Multi-lifespan Information System Design in the Aftermath of Genocide: An Early-Stage Report from Rwanda

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ABSTRACT
In this paper we report on our research and design efforts to provide Rwandans with access to and reuse of video interviews from the International Criminal Tribunal for Rwanda. More generally, we investigate methods and designs that can be deployed successfully within a post-conflict political climate concerned about recurring violence. We describe our general approach and report three case studies with diverse sectors of Rwandan society: governmental information centres, youth clubs, and a grassroots organization working with victims of sexual violence. We use 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 directly supports the Rwandan people in their efforts to achieve justice, healing and reconciliation; second, it provides the HCI community with methods and approaches for undertaking information and interaction design in post-conflict situations; third, it describes the first empirical exploration of multi-lifespan information system design.

Author Keywords
Multi-lifespan information system design, access, reuse, value tensions, international justice, freedom of expression, safety, credibility, peace building, adaptation, appropriation, value sensitive design

ACM Classification Keywords
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; H.5.2 [Information Interfaces and Presentation]:User Interfaces---user-centered design

General Terms
Design, Human Factors

INTRODUCTION

In times of peace and in times of war, in times of internal political upheaval and in those of good governance, in bustling economies and in widespread poverty, information systems throughout the world 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 gain access to justice, to preserve 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 machete by their extremist Hutu neighbors, Rwandans as a people are seeking good governance, rule of law, and justice [3, 9]. 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 post-conflict socio-political solutions as they unfold. The work reported here is of a piece with a growing body of research in human-computer interaction that engages the intersection of information systems, interaction design, and significant societal issues [1, 10, 11, 12, 13, 20]. Two aspects distinguish this work in part from prior work in the field. First is the far-reaching societal breadth: 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 Rwandan and Great Lakes Region society. Second is the explicit intention to create an information system to support long-term societal change.

In this paper we report on our research and design efforts to provide Rwandans with access to and reuse of interviews conducted with personnel from the International Criminal Tribunal for Rwanda (ICTR), the collection we refer 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 evolve their society to a state in which individuals can resolve differences without resorting to violence [8]. 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 forward toward the greater freedom of expression and critical thinking that is desired by many Rwandans.

The Goals of this Research

The goals of the research reported here were five-fold: (1) to determine the extent to which the Tribunal Voices material would be of interest to the Rwandan people and, if so, to whom and in what ways; (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 design guidelines and methods to do the former; and (5) to investigate design processes that adjudicate value tensions among freedom of expression, safety, and Rwanda's rule of law.

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 current situation in Rwanda 15 years after the genocide. Then we describe the Tribunal Voices collection, situate our work within the HCI literature, and discuss methodological considerations. With this intellectual grounding, we turn to report on our work in Rwanda including preparing to conduct this research, offering the Tribunal Voices to Rwandans, 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 the project's contributions.

BACKGROUND: THE RWANDAN CONTEXT IN BRIEF

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 addition to the government, military, and churches, media and information systems played a critical role in the genocide, both in terms of inciting rage and in directing the violence. 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. Today, Rwanda is 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 above 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.

The 1994 genocide is just one horrific chapter in a long and brutal colonial history. Tensions between the country's majority Hutu population and the minority ethnic Tutsi date back at least to Rwanda's colonial occupations. In 1919 when the Belgians took control, the minority Tutsi population were granted significant economic, social and political privileges [21]. After a shift in power following independence in 1962, Rwanda's post-colonial history has been dominated by cycles of violence, revenge and recrimination, culminating in the events of 1994 [9].

Transitional Justice: The International Criminal Tribunal for Rwanda (ICTR), Rwandan National Courts, and Gacaca Courts

The transitional government following the genocide took a strong stance against a culture of impunity, declaring that justice was to form a cornerstone of a stable and sustainable peace in Rwanda. But the way forward was tremendously challenging. The legal community within Rwanda had been decimated during the genocide. With an estimated 80% of justice system personnel having been either killed or displaced during the violence, the capacity of Rwanda to provide a judicial response in the immediate aftermath of the genocide was severely limited [9].

Overtime, three justice systems emerged in response. First, in 1994 the United Nations Security Council with the cooperation of the Rwandan government established the International Criminal Tribunal for Rwanda (ICTR) with a mandate to prosecute those who organized and masterminded the genocide. Located in Arusha, Tanzania and with an investigative arm in Rwanda, the tribunal would have 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 [3, 18]. However, 1998 saw upwards of 130,000 people awaiting trial in Rwanda's overcrowded 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". The Gacaca courts have tried a large number of those awaiting trial in Rwandan jails.

The Socio-Political Climate in Rwanda Circa 2009

In addition to impunity, the Rwandan government has begun an identity-formation campaign for "one unified Rwanda", a Rwanda in which the colonial ethnic groups of Hutu and Tutsi do not exist. In June 2008, the Rwandan Parliament passed a new law modeled after 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 and prohibit critiques of the Gacaca courts. 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 [7].

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 transactions (e.g., paying electricity bills) as well as communication; (4) limited electrical power in rural villages, reasonably 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 and is expected to be operational within 12 months. This new communications backbone is expected to bring high-bandwidth Internet to many Rwandans.

THE VOICES FROM THE RWANDA TRIBUNAL

Our work focuses on the ICTR. After nearly 15 years of operation, the tribunal is coming to a close. Motivated by the impending closure date, a team (comprised in part by many of this work's authors) visited the United Nations International Criminal Tribunal for Rwanda (ICTR) from September 29 through November 7, 2008. That team conducted 49 video-interviews to collect the experiences and views of the ICTR's judges, prosecutors, defense lawyers, investigators, interpreters, and staff who carried out the daily work of the tribunal.

The overarching goal of the project is to address the social and technical challenges of creating an information system to preserve and manage the ICTR's information heritage for centuries to come. Independent of the United Nations and the ICTR, the collection positions us to investigate a host of questions, the first of which we take up in the work reported here: Can we design technical features that support healing, balance, remembering and forgetting for those affected by the genocide, as well as protect against revisionist histories? 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? For more information about the Tribunal Voices project or to view video clips, please visit the project website [22].

RELATED WORK IN HUMAN-COMPUTER INTERACTION

HCI and Issues of Societal Significance

As we note in the introduction, the work reported on here is of a piece with a growing body of work in human-computer interaction that engages the intersection between information systems, interaction design, and significant societal issues. Marsden's [13] work on empowered design for developing countries is one compelling example; as is Mark's and her colleagues [12] work on Internet usage to sustain communication during war and on-going violence. LeDantec's and Edwards [11] exploration of technology perceptions among the homeless is a third, Abowd's and his colleagues [10] work with caregivers for autistic children a fourth, Dourish's and his colleagues [20] work that examines the implications of location-based tracking technology for paroled sex offenders a fifth, and Blevis's [1] work on sustainable interaction design a sixth. Our work extends these prior efforts by its far-reaching societal breadth, explicit intention to support societal evolution, and theoretical grounding in multi-lifespan information system design.

Multi-lifespan Information System Design

Given limitations of the human psyche, peace building 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, and engage in reconciliation and forgiveness. Multi-lifespan information system design [reference omitted for blind review] explores the roles and opportunities for information systems to contribute to such processes as they unfold. The work reported on here represents an early contribution to multi-lifespan information system design as applied to recovery from the 1994 Rwandan genocide and, more broadly, the development of international justice.

Value Sensitive Design

As appropriate within the multi-lifespan information system design framing, we drew on design principles and methods from Value Sensitive Design [4, 6, 16]. 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 systematically work with diverse groups across diverse sectors of Rwandan society as a way to mitigate engaging 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 design work). In addition to and extending prior work in Value Sensitive Design [5], 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, albeit in other formats. 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" (described 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 [14, 19], 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 past year, 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 when the current President Paul Kagame steps down. (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.

METHODOLOGIAL CONSIDERATIONS

In the scope of a conference paper it is not possible to provide detailed methods about all we have done. Here we provide general methodological information and foreground aspects that are unique to the context in which we conducted our work. Additional methods are reported later in specific sections to support clarity and comprehension.

Human Subjects

Conducting research in a post-conflict situation poses unique challenges for protecting human subjects. In particular, from afar (that is, prior to being in the field), it is difficult if not impossible to understand the conditions that would be perceived as safe by potential participants. After experiencing these challenges firsthand during our 2008 trip to Tanzania and Rwanda, we developed the following practices in close collaboration with our institution's Human Subject Institutional Review Board (IRB).

Principles, Not Rigid Protocols. In lieu of rigidly prescriptive protocols and scripts, our informed consent practices explicitly centered on three principles: (1) Strive to Inform (i.e., ensure participants are informed of the nature of our work and understand that participation is voluntary and can end at any time), (2) Continuously Weigh Harms and Benefits (i.e., actively develop an understanding of the potential harms and benefits that individual Rwandans may be exposed to through working with us, and ensure that the benefits outweigh the harms), and (3) Gain Consent (i.e., receive oral consent and/or a written media consent form from all participants who are involved in the documentation of the design process).

Practices Informed by Context. Given our lack of familiarity with the context, we could not know in advance what places (e.g., public building, home), situations (e.g., in a private meeting, in a group), and times of day (e.g., during work, in the evening) participants would perceive as safe; thus, specific decisions were made in the field in consultation with participants.

Explicit Consideration of Potential Future Harms. Our multi-lifespan design perspective called attention to the longer-term possibility for political regime change and, correspondingly, the potential implications for participants. That is, the names of individuals who participated in our research might be associated with some future political agenda and, hence, put those individuals at risk at some future time. Thus, we obtained oral consent from all project participants leaving no paper trail. Participants who wished to be photographed or otherwise have their participation in the research documented with identifiable information provided written consent but only after being specifically alerted to potential future risks.

Obtaining Consent in Multiple Languages. All written human subjects materials were translated into the three main languages used in Rwanda: Kinyarwanda, English and French. In the course of our work, written materials in all three languages were used.

Expedited Communications. Given limited Internet access while in Rwanda, different time zones, and a relatively short time in the field, we worked with an IRB representative to develop a stream-lined modification process in the likely event that we would need to adapt our approved procedures while in Rwanda.

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.

Partner organizations were recruited using a modified "snowball" model: Specifically, we made contact with an initial set of organizations through email and word of mouth. Then, through those organizations we gained access to their patrons and other organizations with whom they cooperated. Given our commitment to representative stakeholders, we sought to connect with diverse types of organizations in a variety of sectors in society. Before leaving for Rwanda, we had established a partnership with the ICTR/EU/GOR Information and Documentation Centres and with the Rwandan NGO Never Again Rwanda.

How Will We Know If We Succeeded?

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 out. Moreover, with large scale societal change toward peace and reconciliation, there is no possibility of conducting controlled experiments to determine if this or that particular system feature or design strategy had a positive or negative or neutral impact on moving the society forward. 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 consider as reasonable indicators of near-term success: (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 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.

PREPARATIONS FOR UNDEFINED CHALLENGES

On many dimensions we did not know what to expect when we arrived in Kigali, Rwanda. Our strategy was to prepare for the unexpected: To design our materials for flexibility and agility – with respect to language, format, media, electricity, and computing requirements; and to bring with us all of the equipment and materials that at a minimum we would need in order to do the work we envisioned (e.g., extra DVDs, HD video cameras and other equipment for a film workshop with Rwandan youth). Because we could not prepare all 70 – 80 hours of the Tribunal Voices material in Kinyarwanda – due to expense and the time needed to translate – we selected a representative set of 11 subtitled video clips to take with us. As a group, this set touched on topics such as justice and reconciliation, prosecuting for rape as genocide, evidence substantiating genocide, and personal stories of tribunal personnel.

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 [17], we prepared "prototypes" of the set of 11 Tribunal Voices video clips in a variety for 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).

OFFERING THE TRIBUNAL VOICES TO RWANDANS

The key issue underlying all of our work was the question "Would the Tribunal Voices material be of interest to the Rwandan people?" We were well aware that if the answer to the question was a resounding "no", then we might as well pack it up and go home to concentrate on pressing demands for reuse of the materials (e.g., Western legal scholars are eager to use the material for improving future tribunals and international legal education). If the answer to the question was "yes", then how should we go about offering the Tribunal Voices material to a broad sector of Rwandan society? Who do we talk to? What methods could we use to help ensure that we tap into the visions and activities of on-going Rwandan organizations and programs?

Prior to our arrival in Rwanda in 2009, we had read extensively about Rwandan views on the tribunal [3, 9] and spoken with others who had spent time in Rwanda. A consistent perspective emerged. From this view, the tribunal had little to do with Rwandan justice, healing and reconciliation, after all, the tribunal was held abroad in Arusha, Tanzania and little communication of the tribunal's activities, achievements and challenges had filtered back to Rwanda. In addition, the tribunal had absorbed large amounts of funds that could have been used to improve conditions in Rwanda and had disempowered Rwanda's justice system by prosecuting the worst perpetrators of the genocide. Such disappointments were on-going [15].

In the course our work we met with numerous organizations that represented diverse sectors of Rwandan society and perspectives on the genocide. Our reach here was intentionally broad, in part to avoid being associated with any one group or perspective within Rwandan society and also to explore the breadth of interests and possibilities for reuse among Rwandans. The organizations we spoke with

Organization	Outcomes: Appropriation and Reuse of Tribunal Voices Materials
ICTR/EU/GOR Information and Documentation Centres [Case Study 1]	• *Categorization Scheme:* Developed categories for the Tribunal Voices clips responsive to Centre and patron interests. • *Deployment*: Designed and implemented a locally served web-based system for access to clips. • *Commenting System*: Balanced tensions among freedom of expression and Rwandan laws.
Never Again Rwanda [Case Study 2]	• *Curriculum*: Developed "critical thinking" curriculum on international justice that uses Tribunal Voices clips: balanced tensions between critical thinking and political reality of Rwandan laws. • *Film Workshop*: Conducted "Exploring Peace and Justice Through Film" workshop with 10 Rwandan youth. • *Films*: Two short films conceptualized, shot, edited, and produced by Rwandan youth on the topic of peace and justice in Rwanda. The films "premiered" at the U.S. Embassy on August 8, 2009.
Kigali Memorial Centre	• *Museum Exhibit*: Initiated a plan to include Tribunal Voices clips in the Memorial Centre's main exhibit on justice systems by February 2010. • *Film Night in Kigali*: Arranged to screen the two Rwandan youth films at the Memorial Centre for the Kigali public.
Hope After Rape [Case Study 3]	• *Sexual Violence Workshop in Eastern Congo*: Conducted a 3-hour session on justice and sexual violence using the Tribunal Voices clips with recent rape victims from the on-going war in Congo. • *Sexual Violence DVD*: Initiated a plan to develop a specialized DVD of Tribunal Voices clips that address aspects of sexual violence for use by Hope After Rape and other related organizations.
National University of Rwanda	• *Deployment*: Tribunal Voices clips now accessible on NUR Intranet for students, faculty and staff. • *Archives*: Began conversations for archiving Tribunal Voices collection at NUR as well as use of material in legal, genocide studies, and communications curricula.
National Unity & Reconciliation Commission	• *National Retreats*: Tribunal Voices clips will be used in Civic Education Ngando Retreats that reach roughly 60,000 Rwandans each year, likely in courses on good governance and rule of law.

Table 1. Overview of Rwandan Organizations and Appropriation/Reuse Strategies during July 16 – August 17, 2009.

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 Centres; (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.

A Method for Offering Content and Information Design

A substantial challenge for the project was to develop a way to speak with Rwandans about the Tribunal Voices material in light of prevalent preexisting negative views. Indeed, many of our conversations began with individuals stating their on-going disappointment with the tribunal. Overtime, the strategy we evolved was as follows:

(1) *Group Composition*. Whenever possible, at each meeting we included at least one information scientist/interaction designer and one law/human rights expert from our team; thus we were prepared to speak to the project's information design as well as justice aspects.

(2) *Understanding the Organization*. We began our conversations by asking our hosts to help us understand their organization, its goals, and current challenges; this information provided us with critical "talking points" about where and how the Tribunal Voices material perhaps might be of interest.

(3) *Establishing Credibility and Independence*. We then clarified our independence from the ICTR and from the United Nations, saying that no funds had been received from either organization and no one from those organizations had approved the video interviews or controlled the collection's dissemination. These statements helped to establish our role as independent researchers and designers, and allowed us to distance ourselves from any judgment about the success or shortcomings of the tribunal. Here we worked hard to neither defend nor champion the tribunal, but instead discussed the relatively new concept of international criminal justice.

(4) *Letting the Video Interviews Speak for Themselves*. Next we showed a short video clip from the Tribunal Voices material, typically one of a Lead Prosecutor in which he discusses the ethical challenges of prosecuting for

rape as genocide after a victim has re-established her life, remarried, and perhaps now has children. The video clips put a human face on the tribunal and it is that human face, the human struggles, and human convictions that give added depth to the tribunal's work.

(5) *Soliciting Meaningful Possibilities for Reuse*. At this point, we were now ready to ask our hosts if they thought there was some way in which the Tribunal Voices material might be of use or interest to them or someone else in their organization. The metaphor we used to guide our conversation was "offering": We *offered* the materials to our hosts in whatever way might make sense to them. In the vast majority of cases, the answer was "Yes!" at times to the surprise of our hosts. From there we pursued specifics germane to the organization, including what context-of-use, what sort of content, how much content, what media, need for translation or dubbing into Kinyarwanda, and so forth.

Outcomes: Access to & Reuse of Tribunal Voices Clips

Table 1 provides an overview of a number of organizations, their proposed access/reuse strategies and the outcomes of our work to date. In some cases, the proposed uses were as we might have anticipated. For example, the Kigali Memorial Centre would like to incorporate some of the videos into their main exhibit. In other cases, the opportunities for reuse were new to us. For example, the Civic Education section of the National Unity and Reconciliation Commission would like to use some Tribunal Voices video clips in their national retreats of up to 60,000 Rwandans per year in seminars related to good governance and rule of law. We turn now to describe in some detail 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.

CASE STUDY 1: ICTR/EU/GOR INFORMATION AND DOCUMENTATION CENTRES

ICTR/EU/GOR Information and Documentation Centres represent one effort at justice capacity building within Rwanda. As suggested by their name "ICTR/EU/GOR", the centres are funded jointly by the tribunal, the European community, and the government of Rwanda. A main centre in Kigali now supports ten new provincial centres which house small paper based legal collections and provide legal database access through a small number of computers and Internet access.

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

Online Commenting System

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. A way for example to exchange messages that bring the reconciliation [sic] together."[1] 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 HCI literature; thus, we focus our discussion on the third which foregrounds the tension between 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 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 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. As of this writing, the Rwandan government

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

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. Recall that 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 Kinyarwandan moderators. Encrypt those messages. Send to those moderators. They can review and then post." We are in the process of identifying Kinyarwandan and French speakers to act as reviewers.

Current Deployment

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 has been designed but not yet deployed. We expect to have this feature in place by the end of 2009.

CASE STUDY 2: NEVER AGAIN RWANDA

Consistent with a multi-lifespan perspective on peace-building and healing post-conflict, 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 film 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 small Never Again Rwanda staff to provide an overview of our workshop plans. Most of our conversation focused on potential "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 the strategies developed by Sarah Friedman and her colleagues [7] for teaching history in Rwanda, such as presenting issues in terms of the Weimar Republic (e.g., the role of media in turning people against each other) and structured debates that assign students to explore particular positions (thereby protecting students from publicly being associated with any particular position). Never Again Rwandan staff made clear that they did not know the background of the students or of their parents.

Thus informed, we entered the final phases of our workshop planning. Foremost in our minds: how to create a delicate balance among 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. Monday morning, July 20, 2009 found us at the secondary school with 10 eager Rwandan youth. Five youth clubs recruited these English-speaking youth (ages 16 – 18; 4 girls, 6 boys) from their memberships. Throughout the workshop we strove for an interactive, hands-on, practice-oriented experience for the youth. We taught structured brainstorming and critical thinking methods. At the end of the first week the youth were divided into two groups; each group would subsequently define, shoot, and edit its own short (8 – 12 min.) film on an aspect of justice in Rwanda. The strength and unequivocal Rwandan voice of the films actively engage the relationship between healing and justice and provide information about transitional justice systems within Rwanda. The youths' films will soon be downloadable from the Never Again Rwanda website (www.neveragainrwanda.org).

CASE STUDY 3: HOPE AFTER RAPE

One of the tribunal's landmark contributions is the jurisprudence concerning rape as genocide. Because of its significance and the challenges of prosecuting for rape as genocide, 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 and gender issues. Most of their work has been in Rwanda with victims of the genocide; more recently they have begun to work with recent rape victims, casualties of the on-going conflict in the Democratic Republic of Congo.

Our first meeting with Hope After Rape occurred half way through our time in Rwanda, when we met with the organization's National Coordinator. After showing the video clip of the 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." From there the conversation turned to active engagement with how Hope After Rape might make use of the video clips in their on-going activities. There was an agreement to pursue further

connections and to add Hope After Rape as an official organization on our human subjects application.

Within 5 days time and on his own initiative, 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. On our end, we submitted a human subjects "modification from the field" and within 36 hours received approval to work with Hope After Rape.

The workshop was scheduled for 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 and men who were recent rape victims from the on-going conflict in Eastern Congo; the youngest participants were roughly 8 years in age. Electrical power was supplied by a back-up generator (after the workshop the generator promptly exploded). Our team member introduced the Tribunal Voices and provided a brief background on international justice, the ICTR and human rights. Participants crowded around our small laptop. 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. Hope After Rape personnel are now working with us to develop a DVD that contains interview clips that cover a range of topics related to sexual violence. Given the likely wide distribution of this DVD in the Great Lakes Region, we will 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 quote cards may be more effective).

CONTRIBUTIONS AND LESSONS LEARNED

Those affected by armed conflicts, civil wars, and on-going cycles of violence – be they persons, organizations, or governments – rely heavily on information systems during and post-conflict to gain access to critical information concerning issues of health, shelter, communication, legal aid, and other basic services. There is great potential to harness the capabilities of modern information systems to increase this access. Those within the human-computer interaction 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 in post-conflict areas.

The work reported on in this paper represents one small effort along these lines. This project makes three important contributions: first, it directly supports the Rwandan people in their efforts to achieve justice, healing and reconciliation; second, it provides the HCI community with methods and approaches for undertaking information and interaction design in post-conflict situations; third, it describes the first empirical exploration of multi-lifespan information system design.

To assess the success and limitations of our research and design approach, we return to the five indicators articulated in the methodological considerations: diverse stakeholders; diverse uses; on-going use; cultural, linguistic and geographic reach; and Rwandan initiative. All five indicators point toward success. As summarized in Table 1 and elaborated through the case studies, 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 our work stretched from urban Kigali in Rwanda across the border into Eastern Congo, with Kinyarwandan, 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 further engage 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 some of the poorer and more isolated sectors of Rwandan society.

Turning now to more general research findings for the HCI community, our contributions:

- Demonstrate the usefulness of an information design approach that foregrounds process over prescriptive outcomes.
- Highlight the importance of establishing credibility as researchers and designers not beholden to political players (e.g., the United Nations and the ICTR).
- Demonstrate the significance of providing project partners with the room to establish the context and boundaries of the conversation.
- Highlight how the commitment to privilege a post-conflict population's access to material (especially over strong Western stakeholders) can positively influence that population's level of trust.

- Provide an example of giving back to a disempowered population rather than just taking away "findings". In the words of one high-ranking individual, "This [project] is very different. Usually researchers come, ask questions, do their work, leave, and the first we see of it is a book sitting on someone else's bookshelf!"
- Demonstrate the growing potential for the CHI community to engage pressing societal issues.
- On the most general level, provide a preliminary proof-of-concept that a multi-lifespan approach to information system design can provide sound, sensible, and fruitful design guidelines and processes.

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

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