

Multi-lifespan Information System Design: Investigating a New Design Approach in Rwanda

Lisa P. Nathan[†], Milli Lake[‡], Nell Carden Grey[‡], Trond Nilsen[‡],
Robert F. Utter^{*}, Elizabeth J. Utter^{*}, Mark Ring[†], Zoe Kahn^{**}, Batya Friedman[‡],

[†]University of British Columbia, Vancouver, BC V6T 1Z1 CA

[‡]University of Washington, Seattle, WA 98195 USA

^{*} Unaffiliated

^{**}Roosevelt High School, Seattle, WA 98115 USA,

ABSTRACT

In this paper we report on our research and design efforts to provide Rwandans with access to and reuse of video interviews discussing the failures and successes of the United Nations International Criminal Tribunal for Rwanda (UN-ICTR). We describe our general approach and report on three case studies with diverse sectors of Rwandan society: governmental information centres, youth clubs, and a grassroots organization working with victims of sexual violence. Our work includes the development and application of five indicators to assess the success and limitations of our approach: diverse stakeholders; diverse uses; on-going use; cultural, linguistic and geographic reach; and Rwandan initiative. This work makes three important contributions: first, it offers the information field a design approach for use in post-conflict situations; second, it provides near-term evaluation indicators as an initial set others can build from and extend; third, it describes the first empirical explorations of the multi-lifespan information system design research approach.

Categories and Subject Descriptors

K.4.2 [Computing Milieux]: Computers and Society---Social Issues; H.5.1 [Information Technology and Systems]: Information Interfaces and Presentation---multimedia information systems---evaluation/methodology; H.5.2 [Information Interfaces and Presentation]: User Interfaces---theory and methods;

Keywords

Multi-lifespan information system design, access, reuse, value tensions, international justice, value sensitive design

1. INTRODUCTION

In times of peace and in times of war, in times of political upheaval and in those of good governance, in bustling economies and in widespread poverty, information systems mediate socio-political human experience. Such systems underlie (and, conversely, can undermine) people's ability to be informed, to engage in dialog and critical discourse, to participate in politics, to

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, to republish, to post on servers or to redistribute to lists, requires prior specific permission and/or a fee.

iConference 2011, February 8-11, 2011, Seattle, WA, USA
Copyright © 2011 ACM 978-1-4503-0121-3/11/02...\$10.00

gain access to justice, to interpret historical accounts, and to recover from conflict.

Rwanda is one such case. Recovering from the 1994 genocide in which 90% of the minority Tutsi population living in the country was massacred by their extremist Hutu neighbors, Rwandans as a people are seeking good governance, rule of law, and justice [4, 10]. They do so as a means for achieving healing, reconciliation, and lasting peace. Information systems and interaction design have a critical role to play in these socio-political solutions as they unfold.

The work reported here is of a piece with a growing body of research in the information field that engages the intersection of information systems, interaction design, and significant societal issues [1, 12, 13, 14, 19, 22, 26]. Two aspects distinguish this work in part from prior work in the field. First is the far-reaching societal breadth of its design research partners: from integration with government training programs and information centers, to university and law school curricula, to national museums, to youth clubs, to grassroots efforts with victims of rape in the Rwandan and Great Lakes Region society. Second is the explicit intention to create an information system to investigate early-stage ideas from the multi-lifespan information system design (MLISD) research approach [9] in support of long-term societal change.

In this paper we report on our design research efforts in 2009 to provide Rwandans with access to and reuse of interviews conducted with personnel from the United Nations International Criminal Tribunal for Rwanda (UN-ICTR), the collection known as "Voices from the Rwandan Tribunal" (hereafter referred to as the "Tribunal Voices"). Our work negotiates the challenging design space of creating information tools to support access and reuse of historically significant material in a political climate that does not yet support a robust sense of critical discourse, dialog and freedom of expression. At the same time, there is an expressed desire on the part of the Rwandan government and many Rwandans to transform their society so that individuals are informed and empowered to resolve differences without resorting to violence [11]. In pragmatic terms we investigate the development of methods and designs that can be deployed within the current political climate and, at the same time, participate in helping to move the society toward the greater freedom of expression and critical discourse that is desired by many Rwandans.

2. GOALS FOR THE RESEARCH: SUMMER 2009

The goals of the design research reported here were six-fold: (1) to determine the extent to which the Tribunal Voices material

would be of interest to the Rwandan people; (2) in the modernizing Rwandan context, to understand the meaning of, and challenges for access to, the material from a technological, cultural, linguistic, political, and social perspective; (3) to initiate and support appropriation and reuse of the Tribunal Voices by diverse Rwandan constituents in the context of their on-going goals, activities, and organizations; (4) to develop rigorous design knowledge and methods to do the former; (5) to investigate design processes that adjudicate value tensions among freedom of expression, safety, and Rwanda's rule of law; (6) to serve as the first empirical investigations of the multi-lifespan information system design approach.

This paper is organized as follows. First, we provide the reader with some background on the 1994 Rwandan genocide, transitional systems of justice, and the situation in Rwanda 15 years after the genocide. Then we describe the Tribunal Voices collection created in 2008 and situate our 2009 design work in relation to the information field, specifically within the interaction design literature. With this intellectual grounding, we turn to report on the design work in Rwanda during the summer of 2009, including our approach, project team and research partners, offering the Tribunal Voices to Rwandans, preparing multiple prototypes, and three case studies within diverse sectors of Rwandan society: governmental information centres, Rwandan youth clubs, and a grassroots organization working with victims of sexual violence. We conclude with an assessment of our approach's successes and limitations.

3. BACKGROUND: THE RWANDAN CONTEXT IN BRIEF

3.1 The 1994 Genocide in Rwanda

In 1994 approximately 800,000 Rwandans were massacred by their neighbors, relatives, political leaders, and clergy in just 100 days. In a country of 8 million, virtually every person was a victim, a survivor, a witness, a perpetrator of the genocide, or a relative of one of the above [4, 20]. Fifteen years later in 2009, Rwanda has one of the fastest growing economies in Africa, with well-paved roads winding through the "thousand hills", fiber optic cable being laid throughout the country, and hospitals, schools, hotels, and homes literally rising from the rubble of the past. In this rapid paced economic development, survivors and genocidaires live and work side by side. Yet whether Rwanda can foster and maintain a lasting peace for its people remains an open question [3, 10, 11, 20].

3.2 Transitional Justice: The United Nations International Criminal Tribunal for Rwanda, Rwandan National Courts, and Gacaca Courts

Following the 1994 genocide the new Rwandan government took a strong public stance against a culture of impunity, declaring that justice was to form a cornerstone of a stable and sustainable peace in Rwanda. However, putting in place a process to achieve justice in this post conflict context proved particularly difficult, in large part because the legal community within Rwanda was decimated during the genocide [11]. Moreover, to be successful, the justice process would need to be recognized as fair within a country in which hundreds of thousands of citizens took an active part in the events of 1994.

Three justice systems emerged in response to these challenges. First, in 1995 the United Nations Security Council with the initial cooperation of the Rwandan government established the UN-ICTR

with a mandate to prosecute those who organized and masterminded the genocide (roughly 100 individuals). Located in Arusha, Tanzania and with an investigative arm in Rwanda, the tribunal has the force of international law, the ability to extradite across international boundaries, and funding from UN countries on the scale of European courts. The remaining perpetrators, estimated at anywhere between tens of thousands to 3 million would be prosecuted and the convicted incarcerated by the Rwandan national courts [4, 20]. However, 1998 saw upwards of 130,000 people awaiting trial in Rwanda's overcrowded, under-funded prisons. It was estimated that it would take over 200 years to try all those in detention. Thus, the Rwandan government created a third justice system based upon a traditional Rwandan method of village dispute resolution entitled "Gacaca" [11, 24]. By the time of our visit in 2009, the Gacaca court system had tried tens of thousands of cases across the countryside.

3.3 The Socio-Political Climate in Rwanda Circa 2009

In addition to the anti-impunity stance, the Rwandan government has begun an identity-formation campaign for "one unified Rwanda", a Rwanda in which the ethnic groups of Hutu and Tutsi do not exist. In June 2008, the Rwandan Parliament passed a new law modeled after Germany's Holocaust denial legislation that criminalizes 'genocide ideology', including denial of the Rwandan genocide. Contravention of the 2008 law is punishable by up to 25 years in prison.

While convincing arguments can be made in support of the law and its importance for maintaining peace and stability in post-conflict Rwanda, there are serious concerns surrounding its implications for freedom of expression. NGOs have drawn attention to the potential for the law to be used to limit political opposition [3]. Thus, the law has wide-ranging consequences for open and democratic political discourse, public conversations surrounding the genocide and the government, and teaching about the genocide in schools [5].

3.4 The Technical Infrastructure in Rwanda Circa 2009

Rwanda resembles many African nations in its current technical infrastructure: (1) radio remains the single most pervasive communication medium; (2) widespread cell phone penetration in both rural and urban areas; (3) cell phone use for economic transactions (e.g., paying electricity bills) as well as interpersonal communication; (4) limited electrical power in rural villages, more reliable electrical power in urban areas; and (5) minimal Internet access in villages, moderate band-width Internet access in urban areas through Internet cafes, businesses, and schools (but virtually no Internet access in people's homes). That said, significant change is underway: fiber optic cable is being laid throughout the country in an effort to bring high-bandwidth Internet to many Rwandans.

4. THE VOICES FROM THE RWANDA TRIBUNAL

The design efforts reported here build upon previous work we initiated in 2008 at the UN-ICTR. Motivated by an impending closure date, a team (comprised in part by many of this work's authors) visited the UN-ICTR from September 29 through November 7, 2008. Prior to this trip we had read extensively about Rwandan views on the tribunal [e.g., 4, 11, 20, 24] and interviewed others who had spent time in Rwanda. We learned

that from the UN-ICTR's conception, little communication of the tribunal's activities, achievements and challenges had filtered back to Rwanda. The lack of information in Rwanda about the activities of the tribunal, was linked to a negative opinion of the tribunal across Rwandan society. From this perspective, the work of the tribunal had little to do with achieving justice, healing and reconciliation in Rwanda. What Rwandans did know was that the tribunal had absorbed vast amounts of international funds to prosecute a relatively small number of individuals (less than 100). From this on-going and widely held view [16], these funds would have been better spent improving basic living conditions for millions in Rwanda. Such perspectives raise serious questions about the value of international justice efforts if the citizens of the country where horrific crimes took place believe that justice is not being served. It is crucial to bear in mind that international justice is a relatively new concept [11] and what constitutes justice is still debated around the world [23].

Motivated by a desire to provide Rwandans with access to information about international justice and the workings of the tribunal, in 2008 our team conducted extensive video-interviews to collect the experiences and views of the UN-ICTR's judges, prosecutors, defense lawyers, investigators, interpreters, and staff who carried out the daily work of the tribunal. The resulting 49 high definition videos form a unique collection of critical reflections on the perceived successes and failures of this early manifestation of an international court system [25]. The interviews cover a range of topics from reflections on the political difficulties of creating a system of justice that holds individuals in positions of power to international standards of human rights, to powerful accounts of the emotional toll that comes after revisiting the horrors of 1994 day after day. The research reported here documents our early-stage efforts to design information systems through which Rwandans can access and reuse this video collection.

5. RELATED WORK IN INTERACTION DESIGN

5.1 Information Systems and Issues of Societal Significance

As we note in the introduction, this project is of a piece with a growing body of work that engages the intersection between information systems, interaction design, and significant societal issues. Marsden's [14] work on empowered design for developing countries is one compelling example; as is Mark's and her colleagues [13] work on Internet usage to sustain communication during war and on-going violence; and Smyth's, Best and their colleagues' [19] work on information kiosks to assist with the Liberian truth and reconciliation process. Woelfer and Hendry's [2010] exploration of technology use among homeless youth is a fourth, Abowd's, Kientz and their colleagues [12] work with caregivers for autistic children a fifth, Dourish's and his colleagues [22] work that examines the implications of location-based tracking technology for paroled sex offenders a sixth, and Blevis's [1] work on sustainable interaction design a seventh. Our work extends these prior efforts with its far-reaching societal breadth, and theoretical grounding in MLISD.

5.2 Multi-lifespan Information System Design

Given the limitations of the human psyche, achieving justice, reconciliation, and healing from genocide is unlikely to be solved within a single human lifespan. More likely, constructive solutions (should they emerge) will unfold, as subsequent

generations gain distance from the killing, negotiate narratives of the events and engage in efforts to support reconciliation and forgiveness. Multi-lifespan information system design [9] explores the roles and opportunities for information systems to contribute to such processes as they unfold. The work reported on here represents an early-stage investigation into the MLISD approach, applied to the development of international justice. How can information scientists address the social and technical challenges of creating an information system to provide access to and reuse of the collection of video-interviews for multiple generations? Independent of the United Nations and the UN-ICTR, the collection positions us to investigate a host of questions, the first of which we take up in the 2009 work reported here: Can we design technical features and policies that support critical discourse and reuse of these materials? Additional questions for future work include: How can an information system help support legal scholars both within Africa and abroad, who are engaged with international tribunals and rebuilding national justice systems? How can that same information system contribute to a global society that does not want to forget the horrors humankind is capable of committing (e.g., protect against revisionist histories)?

5.3 Value Sensitive Design

As appropriate within the multi-lifespan information system design framing, we drew on design principles and methods from Value Sensitive Design [2, 6, 7, 8, 15, 17]. Key elements entailed:

Representative Stakeholders. We were clear from the beginning that within Rwanda there is no "impartial" orientation with respect to the genocide. Following prior information system design work in urban planning in which stakeholders hold strongly to divergent and contentious views and values [2], we sought to work systematically with groups across diverse sectors of Rwandan society as a way to mitigate engaging only a single perspective.

Direct and Indirect Stakeholders. We considered all the Rwandans and others who eventually would directly access the Tribunal Voices video clips as direct stakeholders in our design work. That said, our design process was targeted at enabling specific organizations to appropriate and reuse the Tribunal Voices material; thus, we focused on the direct stakeholders associated with these specific organizations and, in turn, those individuals that they would enable (in effect, one degree removed from our own research and design work). In addition to extending prior work in value sensitive design [7], we sought to broaden the reach of access to the Tribunal Voices material by bringing groups who might traditionally have been indirect stakeholders into direct contact with the material. For example, in rural areas with limited Internet access, villagers might hear about the videos from others who had encountered the material in urban areas; the design of non-digital "quote cards" (one of the prototypes mentioned below) represents an attempt to make the material directly accessible to groups who would otherwise be indirect stakeholders.

Value Tensions. Prior work in Value Sensitive Design and related areas [15, 17, 21], alerted us to the need to identify and engage value tensions. We highlight three values and the tensions among them. (1) Safety: In post-conflict situations, citizens may fear for their lives and that of their families should new violence erupt. Safety is a genuine concern among many Rwandans: even within the recent past, some individuals who testified in the Gacaca courts have been killed; others fear prosecution from the 2008 Genocide Ideology Law; and many fear widespread violence linked to political elections [3]. (2) Freedom of Expression:

Freedom of expression is viewed by many as underlying the kind of critical discourse that is key to a thriving democracy and independence of thought. In turn, the ability to evaluate arguments and think independently provides the tools for individuals to resist following orders of the sort that lead to the 1994 genocide. Yet speaking out – as in the tribunal and at the Gacaca courts – can lead to reduced security. (3) Rule of Law: Furthermore, the Rwandan Constitution and the 2008 Genocide Ideology Law, outlaw certain kinds of discussions; namely those that explore the ethnic identities of Rwandans and that challenge the label of genocide. While we were aware of these three potential value tensions, we did not know how, if at all, they might manifest themselves once we began our research and design work in Rwanda.

6. OUR APPROACH

Rather than labeling this section that provides details of our three case studies with the traditional social science term “method”, we use the term “approach” to highlight the multi-disciplinary nature of our team and our commitment to *offering* the Tribunal Voices to potential project partners and, then, deciding together how to proceed.

6.1 Project Team and Partner Organizations in Rwanda

Our 10-person project team consisted of four information scientists/designers, three law and human rights specialists, two cinematographers, and a student intern. All team members were in Rwanda during summer 2009 except for one who provided technical support from the United States.

Given our commitment to representative stakeholders, we sought to connect with diverse types of organizations in a variety of sectors in Rwandan society. Partner organizations for the three case studies reported below were recruited using a “snowball” model. Specifically, we made contact with an initial set of organizations through email and word of mouth. Through those organizations we gained access to their patrons and other organizations with whom they cooperated. The organizations we spoke with included (1) on the *national* level the Supreme Court, the Ministry of Information, the Commission for the Fight Against Genocide, the National Unity and Reconciliation Commission, the National Service of Gacaca Jurisdiction, and the ICTR/EU/GOR Information and Documentation Centres¹; (2) within the *public sector* the National University of Rwanda and the Kigali Memorial Museum; and (3) within *Rwandan non-governmental agencies* Never Again Rwanda, Hope After Rape, and Peacebuilding Healing and Reconciliation Project.

6.2 Offering Tribunal Voices

A key issue underlying our work was the basic question “Would the Tribunal Voices material be of interest to Rwandans?” If the answer was a simple “no”, then we might as well pack it up and go home to concentrate on other demands for use of the materials (e.g., Western legal scholars are eager to use the material for improving future tribunals and international legal education).

Initial meetings with potential partner organizations had a common structure. First, we explained who we were and that we

¹ As the acronym-based name suggests, the centres are funded jointly by the tribunal (UN-ICTR), the European community (EU), and the government of Rwanda (GOR).

were not representatives of the UN-ICTR, the UN, or the Rwandan government. Instead we were a team of information scientists, designers, and legal scholars interested in the role information systems might play in the development of international justice and human rights. We then described the video interviews and the topics that they covered. At this point, many of the individuals stated that they did not think the material would be of interest. Many felt compelled to share their strong negative opinion of the tribunal. We then asked if they would like to view a short (2 minute) clip or two. All were interested in a short viewing. After viewing the clips on a small video player, attitudes to having access to the videos changed dramatically. People saw that these were not UN-ICTR advertisements, but were instead thought provoking reflections with the potential to spur a variety of conversations. There was excitement around the idea of developing systems that could encourage active engagement and discourse around the videos, rather than passive consumption of their content.

6.3 Diverse Prototypes: Not One “Right” Design

We saw our work as exploratory and wanted to position the Rwandans we would work with to envision different ways in which they might encounter and interact with the Tribunal Voices material. Thus, following the design wisdom of groups such as IDEO [18], we prepared “prototypes” of a set of 11 Tribunal Voices video clips in a variety of formats and presentations; the guiding principle here is that by presenting multiple potential solutions the “trap” of one right solution is avoided and openings for new and hybrid solutions are naturally created. In total, we brought four fully functional prototypes with us as follows: (1) Video clips on DVD (audio in English; subtitles in Kinyarwanda); (2) Video clips accessible from a locally served website with an unmoderated comment facility (audio in English; subtitles in Kinyarwanda); (3) Audio clips delivered to cell phone through an SMS request (English); and (4) Quote cards: each a printed version of a video clip including a photo of the speaker and the unedited transcript of the quote (Kinyarwanda on one side; English on the flip side).

7. RESEARCH AND DESIGN OUTCOMES: ACCESS TO AND REUSE OF TRIBUNAL VOICES CLIPS

Balancing the desire to show the breadth of partners with the wish to describe each partnership in detail, we selected three cases of access and reuse, one with the national ICTR/EU/GOR Information and Documentation Centres, one with Never Again Rwanda, and one with Hope After Rape. While each case study is of interest in and of itself, taken together they provide insight into the challenges of designing for individual expression within the constraints of a post-conflict society.

7.1 Case Study 1: Online Public Discourse at the ICTR/EU/GOR Information and Documentation Centres

Here we report on a key aspect of our work with the ICTR/EU/GOR Information and Documentation Centres, an online commenting system. This brief example highlights the value tensions among safety, freedom of expression, and rule of law.

The ICTR/EU/GOR Information and Documentation Centres represent one effort at justice capacity building within Rwanda. A

main centre in Kigali supports ten provincial centres which house small paper based legal collections and provide legal database access.

To accompany online access to the Tribunal Voices material we explored the development of a commenting system to provide visitors to the centre with the opportunity to contribute their own reflections and analyses about specific clips and the tribunal in general. In the words of one of our colleagues: “This website can help people to reconciliation.”² Yet, three strong concerns arose from our Rwandan colleagues in terms of having an online publicly viewable forum: (1) vulgar or insulting remarks; (2) off topic remarks; and (3) violations of the 2008 Genocide Ideology Law (e.g., comments that deny the genocide). The first two concerns, while important, are familiar within the information science and HCI literature; thus, we focus our discussion on the third which foregrounds the tension among freedom of expression (particularly in the service of healing and reconciliation), safety, credibility, and the Rwandan political situation.

In the design of the commenting system we considered four aspects: anonymity, moderation, credibility, and language. We discuss each in turn.

Anonymity. Given considerations of freedom of expression as well as safety, a natural first consideration entailed whether or not forum posts should be anonymous or identified. On this point, our colleagues strongly advocated for anonymous posts to encourage honest critique and dialog. For example, one said: “Keep it anonymous... Put a forum because you want the community to give thoughts. If you ask for names, email addresses, people will be scared. Keep it anonymous. Otherwise people will put “perfume” on some words rather than what they think. Someone may not be satisfied about something with the UN-ICTR. Maybe he wants to post something about that. Let him post about that.... You want people to talk. To get rid of the hatred inside them.”

Moderation. At the same time, our colleagues recognized the delicacy of such a forum given the Rwandan context. Anonymous posts might encourage illegal statements with no way to identify the contributor; in turn, posted illegal comments likely would lead to shutting down the forum and perhaps other repercussions. In short, our colleagues strongly urged a “moderated” forum in which all posts would be reviewed prior to posting.

Credibility. If the forum was to be moderated, then the question of who would be responsible for that moderation arose. Given that the Tribunal Voices materials are independent from the United Nations and UN-ICTR, and that we wanted the information system design and access to preserve that independence (and hence credibility), it was decided that our team would provide the moderation.

Language. We wanted users to be able to provide posts in the language with which they could best express themselves. The Rwandan government has declared Kinyarwanda and English to be the national languages; that said, French is still spoken widely. Kinyarwanda is the primary (and oftentimes only) language spoken in the provinces, particularly among villagers. Thus, to provide access in a robust sense, the forum would need to support all three languages. From an implementation point of view, providing forum instructions and text fields in all three languages

would be easy; moderating contributions less so as our team would be responsible for moderating comments prior to posting. To provide a check on “review” decisions and address the language issues, one colleague suggested: “You could appoint two English/French moderators; two Kinyarwanda moderators. Encrypt those messages. Send to those moderators. They can review and then post.” We are in the process of exploring the feasibility of this proposed design solution. As of this writing, an information system that provides access to the Tribunal Voices clips has been installed at the Kigali centre. The commenting system is designed, but not yet deployed.

7.2 Case Study 2: Self Expression Among Rwandan Youth with Never Again Rwanda

Consistent with a multi-lifespan perspective on peace-building and healing, Rwanda sees its future in the hearts and hands of its youth: those who were young children during the genocide or born thereafter. Numerous programs target youth and primary education. One such program is Never Again Rwanda, a Rwandan NGO established in 2002 that supports youth clubs in over 23 secondary schools. Using song, dance, plays, debate, and sometimes film, each youth club develops its own way to engage peace-building, respectful discourse on genocide prevention, and develop leadership skills. During the previous interview collection phase of the Tribunal Voices project, we had the opportunity to meet with one of the founders of Never Again Rwanda; the conversation that ensued led to the case study reported here: a workshop on exploring peace and justice through film in which Rwandan youth learn about international justice (in part, using the Tribunal Voices video clips), gain introductory filmmaking skills, and then bring the two together to produce short films of their own on related topics.

Soon after arriving in Kigali, we met with the Never Again Rwanda staff to provide an overview of our workshop plans. Most of the conversation focused on potentially sensitive issues: their thoughts on what these might be (e.g., the claim of a double genocide that affected Hutus as well as Tutsis); how we might avoid them, and, should sensitive issues arise, how we might handle them. We discussed various strategies similar to those developed by Sarah Freedman and her colleagues [5] when they were developing a history curriculum with Rwandan teachers, for Rwandan schools, that addressed the genocide. Specifically, in our work we allowed the interviewees from the Tribunal Voices (that is, the somewhat distant tribunal personnel) to raise difficult issues and we brought in legal case studies from other cultures (e.g., Fiji, Mozambique) to motivate and address related issues.

Thus informed, we entered the final phases of our workshop planning. Foremost in our minds was how to create a delicate balance between educating youth openly about international justice, encouraging critical thinking around filmmaking, accounting for Rwanda’s current political reality, and sensitivity to youths’ emotional well-being and safety. Five youth clubs recruited 10 English-speaking youth (ages 16 – 18; 4 girls, 6 boys) from their memberships. Throughout the workshop we used the UN-ICTR videos to introduce concepts of international justice and the workings of the UN-ICTR, taught filmmaking skills and then set the youth off to conceptualize and make their own films. The medium of video proved quite conducive for creating conditions for expression – both in terms of discussing the content of the video (and their form) and in terms of the students creating their own films to express their ideas about the state of justice in Rwanda. The strength and unequivocal Rwandan voice of the

² Quoted dialog comes from hand-written field notes recorded verbatim during the design sessions.

youths' films actively engage the relationship between healing and justice and provide information about transitional justice systems within Rwanda. Their films are downloadable from the Tribunal Voices website (www.tribunalvoices.org).

7.3 Case Study 3: Encouraging Discussion About Sexual Violence with Hope After Rape

One of the tribunal's landmark contributions is the jurisprudence concerning rape as genocide. Because of its significance and the difficulties entailed in investigating and prosecuting this particular crime, many of the Tribunal Voices speak to sexual violence. Thus, when we arrived in Rwanda, we considered that the Tribunal Voices material might be of interest to individuals and organizations working with victims of sexual violence. With that in mind, we contacted the Rwandan NGO Hope After Rape to arrange an initial meeting.

Hope After Rape works with other NGOs, counselors, and women and men who have been directly affected by sexual violence. Historically, most of their work has been in Rwanda with victims of the genocide; more recently they have begun to work with rape victims who are casualties of the on-going conflicts in the Democratic Republic of Congo.

Our first meeting with Hope After Rape was with the organization's National Coordinator. After showing the video clip of a UN-ICTR Lead Prosecutor relating his personal ethical challenges when prosecuting for rape, the National Coordinator reflected, "I can use this to train counselors. They need to understand this." The conversation turned to how Hope After Rape might make use of the video clips in their on-going activities. There was an agreement to pursue further connections.

Within five days time our Hope After Rape colleague had traveled to Goma, Congo, received approval from the Mayor and the Governor of North Kivu Province, Congo (in which Goma is situated) to hold a 2-day workshop with recent victims of sexual violence, and contacted us asking that we help present some Tribunal Voices video clips as part of the workshop.

The workshop was held on Sunday, August 16 and Monday, August 17, 2009. One of our team members traveled from Kigali, Rwanda to Goma, Congo to participate. Held in a tin-roofed, dirt-floored church, the workshop drew 50-60 women, men, and children who were recent rape victims. Our team member introduced the Tribunal Voices and provided a brief background on international justice, the UN-ICTR and human rights. Because participants spoke Kiswahili and other native languages, the Congolese Initiative for Sustainable Development provided an interpreter to translate for the participants. Afterwards our Rwandan colleague facilitated a discussion with participants, leading them to "tell their stories" as part of breaking the silence around sexual violence.

It is difficult to sort out definitively the specific impact the Tribunal Voices video clips had on workshop participants. What we do know is that the organizers of the workshop felt the material to be invaluable for facilitating discussion around the sensitive topic of sexual violence. Some value for victims may come from hearing prestigious Africans associated with the tribunal validate rape as a crime for which the victim is not responsible. Hope After Rape personnel are now working with us to develop a compilation of interview clips that cover a range of topics related to sexual violence. The potential for use throughout the Great Lakes region requires that we revisit the question of language, sub-titling (limited literacy suggests that dubbing may be more

effective), and delivery format (limited electrical power and projection suggests an audio "radio-like" format with paper based quote cards may be more effective).

8. ASSESSING SUCCESS AND LIMITATIONS

The question of evaluation is always a challenging one and even more so in a multi-lifespan enterprise where the results will not be known for decades yet. Thus, success for our work needs to be assessed in the near-term with judgments of reasonable confidence rather than certainty, even while we keep our eyes on the longer view.

With that in mind, we developed initial indicators of near-term success based on two decades of Value Sensitive Design work: (1) the diversity of stakeholders, organizations, and sectors of society that were willing to engage with the Tribunal Voices material; (2) the diversity of uses – particularly unanticipated uses – that emerged from our efforts; (3) the willingness and interest in those we approached to continue to work with us after we left Rwanda; (4) the breadth of the cultural, linguistic, and geographic reach of our dissemination activities (e.g., rural and urban; Kinyarwanda and English speakers; literate and less literate; legal and non-legal communities); and (5) the extent to which Rwandans – as individuals, organizations, or representatives for the Rwandan government – expressed an interest (and took action) to obtain copies of the Tribunal Voices material. It is hoped that the five initial indicators of success presented here will be drawn upon, modified, and improved by further work in the area of MLISD research.

Using the indicators above, our work in 2009 met with moderate success. Wide-ranging sectors of Rwandan society and organizations engaged with the Tribunal Voices material (e.g., national commissions, NGOs, youth clubs) and for a diversity of uses and purposes (e.g., museum exhibits, work with victims of sexual violence) [Indicators 1 and 2]. Virtually all of these organizations will continue the work we began with them [Indicator 3]. The cultural, linguistic, and geographic reach of our work stretched from urban Kigali in Rwanda across the border into Eastern Congo, with Kinyarwanda, English, French and Kiswahili speakers [Indicator 4]. Finally, several of the organizations we worked with, such as Hope After Rape and the Kigali Memorial Centre, have initiated plans to engage further with the Tribunal Voices material [Indicator 5]. We encountered limitations from inadequate time and resources that impacted our ability to extend further out into the Rwandan rural countryside where we might have engaged more isolated sectors of Rwandan society.

9. CONCLUSIONS

Those affected by armed conflicts, civil wars, and on-going cycles of violence – be they persons, organizations, or governments – rely heavily on information systems both during and post-conflict to gain access to critical information concerning issues of health, shelter, communication, legal aid, and other basic services. Those working within the interaction design area of the information field are well poised to provide expertise and insight into the design of communication tools and interaction designs that support increased access to this information that, in turn, can strongly contribute to healing and reconciliation.

The work reported in this paper represents one small effort along these lines. This project makes three important contributions: first,

it offers design knowledge and approaches for use in post-conflict situations, second, it provides near-term evaluation indicators as an initial set others can build from and extend; third, it describes the first empirical explorations of the multi-lifespan information system design research approach.

Peace and justice are on-going pursuits. So, too, then is the design of information systems in their support.

10. ACKNOWLEDGMENTS

We thank the Rwandan people and organizations that worked with us. This material is based, in part, upon work supported by the National Science Foundation under Grant No. 0325035, UW Foundation, and generous gifts to the Tribunal Voices project. Any opinions, findings, and conclusions expressed are those of the authors and do not necessarily reflect the views of our donors.

11. REFERENCES

- [1] Blevis, E. Sustainable interaction design: Invention & disposal, renewal & reuse. In *Proc. CHI 2007*, ACM Press (2007), 503-512.
- [2] Borning, A., Friedman, B., Davis, J., and Lin, P. Informing public deliberation: Value sensitive design of indicators for a large-scale urban simulation. In *Proc. ECSCW 2005*, Springer-Verlag (2005), 449-468.
- [3] Delany, M., & Baldauf, S. How a Kagame win in Rwanda election could destabilize region. *Christian Science Monitor*. Retrieved from <http://www.csmonitor.com/World/Africa/2010/0809/How-a-Kagame-win-in-Rwanda-election-could-destabilize-region> (2010, August 9).
- [4] Des Forges, A. *Leave None to Tell the Story*. Human Rights Watch, New York, NY, USA, 1999.
- [5] Freedman, S.W., Weinstein, H.M., Murphy, K., and Longman, T. Teaching history after identity-based conflicts: The Rwandan experience. *Comparative Education Review* 52, 4 (2008), 663-690.
- [6] Friedman, B. *Human Values and the Design of Computer Technology*. Cambridge University Press and CSLI, New York, NY and Stanford, CA, USA, 1997.
- [7] Friedman, B., Borning, A., Davis, J.L., Gill, B.T., Kahn, P.H., Jr., Kriplean, T., and Lin, P. Laying the foundations for public participation and value advocacy: Interaction design for a large scale urban simulation. In *Proc. dg.o 2008*, Dig. Gov. Society (2008), 305-314.
- [8] Friedman, B., Kahn, P.H., Jr., and Borning, A. Value Sensitive Design and information systems. In P. Zhang and D. Galletta (eds.), *Human-computer Interaction in Management Information Systems: Foundations*. M. E. Sharpe, Armonk, NY, USA, 2006, 348-372.
- [9] Friedman, B., and Nathan, L.P. Multi-lifespan information system design: A research initiative for the HCI community. In *Proc. CHI 2010*, ACM Press (2010), 2243-2246.
- [10] Gourevitch, P. The life after. *The New Yorker* 85, 12 (2009), 36-49.
- [11] Kerr, R., Mobekk, E. Peace and justice: Seeking accountability after war. Cambridge, Malden, MA, 2007.
- [12] Kientz, J.A., Hayes, G.R., Westeyn, T.L., Starner, T., and Abowd, G.D. Pervasive computing and autism: Assisting caregivers of children with special needs. *IEEE Pervasive Computing*, 6, 1(2007), 28-35.
- [13] Mark, G. and Semaan, B. Expanding a country's borders during war: The Internet war diary. In *Proc. IWIC 2009*, ACM Press (2009), 3-12.
- [14] Marsden, G. Toward empowered design, *Computer* 41, 6 (2008), 42-46.
- [15] Miller, J., Friedman, B., Jancke, G., and Gill, B. Value tensions in design: The value sensitive design, development, and appropriation of a corporation's groupware system. In *Proc. GROUP 2007*, ACM Press (2007), 281-290.
- [16] Nambi, I.V. Activists condemn ICTR's planned move of archives. *NewTimes* (Rwanda's First Daily), No. 1885 Kigali (2009, August 18,), 1-2.
- [17] Nathan, L.P., Friedman, B., Klasnja, P., Kane, S., and Miller, J. Envisioning systemic effects on persons and society throughout interactive system design. In *Proc. DIS 2008*, ACM Press (2008), 1-10.
- [18] *NIGHTLINE: deep dive*. ABC News (1999, July 13).
- [19] Smyth, T., Etherton, J., and Best, M. L. MOSES: Exploring new ground in media and post-conflict reconciliation. In *Proc. CHI 2010*, ACM Press (2010), 1059-1068.
- [20] Straus, S. How many perpetrators were there in the Rwandan genocide? *J. of Genocide Research* 6, 1 (2004), 85-98.
- [21] Tatar, D. The design tensions framework. *Human-Computer Interaction* 22, 4 (2007), 413-451.
- [22] Troshynski, E., Lee, C., and Dourish, P. Accountabilities of presence: Reframing location-based systems. In *Proc. CHI 2007*, ACM Press (2007), 487-496.
- [23] Utter, R. J. Iraqi judicial profiles in courage. *Bar News: Washington State Bar Association* 59, (2005), 31-32.
- [24] Uvin, P. Prejudice, crisis, and genocide in Rwanda. *African Studies Review* 40, 2 (1997), 92-96.
- [25] Voices from the Rwanda Tribunal. <http://www.tribunalvoices.org/> .
- [26] Woelfer, J. P., and Hendry, D. G. Homeless young people's experiences with information systems: Life and work in a community technology center. In *Proc. CHI 2010*, ACM Press (2010), 1291-130.