

Sustained, Open Dialogue with Citizen Photojournalism

Mike Ananny
Media Lab Europe
Sugar House Lane, Bellevue
Dublin 8, Ireland
ananny@media.mit.edu

Carol Strohecker
Media Lab Europe
Sugar House Lane, Bellevue
Dublin 8, Ireland
stro@media.mit.edu

ABSTRACT

We describe an approach to supporting sustained and open public dialogue called Citizen Journalism. In this model, non-specialist citizens, technology designers and professional journalists collaborate to design new technologies, learning relationships and broadcast channels for individual and community expression. We present the results of two workshops in which young adults, learning technologists and professional photojournalists worked on week-long projects to design, shoot and present public photojournalism exhibits in both physical and web form. The workshop results are presented as a series of “learning stories” that describe different expressive styles, emergent communities and the implications for the on-going design of handheld and web-based software.

Keywords

Citizen photojournalism, journalism, collaborative web software, dialogue, community debate, participatory design.

INTRODUCTION

We believe that sustainable development requires sustained and open debate. For people to create and manage new economies, they need to imagine, articulate and debate different visions of the future. New models of growth and development are, in the end, implemented by individuals and communities. Without their representation, debates about individual and community growth become stagnant. As we continue to investigate the intersection between sustainable development strategies and new information technologies, we believe the most innovative and practical ideas will come from people we usually never hear from and emerge from communities we never thought possible. The question we consider here is: how can individuals and groups define the new debates critical for successful sustainable development?

CITIZEN JOURNALISM

We present an approach for public dialogue called Citizen Journalism. Our aim is to support individual expression through the use of journalism-like techniques that can

reveal common concerns or “ad-hoc communities of interest” not normally seen.

We situate our investigation in relation to journalism because of the profession’s long and controversial tradition of simultaneously representing and challenging the opinions of the general public and decision-makers. Our goal as researchers and designers of new technological learning tools and environments is to make explicit the developing and dilemmatic nature of this profession by bringing together non-specialist citizens and professional journalists to create new tools and stories of common interest. In doing so, our hope is that citizens will adopt and adapt a variety of journalistic skills critical for telling stories to broad audiences. We also hope that this will be an opportunity for professional journalists to reflect upon their practice, their relationship with the public and how new technologies can support and develop their profession.

Our goal is to create an environment in which citizens and photojournalists can engage in professionally situated, apprenticeship-like learning relationships that result in online “communities of practice” [10, 14]. The learning environment is not a formal pedagogical space but an informal environment where individuals of different ages, socio-cultural backgrounds and technical expertise collaborate to create and critique personally meaningful images. We also work in Papert’s [12] tradition of constructionist learning environments in which participants learn about themselves, others and abstract concepts by creating and manipulating concrete “objects to think with.”



Figure 1: Two examples of one form of public media display: the 2000 Paris Concorde crash and the 1991 Rodney King beating where amateur video was bought and used by mainstream media. Our goal in Citizen Journalism is to create mechanisms for more continuous, personally crafted and arguably less sensational, more lasting participation in different broadcast media.

Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. To copy otherwise, or republish, to post on servers or to redistribute to lists, requires specific permission and/or a fee.

“development by design” (dyd02), Bangalore © Copyright 2002 ThinkCycle

While we invoke notions of apprenticeship learning and communities of practice, our overarching interest is not in “teaching photojournalism to novices” but in how abstract notions of citizenship, audience, collective priorities and

journalistic practice can be made concrete and manipulated. Citizen Journalism is, in effect, an experiment to determine the materials, relationships and communications channels that best support the kind of on-going critical debate in and among individuals.

CITIZEN JOURNALISM AND SUSTAINABLE DEVELOPMENT

There are many challenges associated with investigating this claim that sustainable development needs sustained and open debate. Citizen Journalism focuses on three:

Supporting individual communications skills.

People need to develop rich sets of communication skills to articulate their opinions effectively. Without explicitly developing tools and relationships that can support a wide diversity of individual communications styles, the rich diversity of opinions needed for practical development will never be seen.

Helping to recognize emergent aggregates.

Development usually happens most quickly and at the largest scales when patterns in aggregate passions emerge to create collectives with enough power to affect change. These aggregates are different in both structure and content for nearly every issue and we suspect that the most interesting debates emerge from aggregates never seen before.

Representing diversity of perspective in contexts and forms. Exactly how, when and why individuals develop opinions about complex, ambiguous and perhaps dilemmatic issues is poorly understood. There are likely as many different ways of developing opinions as there are people. The issues most practically relevant to people will be best articulated through a variety of thinking and expression styles.

To investigate these challenges and the assertions they carry, Citizen Journalism considers the different *technologies, learning relationships* and *broadcast channels* required to support equitable collaborations among technology designers, non-specialist citizens and professional journalists as they work together.

PHOTOJOURNALISM AS A DILEMMATIC PROFESSION

We choose to focus our first Citizen Journalism experiment on photojournalism for two reasons. First, photojournalism is an inherently dilemmatic practice: the “whole story” can never be told with a single image or even an entire photo essay. It is during conversations about whether a particular image or edit accurately communicates a perspective that people begin to articulate their assumptions and stances.

Second, we believe that photojournalism offers a different kind of accessibility (compared to text-based journalism) for letting communities of people of different ages, backgrounds and literacy skills create and critique dilemmas. People are familiar with taking snap-shots and viewing images in a variety of media but they rarely

practice complex skills associated with visual composition and critique. Photojournalism is a “low-threshold, high-ceiling” domain in which to experiment with how best to support open public dialogue.

The community within which the citizen journalist develops cannot be separated from the skills associated with “good” photojournalism. Indeed, the professional photojournalist struggling to capture a scene or perspective likely learned her craft through a combination of formal instruction, apprenticeship, quiet observation, reflection, experimentation with tools and techniques and many, many mistakes. Schon [15] considers most professional practice to be a personal but socially developed ability to recognize and manage different kinds of complexity. Professionals rarely meet the classic problems described in formal education and quickly adopt techniques for dealing with the lack of standard practice [e.g. 5]. For this reason, we choose to support apprenticeship learning between non-specialists first learning about a profession and professionals refining their personal styles.

Our first investigation focuses on the design and use of new tools for photojournalism fieldwork and on-line, collaborative and critical construction of images and photo-essays. We are currently developing software for a Handspring Visor™ handheld personal digital assistant (PDA) with an eyeModule-2 Springboard digital camera and software for a collaborative website using the open-source web development package OpenACS [11].

To guide the development of both pieces of software we designed a workshop to better understand how young adults and professional photojournalists think about photojournalism together and how collaborative visual storytelling might be supported in new ways. We present here the results of the workshop as they help us define the interaction and interface designs for both the PDA and website software.

RELATED WORK

There are many related projects concerned with citizen representation, on-line government and the relationships between new technologies, journalism and communities. An extensive analysis of these efforts is unfortunately beyond the scope of this paper but we review here a collection of timely projects and thinking that have helped shape our own approach.

IndyMedia [7] is a collection of ad-hoc media organizations and stringers that gather and publish news (mainly in the form of pictures) from around the world. While IndyMedia provides an excellent alternative source of news on many topics of world-wide interest, their publications tend to have activist, anti-corporate and anti-globalization focuses and there is little acknowledgement of the role of the journalism profession or of apprenticeship learning in developing citizen journalists and perspectives.

Weblogs [e.g. 2] are an increasingly popular form of individual expression in the form of massively hyperlinked, diary-like web pages. While there are some examples of field reporting for broad audiences through weblogs [8], they tend to be personal and reflective text-based publications. See Lasica [9] for a forum discussion of weblogs in relation to journalism.

Public Publishing is a long-running project at the University of Tampere, Finland, headed by Professor Ari Heinonen and focused on new ways to support online communities traditionally defined by geographic boundaries. Heinonen [6] describes online journalism's potential for "horizontal communication" in which audiences have greater access to sources previously exclusive to professional journalists. He also highlights the impact of the Internet on journalists' professional development and warns that the "journalistic institution and the professional journalist are here withdrawing very much into the background ... the journalist's traditional professional skills are quite simply not adequate for such tasks as getting an online conversation going." The Citizen Journalism approach uses this warning as a starting point for our apprenticeship learning approach in which professional and citizen journalists may further develop notions of "horizontal communication" and technology-supported professional development.

Silver Stringers and the Junior Journal [16] are two long-running projects from the MIT Media Laboratory in which communities of traditionally unheard citizens (the elderly and young adults) create on-line publications with the help of new technology and professional journalists. Citizen Journalism uses these projects as inspiration and starting points for considering how to support journalistic fieldwork and the creation of non-traditional "communities of interest" that may be composed of, for example, multigenerational or multicultural participants who may lack common languages or technological expertise.

Radio call-in shows, letters-to-the-editor, on-the-street interviews are examples of traditional means for involving citizens in the news. While this is a kind of participation, the issues are largely defined by producers and reporters and there is an implicit power relationship between the journalist/host and the citizen/participant. By explicitly situating Citizen Journalism in the context of professional development, we assert that in good participatory journalism, journalists learn, too.

Google News [4] is a new web service that automatically polls and coheres large collections of on-line international news sources. Google News successfully creates a space for the presentation of diverse journalistic voices but its diversity depends upon both the availability and quality of its professional sources and on the nature of the publicly inaccessible algorithms that determine the coherence and salience of news items.

ComNET [3] is a New York City-based project in which community representatives use handheld computers to gather information about street conditions, to log reports on specific urban routes and to take measurements about different street conditions. The project is a creative answer to the problem of simplistic community surveys and overlapping government bureaucracies but (although it is possible for representatives to take pictures with the handheld computers) the data gathered is largely quantitative, gathered by specific community representatives and designed to address already identified community infrastructure and management issues.

Rhetoric Theory can offer useful insights into how to individuals communicate with audiences that cannot be seen, heard or consulted with in real-time. While arguably an imperfect model of the general public, we draw on the notion of a "universal audience" [13] to help develop Citizen Journalism's approach to authorship for a sometimes unknown audience. Tindale [18] articulates four rhetorical aspects of audience we find particularly helpful:

1. Audiences are a complex mix of individuals for whom a specific argument has been designed, individuals who happen upon an argument and individuals with diverse communicative competencies. When considering Citizen Journalism's authors and audiences we need to be aware of different communication styles and abilities.
2. Audiences change during the course of an argument as they construct their own interpretations of propositions, supporting evidence and the author. When considering Citizen Journalism tools, we need to remember that audiences may better understand arguments they have seen develop than those that have merely been presented in a final form.
3. Audiences are not passive but play an active role in argumentation, contributing assumptions to the reasoning as with the rhetorical enthymeme. When considering Citizen Journalism's collaborative activities, understand that interpretations and developments of visual arguments may be distributed across multiple authors, audiences times and places and that the formal structure of traditional arguments may in fact be distributed among different materials, people and contexts
4. Audiences evaluate arguments not directly in terms of their internal logical structure but in terms of their impact. When considering Citizen Journalism, recall that the *ethos* of rhetoric, for example in an image's emotional appeal, is an important aspect for audiences that that different

authors will have different aesthetic and ethical stances that contribute to an argument's "impact."

On September 11th, 2001, a new kind of Citizen Journalism briefly appeared. While most people around the world were watching one or three or four mainstream newscasts, one individual captured a unique perspective while descending down one of the World Trade Center towers.

Using a laptop with access to a still-functioning wireless network and a webcam, an anonymous individual uploaded to a free Geocities account images of his descent. The images are raw and unedited and offered a perspective on an unfolding story of global importance not provided by the mainstream networks.

While this example is unique in both the scale and importance of the story, it does highlight the role new technologies can play in supporting the creation and broadcast of perspectives not normally seen.



Figure 2: Images taken and uploaded with a laptop, webcam and wireless Ethernet by an anonymous individual descending one of the World Trade Center towers on September 11, 2001

PHOTOJOURNALISM WORKSHOP

We began this paper with an assertion that sustainable development requires sustained and open debate. Investigating this general claim is our long-term goal. Our nearer-term goal is to better understand the features of Citizen Journalism – the *tools*, *relationships* and *channels* – that might help these debates develop. As an early step, we brought together twenty-one children aged 11-14 years and four professional photojournalists for two one-week workshops. Below we describe the workshops and their results with respect to the on-going development of Citizen Journalism technologies. See Ananny & Strohecker [1] for

a more complete description of the workshop design and its research goals.

The design and implementation of the workshops was a collaboration among Media Lab Europe, The Ark (a children's arts and cultural center in Dublin, Ireland) and Loyalist College Canada's School of Media Studies' Photojournalism programme. Two workshops were conducted over two weeks and while each workshop was different in tone, both weeks followed the same general structure. The 13 children for the first week were recruited through the Ark's general summer programme and the 8 children for the second week were recruited from a community in Dublin labeled "disadvantaged" by the Irish government.

The workshop structure was intended to be as fluid and dynamic as possible as children worked to prepare final exhibits for a gallery space and the Internet.



Figure 3: Opening of public gallery exhibition at the end of the first week of workshops

The overarching goal was to provide a diverse set of materials and activities with which the children could engage with the tools and techniques of photojournalism. Our goal was to provide many "ways in" to photojournalism, emphasizing the diverse set of tools (both traditional and digital) and skills used by professionals. There was a particular emphasis on the importance of creating finished products for public review by different audiences and on creating compelling photo essays through open working environments that stressed group critique, apprenticeship learning and iterative design. The general structure of both weeks is outlined below:

Monday: participants made pinhole cameras and used them to shoot images, experimenting with exposure times, aperture openings, paper size and placement, *etc.*. Participants then developed their black-and-white images using traditional darkroom chemicals and equipment.

Tuesday: group critique of pinhole images; review of photojournalism portfolios and introduction to the 'photojournalism assignment'; introduction to 35mm point-and-shoot cameras; fieldwork with 35mm cameras to

interpret and shoot photojournalism assignments defined by professional photojournalists.

Wednesday: group critique of Tuesday's assignment images; continued review of professional photojournalism portfolios; scoped and planned own photojournalism assignments; fieldwork with 35mm cameras to interpret and shoot self-designed photojournalism assignments.



Figure 4: Building pinhole cameras

Thursday: group critique of Wednesday's self-designed assignment images; began preparation of week-end gallery exhibit and web exhibits (included selecting images, assembling photo essays, writing image captions, cropping and resizing images from Monday through Wednesday with PhotoShop™ and traditional cutting-pasting techniques, preparing websites of images)

Friday: continued preparation of gallery and web exhibits; presented images at public gallery exhibit.

WORKSHOP RESULTS

The workshop results are presented here as a series of vignettes or "learning stories." Our goal is to trace the software design guidelines from their origins in the observations and analysis of the participants' photojournalism experiments during the two weeks of workshops. In several of the vignettes, some tensions the participants expressed are highlighted to demonstrate the value of articulating and expressing dilemmas through photojournalism.

Personal and Shared Ownership of Images

Observations:

In both weeks, participants expressed deep senses of personal ownership and responsibility for their images and were concerned with ensuring that the image and its story were represented accurately. But participants were also interested in experimenting with how their images combined and complement with their peers' images. And as participants shared images they discussed how different people had interpreted assignments differently, frequently saying things like "I was doing the theme Colours but a lot of mine are actually better for her People theme." In short, people were both of their individual photographs and eager

to experiment with how they might contribute to collective photo essays.

During group critiques, individual conversations and while preparing and presenting exhibits, participants tended to describe not only the content of images but other information not directly represented in the photos (*e.g.* what had happened before or after the image was taken; whether the image addressed the assigned or self-designed theme; something one of the people in the picture had said; how a particular picture was not exactly what they had *really* wanted from a particular scene). In thinking about how to present her images, one participant remarked that "really, to tell the whole story, I need to be with the picture or make sure it was with other pictures that were my theme, too." Participants seemed to be expressing both pride and frustration in the different methods of exhibiting images.



Figure 5: Opening of public gallery exhibition at the end of the first week of workshops

(In her book *How I Learned Not to be a Photojournalist* [5] long-time photojournalist Diane Hagaman's articulates a similar feeling: "I eventually began making photographs that contained many references to ideas contained in other photographs – qualifications, expansions, and elaborations of those ideas – and single photographs could no longer communicate my full meaning. This way of working with photographs uses the novel, rather than the oil painting, as its model. The individual image is not the conceptual unit. The conceptual unit is the combination of many images.")

Interface and Interaction Design Implications

Such observations suggest different design strategies for representing both personal and cooperative methods of critiquing and displaying work.

1. To support both senses of personal ownership and serendipitous connections among images from different photojournalists, there should be no private, closed or exclusive areas in the collaborative web software. Participants will have individual workspaces in which their images can be stored, edited, captioned and displayed but all areas of the website community will be open to all participants. This open nature to the website (as

compared with most systems that value strict permissions and groups) is intended to encourage an atelier style of work in which participants see photojournalistic images at different stages of development.

2. How and when individual exhibits were constructed, credited and combined with others' was a major concern. The web software should support at least three different kinds of public exhibitions:
 - a. **Personal Exhibits:** photo essays created from a single individual's images. The purpose of this exhibit is to support the creation of personal photo essays in which participants have complete control over the design of their exhibits.
 - b. **Collaborative Exhibits:** photo essays created as participants browse all images. These are interpersonal collections intended to support the creation of aggregates across individual photo essays and to reveal themes and perspectives not adequately represented with a single participants' images.
 - c. **Programmed Exhibits:** photo essays created by computer programs that periodically query photos and meta-data across all personal and collaborative exhibits. These rules on which these programs operate will be transparent, accessible to all participants and will operate on each photo's metadata (e.g. photojournalist; time, date and location of shoot; relations with other photos; caption text) and all participants will be able to program and simulate different aggregates.
3. Each photo should have a history that traces the different exhibits in which it appears. This history would provide participants a way to retain a sense of authorship over their images while also providing a way to see how their image contributes to and affects others' photo essays.

By offering three kinds of open-ended and configurable exhibits, it is hoped that the Citizen Journalism system will provide different ways for people to create individual exhibits and photojournalism communities. People interested in deeply personal expression may focus on creating personal exhibits; those interested in surveys across individual collections may concentrate on authoring photo essays using other people's images but perhaps captioning or framing images for their own purposes; still others may be more interested in "programming exhibits"

by writing rule-based programs that survey the meta-data of others' images.

Ideally, as people use, talk about and "debug" the different kinds exhibits new issues and perspectives will emerge and discussion will ensue about issues such as (but not limited to) image integrity, professional practice, visual storytelling and the role of technology- and people-generated aggregates of issues.

An Image Needs to Develop Trust

Observations:

Throughout the workshop, the issue of trust arose in different ways. The photojournalism professionals emphasized that their reputations as respected and professional communicators relies on a sensitive and ever-developing relationships with editors, publishers and the general public. Their images are their principal means of both communicating stories and preserving this trust. If they were to routinely manipulate photos or adopt obviously biased stances, their credibility with their employers and audiences would be damaged. The photojournalists wanted to emphasize this with the young adult participants and were originally uncomfortable with the extent to which the children were manipulating images, especially with digital tools.



Figure 6: A group critique of participants' images.

After much discussion about censorship, the photojournalist's profession, image integrity, the purpose of a caption and the ability of photos to capture what was "really" seen several approaches to addressing the issue of trust emerged. These discussions first began in response to the capabilities of tools like PhotoShop™ but continued in relation to physical cropping and even where the photographer had originally pointed the camera in the first place.

All participants agreed that it was acceptable to alter images in certain ways but that there was little consistency among the individual cases; *i.e.* everyone who altered a picture felt there were reasonable reasons for manipulated the image. The group agreed that photos that had been manipulated should include explanations about how and why the image had been manipulated. In essence, trust of

the image and the photojournalist was established through a process of open dialogue, not the creation of strict rules.

Interaction and Interface Design Implications:

A critical outcome of these discussions was an insight into how senses of integrity can develop despite differences in expertise and capabilities of tools. Images and photographers earn trust by letting peers and audiences see the process by which an image arrives at its current state. The participants seemed to be expressing a desire to know the “history” of an image including the collection of alterations made to it. That history will be instantiated in the software design in two different ways:

1. “**Image layers**” that can be peeled back at any time to see how an image and its caption arrived at any given state and what participants contributed to particular image manipulations. Such transparency in the interface provides the ability to develop trust for the image and the individuals who contributed to its development.
2. “**Playable Images**” that are, in a sense, macros of an image’s evolution. Participants could play an image to see how it developed across time and among individuals. Such transparency may let people reflect upon and learn about how visual arguments develop, what manipulations they find acceptable and how different people can contribute to the development of a visual argument.

In providing these mechanisms for representing and experimenting with an image’s history, our goal is to support ways for people to think about the integrity or “truth” of an image as well as a way for people to develop their thinking about the developmental processes that lead to the creation of expressive artifacts.

Think-Think-Shoot and Shoot-Shoot-Think¹

Observations

Participants had many different approaches to both fieldwork and post-production exhibit preparation. Some participants carefully planned their shooting assignments in relation to the assigned or self-designed theme. They talked in great detail about what they would try to find and what they would shoot, where the best shooting location would be, how each shot related to their theme and recording all relevant information about an image including location, photo subjects, time of day, *etc.*.

Other participants seemed to prefer a more reactive and free-form approach. They interpreted an assignment broadly and seemingly inconsistently. They seemed to value reacting to people and situations and skipped among different interpretations of themes. Some participants

would also put down their cameras, preferring to talk with their peers and subjects and explore their surroundings, often without taking a single picture for quite some time.

These style differences extended to the preparations of exhibits. Some participants carefully crafted each edit, caption and image arrangements. Others edited their images little instead seeming to prefer to explain verbally why individual pictures did or did not suit a particular theme.



Figure 7: Different shooting styles of different participants emerged throughout the week

In essence, there were at least as many different ways of designing, interpreting, shooting, editing and presenting the photojournalism assignments as there were participants. While all participants exhibited elements of almost all styles, a crude but helpful distinction in styles was observed: *think-think-shoot* (careful planning and preparation of assignments and shots prior to taking pictures) and *shoot-shoot-think* (quick reactions to people, places and events in the field followed by later editing and interpretation). Our goal in designing the Citizen Journalism system is, as such distinctions arise, to use them as starting points for how to support different styles of learning about, creating and presenting visual stories.

Interaction and Interface Design Implications:

Our goal is to support multiple styles of photojournalism, as partially characterized by the think-think-shoot and shoot-shoot-think styles. We use this distinction as the starting point for distributing aspects of planning, shooting,

¹ We thank Frank O’Connor of Loyalist College Canada for articulating this distinction.

captioning and editing a photojournalism assignment between the handheld PDA software and the web-based collaboration software. Our goal is, in our designs, to recognize that fieldwork and postproduction are two different and complementary aspects of preparing a photojournalism exhibit and that individuals approach these two phases in different ways.

1. **Fieldwork with the Handheld PDA:** along with the core image-capture capability, provide simple and unobtrusive mechanisms for creating “first drafts” of captions in the field and simple image cropping. These capabilities should not be mandatory for each image, nor should they interfere with the core act of shooting images and reacting to surroundings. In essence, these capabilities should be sufficiently powerful to support field reflections of the kind characterized by the think-think-shoot style but sufficiently unobtrusive to let those with shoot-shoot-think styles react quickly to the people, places and events around them.
2. **Postproduction with web-based software:** along with basic file-upload and handheld synchronization capabilities, provide a set of collaboration tools that let all participants: write and edit captions of their own and others’ images; crop and resize images; assemble and reassemble photo essays with their own and others’ images, experimenting with placement of images in relation to each other and captions; track image histories and layers; and write rules for programs to generate photo essays based on image meta-data. These web-based capabilities are intended to support synthesis and reflection activities best accomplished through collaboration and experimentation. Perhaps participants who seem reluctant or cautious during fieldwork may be more free-form and experimental with creative postproduction activities and perhaps participants who seem to shoot reactively in the field may be more reflective and contemplative during on-line collaborations.

By identifying different approaches of photojournalism, our goal is to distribute system features among tools and activities that best support different individual thinking and working styles.

CONCLUSION

In a recent Oxford Amnesty International lecture, Senior Vice President and Chief Economist of the World Bank Joseph Stiglitz argued that, even in democratic societies, there is a pervasive secrecy that prevents the public and a free press from being informed about public policy debates and, in turn, this secrecy stunts economic and social development [17]. We use Stiglitz’s observation as an

inspiring starting point but broaden his notion of an informed public: our central concern is how to inform both the general public *and* government and industry decision-makers of the priorities of individuals and communities who, in the end, will implement different approaches to sustainable development.

In considering the challenge of supporting the open and sustained debate we feel is required for successful sustainable development, we presented an approach called Citizen Journalism. Our model focuses on the technologies, learning relationships and broadcast channels needed to support citizens, technology designers and journalism professionals as they work together to uncover issues and perspectives not normally seen. We reviewed a workshop in which professional photojournalists and young adults used a variety of tools and activities to create public exhibits and debate mechanisms of ensuring both personal expression and journalistic integrity. We discussed a number of workshop findings and how they impact the design of new handheld and web-based collaboration tools intended to support open and sustained dialogue through Citizen *Photojournalism*. Although this work is in early development, our goal is to continue this participatory research and design approach, leading to new way for citizens and journalists to think about how the development of their own and their communities’ opinions.

As one 13-year old workshop participant said, “with photojournalism, you see the world differently – you notice things you didn’t see before.”

ACKNOWLEDGMENTS

We would like to thank our colleagues in Media Lab Europe and the Everyday Learning Group, especially Matt Karau for help during the workshop and Carson Reynolds for conversations on the early structure of this paper. Thanks, too, to our colleagues at The Ark (Dara Carroll and Bernadette Larkin), the Rialto Youth Association (Paul, Hendo and Claire) and Loyalist College Canada (Frank O’Connor, Sarah Faulkner and Jeff Cooper). Special thanks to the twenty-one children from the workshops for their patience, insights and enthusiasm.

REFERENCES

1. Ananny, M. & C. Strohecker (2002). Situated Citizen Photojournalism and a Look at Dilemmatic Thinking. In *Proceedings of the Association for the Advancement of Computing in Education’s E-Learn Conference*. Montreal, Canada.
2. Blogger Website, October 15, 2002, <http://www.blogger.com>.
3. ComNET Website, October 15, 2002. Available at: <http://www.fcny.org/cmgp/comnet.htm>.
4. Google News (BETA) Website, October 15, 2002. Available at: http://news.google.com/help/about_news_search.html.

5. Hagaman, D. (1996). *How I Learned Not to Be a Photojournalist*. University Press of Kentucky: Lexington, KY.
6. Heinonen, A. (1999) *Journalism in the Age of the Net*. Tampere University Press: Tampere, Finland.
7. IndyMedia Website, October 15, 2002. Available at: <http://www.indymedia.org>
8. Jenkins, H. (2002). Blog This. *Technology Review*, March 2002. Available at: <http://www.technologyreview.com/articles/jenkins0302.asp>.
9. Lasica, J.D. (2002) When Bloggers Commit Journalism. *Online Journalism Review*, October 9, 2002. Available at: <http://www.ojr.org/lasica/1032910520.php>
10. Lave, J. & E. Wenger. (1991). *Situated Learning: Legitimate peripheral participation*. Cambridge University Press: London, UK.
11. OpenACS Website (2002). <http://www.openacs.org>.
12. Papert, S. (1980). *Mindstorms*. Basic Books: New York, NY.
13. Perelman, C. (1969). *The New Rhetoric: A Treatise on Argumentation*. University of Notre Dame Press, Notre Dame, IN.
14. Rogoff, B. (1991). *Apprenticeship in thinking: Cognitive development in social context*. Oxford University Press: Oxford, UK.
15. Schon, D. (1983). *The Reflective Practitioner: How Professionals Think in Action*. Basic Books: New York, NY.
16. Smith, B., W. Bender, I. Endter, J. Driscoll, M. Turpeinen, & D. Quan. (2000). Silver Stringers and Junior Journalists: Active information producers. *IBM Systems Journal*, Vol 39, Nos. 3 & 4.
17. Stiglitz, J.E. (1999). *On Liberty, the Right to Know, and Public Discourse: The Role of Transparency in Public Life*. Transcript of Oxford Amnesty Lecture, Oxford, UK, January 27, 1999. Available at: <http://www.worldbank.org/html/extdr/extme/oxford-amnesty.pdf>
18. Tindale, C. (2000). *Acts of Arguing: A Rhetorical Model of Argument*. State University of New York Press: New York, NY.