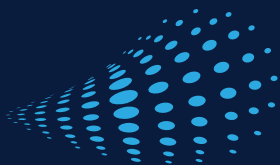
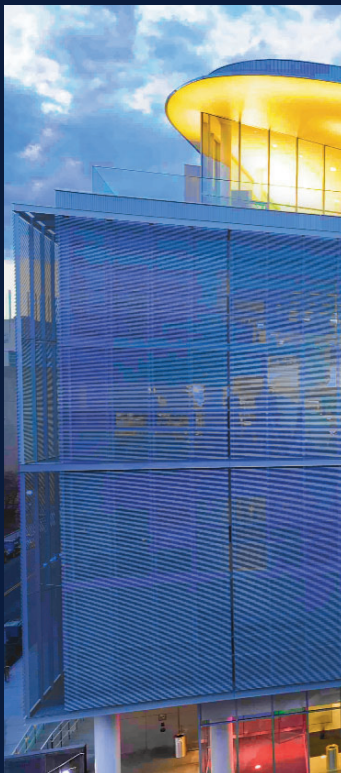

Review of the MIT Center for Future Civic Media

June 2011



CENTER FOR
FUTURE CIVIC MEDIA

 Knight Foundation

REPORT PREPARED BY

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John Palfrey led the review of the MIT Center for Future Civic Media. John is a professor and vice-dean at Harvard Law School and a faculty co-director of the Berkman Center for Internet and Society. He was previously the executive director of the Berkman Center, from 2002-2008, a period of substantial growth in the Center's size and influence. Catherine Bracy, who has worked closely with John at the Berkman Center as a senior administrator and key supporter on research projects, conducted a subset of the interviews used to inform this report. Additionally, John called upon colleagues in the social sciences to assist with the development and fielding of the student and community surveys.

Four deeply respected leaders in the field of journalism and new media agreed to serve as peer review advisors to support the assessment. These advisors shared their views of the Center's impact to date and reviewed the findings and the draft reports. These four leading advisors are: Emily Bell of Columbia, who is leading the new Tow Center; Guy Berger of Rhodes; Jay Rosen of NYU; and Lucy Suchman of Lancaster University, who has spent time at MIT and C4.

The report design was created by Etched.us.

Review of the MIT Center for Future Civic Media

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EXECUTIVE SUMMARY

The Center for Future Civic Media (C4) was established in May 2007 as a partnership of three principal investigators – Professors Henry Jenkins, Chris Csikszentmihályi, and Mitch Resnick – from the Media Lab and the Comparative Media Studies department at MIT. C4 has been supported by a four-year, \$5 million grant from the John S. and James L. Knight Foundation. The accomplishments of C4 include:



1. developing dynamic, promising new methodologies in the emerging field of civic media;
2. creating a teaching program in this new field that is attracting top-flight graduate students to MIT;
3. producing a series of projects, many of which are growing in influence, that are rooted in meeting the information needs of specific communities, as far from MIT as Juarez, Mexico and as close by as Boston, Massachusetts; and,
4. convening the field of civic media, primarily through an annual conference at MIT as well as weekly events that generated tens of thousands of views online.

Since its founding, C4 has led the effort to define and shape a new field in civic media. The Center is establishing a reputation as a go-to place for the use of a community-oriented methodology to technology design, development, and deployment. The most recent professorial hire in the Comparative Media Studies is Sacha Costanza-Cook, a faculty member in the civic media field. The Media Lab appears committed to developing additional teaching and research capacity in this area as well. The Center's staff and students have initiated a series of projects with great promise, though most are at an early stage of deployment. The Center has established a positive learning environment within MIT at large, and the Media Lab in particular, where students can develop their interest in a public-spirited, critical approach to using technology to directly affect communities.

The C4 experience in its first four years or so holds important lessons for those interested in 1) substantive questions related to media innovation; 2) teaching and learning in the atelier style as it relates to the study of media and innovation; and 3) the process of incubating innovation in the context of universities. The approach that C4 has taken is novel in many respects. They have sought to develop a new field of civic media. They brought together faculty, staff, and students from two university departments with strong identities and distinct disciplinary approaches into a single, interdisciplinary effort. They set out explicitly to listen to communities before building solutions. And they have designed new ways for students to learn, to innovate, and to contribute to society at large.

It is not the case that everything that C4 has undertaken has succeeded. Many projects remain unfinished; others should surely be abandoned, as is common in incubators and as is the practice at C4; and new efforts will be folded in or developed in the years to come. And it would be hard for many other kinds of institutions to seek to mimic C4's exact approach. But some broad and universal lessons emerge from C4's early years that are worth sharing in public, talking about, and building upon in ways that are both direct and indirect. The innovations, in substance and in process, underway at C4 in its short history offer much for all of us who care about this field to consider.



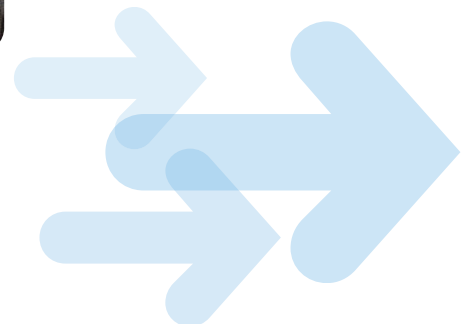
Henry Jenkins
Former Co-Director,
Comparative Media
Studies program



Chris Csikszentmihályi
Director, Center for
Future Civic Media



Professor Mitch Resnick
Academic Head,
Program in Media Arts
and Sciences



BACKGROUND

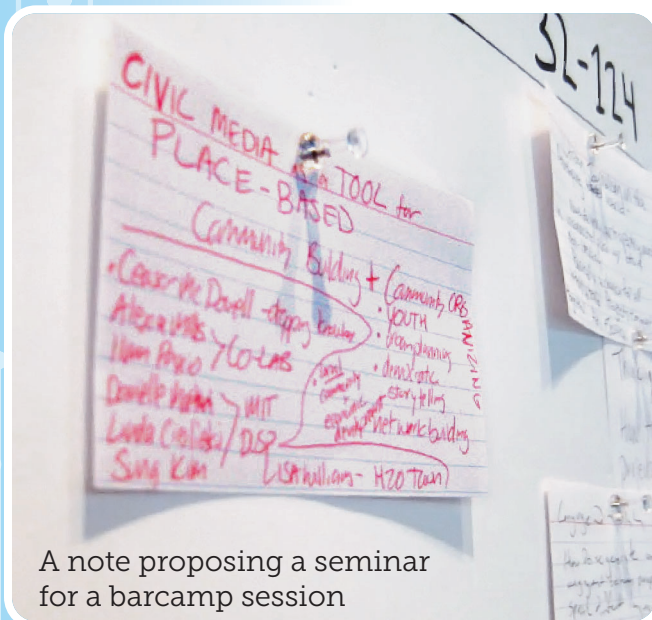
This public review document offers an analysis of the first three years of activities at C4, especially in light of the explicit goals that its founders set for the institution nearly four years ago. The time period reviewed runs from the formation of C4 in 2007 through January 2011. The primary audience for this review is anyone interested in how to incubate innovation in the area of civic media, especially in the

context of a university setting. Additional audiences for this review include the present and future Knight Foundation program staff and leadership; the present and future Knight Foundation Board of Directors; the present and future staff and leadership of the C4; the MIT faculty, staff and administration with an interest in C4; and participants in the emerging field of civic media.

We began by reviewing the original C4 grant proposal to the Knight Foundation, which reads in part:

“The MIT Media Lab and Comparative Media Studies Program propose a Center for Future Civic Media. Bridging two established programs at MIT – one known for inventing alternate technical fu-

tures, the other for identifying the cultural and social potential of media change – the C4FCM would be a crucible of new technical and social systems that allows geographic communities to share, prioritize, organize, and act on information. Simply put: the Center would take techniques and technologies that have proven themselves powerful for distributed and *virtual* communities, and re-envision and re-engineer them for *actual* communities. Mixing engineering, analysis, and debate, the C4FCM would create a platform for testing and investigating civic media in local communities.



A note proposing a seminar for a barcamp session

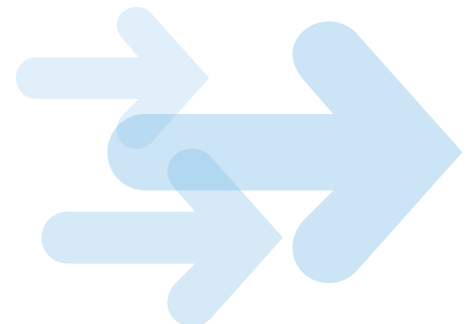


The Center will:

- Develop new technologies that support and foster civic journalism and political action
- Serve as an international resource for the study and analysis of civic journalism
- Coordinate community-based test beds in the United States and internationally

These three activities are vitally interconnected: We study the existing uses of civic media to identify best practices and urgent needs; we connect those insights to the development of new tools; we partner with local groups to put these tools into the hands of community builders; and we monitor the results to inform the next phase of development.”

Though the work of C4 has changed somewhat during its first three-and-a-half years of operation, its core focus hews closely to this original vision. To assess the progress that C4 has made toward these goals, we applied a straightforward methodology. The findings are based on a combination of more than thirty one-on-one interviews with faculty, staff, students, fellows, and external partners, conducted in the fall of 2010; a survey sent out to all students we could identify who had studied or worked with C4 in some fashion; a survey of external partners; investigation into selected projects; review of grant documents; and research into the activities of selected peer institutions.



ELEMENTS OF THIS ASSESSMENT

This assessment is based on an evaluation of C4's institutional competencies in three key areas: A) personnel and instruction; B) projects; and C) field advancement.

PERSONNEL & INSTRUCTION

C4 has been led by two faculty directors, Prof. Chris Csikszentmihályi and Prof. Henry Jenkins (who led C4 for its first year, prior to leaving for another university). Two other principal investigators, Prof. Mitch Resnick of the MIT Media Lab and Prof. William Uricchio of the Comparative Media Studies (CMS) department have also served in leadership positions at C4. Prof. James Paradis, the acting director of CMS, has also been actively involved in the Center in 2010. C4 has a small core of professional and research staff members who lead their own projects and support the activities of the students and faculty. C4 also hires part-time research fellows and supports graduate students. The faculty and staff are plainly well-respected by students and other participants in the community.

An early challenge for C4 has been that its leadership and senior staff composition has gone through extensive changes during its first three-and-a-half years of operation. These changes in staffing have occurred at the top of the organization. The departure of Henry Jenkins, a giant in his field, to USC-Annenberg was a major early loss for the Center.

Since then, C4 has established a new working team and has thrived under the leadership of Chris Csikszentmihályi. Two senior faculty members from CMS, William Uricchio and James Paradis, have stepped in to play a role in the Center's leadership after Henry Jenkins' departure. The engagement of faculty from two disciplines has been a challenge for C4, as it is for any interdisciplinary initiative. Our sense, at the conclusion of this review, is that there is more to be gained in the future from the combination of the Lab and CMS approaches, but it will take deliberate and persistent effort to realize those gains.

Center Students and Alumni



Audubon Dougherty →

During my time at C4 I was able to explore a number of topics relevant to my research interests, as well as work with communities on hands-on projects. Using interviews with activists, I created a multimedia presentation analyzing the new media outreach strategies undertaken by the U.S. Campaign for Burma; I made a documentary film investigating the social impact of wireless internet in rural areas of Peru; and I ran mobile video production workshops with Kenyan teens and adults. Being able to conduct research and run projects with people outside of MIT was a refreshing opportunity, especially in contrast to my thesis work as a graduate student. Even collaborative projects that went uncompleted – like the creation of a web platform for refugee youth to share digital media – helped me learn about project management and strategy.

Jeff Warren →

I like the fact that at C4, there's a sensitivity toward the agendas implicit in different technologies and the communities which promote or use them. I like the emphasis on supporting disempowered or at-risk communities. Especially when so much of the media attention on tech is focused on iPhone applications or multi-touch or whatever, I like the willingness of C4 researchers to get back to basics, and frame problems in their human terms rather than just throwing in a bunch of shiny technology. We're not perfect but we are at least looking at some of the harder problems out there – transparency in government, community organizing, environmental activism, and others – many of which don't even seem to be on the table for more traditional technologists. In the face of the 'typical' Media Lab project, which starts with an imaginary scenario... like "in the future, we'll shop with gestural interfaces!" ...C4 projects attempt to ground their inquiry in real issues, actual conflicts and inequalities in the world.



In some respects, the most vibrant aspect of the C4 story can be heard through the excitement of the students who have been involved in C4's development from the very beginning. Students told us about the crucial role that C4 plays in "creating a space that didn't exist" at MIT or the Media Lab prior to its formation in 2007. Students point to the explicit focus on understanding and addressing the needs of specific geographic communities as reasons for coming to MIT and for committing themselves to learning programs as affiliates of C4.

The total number of students involved in C4 to date has been roughly 75. The majority of these students took one of a few classes offered by C4 faculty, primarily early on in C4's history. The core group of students numbers between 10 and 15, depending on how one defines "core." Two students have been involved throughout the history of C4 and another two have been involved nearly the entire time. The basic model is to fund four Lab students and two CMS students per year, as well as a few research scientists. Additionally, the C4 leadership has attempted to keep "low walls," to allow for significant contributions by students who are not being supported by C4. All C4 students who have ended the ordinary period of time as master's students have graduated to date, with impressive post-MIT work already underway by several of them.

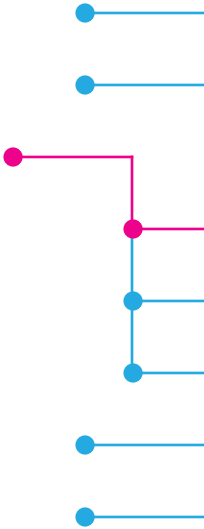
The balance of the students involved has been heavily weighted toward the Lab, given that CMS froze its admissions during the grant term. As in the case of the changes in the faculty leadership, this change in the composition of the graduate student body has been a challenge for C4 in its early years. The heavy weighting toward Lab students, though not on its own problematic, has made it difficult to realize the benefits of a truly interdisciplinary enterprise. Some students have also noted that it has been a challenge to be formally a student "of" C4; many students have effectively "moonlighted" in the program. This administrative issue appears likely to be resolved for the incoming group of graduate students, such that students will have a full range of options to match their desired level of participation in C4.

Center Students and Alumni



Katrin Verclas →

As a C4 fellow in 2009, I had the opportunity to work with a smart and socially-committed set of students who helped me see forward-looking and visionary technology for MobileActive.org projects. Much of the work at C4 is extremely creative and, at times, experimental. The opportunity to work with C4 gave me a chance to evaluate our projects in that larger, more creative and avant-garde context. That view is invaluable as we implement projects, build new relationships with communities, and continue to hone technologies as part of our network. The connections I've developed at C4 events have informed my organization's processes. More importantly, C4's ability to build a network has influenced the field as a whole, allowing innovation to occur that wouldn't have happened if we'd been working in isolation.



PROJECTS

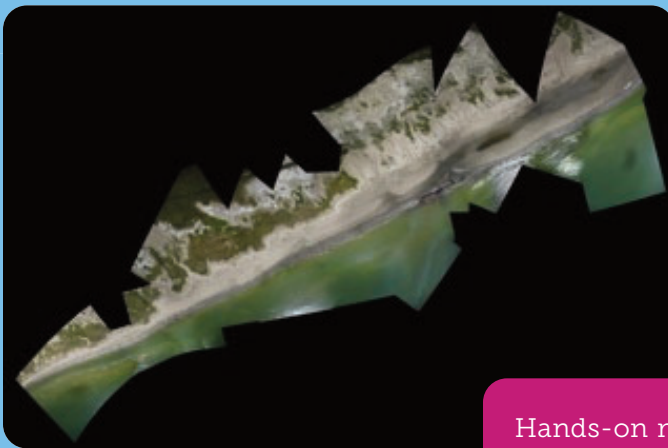
C4 has developed into what one of its leaders called “a social entrepreneurship incubator with a local focus.” C4 has capitalized and helped to build out interesting existing projects underway in the MIT Media Lab, such as student Jeff Warren’s Grassroots Mapping work which was at a very early stage of development when it was brought into the fold at C4. C4 has also developed new projects including ExtrACT, which director Chris Csikszentmihályi built out effectively on the work of another student. The projects are mostly in their early stages of development. There is a broad range in terms of the success of projects as measured by adoption of the technologies involved by community members.

C4 has brought together a broad portfolio of projects which, taken together, have great promise in terms of helping community members to meet their information needs. Several of these recent projects have achieved quick up-take within a month or two of their launch. Examples of the most promising and well-developed current projects, roughly half the total universe of C4 projects to date, include:

→ **Grassroots Mapping:** a project that has enabled citizens to learn a simple mapping technique, using balloons and kites, to create images of the BP oil spill in the Gulf that along many vectors surpass the professionally developed satellite imagery used by the United States government;

→ **Sourcemap:** a social network developed around supply chains that has won numerous awards and has been deployed by citizens and companies alike to understand better where products come from and what they are made of;

Grassroots Mapping (BP Oil Spill) →



The Grassroots Mapping initiative is a set of tools and community outreach strategies that seek to democratize the map-making process. Its innovative imaging techniques – consisting of helium balloons, kites, and inexpensive digital cam-

Hands-on mapping techniques allow for high resolution, near-real-time photos of large areas better and faster than any website that shares satellite imagery. This stitched-together image shows oil stains along the beaches of Louisiana after the Gulf oil spill.

eras—provides imagery that is considerably more powerful than those provided by Google Maps and is wholly owned by the communities. Putting cartography tools in the hands of citizens can help alleviate border disputes and provide empowering information to groups that have been disenfranchised or displaced.

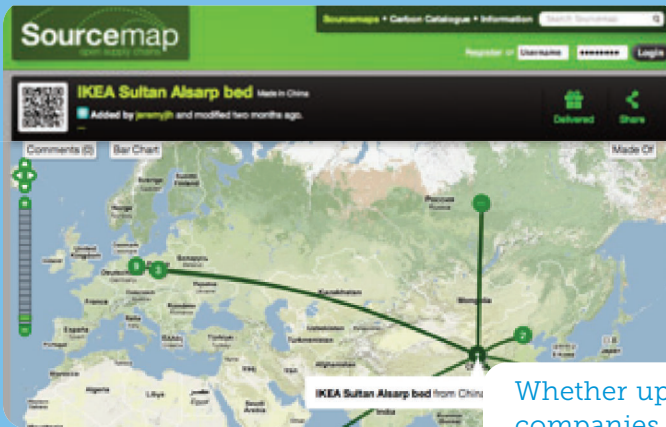
The concept was first applied in mountainside communities on the outskirts of Lima, Peru and has since spawned community-led experiments from New York to Hong Kong. One of Grassroots Mapping’s most recent and groundbreaking deployments was in the U.S. Gulf Coast after the BP oil spill. Working with local advocacy groups, the Grassroots Mapping team deployed its low-altitude map-making technology in order to get a picture of the extent of the spill. These images, which are often the best set of available data covering the extent of the disaster, may be used in the future to assess the long-term environmental impact and shape clean-up policy. They also could provide useful evidence for potential future court cases. The project continues thanks to the involvement of computer science students from the University of South Alabama who are honing the image capture technology and experimenting with different tools to stitch the pictures into maps.

www.grassrootsmapping.org

- **The Heroes Project:** an initiative in Juarez, Mexico, that is enabling hundreds of citizens to tell their own positive hero stories about good things happening in their communities and building local capacity to sustain the process (modelled on a successful effort in New York);
- **Between the Bars:** a weblog platform that enables prisoners to publish blog-like posts to the web and to engage those in other communities in conversation online;
- **Two Partnerships With the City of Boston:** one partnership created community around the social capital of street vendors by offering them blogs, while another sought to improve signage through private-sector efforts to direct people to nearby places; and,
- **Partnership With a Wisconsin Community:** ravaged by the closure of a mill on which many relied for jobs, the project focused on the adaptation of information technologies for local information and capacity-building purposes.

In developing many of their projects, C4 participants have applied an emergent methodology. C4's primary accomplishment in its first three-and-a-half years of operation has been to establish a methodology that is grounded in its own history. This methodology builds upon the innovative technical approach of the Media Lab and the critical, analytical approach of the Comparative Media Studies department. This methodology should be seen as a work-in-progress, and as one of several possible methodologies for the development of a field of civic media. Ideally, the C4 team will write more about these methods as they develop further, so that others might benefit from what the C4 community members have been learning.

SourceMap →



SourceMap is a unique web-based tool that allows consumers to discover the origins of the products they use. Using sophisticated mapping technology and a user-friendly visual interface, SourceMap makes supply chains—for products from copy paper to

Whether uploaded by environmentalists or by companies looking for a logistical edge, this sourcing-and-assembly data, through SourceMap, has finally become easy to collect, share, and visualize.

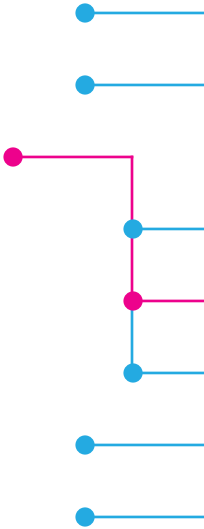
blue jeans—transparent.

SourceMap was originally conceived to help product design students understand the environmental impact of the products they were developing, but has quickly expanded its influence to small and large businesses and to individual consumers. Companies are using SourceMap to gauge the efficiency of their products, and to compare their supply chain with that of other companies. Individual consumers are using SourceMap to see where the goods they purchase originate. Since SourceMap also provides tools for assessing the environmental and social impacts of supply chains, it helps businesses and end users make more informed choices about production and consumption.

One major challenge for SourceMap has been convincing companies to reveal their supply chains, but over the past year several companies, mostly in the green design space, have signed on and three large corporations have followed suit.

In addition to their ongoing work with companies, the SourceMap team is also adapting the tool for use by NGOs and civic groups to promote advocacy, and for journalists for use in investigative reporting. These new applications of SourceMap have led to partnerships with journalism students at the University of Montana, fair trade cotton farmers in India, and corporate social responsibility professionals around the world.

www.sourcemap.org



Described by several participants as C4's "secret sauce," the methodology is a fusion of the MIT Media Lab's well-known approach to project-based innovation and a community-based approach to their design, development, and application. The core idea is, first, to start with a specific community and understand the information needs of its members. Second, the C4 participants work with these community members in a peer-production mode of "problem-spotting" and apply a vision of what technology can do to address these problems. Third, the C4 team works to design, develop, and apply relevant technologies to these community needs. The fourth phase, ultimately, would be a careful assessment of the project's impact and further development to scale the most successful of these projects to meet the needs of similarly-situated communities.

Chris Csikszentmihályi wrote of the way he thinks about the C4 approach to a blend of project work, innovation, and student development: "The unit of technical innovation that we focus on (at the Media Lab) is, it should be obvious, the kind that can be done by one or two individuals at the start. It is how Apple, Twitter, Google, and many other companies started. **We focus on training highly capable innovators.** That is also why the lab does less work around policy — we focus on disruptive innovation rather than gradual improvement, which always means a somewhat greater ratio of attempt to success. We have never played it safe. And it's why we give students a great deal of autonomy."

There are several aspects of this methodology that are novel and which may well prove to be substantial innovations in the field. The primary innovation is the notion that the process begins with communities, not with the technologies or with a scientific concept of innovation as such. The traditional MIT Media Lab approach is turned on its head in the C4 concept. C4 faculty, staff, fellows, and students start in the field and serve as

Red Ink →



Red Ink is a social-financial web service that applies the principles of customer analysis to community-based activities. Modeled on personal financial sites like mint.com, it allows users to track and share their personal spending information,

RedInk expands personal finance tools, like Mint.com, into financial network tools for community based data sharing.

with a focus on aggregating that data for social good. One application of Red Ink is for product boycotts. Red Ink allows activists to start “campaigns” to which users subscribe. These campaigns track, for example, how much money BP loses from customers boycotting their service stations, allowing advocacy groups to better report the impact of their protests.

Red Ink has entered into a partnership with South Wood County, Wisconsin, an area centered around a now-defunct paper mill, to use the tool to gauge the financial health of the community. By working directly with local organizations like the Community Foundation of South Wood County and several local banks, Red Ink has been tailored to meet the needs of the community. For example, local financial leaders recognized that with aggregate data about users’ mortgage payments, they could detect patterns that might predict foreclosures, an important indicator of the community’s financial health. By getting this information early, local leaders could enact programs before a mortgage crisis emerged.

Red Ink’s biggest challenge is overcoming skepticism about privacy issues. In order to create value, it must reach a critical mass of users who are convinced that the benefits of sharing their personal financial data outweigh the risks. This is no easy task.

<https://redink.media.mit.edu/main>



consultants to communities struggling with specific problems and help them to come up with novel approaches, in effect “reframing what might be and bringing excitement,” as one researcher said. The projects are also meant to be iterative, to change even within the application in a single community or in the context of re-applying the technology-based approach in subsequent communities. The deepest, and likely most enduring, of C4’s advances will emerge from this methodological development, in our view, over time.



Fellow Chris Xu

C4 has developed a growing group of people and projects that show great promise in terms of an ability to meet the information needs of communities through technological innovation. Seen through the example of C4’s people and projects, and in the broader community of Knight Foundation grantees, a bright future for civic media is coming into view. These projects, when brought to scale and through ongoing support, can have enormous, measurable, positive impact in communities around the world.



ExtrAct (Landman Report Card, WellWatch, News Positioning System) →



Each white dot is a well, many of which have little available environmental accounting aside from one tools like ExtrAct provide.

ExtrACT is a set of web-based knowledge sharing tools for communities impacted by natural gas drilling. The ExtrACT suite arose out of a recognition that many problems facing local communities in an age of globalization are caused by interaction with some outside entity. In this case, the outsiders were multinational oil and gas companies. Commu-

nities affected by drilling have long been trying to organize to create aware-

ness about the dangers of hydraulic fracturing, a practice of drilling into and breaking underground rock formations to extract natural gas. The ExtrACT founders recognized a need to provide tools to these groups—often isolated by geography and unaware that other communities are facing the same issues—to communicate and share information with each other.

The first tool developed by the ExtrACT project was the Landman Report Card, a review and recommendation system allowing landowners to share information about company representatives—called landmen—in their dealing with landowners. As the hunger for these sorts of tools quickly became apparent, the ExtrACT team developed WellWatch and the News Positioning System.

WellWatch arose out of work with a non-profit group called the Oil and Gas Accountability Project (OGAP), which was collecting valuable data but had no way to share it or make it useful to other groups. WellWatch has taken this data, along with public records, to create a database and map of many existing wells in the US. In addition to providing comprehensive access to this information, WellWatch allows users to comment, file complaints, and chat with other users. One community member described the moment she first saw WellWatch as “jawdropping.” She recognized the need for this sort of access to information but didn’t know that the data existed let alone that it could be made available this way.

The News Positioning System has similar origins. During meetings with community members, ExtrACT project managers noticed that many of them kept track of news in the same way: by stuffing newspaper clippings into binders, or by emailing around links that never got stored anywhere. The News Positioning System is an interface that allows access to all of those news stories. Users can upload stories, provide context around certain topics, share comments, and create groups. The team is also currently developing a scraper so that all those links sent around via email are sure to make it into the database.

All three of these initiatives continue to gather steam in their target communities, to the point that Earthworks has expressed interest in hosting the projects long term.

www.landmanreportcard.com

FIELD ADVANCEMENT

It is not surprising that connections to communities would be among C4's strong suits. The responses from the external partners' survey show the strength of several of these connections, in particular. The connections stem both from the work of the researchers and the core staff, which includes Regan St. Pierre as a community outreach coordinator and Andrew Whitacre, who devotes 50% of his time to communications at C4. The staff approach, taken together, is less about classic "public relations" and more about developing specific communities interested in C4's work, whether from an academic or a geographic perspective. This community outreach approach is contrasted, in the words of several respondents, to the Media Lab's general approach, where researchers tend to spend less time focused on reaching out to communities of technology users. There is an obvious linkage between community outreach and the substance of C4's work and its emerging methodologies, which should be continuously developed over time.

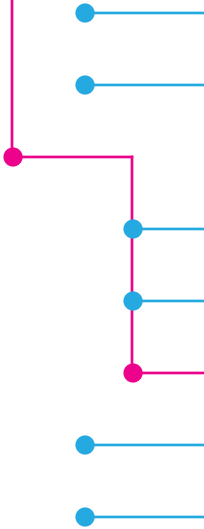


C4's conference on civic media has quickly become an important annual event in the calendar of those working in this emerging field. There is little doubt that it serves a useful function in helping to establish a strong sense of community around the ideas in this nascent field. It showcases terrific projects and helps to share learning from one institution or person to another. Interview participants frequently noted how important this event was in terms of connecting people to one another who might, in turn, collaborate with each other.

Many of the things that C4 has done in the past year or more with respect to the conference will bear fruit into the future, as well. Hacks and Hackers is a specific, positive example. In addition to the lasting effect of people working more effectively together across institutional lines, the creation of video archives on the site,

based on the conference presentations, is already a helpful tool in terms of recording the state of the field at this early point. Those unable to travel to the conference can still glean, at virtually no cost, some of the benefits that the event's attendees received. The conference offers C4 the opportunity to continue to experiment with the digital medium to serve the information needs of its own broad community. (As a side note: as with any major event, a modest amount of the feedback we received was marginally critical, with respect to organizational or logistical matters. Overall, the feedback from participants has been highly positive.)

Through their events, teaching, methodological development and by bringing projects to scale, C4 and its peer organizations can build and promote a new field in civic media. This new field, if successful, can build upon the promise of devoting innovative technical approaches to meeting the information needs of communities. The experience of C4 in its early years, as well as the broad range of Knight News Challenge winners and others, suggest that there is the potential for a bright future for civic media in the years to come.



LOOKING FORWARD



As part of our review, we identified a series of areas where we would suggest that C4 invest further resources in the coming years. We note that these specific suggestions may prove incompatible with one another. Limits such as space and funding might preclude growing the number of fellows, staff, and students, for instance; we acknowledge that C4's leadership will have to make hard strategic choices as among these, and other, areas of future investment.

→ Build Staff Capacity to Support Project Development and Emphasize Adoption:

In order to scale projects, C4's staff may need to grow. C4's leadership identified this need a year ago, and they have begun to address it. Research scientists told us that they often need more technical support for some of their projects, for instance. Project management is driven by students or research scientists in ways that can lead to mixed successes of projects as a whole; the notion of student leadership, at the same time, a major part of the learning experience for the students themselves, which creates an obvious tension. Careful hiring of professional staff to help support students in project management might increase the likelihood that future projects will be successful, especially in terms of scaling beyond small communities and short-term periods of usage. There is also a tension here with the student head-count. The hiring of professional staff should not be at the expense of building the devoted student cohort, which points to the need for further funding to enable C4 to grow over time and to accomplish more through this growth. The purpose of this staff growth should be to ensure that projects reach greater levels of adoption over time and that students learn as they lead their projects. Sourcemap is the best example in the current portfolio to review as an early success story in this respect.

→ **Build the Fellows Program:** The fellows program is an important area for future growth and development of the C4 community through the broadening of the focus of fellows brought into the center and an expansion of their role. This expansion would make sense mostly in the context of a general strategy for growth that would not involve a trade-off that reduced, for instance, the number of students involved. The interviews provided a sense that fellows would welcome the ability to be more involved in the life of C4 and that students might benefit from a more robust fellows program.

→ **Build on Interdisciplinary Capacity:** One of the unique aspects of C4 is the combination of the Lab and CMS methods of teaching, research, and community engagement. Because of the institutional change of the past few years, especially within CMS, the benefits of this interdisciplinary approach have yet to be fully realized. C4's leadership should take special care to build an explicit strategy for interdisciplinarity that will improve the quality of the research, teaching, community engagement – or ideally a combination of all three.

→ **Build Publishing Capacity:** The primary mode of the Lab, by and large, is “building things,” as we were told repeatedly during our review, and not writing about them. Nonetheless, we propose that C4 build its capacity to publish its ideas in various formats, including through scholarly writing. C4's leadership should consider writing with an emphasis on field definition and on methods, as well as possibly the lessons learned from successful and unsuccessful projects. While students and individual fellows and researchers have published some written work, and C4's staff have blogged and tweeted to some extent about C4's activities, this is not an area that has received much institutional focus.



In the words of one peer reviewer, “The format is of little importance but an ongoing narrative of the work it seems to me is crucial and should be a next phase priority.” There is a broad range of options in terms of what form this publishing might take. Traditional scholarly publishing has an important place. Other worthy options include: increased web-based publishing (such as blogging and in other social media outlets); case studies of projects that are both successful and unsuccessful; one or more books published by academic and trade presses; and multi-media presentations of C4’s methods, teaching materials, and other knowledge. Creativity in this respect might pay big dividends, for C4 itself and for members of the fields it means to affect through its leadership.

→ **Raise Funding from Additional Sources:** The Knight Foundation’s initial



funding has gotten C4 going. MIT has plainly supported the project in various important ways (such as the allocation of precious faculty time to the enterprise, space at the Lab, and so forth). In order to thrive in the future, C4 will need to draw upon sources other than the Knight Foundation for its sustenance. One major challenge may be the extent to which MIT is set up to support research that is funded through large federal grants, with corresponding rates of overhead, which may be higher than foundations (which often fund the kind of work C4 does) are willing to pay.

→ **Emphasize Sound Assessments of Projects, Teaching, and Methods:** The C4 team has begun to build the capacity to assess its projects, which is an important early-stage effort. This initiative should be embraced and extended to teaching and methodological effectiveness over time. The C4 leadership might well spend time on an evaluation of existing projects along multiple dimensions to ascertain patterns both in terms of focus areas and in terms of what is more or less likely to lead to success in using this methodology. As one PI put it, projects are largely oriented around asking and answering ques-

tions about “what journalism has not done well in the era of globalism” and helping to “bind communities using tools where they haven’t been able to use these tools so far.” As a further, and more important note on this score, any assessment of the effectiveness of C4 must factor in the promise of the new methodology that C4 is pioneering. It may well be that the long-term pay-off from the Knight Foundation’s investment will be methodological – and, in fact, “field-building” – rather than through the impact of specific projects. As one peer reviewer put it, “I agree that it is the way of working – the methods – that are the heart of the Center’s contribution. Their approach is, in my view, the essential ingredient for the creation of civic media infrastructures, and C4’s work is both exceptional ... and exemplary.”



→ **Take up the Hard Conceptual Issues at the Core of Civic Media:** The C4 team should engage and address a series of conceptual issues that are at the core of the field, ideally in public. They should address hard questions about what “community” means. In this spirit of inquiry into the meaning of community, one peer reviewer of this assessment raised an important substantive point related to the C4 methodology. As the reviewer wrote, “... is there not a danger of accepting rhetoric that communities do in fact exist, rather than the way that C4 in some instances actually constitutes common action in public interest? Whether this action is by actual communities, imagined communities, looser networks or simply collective civic behaviour by atomised individuals or groups, is a big question. This indeed is something that cries out for assessment

“It is the methods that are the heart of the Center’s contribution”

and research...” There are many such hard questions buried in the assumptions that lie behind the emerging civic media construct. The C4 leadership might find a way to engage outside experts involved in related fields to help surface, debate, and perhaps resolve some of these hard questions – ideally in public, for all to see and from which we might learn together.

DIRECTOR'S COMMENTARY

Professor Chris Csikszentmihályi



Communities work better when there is a free flow of information into, out of, and within them. For the last few hundred years, the exemplar of community information has been the newspaper, but electronic information and communication systems are radically reforming all aspects of information flow. In some cases, these new technologies have broken or superseded existing systems, leaving communities less able to act in their own interest. Yet in other cases, new technologies have been so successful at conveying a particular type of information that they have cast into high relief the ways in which newspapers did not work particularly well. In this time of rapid change, it is urgent that we proactively research and explore how new information technologies can best create informed and engaged communities.

The MIT Center for Future Civic Media (C4) set out nearly four years ago to do that research. Straddling the MIT Media Lab, with its history of radical technology innovation, and the Comparative Media Studies program, a leader in the field of new media scholarship, C4 has been a crucible of informed, public-spirited innovation. We merge fieldwork, technology, and critical scholarship to create new configurations of technology and society. By teaming computer scientists, social scientists, artists, and humanists, we have developed a set of holistic approaches towards assessing community needs. We iterate designs with communities, and create novel applied technologies that define a range of new ways that neighborhoods, information, and com-

munications might mix. We communicate our ideas to the public, and make our code available for anyone to use. Several of our research projects have already spun off to become stand-alone enterprises that are maintained by the communities for which they were developed.

Visitors to C4 often ask, "Do you start with a community need, or do you start with a technology innovation?" The answer is both or neither, but not one or the other. While some researchers are more technically focused than others, all are motivated by creating positive social change. New projects will often start in a community, but we come to that community with a knowledge of technical possibilities and an urge to innovate.



Every researcher within the Center mixes their own unique blend of methods, but we have aggregated a body of shared knowledge that feeds back into all of our future work.

While our researchers draw on many new developments in technology – from new forms of mapping to advances in mobile telephony – the most transformational trend of the last few decades has been the Internet and the new social forms and processes being developed through it. People often talk about communities on the Internet, but they are usually referring to communities of interest, rather than geographic communities. The Internet has been a tremendous tool for affinity groups, who can now engage in a global dialog, finding like minds or intense debates on nearly any subject. But the Internet's abstraction from place cuts both ways: local communities are not well served by it, nor are their information needs being well met. Relatedly, modern communications systems have dramatically helped the process of globaliza-

tion. But the same information and communications systems that allow capital markets and labor markets to zip around the planet, almost regardless of place, can also make communities more vulnerable, as they transform at a more human (and humane) pace.

Another guiding insight that has underpinned much of our work has been the realization that the "unit" of almost all technologies is the individual. Nearly every product is sold to the individual consumer, be it a phone, a Hummer, or a laptop. As a result, these systems default to a form of public selfishness and isolation. Rarely are families, passers-by, or neighborhoods included in a product's design. Rarely are the places where products are made considered as much as where the products are sold. Moreover, while whole catalogs could be filled with devices to assist the twin activities of Work and Play, there are few other aspects of our lives that are so explicitly designed for. At C4 we seek to develop technologies that treat their users like citizens, not just consumers. And we try to design for more than just an individual's needs, imagining how a system might also help a family, a neighborhood, or a community: Civic technologies are, by definition, communal rather than zero-sum.



Based on these understandings and others, we have actively explored a range of alternative technologies:

Seeing Past the Dead Trees

Web technologies are cheap and agile enough to fulfill roles that newspapers and mass media never could.

- Hero Reports / Crónicas de Héroe demonstrates that web sites can be sustainable organs for positive news in a community, inverting the traditional bleeds/leads ratio, even in a city as affected by civic crisis as Juarez, Mexico.

- As web technologies replace paper ones, we must seize new opportunities to “bake in” access and local control. For instance, a few large companies have used economies of scale to produce incredibly useful web mapping sites, but that scale also risks obscuring local knowledge, and not all locales are mapped as well or as often as others.

Grassrootsmapping has demonstrated that for a little over a hundred dollars, communities can create their own “satellite” images that are up to date and with thousands of

times the resolution used by the web mapping services.

Grassrootsmapping has been used by many communities, notably by residents in the Gulf region to document how the BP oil spill affected their coastline, week by week.

- Similarly, new techniques offer ways of understanding information that has never been gathered before. Sourcemap, for instance, allows citizens to collaboratively research and discover how and where the products they buy have been made. While news organizations consider a company’s daily stock price to be worth whole newspaper sections or cable channels, far more consumers buy products than shares, and there is little public information about how a product impacts labor or the environment. Indeed, modern commerce efficiently erases the connection between the miner who digs the lithium that powers a shiny new laptop, or the farmer who picks the coffee bean, and the person who buys it. Sourcemap rebinds those people and communities.



Community Action

In addition to new ways of gathering and presenting information, C4 also explores new forms of community deliberation and advocacy.

- Selectricity, an early project at the Center, offers a simple web site that allows any group to make consensus decisions. Using “preferential voting,” which offers a more community-focused style of calculating a group’s interests, Selectricity provides a web and phone interface that’s quick enough for a group to decide which movie to watch but is also robust enough that it has been used to choose governance boards and union leaders.
- The ExtrACT suite of technologies was designed in collaboration with rural citizens who are being impacted by oil and gas extraction. ExtrACT helps these citizens, often separated by long distances and poor communications, to collaborate, share evidence, and advocate for improved health and environment.

Technologies of, for, and by the people

Important technical innovations can be discovered simply by co-designing with under-

served communities, as these groups have unique needs and strengths.

- The Department of Play initiative was developed as a way to enable children to organize and advocate for their own public spaces and civic facilities. Working with communities on the unwired side of the “digital divide” (those who have access to technology vs. those who don’t) led to VoIP Drupal, a project that offers the power of the Web to anyone with a phone, including those citizens who can’t read. Between the Bars created the first blogging platform for prisoners, which also required inventing new ways to utilize physical mail to communicate posts and comments.

- As important as the “digital divide” is the “participation gap” — i.e. the difference between passive reception and creation or authorship. Wikipedia has created the most extensive encyclopedia in human history through collaborative, distributed authorship. Likewise, programmers around the world have collaborated using “free software” methods to create Ubuntu and Debian, some of the best computer operating systems in the world. Such collaboration methods can be used for a variety of community applications, from drafting local laws to developing tourist guides, and almost every C4 project has furthered research into these areas.

"As important as the "digital divide" is the "participation gap" "



APPENDIX 1: INTERVIEW PROTOCOLS

We treated the interviews as “semi-structured” conversations. The following lists of questions served as guides. We used different sets of questions for different sub-communities. We sent them in advance to the interviewees so that they know what we were interested in learning about. To the extent that we learned of other questions that we should be asking and answering, we updated the questions as we went along (as an example, we added a question in later interviews about publishing, based on early feedback from interviewees). We were not overly strict about asking precisely the same questions to every interviewee, and if the conversation is interesting in a constructive way, we let it run in that direction. This methodology meant, of course, that the results are not “survey” results but rather a set of data from which we’ve drawn rough conclusions.

We have only attributed quotes to faculty members, and in cases in which they confirmed that they were writing to us in a manner intended to be included in the report. We wrote up our interview notes and have aggregated them. It is not our intention to share any raw notes with the Knight Foundation or the Center’s staff. We will be happy to follow-up with general discussions about what we heard, if anything in our final report is unclear. We have kept the interview notes in a secure location and will destroy the interview notes after the formal report has been accepted.

Depending upon scheduling, we set up most interviews for 30 - 60 minutes. Many of the interviews took place in-person at the MIT Media Lab and the balance took place via Skype or phone.

Interview Questions for Students:

1. *How long and in what capacity have you been involved with the Center?*
2. *What kinds of work have you done with and through the Center?*
3. *What project(s) specifically have you worked on?*
4. *As a form of self-assessment, what kinds of work do you think you've done well, with and through the Center?*
5. *To what extent has your work been self-directed v. directed by Center faculty and staff?*
6. *Please comment on the most meaningful relationship(s) that you have had with teachers and staff at the Center and, if relevant, administrators in CMS or the Media Lab.*
7. *Please comment on your own learning experience at the Center. What have been the strong points, or where could the Center improve, as a teaching and learning institution, from your perspective as a student?*
8. *What do you think the Center does well institutionally?*
9. *In what ways might the Center improve?*
10. *How important is funding through the Center? Compared to other options that you might have had or might pursue, how attractive is the Center's support model for students? Might it be improved in any way to attract the best possible students moving forward?*
11. *Much of this review process is to help the Center, and its funders, structure the Center and its work for success on a going-forward basis. Looking ahead, is there anything that you'd want the Center's directors to be focused on?*
12. *What other questions should we be asking you and your fellow students?*

Interview Questions for Staff:

1. *How long and in what capacity(ies) have you had a connection to the Center?*
2. *What kinds of work have you done with and through the Center?*
3. *What project(s) specifically have you worked on?*
4. *Do you have a view as to what the Center's primary accomplishment(s) are to date, either that you've worked on or otherwise?*
5. *What are the strengths of the Center?*
6. *In what ways might the Center improve?*
7. *What are the external constraints (from MIT, the Lab, CMS, Knight, etc.), if any, that have stood in the way of anything you'd like to have done or for the Center to have done?*
8. *A core value and approach of the Center has been the focus on communities – both in the discovery phase, the problem-defining phase, and in the design and implementation phases. To what extent do you think the Center has been successful in this regard, from your perspective?*
9. *How would you assess the Center's process of collaborating with outside parties (examples would be helpful)?*
10. *What have been the key research or teaching outputs of the Center? What impact has your work, and that of your colleagues, had on the field, such as further work that your work may have spawned? How useful, innovative, and relevant have other researchers/individuals found the Center's research products and convenings (especially the big annual conference)?*
11. *Are there other centers or communities of researchers and activists in the Center's field to which we ought to be benchmarking their success, now and going forward?*
12. *What other questions should we be asking you and others who have worked at the Center?*

Interview Questions for Those Outside of C4:

1. *How long and in what capacity have you had a connection to the Center?*
2. *What kinds of work have you done with and through the Center?*
3. *What project(s) specifically have you worked on?*
4. *Do you have a view as to what the Center's primary accomplishment(s) are to date, either that you've worked on or otherwise?*
5. *What are the strengths of the Center?*
6. *In what ways might the Center improve?*
7. *Much of this review process is to help the Center, and its funders, structure the Center and its work for success on a going-forward basis. Looking ahead, is there anything that you'd want the Center's directors to be focused on, that they may or may not be to date?*
8. *A core value and approach of the Center has been the focus on communities – both in the discovery phase, the problem-defining phase, and in the design and implementation phases. To what extent do you think the Center has been successful in this regard, from your perspective?*
9. *How would you assess the Center's process of collaborating? Is the team easy to work with?*
10. *What have been the key research or teaching outputs of the Center (i.e., have you benefited from scholarship that the Center has produced or students the Center has graduated)? What impact have they had on the field, such as further work that it may have spawned? How useful, innovative, and relevant have other researchers/individuals found the Center's research products and convenings (especially the big annual conference)?*
11. *Are there other centers or communities of researchers and activists in the Center's field to which we ought to be benchmarking their success, now and going forward?*
12. *What other questions should we be asking you and others who have been involved with or partnered with the Center?*

APPENDIX 2: ONLINE SURVEYS

We used an instance of the survey software called Qualtrics to field two simple surveys as part of this review. The purpose of these surveys was not to generate quantitative data but rather to generate further qualitative data to supplement the interview data. The surveys were distributed to all students for whom C4 staff had contact information and a list of external community members who have been involved, one way or another, in C4's work.

We emailed out 76 student survey invitations. This survey yielded 10 responses. Note also that we spoke with about 20 of those students directly in interviews; note also that many had graduated and the contact information was not always up-to-date. Also, many of these students just took a single course with C4 in the early days, and as such didn't have much of a connection to the center.

The external community members survey was sent to 34 people. This survey yielded 17 responses. Every respondent answered at least some of the questions, though none of the 17 respondents answered every question (which we indicated they could do, insofar as not all questions pertained to all respondents). A couple of people wrote back to say they'd prefer to talk to us in interview format, which we have also done.

For all survey participants, we sent out an introductory email; an email with the survey; and a follow-up/reminder email on the day the survey was due. We left each survey open for one week.

Online Survey Questions for Students:

- 1. Please describe briefly how you have been involved with the Center for the Future of Civic Media (i.e., how long, starting when, in what capacity, through which project(s)).*
- 2. Please let us know how involved you were in C4, ranging from minimally involved (1, on the scale below) through to extremely involved (10 on the scale). By way of guidance, if you took a single class related to C4, that would be a "1"; if you came to weekly meetings, got involved in the conferences, and so forth, that would be closer to a "10."*
- 3. Please tell us briefly about the best aspects of your learning experience as a student in the C4FCM environment (i.e., what you feel you learned and what the best aspects of the teaching program were).*
- 4. Please tell us briefly any ways in which you perceive that your learning experience as a student in the C4FCM environment might be improved.*
- 5. Please describe one of your most memorable experiences at C4FCM (positive or negative)? Have you had a most memorable thought or epiphany based on or related to your C4FCM experiences?*
- 6. In what ways has the Center supported you? In what ways would you have liked the Center to have supported you?*
- 7. What new knowledge did you produce that you wouldn't otherwise have but for the community-oriented focus of C4FCM (if any)?*
- 8. If you were able to give direct feedback to the directors of C4FCM about potential future directions for the Center, from a student perspective, what would you tell them?*

Online Survey Questions for External Partners:

1. *Please describe briefly how you have been involved with, or have partnered with, the Center for the Future of Civic Media (i.e., how long, in what capacity, through which project(s)).*
2. *Please tell us briefly about the best aspects of your experience as a partner with C4FCM (e.g., in what ways you benefited or learned from your experience in working with C4FCM).*
3. *Please tell us briefly any ways in which you perceive that C4FCM staff might improve the ways in which they partner with you or others.*
4. *Would you like to partner with C4CFM or get more involved in their work in the future? In what ways?*
5. *Has your idea of information needs in your community changed through your interaction with the C4FCM?*
6. *Would you recommend to another community that they get involved with C4FCM, and if so, what advice would you give to them going into the relationship?*
7. *If you were able to give direct feedback to the directors of C4FCM about potential future directions for the Center, from your perspective as an outside partner or community member, what would you tell them?*

