**Creating the Blackfoot digital library: the challenge of cultural sensitivity**

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## ABSTRACT

*In the mid 1990's it was estimated that there are only about 5,000 – 8,000 speakers of the Blackfoot language and that the numbers were declining.  The decline of the language was exacerbated by the absence of a generally accepted writing system.  The orthography most commonly used for writing Blackfoot on the three Southern Alberta reserves was only approved as the official writing system in 1975.*

*This resulted in very little written material being produced by the Blackfoot people that captured their history*

*In 2006 the University of Lethbridge and Red Crow Community College joined forces in to ensure that as much as possible of the Blackfoot cultural record will be preserved and made accessible through the creation of a Blackfoot Digital Library.*

*A foundational requirement of the digital library was cultural sensitivity and specifically that it must appropriately honor the Blackfoot worldview.  In the traditional Blackfoot worldview the underlying premise is that all knowledge is derived from place, which posed a significant challenge.  The solution was the design of a custom-made search interface that displays the search results on a digital map where the user is immediately confronted with the land.  The map, displays the place(s) where the assets that were retrieved by the search, originated from and offer access to the various assets themselves.*

*The presentation informs on the challenges faced by the initiative.*

1.  INTRODUCTION

The ±25 000 Blackfoot people living in Alberta (Canada) and Montana (USA) are all that remain of the once mighty nation that ruled a substantial part of the Great Plains, stretching from Edmonton to the Yellowstone River and from the Rocky Mountains to the North Dakota border about 200 years ago (See Figure 1).
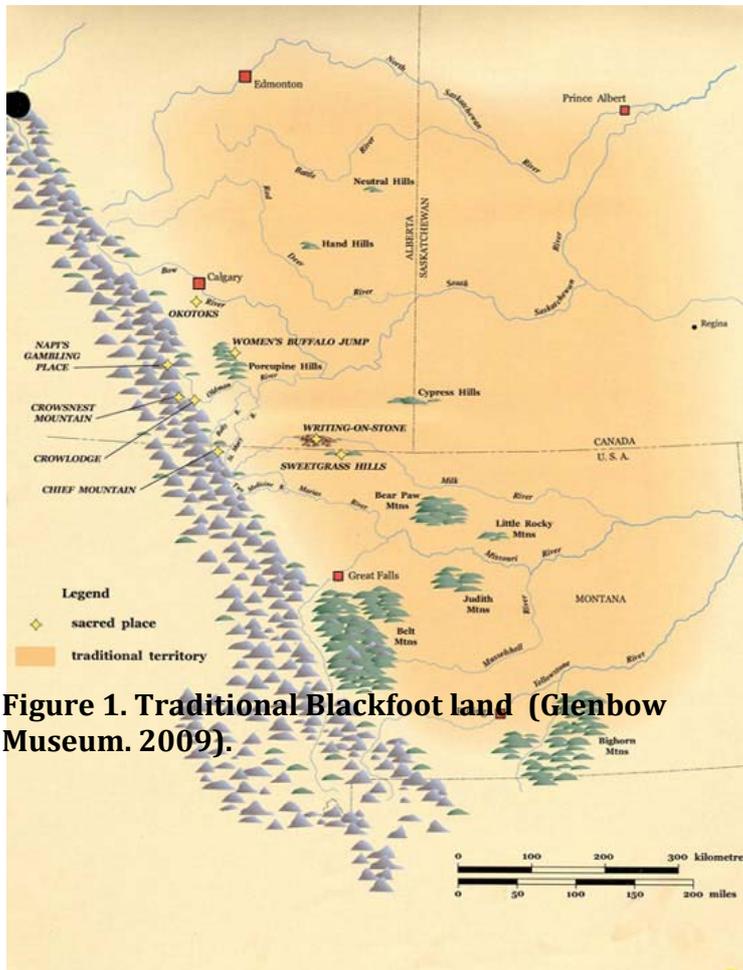
**Figure 1. Traditional Blackfoot land (Glenbow Museum. 2009).**

The Blackfoot Indians of Alberta and Montana were made up of four bands: Siksiká (Blackfoot), Aapátohsipikani (North Piikani), Aamsskáápipikani (South Piikani), and Kainai (Blood). The name Blackfoot is believed to have been derived from the discoloration of moccasins from ashes. They were typical of the Plains Indians in that they were nomadic hunter-gatherers who lived in tipis and subsisted mainly on buffalo; the separate bands would wander on foot in order to follow the herds.

In the mid 1990's it was estimated that there were only about 5,000 – 8,000 speakers of the Blackfoot language and that the numbers were declining since those fluent in the language are older people. The decline of the language was exacerbated by the absence of a generally accepted writing system. The orthography most commonly used for writing Blackfoot on the three Southern Alberta reserves was only approved as the official writing system in 1975, but has seen little use, at least as far as documenting the history and development of the Blackfoot is concerned.

The situation was even worse in Montana on the Blackfeet Reserve since the United States policy of forced integration removed the Blackfeet from the reservation and placed them in cities across the United States where they were assimilated into western society and most lost their language in the process (see Endnote 1). In the mid 1990's it was estimated that of the approximate 7,000 tribe members (The Blackfeet Nation Website, 2009) on the Blackfeet Reserve, those who are fluent Blackfoot counted less than 100 people (Frantz, 2001).

This resulted in very little written material being produced that captured the life and times of the Blackfoot. However, a rich oral tradition has led to numerous privately held collections of audio recordings in various formats (vinyl discs, reel-to-reel and cassette tapes) that were handed down from generation to generation. Collections of photo's are also to be found. These collections are dispersed and fragmented, parts of which can be found on the various reserves in Alberta and Montana.

These then were the materials that had to be accommodated in the Blackfoot Digital Library.

## 2. THE EARLY HISTORY OF THE BLACKFOOT DIGITAL LIBRARY

There was an earlier attempt at establishing a Blackfoot Digital Library with funding from the Social Sciences and Humanities Research Council of Canada (SSHRC). The history of this attempt is briefly described.

### 2.1. COMMUNITY UNIVERSITY RESEARCH ALLIANCE

On April 3, 2004 (Cooney) it was announced that "a project called Ah tah po pinan, Nah to se"– translated from Blackfoot as moving towards (the knowledge or light of) the sun – and which will preserve the history and cultural heritage of the Blackfoot Confederacy in Alberta and Montana, has received approximately $1 million from the Social Sciences and Humanities Research Council of Canada (SSHRC) through its Community-University Research Alliances (CURA) program."

The part of the project that was of significance was the intention to preserve cultural items through digitizing them. Unfortunately this project was not sustainable and it was clear that a new sponsor is needed for the fledgling digital library. Even if the digital library was never fully deployed it left a legacy of gigabytes of digitized material.

### 2.2. THE OPPORTUNITY

The Lois Hole Campus Alberta Digital Library was established in response to the 2005 Speech From The Throne. The speech announced that the Alberta Government would make funds available for the development of such a library. The library was named to honor the The Late Honourable Dr. Lois E. Hole, former Lieutenant Governor of Alberta (The Alberta Library. 2005. p.12).

Part of the mandate of the Lois Hole Campus Alberta Digital Library (LHCADL) was to finance the digitization of heritage material from Alberta, or of interest to Albertans.

This development provided the opportunity to reposition the Blackfoot Digital Library from being attached to a project (which had a definite end) to being funded by an initiative that had no foreseeable end and thus provided it with the sustainability it needed.

Following the establishment of the LHCADL the University of Lethbridge and Red Crow Community College joined forces 2006 in a cross-institutional effort to ensure that as much as possible of the Blackfoot cultural record, as far as written documents, recorded stories and photographs are concerned, will be preserved and made accessible through the revitalized and redesigned Blackfoot Digital Library.

A memorandum of understanding was signed on May 22, 2008 between the University of Lethbridge (U of L) and Red Crow Community College (RCCC) that solidified the relations between the two institutions as far as the creation the Blackfoot Digital Library is concerned. The essence of the agreement is that the University of Lethbridge will provide the infrastructure and technical support while Red Crow Community College is responsible for providing the content.

Even before this agreement was signed a Project Charter was drafted by a team consisting of:

Marinus Swanepoel  (U of L representative)
Rumi Graham (U of L Metadata specialist)
Michael Warf (U of L Webteam Lead)
Narcisse Blood (Elder of the Blood Tribe)

Andy Blackwater (Chair of RCCC Board and Elder of the Blood Tribe)
Ryan Heavy Head (RCCC representative)
Adrienne Heavy Head (U of L liaison and digitization specialist)
Lori Lavallee (U of L Web author)

The Project Charter provides the vision of the Blackfoot Digital Library as well as the deliverables and constraints.

3.   THE CHALLENGE

A foundational requirement of the digital library was that of cultural sensitivity and specifically that it must appropriately honor the Blackfoot worldview.  Since the Blackfoot people, calling themselves Niitsitapi, which means the real people, is a people who traditionally lived off the land and has a huge respect for the land, it was felt that the land should feature prominently.

In their traditional way of life the Blackfoot, like many other aboriginal peoples, had no sense or even concept of ownership of land.  The land was the Land: the Creator provided it and the creatures and plants that live on it for the people to live from.  Their understanding is that if the Land is not only viewed with, but also treated with respect, the Land will provide for the people.  The people has the responsibility to take from the Land only what is needed.  It is believed that in this way there will be enough for everybody.

This world view is formulated as follows by the Glenbow Museum (2009): "Through Ihtsipaitapiyopa (The Essence of All Life) all living things are equal; human beings do not have the right to rule over or exploit the rest of nature. All living beings are equals with unique gifts and abilities. Some plants can cure diseases; others give us important nutrients. Bison are strong animals who provided much of what Niitsitapi needed for survival. Birds are swift flyers who helped warriors to be stealthy and quick."

In the traditional Blackfoot worldview it is believed that all knowledge is derived from place; that humankind is the latecomer to earth; that all the animals, birds and reptiles are much better equipped with wisdom and knowledge to survive on this earth and therefore, for his own survival and prosperity man has to learn from the animals.  It is also believed that these interactions, where the animals shared their wisdom, are also grounded in the land and in place.

**3.1.** THE CHALLENGE FOR THE LOOK AND FEEL

Since the land features so prominently in the Blackfoot culture and world view it was important that the user of the Blackfoot Digital Library be confronted with the land, first and foremost.  In terms of the environment it is fortunate that the design team had more than the prairies (plains) to work with.  Even if the Blackfoot is known as a tribe that is part of the group that is called the Plains Indians, their current land (reserves) is within viewing distance of the Rocky Mountains.  Therefore the mountains feature prominently in the banner of the website.

Initial designs focused on the foothills with the majestic Rockies in the background.  All done in earthly colors to accentuate the land, the terrain and typography.  However, designing in earthly colors proved to be quite a challenge.  Shades of brown and green and yellow are not exactly vibrant colors with which to create a striking design.  Full color photos of snow-covered mountains with emerald green grassland were not deemed appropriate.  The effect of introducing these photos into the design of the site resulted in the site looking like a tourist site.  The design team struggled with these limitations and the challenge was only overcome when it was suggested that the site should offer more of the land, not less.  That the design should confront the user not with a static scene but

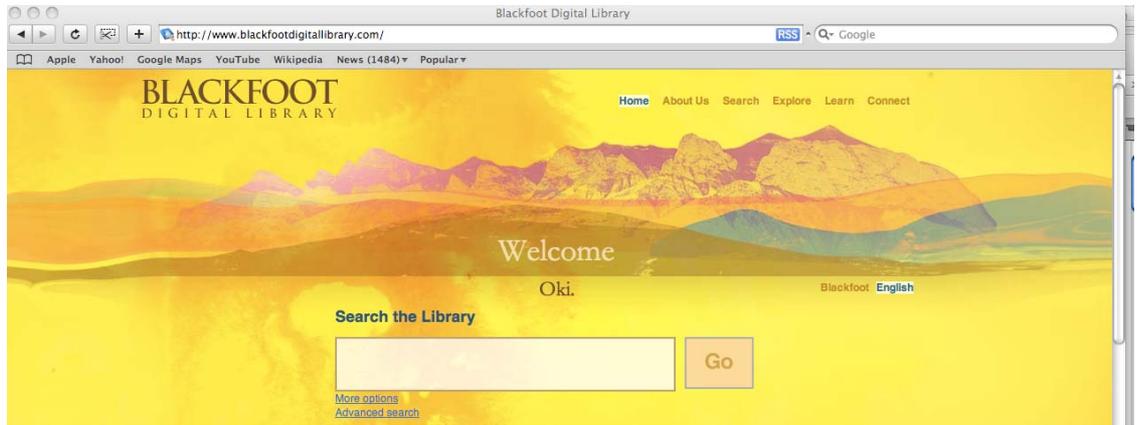with the dynamic of a changing landscape that reflects the path of the sun from east to west.



**Figure 2. Blackfoot Digital Library - morning view.**

The end product was not an ever-changing landscape but the creation of different views of the land during different times of day.  The current views for morning, midday and night were designed in such a way that the appropriate view is displayed according to the local time of the user visiting the site.  These views are presented in figures 2, 3 and 4.
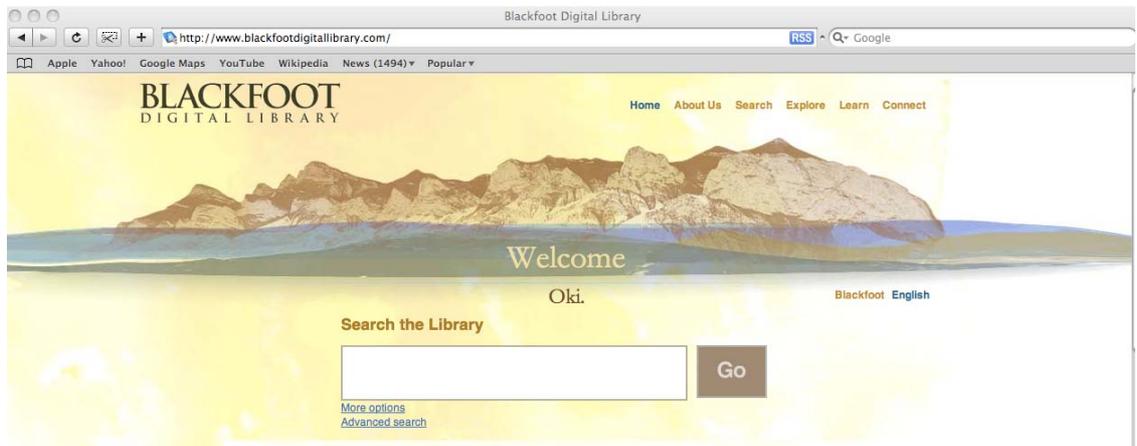


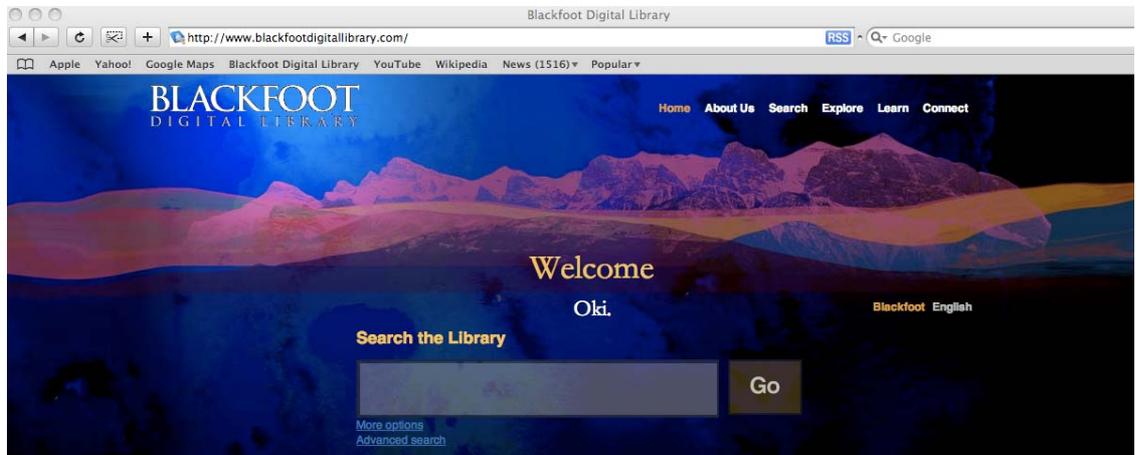**Figure 3. Blackfoot Digital Library - day view**

**Figure 4. Blackfoot Digital Library - night view**

3.2. THE CHALLENGE FOR THE SEARCH INTERFACE

In the traditional Blackfoot worldview the underlying premise that all knowledge is derived from place posed a significant challenge. The use of a simple geo-tag attached to each record was thought not to be sufficient.

The use of geo-tags is not new and several applications of its use can be found in well-known web services.
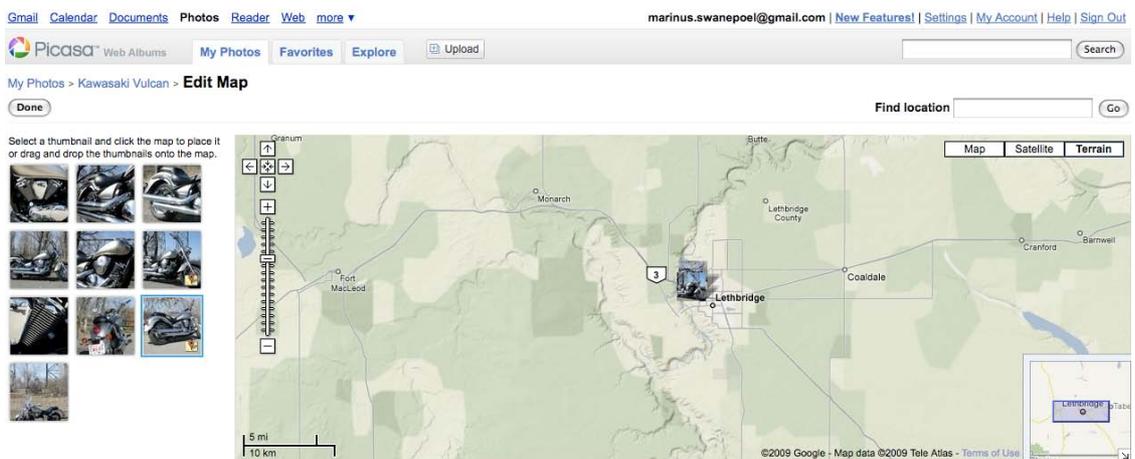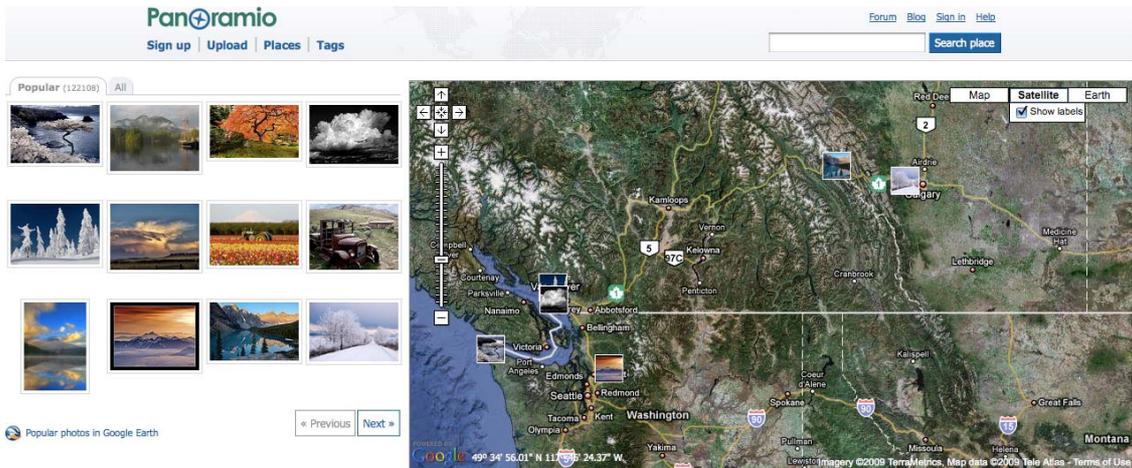


**Figure 5. Picasa Geo-tagging http://picasaweb.google.ca**

**Figure 6.  Panoramio geo-tagging  http://www.panoramio.com/**

These approaches are especially popular with various photo collection sites such as those offered by Picasa (Figure 5), Panoramio (Figure 6) and even Flickr (Figure 7).  Most of these sites are mashups based on Google Maps as illustrated in Figure 8 (See Endnote #2).
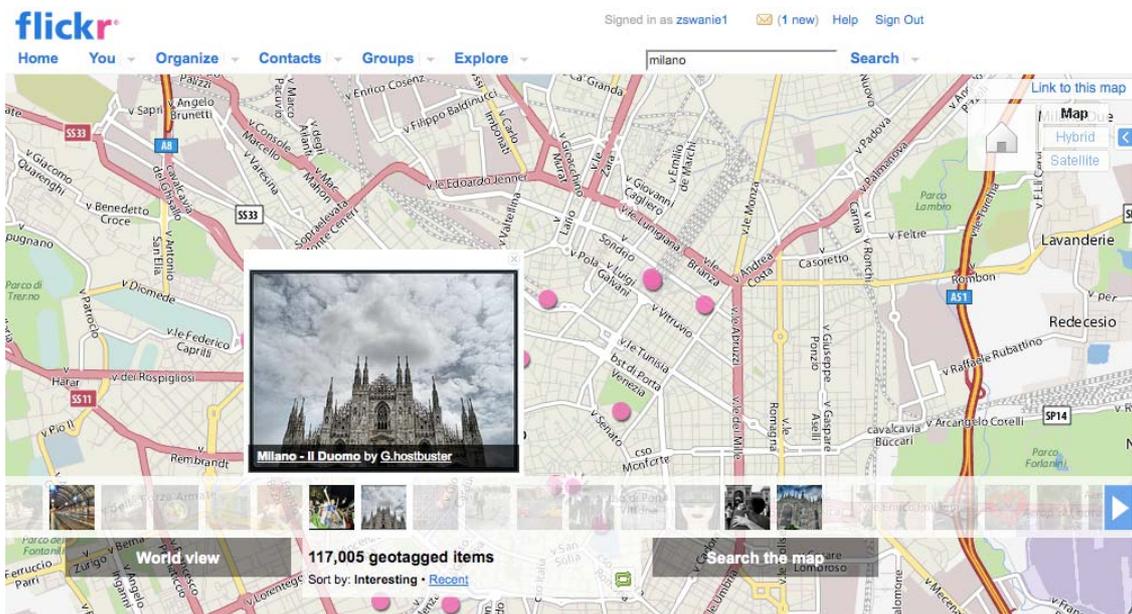


**Figure 7. Photo's of Milano with geo tags on http://www.flickr.com/map/**
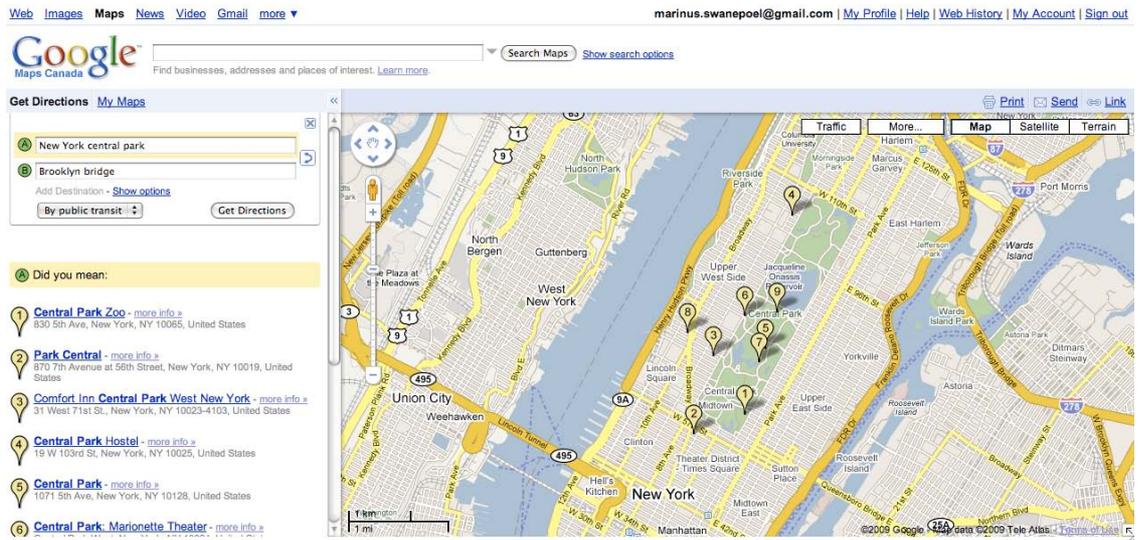
**Figure 8. Google Maps indicate points of interest using pins.**

The solution was the design of a custom-made search interface based on a Google Maps mashup that displays the search results on a digital map where the user is immediately confronted with the land. The map displays the place(s) where the assets that were retrieved by the search, originated from, and offers access to the various assets themselves. Different color pins on the map indicate the different assets such as text, photographs, video and audio. Hovering the mouse over these pins reveals some information about the asset represented by the pin while clicking the pin retrieves the full record of the asset.

Ideally the Blackfoot partners would have preferred a map with a First Nations perspective, see Figure 9. This photo of a map drawn from a First Nations perspective (from the Museum of Civilization in Ottawa) indicates the rivers as the primary source of orientation and also resembles an upside-down tipi. However, this line of thought was not pursued because only a few users would recognize it for what it is and secondly, because the technology to convert it into a usable and scalable digital map would have been too expensive.

**Figure 9  Map: First Nations perspective  (Museum of Civilization: Ottawa)**

Another aspect to make the map and its contents even more culturally appropriate, that is still on the to-do list, is to change the pins to a cultural object that will relate to the Blackfoot: a tipi or lance.

## 3.3. THE CHALLENGE FOR THE METADATA

The metadata schema used for the Blackfoot Digital Library is Dublin Core.  However it was found that the standard elements are insufficient in accommodating the Blackfoot culture in terms of naming conventions for individuals.

When the team doing the foundational work for the design of the Blackfoot Digital Library was confronted with the need to be able to identify different individuals with the same name, the instinct was to use the proven method of adding the year of birth of the individual.  The Blackfoot members of the team were quick to point out this is a Eurocentric practice and that often Blackfoot people would not know what year they were born in.  This is especially true of the older members of the tribe.  These older members are a very important source of content for the Blackfoot Digital Library.

After consultations with elders from the tribe it was decided that the Blackfoot name of individuals would be a better way of indentifying individuals.  Added elements were the addition of the names (first name and last name and Blackfoot name) of the mother and father of the individual. (see Figure 9).  This was honoring the Blackfoot tradition of identifying an individual.

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**Figure 10. Identification of individuals**

It was decided to use a lesser used format for describing the "coverage" metadata element in the Dublin Core Schema, namely longitude and latitude data.

The description of the coverage element within the Dublin Core metadata schema read as follows: "The extent or scope of the content of the resource. Coverage will typically include spatial location (a place name or geographic co-ordinates), temporal period (a period label, date, or date range) or jurisdiction (such as a named administrative entity)" (Dublin Core Metadata Initiative. 2009).

Using geographic co-ordinates provide us with the capability of pinpointing the precise location of where a photograph or video was taken, a story was told or a person lived. The online form designed for metadata input in the Blackfoot Digital Library allows for three ways in which the location can be recorded: a) by entering the geographical coordinates, b) by entering a physical street address, or c) by moving the pin on the map

presented to the person doing the metadata input by pinning it to the right location.

## 3.4. FOR THE CONTENT

From the charter document the following goals are set for The Blackfoot Digital Library. It is intended to:
* Centralize digitized Blackfoot records and library resources.
* Provide a venue for Blackfoot interpretations and responses.
* Make resources publicly accessible based on Blackfoot knowledge access standards (using the Okakihtsimaan process).
* Provide opportunities for capacity building in Blackfoot communities.
* Support Blackfoot learning and practice in allied organizations (i.e. universities).

With the phrase "Blackfoot records" the intention is to address all unpublished records, which are what we are working with primarily (photos, audiotapes etc.). However, to attempt to centralize library resources (published resources normally found in a library) is very ambitious. The idea is to obtain permission from publishers of key works about the Blackfoot and to digitize those.

The basic mandate is to digitize original heritage material. This will keep us in step with the LHCADL mandate as well, and since that organization is the primary sponsor it will serve us well to keep that as our initial focus.

Most of the recorded stories are told in Blackfoot and to make that accessible to non-Blackfoot speakers there is a need that it be translated. Since the traditional Blackfoot culture is an oral culture, stories are not only transcribed into English but also told in English. Therefore users of the site have the option of listening to the story in Blackfoot, or in English, and can also read the story in text format (in English). This is however a very slow process even with two translators. One male translator does the translation of stories originally told by a male and so recorded and one female translator translating stories told by females.

Some of the stories relate to sensitive (even secret) tribal ceremonies such as those performed by some of the societies (e.g. the Horns Society). These stories are not translated. All material posted is reviewed by the elders on our task team to ensure sensitive material is appropriately treated.


## 4. THE FUTURE

We are living in uncertain economic times and we hope that the world economy will again be on an upswing by the time we have the IFLA conference in Milano. However the message has already reached us that the belt has to be tightened, also as far as the projects funded by the LHCADL are concerned. Therefore one of the obvious priorities for the near future is to find other sources of funding to supplement our existing source.

Other plans for the future is to involve the Blackfeet in Montana and to have them contribute material to the Blackfoot Digital Library as well. The plan is to write manuals and standards to help those who want to partner with us to upload their material directly. In doing so the intention is to have a bigger impact in preserving the Blackfoot culture.

5.   BIBLIOGRAPHY

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Endnotes:

1.   Between the end of the Roosevelt era and the beginning of the Kennedy administration, less traditional Native Americans, congressional leaders, and government administrators developed a policy that they hoped would integrate the Indian population with mainstream America. To this end, they enacted laws to terminate the government's trusteeship of Indian lands and relocate Indians to the nation's cities. They believed that, once Indians left the reservation, they would have opportunities for education and employment that would enable them to participate more fully in the larger society. These policies were most fully applied to the Menominee and Klamath tribes. But the sponsors of this legislation underestimated the importance of the fundamental differences between Indian and Anglo culture that would make it nearly impossible for most Indians to make the transition. By the early 1960s it had become tragically apparent that the policies of termination and relocation were creating a new subclass of urban poor: Indians who were ill equipped to survive in the competitive, materialistic world off the reservation. This major new study examines the history and effects of these policies from the Indian perspective. It also situates termination within the larger issue of civil rights during the Truman and Eisenhower administrations. (This abstract of  *Termination and Relocation. Federal Indian Policy, 1945-1960* Eric# ED277536 was retrieved from http://eric.ed.gov/ on May 6, 2009.)

2.   In web development, a mashup is a Web application that combines data or functionality from two or more sources into a single integrated application. The term mashup implies easy, fast integration, frequently done by access to open APIs and data sources to produce results that were not the original reason for producing the raw source data. An example of a mashup is the use of cartographic data from Google Maps to add location information to real estate data, thereby creating a new and distinct Web service that was not originally provided by either source. (This definition/description was retrieved from http://en.wikipedia.org/wiki/Mashup_(web_application__hybrid) on May 7, 2009)