Press—have publicly disavowed this bill. Other organizations, such as the Special Libraries Association, have also come out against the bill. An **online petition site** to stop the Research Works Act has also been set up.

"I want to state emphatically that I support the NIH Public Access Policy and think it should be expanded to other federal funding agencies," wrote Michael S. Fischbeck, president of the Rockefeller University Press in a public letter. "All publishers of biomedical research understand several truths: 1) that their content is funded by the public; 2) that the peer review process is carried out in large part by federally funded individuals, and 3) that a significant portion of their success is due to the work of their institutions. Although publishers' content may technically be considered 'private-sector research work' as described in the text of H.R. 3699,

112TH CONGRESS
1ST SESSION

H. R. 3699

To ensure the continued publication and integrity of peer-reviewed research works by the private sector.

IN THE HOUSE OF REPRESENTATIVES

DECEMBER 16, 2011

Mr. ISSA (for himself and Mrs. MALONEY) introduced the following bill; which was referred to the Committee on Oversight and Government Reform

A BILL

To ensure the continued publication and integrity of peer-reviewed research works by the private sector.

1 *Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,*

3 SECTION 1. SHORT TITLE.

4 This Act may be cited as the “Research Works Act”.

5 SEC. 2. LIMITATION ON FEDERAL AGENCY ACTION.

6 No Federal agency may adopt, implement, maintain,
7 continue, or otherwise engage in any policy, program, or
8 other activity that—

9 (1) causes, permits, or authorizes network dis-
10 semination of any private-sector research work with-

112TH CONGRESS
1ST SESSION

H. R. 3699

To ensure the continued publication and integrity of peer-reviewed research works by the private sector.

IN THE HOUSE OF REPRESENTATIVES

DECEMBER 16, 2011

Mr. ISSA (for himself and Mrs. MALONEY) introduced the following bill; which was referred to the Committee on Oversight and Government Reform

A BILL

To ensure the continued publication and integrity of peer-reviewed research works by the private sector.

1 *Be it enacted by the Senate and House of Representa-*

2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Research Works Act”.

5 **SEC. 2. LIMITATION ON FEDERAL AGENCY ACTION.**

6 No Federal agency may adopt, implement, maintain,

7 continue, or otherwise engage in any policy, program, or

8 other activity that—

9 (1) causes, permits, or authorizes network dis-

10 semination of any private-sector research work with-

Elsevier, along with other publishers and publishing Trade Associations, lobbied for the bill to be introduced ... We don't believe that the government should tell authors and publishers what we can do with our publications.

Alicia Wise
Director of Universal Access at Elsevier
Feb. 8, 2012

112TH CONGRESS
1ST SESSION

H. R. 3699

To ensure the continued publication and integrity of peer-reviewed research works by the private sector.

IN THE HOUSE OF REPRESENTATIVES

DECEMBER 16, 2011

Mr. ISSA (for himself and Mrs. MALONEY) introduced the bill, which was referred to the Committee on Oversight and Government Reform.

A BILL

To ensure the continued publication and integrity of peer-reviewed research works by the private sector.

1 *Be it enacted by the Senate and House of Representa-*

2 *tives of the United States of America in Congress assembled,*

3 SECTION 1. SHORT TITLE.

4 This Act may be cited as the “Research Works Act”.

5 SEC. 2. LIMITATION ON FEDERAL AGENCY ACTION.

6 No Federal agency may adopt, implement, maintain,
7 continue, or otherwise engage in any policy, program, or
8 other activity that—

9 (1) causes, permits, or authorizes network dis-
10 semination of any private-sector research work with-

STOP PRESS!!

Elsevier and other publishing lobbied
it
cell
publishers
we can do with our publications.

Alicia Wise
Director of Universal Access at Elsevier
Feb. 8, 2012



► Products

► Support & contact

▲ About Elsevier

At a Glance

Mission

Management

Financial

Newsroom

Principles & Policies

Experts

Corporate Responsibility

History

Honors

Exhibitions

Careers

► User Resources

ELSEVIER WITHDRAWS SUPPORT FOR THE RESEARCH WORKS ACT



At Elsevier, we have always focused on serving the global research community and ensuring the best possible access to research publications and data. In recent weeks, our support for the Research Works Act has caused some in the community to question that commitment.

We have heard expressions of support from publishers and scholarly societies for the principle behind the legislation. However, we have also heard from some Elsevier journal authors, editors and reviewers who were concerned that the Act seemed inconsistent with Elsevier's long-standing support for expanding options for free and low-cost public access to scholarly literature. That was certainly not our intention in supporting it. This perception runs counter to our [commitment to making published research widely accessible](#), coming at a time when we continue to expand our access options for authors and develop advanced technologies to enable the sharing and distribution of research results.

We welcome indications that key research funders are more willing to talk to publishers to explore collaborative approaches. This is a good sign because we firmly believe that more cooperation and partnership between funders and publishers is the best way to expand free public access.

While we continue to oppose government mandates in this area, Elsevier is withdrawing support for the Research Work Act itself. We hope this will address some of the concerns expressed and help create a less heated and more productive climate for our ongoing discussions with research funders.

Cooperation and collaboration are critical because different kinds of journals in different fields have different economics and models. Inflexible mandates that do not take those differences into account and do not involve the publisher in decision making can undermine the peer-reviewed journals that serve an essential purpose in the research community. Therefore, while withdrawing support for the Research Works Act, we will continue to join with those many other nonprofit and commercial publishers and scholarly societies that oppose repeated efforts to extend mandates through legislation.

We are ready and willing to work constructively and cooperatively to continue to promote free and low-cost public access through a variety of means, as we have with research funders and other partners around the world.

A message to the research community

Journal prices,
discounts and access



Performing Advanced Indexing, Analysis Prohibited

- “Subscriber may not use routines designed to continuously and automatically search and index the service” (Springer)
- “automated searches against ProQuest's systems are not permitted. ... Data mining is prohibited.”



From Elsevier's license to libraries

- Except as expressly stated in this Agreement or otherwise permitted in writing by Elsevier, the Subscriber and its Authorized Users may not:. use any robots, spiders, crawlers or other automated downloading programs, algorithms or devices to continuously and automatically search, scrape, extract, deep link, index or disrupt the working of the Subscribed Products;





► Products

△ ScienceDirect

Electronic product
description

Product description

► Support & contact

► About Elsevier

► User Resources

SCIENCEDIRECT

Description



ScienceDirect™
makes sense.

SciVerse ScienceDirect: discovery via full-text content

ScienceDirect is SciVerse's leading full-text scientific database offering science, medical and technical (STM) journal articles and book chapters from more than 2,500 peer-reviewed journals and over 11,000 books. There are currently more than 10 million articles/chapters, a content base that is growing at a rate of almost 0.5 million additions per year with archives that reach as far back as 1823.

SciVerse ScienceDirect also offers sophisticated search and retrieval tools and integrated external sources that enable users to maximize the effectiveness of their knowledge discovery process. Built to save time and streamline research, these functions facilitate more efficient work flows to accelerate scientific discovery.

To discuss the benefits ScienceDirect can offer your institute, contact your nearest Elsevier **Regional Sales Office**.

Last update: 9 Jun 2011

.....
Bookmark this page

.....
Recommend this publication

.....
Overview of all electronic
products





► Products

△ ScienceDirect

Electronic product
description

Product description

► Support & contact

► About Elsevier

► User Resources

SCIENCEDIRECT

Description



ScienceDirect™
makes sense.

SciVerse ScienceDirect: discovery via full-text content

ScienceDirect is SciVerse's leading full-text scientific database offering science, medical and technical (STM) journal articles and books. There are over 1.5 million articles and 0.5 million books in the collection.

SciVerse

that enable users to maximize the effectiveness of their knowledge discovery process. Built to save time and streamline research, these functions facilitate more efficient work flows to accelerate scientific discovery.

To discuss the benefits ScienceDirect can offer your institute, contact your nearest Elsevier **Regional Sales Office**.

Walled Garden

Last update: 9 Jun 2011



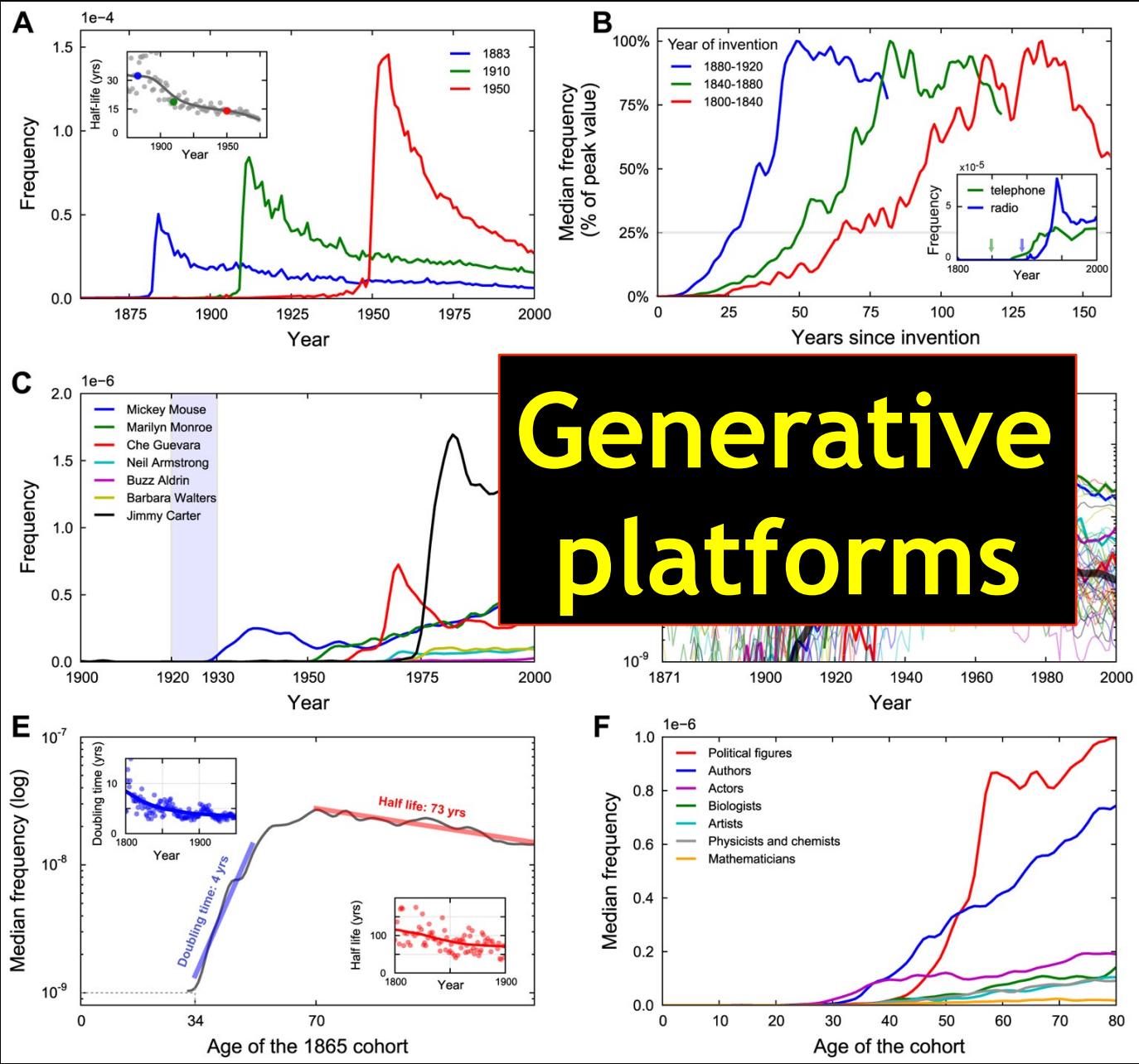
Printer-friendly version



User Resources Advertising Careers Feedback Site Map Elsevier Websites A Reed Elsevier Company

Copyright © 2012 Elsevier B.V. All rights reserved.

Privacy Policy Terms & Conditions



Generative platforms

NATURE | NEWS

Researchers aim to chart intellectual trends in Arxiv

'Culturomics' team pivots from Google Books to scientific preprints.

Eric Hand

24 February 2012

When physicist Paul Ginsparg goes to next week's American Physical Society meeting in Boston, Massachusetts, he plans to take with him a 64-gigabyte flash drive containing all 740,000 or so articles from [Aixiv](#), the preprint repository he founded in 1991 that is managed by Cornell University in Ithaca, New York.

He will pass the data on to researchers from the Cultural Observatory at Harvard University in Cambridge, Massachusetts. They want to break down the full text of the articles into component phrases to see how often a particular word or phrase appears relative to others — a measure of how 'meme-like' a term is. Their goals: to give Arxiv a new tool for identifying original source papers in physics, mathematics and computer science — and to enable historians to spot trends from the 20 years that the repository has existed.

"How do you find the moment when a given scientific transformation occurred?" asks Jean-Baptiste Michel, co-director of the Cultural Observatory and a postdoctoral researcher in psychology at Harvard. "You can help the reader figure out where in time the most relevant papers were located, which has always been difficult to do."

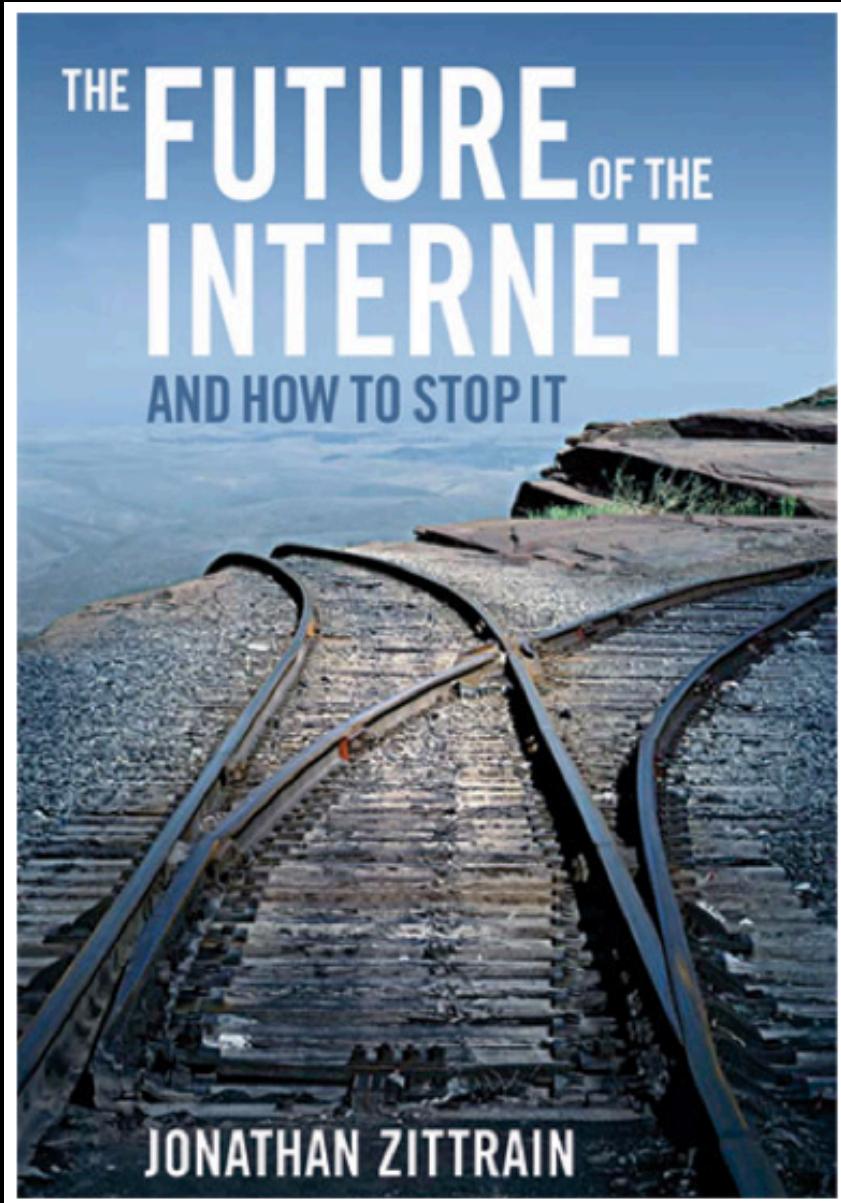


Jean-Baptiste Michel (front) wants to use Arxiv to track how scientific language has changed.

KRIS SNIBBE/HARVARD UNIVERSITY

- [print](#)
- [email](#)
- [rights and permissions](#)
- [share/bookmark](#)

Generative platforms



2008

Generative technologies:
Technologies like personal
computers that
have the capacity to
produce unprompted,
user-driven change.

**Recent News and
Spotlights**

[Spotlight at Harvard Law School](#)

[Harvard Law School News Archives](#)

[Harvard Law Bulletin](#)

[Harvard Law Today](#)

[Events Calendar](#)

[Multimedia @ HLS](#)

[Office of Communications](#)

Zittrain in Technology Review: The personal computer is dead



Jonathan Zittrain '95

November 30, 2011

The following op-ed by Harvard Law School Professor [Jonathan Zittrain](#) appeared in the Nov. 30 edition of the *Technology Review*. [[Click here for audio.](#)]

In addition to his HLS professorship, Zittrain is faculty co-director of the Berkman Center for Internet and Society at Harvard University. He is also a professor of law at the Harvard Kennedy School, and professor of computer science at the Harvard School of Engineering and Applied Sciences.

Zittrain is the author of the 2008 book "[The Future of the Internet—And How To Stop It](#)."

The personal computer is dead

by Jonathan Zittrain

The PC is dead. Rising numbers of mobile, lightweight, cloud-centric devices don't merely represent a change in form factor. Rather, we're seeing an unprecedented shift of power from end users and software developers on the one hand, to operating system vendors on the other—and even those who keep their PCs are being swept along. This is a little for the better, and much for the worse.

Recent News and Spotlights

[Spotlight at Harvard Law School](#)

[Harvard Law School News Archives](#)

[Harvard Law Bulletin](#)

[Harvard Law Today](#)

[Events Calendar](#)

[Multimedia @ HLS](#)

[Office of Communications](#)

Zittrain in Technology Review: The personal computer is dead

If we allow ourselves to be lulled into satisfaction with walled gardens, we'll miss out on innovations to which the gardeners object, and we'll set ourselves up for censorship of code and content that was previously impossible.



Jonathan Zittrain '95

School of Engineering and Applied Sciences.

Zittrain is the author of the 2008 book "[The Future of the Internet—And How To Stop It](#)".

The personal computer is dead

by **Jonathan Zittrain**

The PC is dead. Rising numbers of mobile, lightweight, cloud-centric devices don't merely represent a change in form factor. Rather, we're seeing an unprecedented shift of power from end users and software developers on the one hand, to operating system vendors on the other—and even those who keep their PCs are being swept along. This is a little for the better, and much for the worse.



Store

Mac

iPod

iPhone

iPad

iTunes

Support



iPhone

Features

Built-in Apps

From the App Store

iOS

iCloud

Tech Specs

Buy iPhone

Over 500,000 apps. For work, play, and everything in between.

The apps that come with your iPhone are just the beginning. Browse the App Store to find hundreds of thousands more. The more apps you download, the more you realize there's almost no limit to what your iPhone can do.

[Learn more about the App Store ›](#)



Apple apps for iPhone

Create and send letterpress cards. Shoot and edit HD movies.



Business

Follow the market, pay your bills, and track everything from your time to your gas



Travel

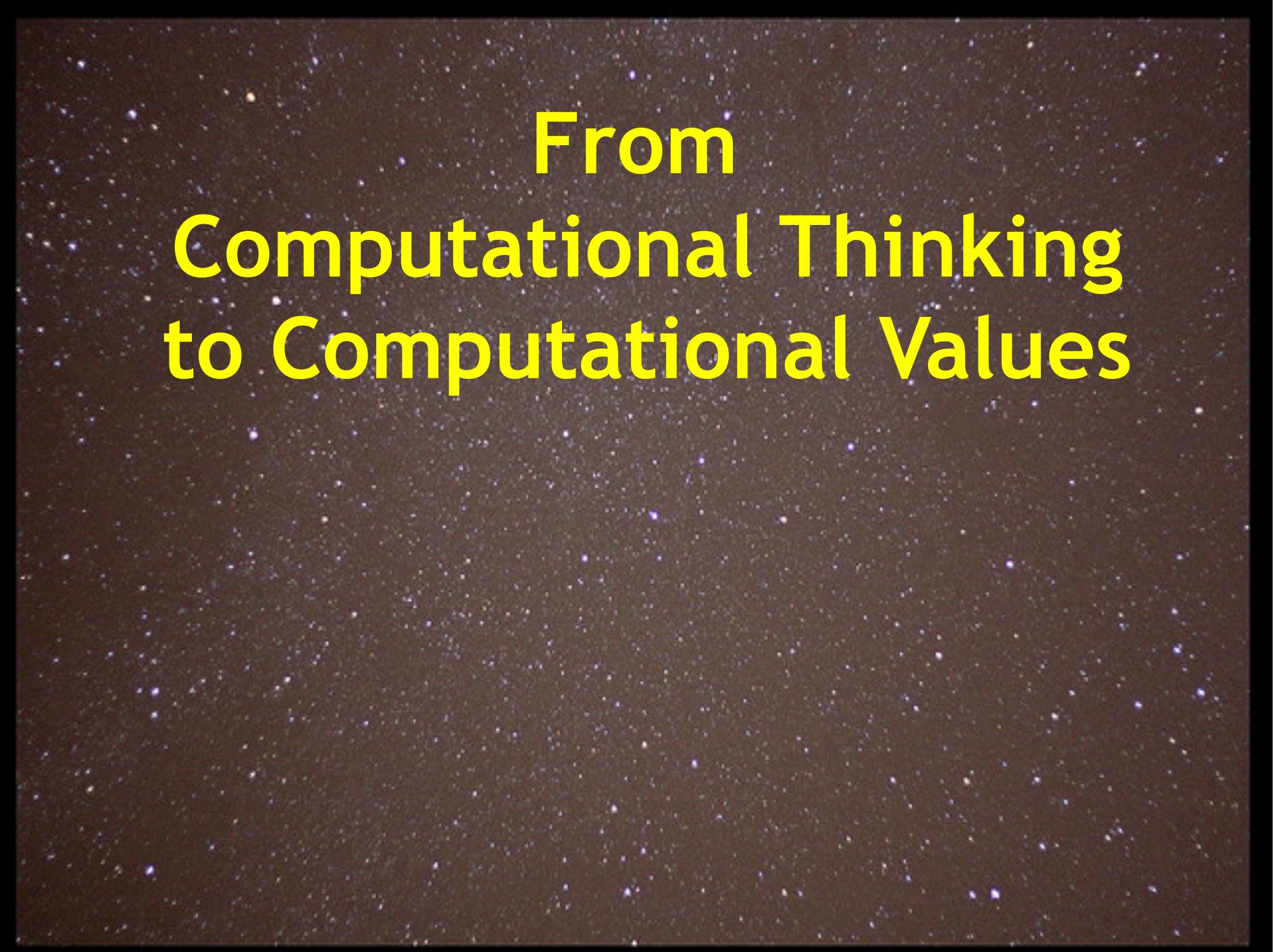
Book that overdue vacation and find the best spots to see before you get there.



Sports & Fitness

Tone those muscles, drop those extra pounds, and get fit with the help of these apps.

**Network effects
lead to
Monopoly positions
Lead to
Concentration of channels
Lead to
Decline of generativity**



From Computational Thinking to Computational Values

From Computational Thinking to Computational Values

Will our students' computing platforms
be generative? Will students be able to
tinker with them?

GADGET LAB

HARDWARE THAT ROCKS YOUR WORLD

PREVIOUS POST

NEXT POST

Apple Rejects Kid-Friendly Programming App

By Brian X. Chen ✉ April 20, 2010 | 2:15 pm | Categories: Media Players

[Follow @bxchen](#)

[Like](#)

[Send](#)



510 people like this. Be the first of your friends.

31

1

9

[Tweet](#)

[+1](#)

[Share](#)





imagine • program • share

[home](#)[projects](#)[galleries](#)[support](#)[forums](#)[about](#)[Language](#)

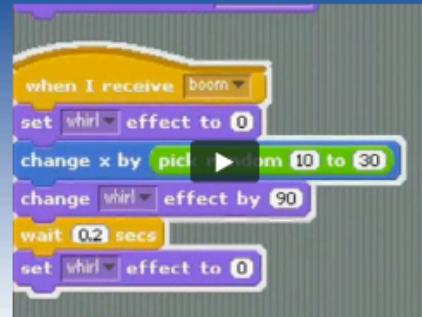
[Login](#) or [Signup](#) for an account

Create and share your own interactive stories, games, music, and art

[Check out](#) the 2,334,269 projects from around the world!



To create your own projects:

[Download Scratch](#)

Featured Projects



[Map-It](#)
by [UnprovenTheorem](#)



[Launch your own...](#)
by [sennajnuet](#)



[Valentine's Day...](#)
by [JoanofArc](#)

[See more](#) ►

Collab Camp



Collaborate with other Scratchers at Collab Camp to create music mashups.

[Learn more](#) ►

Scratch Day



Be a part of Scratch Day - a worldwide network of gatherings, where Scratchers come together to meet, share, and learn.

[Find out more](#) ►

Projects Selected by CylonToast



[Admiral Ackbar ...](#)
by [gub1](#)



[The Good Left U...](#)
by [MaxFlyboy](#)



[Snake Glow](#)
by [joletole](#)

[Learn more](#) ►

ScratchEd



Do you help people learn Scratch? Join ScratchEd, our new online community for educators.

[Find out more](#) ►

Projects from Scratch Design Studio

[See more](#) ►

From Computational Thinking to Computational Values

Will our students' computing platforms
be generative? Will students be able to
tinker with them?

From Computational Thinking to Computational Values

Will our students' computing platforms be generative? Will students be able to tinker with them?

Will mobile computing be tinkerable?



MIT App Inventor

BETA

MIT Center for Mobile Learning

For App Inventor Educators

Use MIT App Inventor*

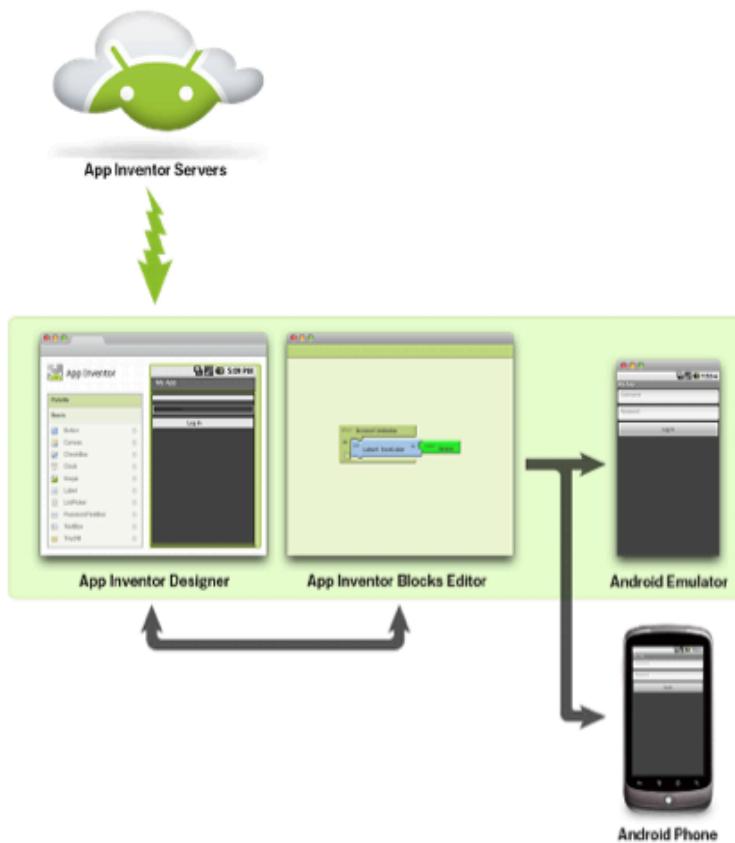
What Is MIT App Inventor?

Creating an App Inventor app begins in your browser, where you design how the app will look. Then, like fitting together puzzle pieces, you set your app's behavior. All the while, through a live connection between your computer and your phone, your app appears on your phone.

You can build many different types of apps with App Inventor. Often people begin by building games like MoleMash or games that let you draw funny pictures on your friend's faces. You can even make use of the phone's sensors to move a ball through a maze based on tilting the phone.

But app building is not limited to simple games. You can also build apps that inform and educate. You can create a quiz app to help you and your classmates study for a test. With Android's text-to-speech capabilities, you can even have the phone ask the questions aloud.

To use App Inventor, you do not need to be a professional developer. This is because instead of writing code, you visually design the way the app looks and use blocks to specify the app's behavior.



* If you are not already a tester of the experimental instance of MIT App Inventor, please read the blog post about applying to be a tester.

MIT Center for Mobile Learning



MIT Center for Mobile Learning

MIT App Inventor is a project of the MIT Center for Mobile Learning.

App Inventor for Android

Gmail - Inbox (1) – halatmitdot... Building Your First App – Phone... App Inventor for Android

http://appinventor.googlelabs.com/ode/Ya.html#221685 Google.com – Ca... Smart Bookma... News Latest Headlines Getting Started Reload via MIT L... hal mtv internal ... kill 8890 Bookmarks

Google macarthur d Search Share Bookmarks Translate AutoFill

halatm... halatm...

halatmitdottedu@gmail.com | Report bug | Sign out

App Inventor Updated: Apr 18

App Inventor was updated on April 18th. See [this announcement](#) for more details.

My Projects Design Learn Admin

HelloPurr Save Save As Checkpoint Blocks Editor is open Package for Phone

Palette Viewer Components Properties

Basic

- Button
- Canvas
- CheckBox
- Clock
- Image
- Label
- ListPicker
- PasswordTextBox
- TextBox
- TinyDB

Media

Animation

Social

Sensors

Screen Arrangement

LEGO® MINDSTORMS®

Other stuff

Not ready for prime time

Display Invisible Components in Viewer

5:09 PM

Hello Purr

Text for Button1

Screen1

Button1

BackgroundColor
Default

Enabled

FontBold

FontItalic

FontSize
14.0

FontTypeface
default

Image
None...

Text
Text for Button1

TextAlignment
center

TextColor
Default

Visible

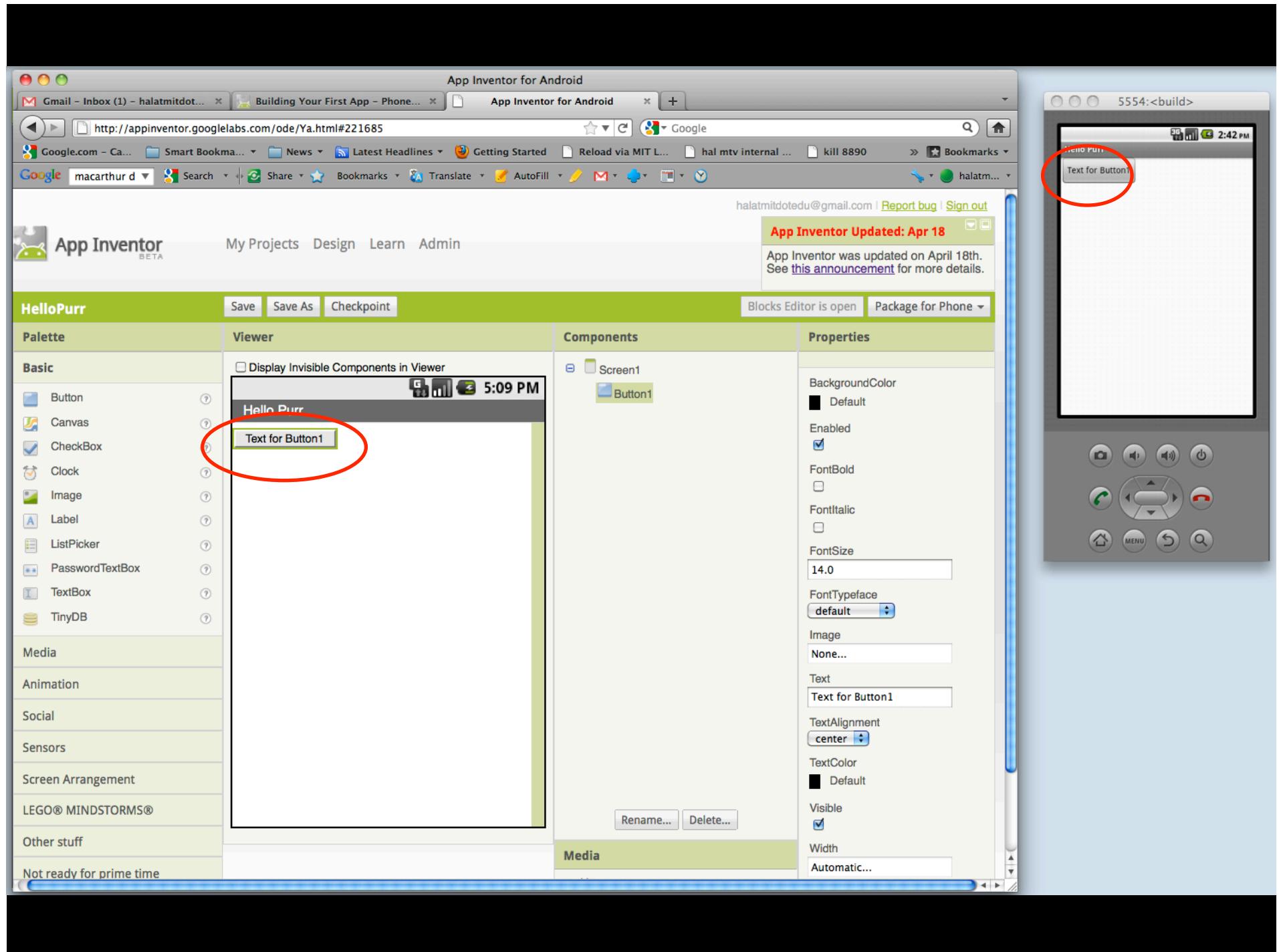
Width
Automatic...

5554:<build>

2:42 PM

Hello Purr

Text for Button1



App Inventor for Android

Gmail – Inbox (1) – halatmitdot... Building Your First App – Phone... App Inventor for Android

http://appinventor.googlelabs.com/ode/Ya.html#221685 Google

Google.com – Ca... Smart Bookma... News Latest Headlines Getting Started Reload via MIT L... kill 8890 Bookmarks

Google macarthur d Search Share Bookmarks Translate AutoFill halatm... halatmitdotedu@gmail.com Report bug Sign out

App Inventor Updated: Apr 18

App Inventor was updated on April 18th. See [this announcement](#) for more details.

My Projects Design Learn Admin

HelloPurr Save Save As Checkpoint Blocks Editor is open Package for Phone

Palette Viewer Components Properties

Basic

- Button
- Canvas
- CheckBox
- Clock
- Image
- Label
- ListPicker
- PasswordTextBox
- TextBox
- TinyDB

Media

Animation

Social

Sensors

Screen Arrangement

LEGO® MINDSTORMS®

Other stuff

Not ready for prime time

5:09 PM

Hello Purr

Text for Button1

Display Invisible Components in Viewer

Screen1

Button1

BackgroundColor
Default

Enabled

FontBold

FontItalic

FontSize
14.0

FontTypeface
default

image

- None
- kitty.png
- meow.mp3

Add... Cancel OK

Media

Rename... Delete...

Width Automatic...

5554:<build>

Hello Purr

Text for Button1

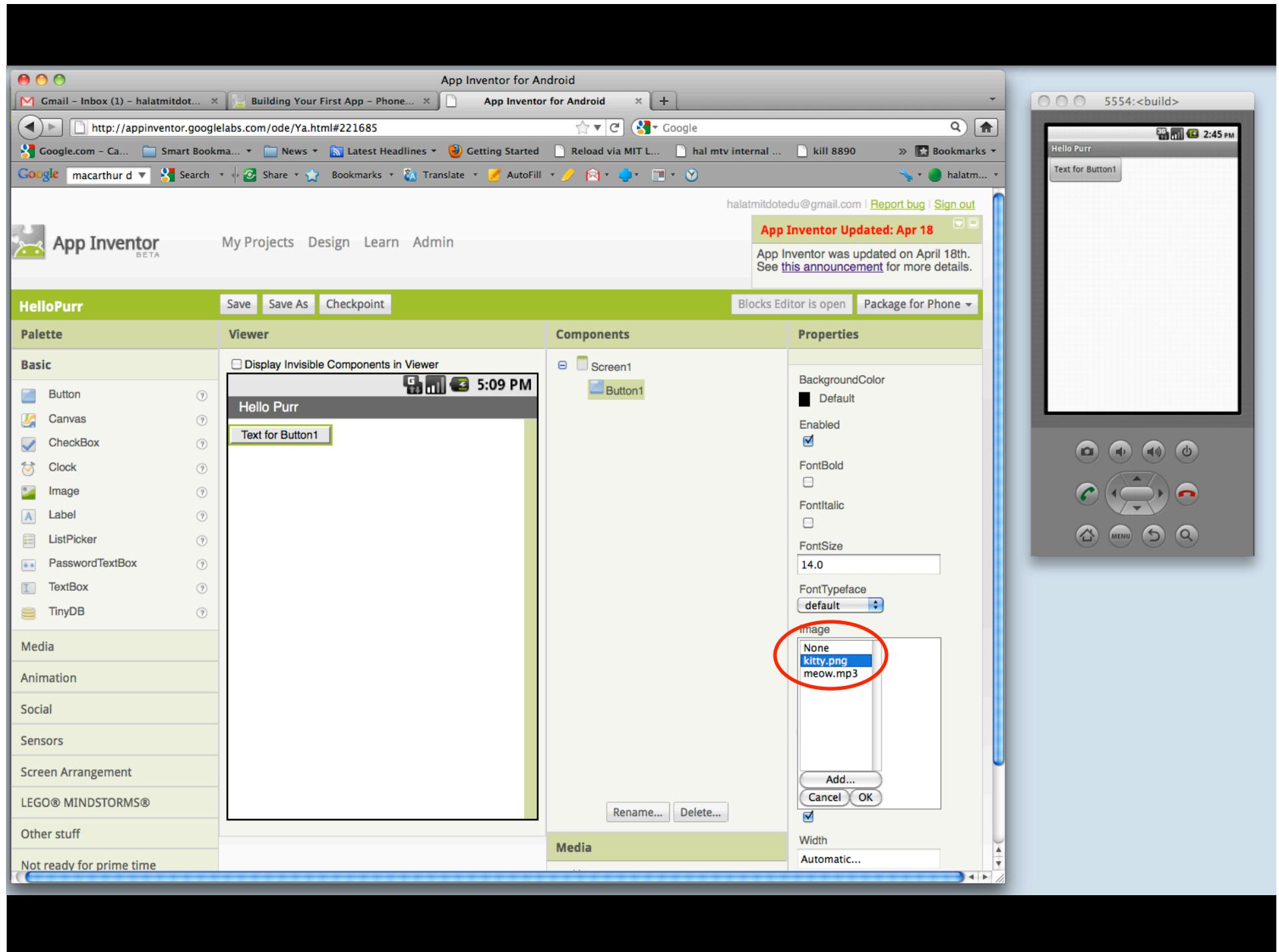
2:45 PM

Camera Speaker Power

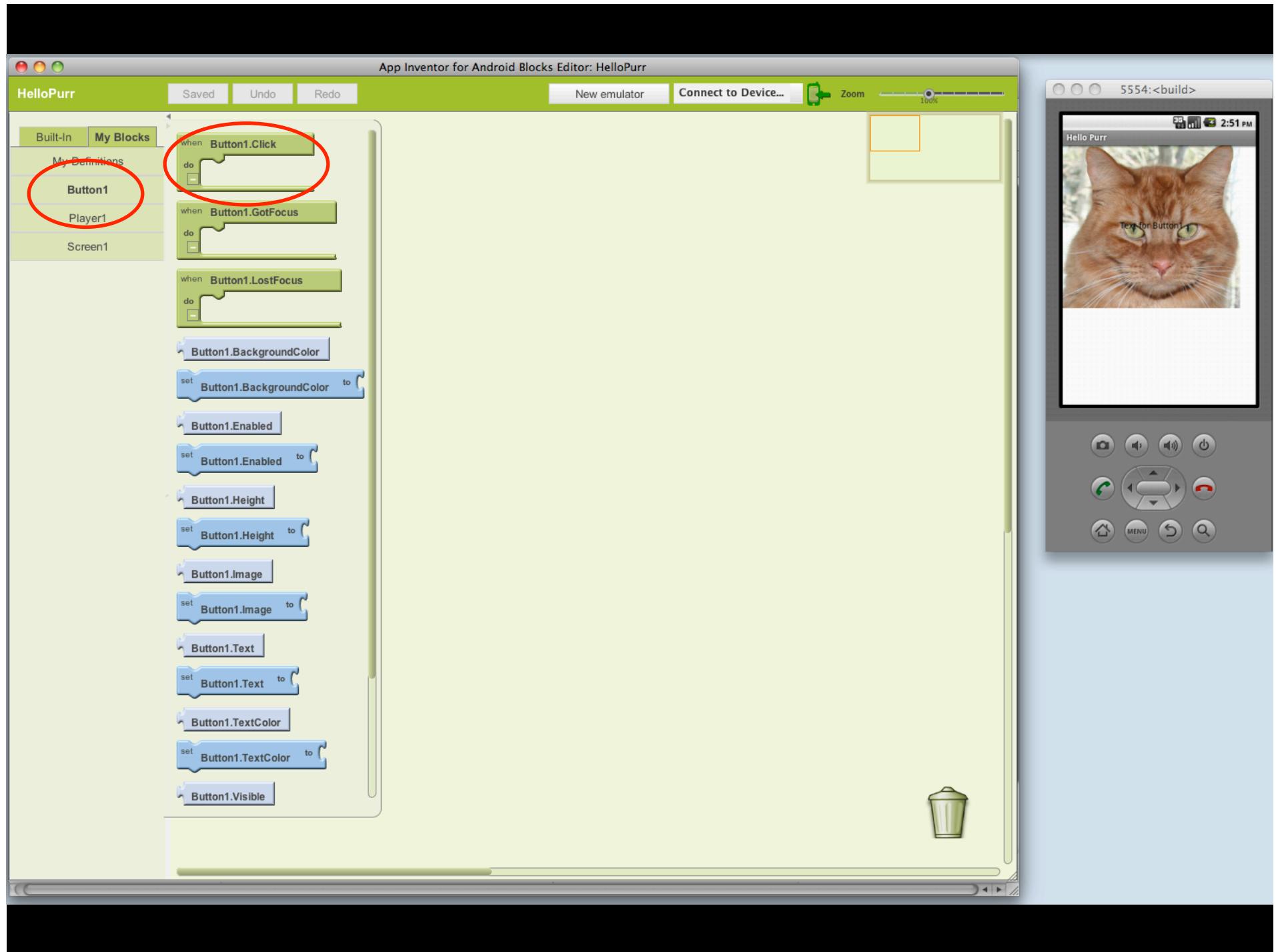
Home MENU

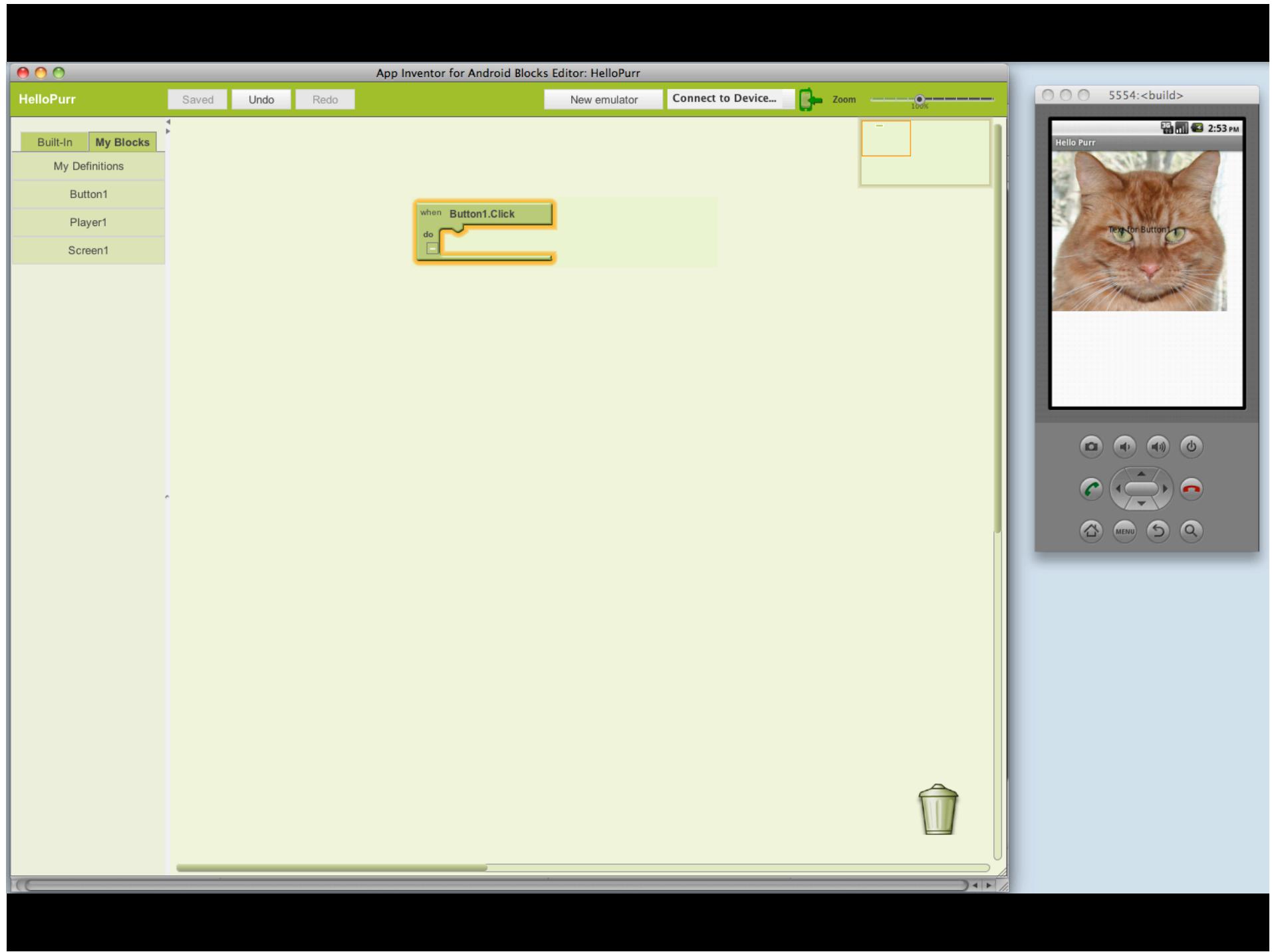
Call End

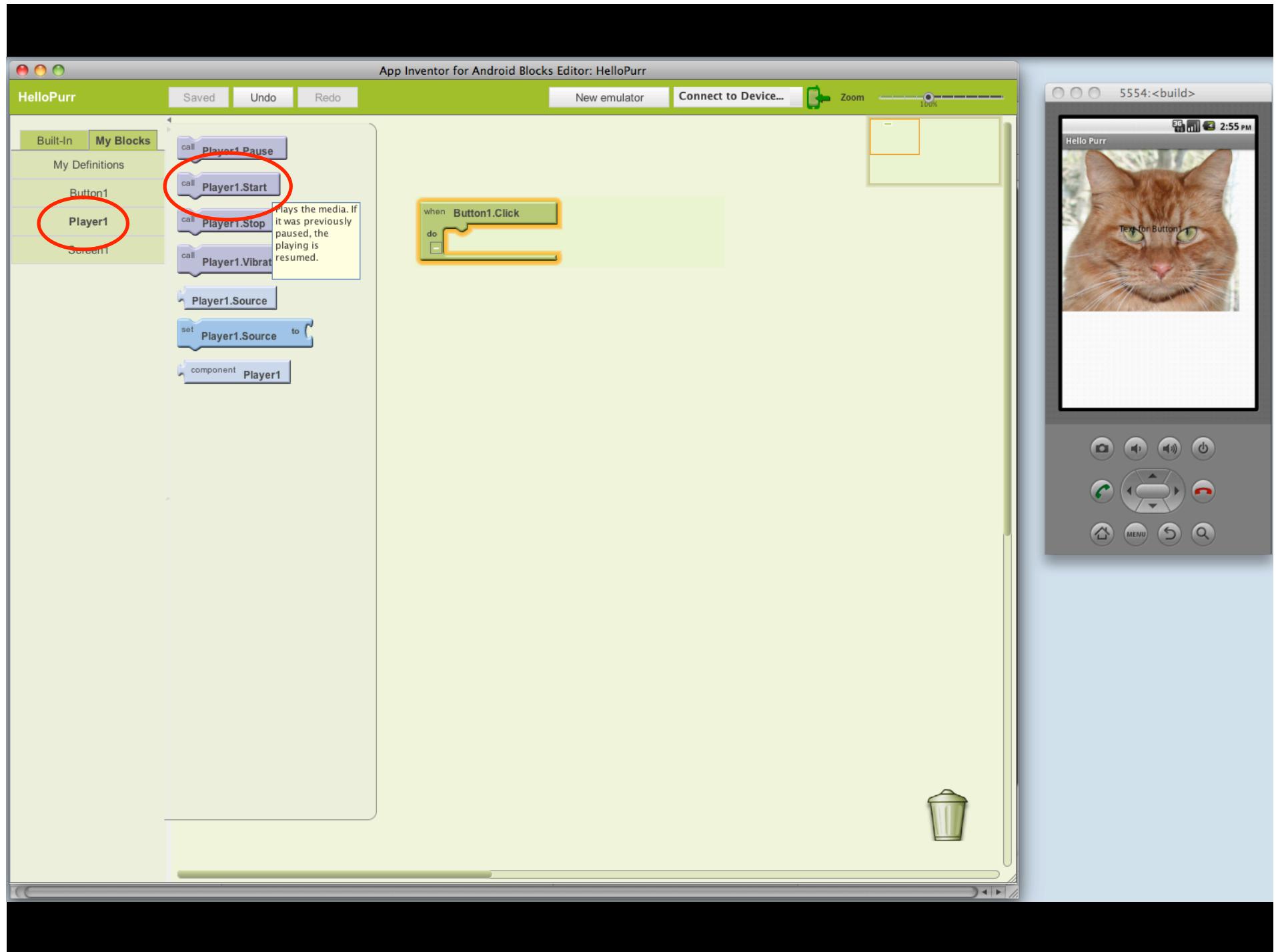
Red circle highlights the 'kitty.png' option in the image dropdown menu.

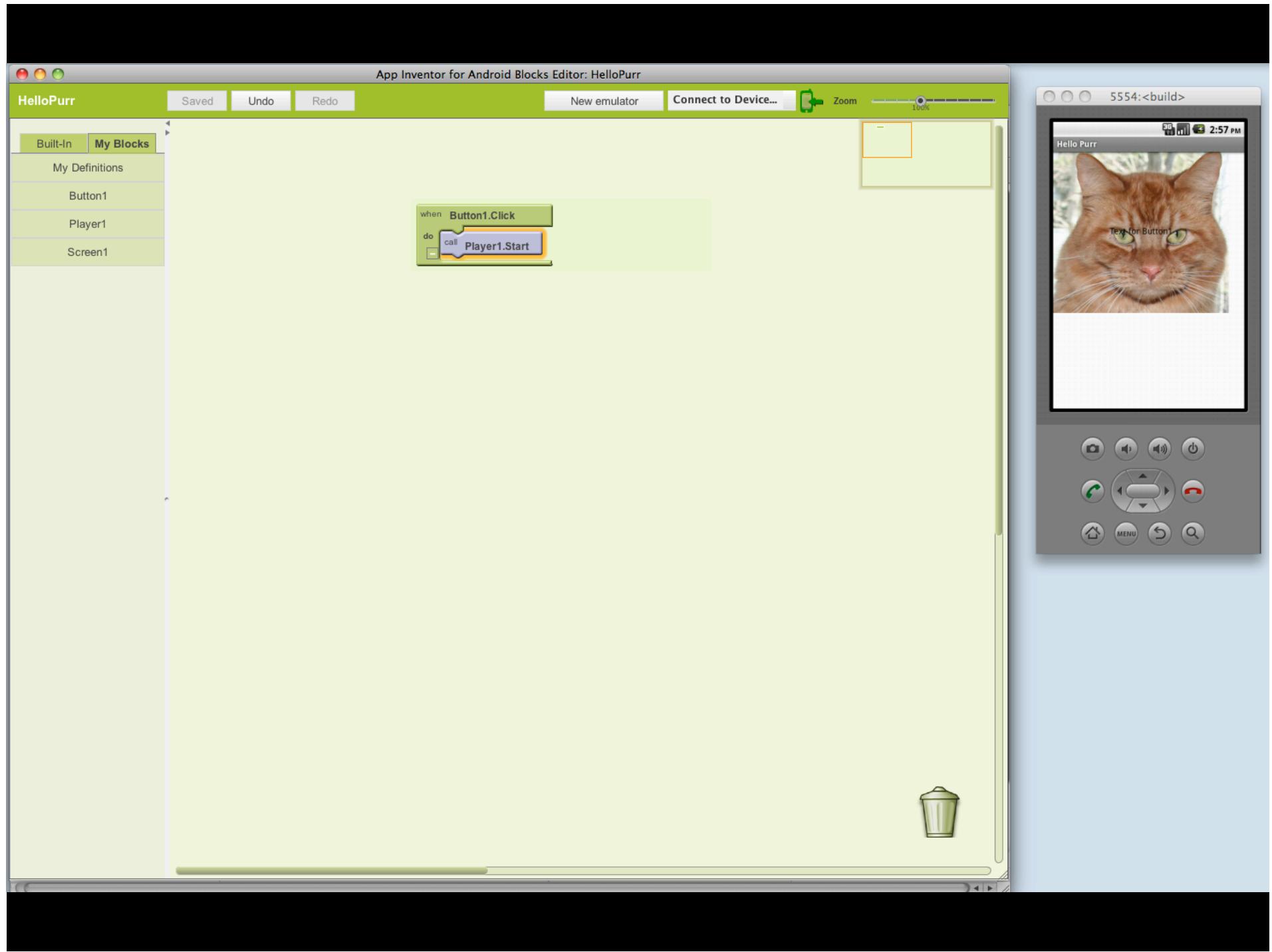


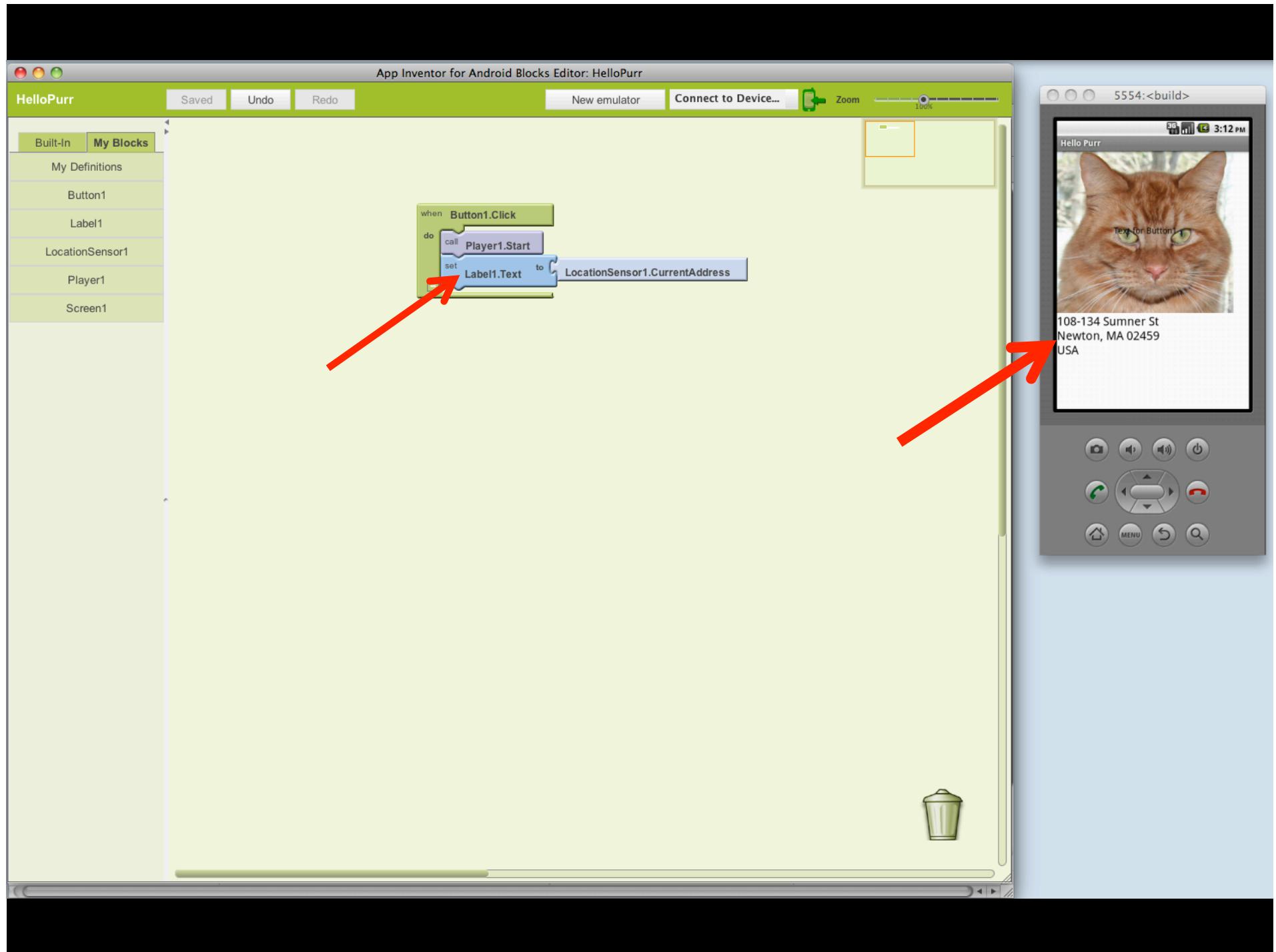
A screenshot of the App Inventor for Android interface. The main window shows the 'HelloPurr' project. On the left is the 'Palette' panel with sections for Basic (Button, Canvas, CheckBox, Clock, Image, Label, ListPicker, PasswordTextBox, TextBox, TinyDB), Media (Animation, Social, Sensors, Screen Arrangement), LEGO® MINDSTORMS®, and Other stuff. The 'Basic' section is expanded, showing icons for each component. The central area has three tabs: 'Viewer', 'Components', and 'Properties'. The 'Viewer' tab shows a preview of the app's screen with a red cat image and the text 'Text for Button1'. The 'Components' tab lists 'Screen1' and 'Button1'. The 'Properties' tab shows settings for 'Button1', including BackgroundColor (Default), Enabled (checked), FontBold (unchecked), FontItalic (unchecked), FontSize (14.0), FontTypeface (default), Image (kitty.png...), Text (Text for Button1), TextAlignment (center), TextColor (Default), Visible (checked), and Width (Automatic...). Below the Properties tab are 'Rename...' and 'Delete...' buttons. The bottom of the palette has a 'Media' tab. To the right of the main window is a separate window titled '5554:<build>' showing the final Android application running on a device, displaying the same red cat image and text.











MIT media relations

[working with us](#) [resources](#) [contact](#) [about MIT](#)

Search all of Media Relations


[Research News](#)
[Campus News](#)
[News by Topic](#)
[Experts Guide](#)
[Media Relations Home](#)
images

 Eric Klopfer's
[information & download](#)

 Hal Abelson
[information & download](#)

 Mitchel Resnick
[information & download](#)

For Immediate Release: August 16, 2011
contact: Caroline McCall, MIT News Office
email: cmccall5@mit.edu **phone:** 617-253-1682



MIT Launches New Center for Mobile Learning

Receives Initial Funding from Google Education.

The MIT Media Lab today announced the creation of the MIT Center for Mobile Learning, dedicated to transforming education and learning through innovation in mobile computing. The Center's formation is seeded by a gift from Google.

The Center, housed at the Media Lab, will focus on the design and study of new mobile technologies and applications, enabling people to learn anywhere anytime with anyone. Research projects will explore location-aware learning applications, mobile sensing and data collection, augmented reality gaming, and other educational uses of mobile technologies.

Three MIT professors will serve as co-directors of the Center: Hal Abelson, Class of 1922 Professor of Electrical Engineering and Computer Science; Eric Klopfer, Associate Professor of Science Education; and Mitchel Resnick, LEGO Papert Professor of Learning Research.

The Center's first activity will focus on App Inventor for Android, a programming system that makes it easy for learners to create mobile apps for Android smart phones by visually fitting together puzzle piece-shaped "programming blocks" in a web browser. Abelson proposed an idea that prompted the development of App Inventor during his sabbatical at Google in 2008.

Google made App Inventor publicly and freely available as a beta release at the end of 2009, and it has attracted a community of about 100,000 educators, students, and hobbyists. Google is in the process of open-sourcing the App Inventor code. As part of its research, the new Media Lab center will be engaged in studying and extending App Inventor, connecting App Inventor to MIT's premiere research in educational technology and MIT's historic track record of open software innovation.

Dr. Maggie Johnson, Google's Director of Education and University Relations, sees the Media Lab initiative as the ideal next step for App Inventor. "Google incubated App Inventor to the point where it gained critical mass. MIT's involvement will both amplify the impact of App Inventor and enrich the research around it," said Johnson. "It is a perfect example of how industry and academia can work together effectively."

Joichi Ito, who will take over as the Media Lab's director next month, stresses how well the new center will contribute to the Lab's research themes. "The Media Lab has always been about creativity – not only developing new technologies, but getting them out to the world in ways that positively impact people's lives," said Ito. "Our new Center for Mobile Learning continues this tradition, empowering people everywhere to create, invent, and learn with their mobile devices."

The Center's three directors have a long history of collaboration on educational technology. Resnick, who heads the Media Lab's academic Program in Media Arts and Sciences, is famous for his work on LEGO Mindstorms and Scratch, two of the world's best known and most influential platforms for introducing young learners to programming. Klopfer is director of MIT's Scheller Teacher Education Program, which trains MIT students to be secondary school science and math teachers. He is an expert on educational games and simulations and author of *Augmented Learning: Research*

Thank you

END