Dear Mr Shayne Neumann MP

This is a supplementary submission based on question asked at the public hearing. Thank you again for you time and interest

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CITIES

1. What is different about the software CITIES develops

See http://www.cities.org.au/index.php/Flexible_user-centred_designs

Flexible User-centred designs

Much software development and the creation of computer based and web services focuses on the appearance of the product, and the neat 'features' or services offered. CITIES tries to focus on providing computer software (eg to help language teachers develop worksheet) and web services that are designed and develop along with the user. Also we focus on developing specific platforms that future users or developers can then use to extend the software. Such 'block' designs enables new features or resources to be slotted in.

For example on our web sites we are creating generic tools linking all occurrences of the word on that site to its audio file and translation. These services are added gradually, alongside the web and software users adding their resources, such as recordings of language, stories of history of an area, etc.

This process can be done as a 'mash-up' where different open source software is linked together, often with re-programming, to provide a consistent interface in terms of visual aspects as well as the general layout of how to access different features. In particular we provide simple 'clean' web sites and software that can grow expand in their function as people become more used to them and what more from the software.

The main features we enforce in our work are:

- Use of databases wherever possible so that resources such as web sites can be reused by other groups and still retain the added features designed for users
- Use of 'story bricks' when creating features such as in games so that is is easy for other users to add further similar features within existing frameworks
- Use of visual cues (and in future audio) wherever possible to reduce reading load
- Use of scripted websites that enable new features o be added as required
- Use of high level languages to provide innovative features to link information and resources, such as the sound of words to their text wihtin a site.
- Reuse of resources based on this block design between different users

Finally our resources rely heavily on the users providing their material. That is, the software is not complete without users annotation old tapes, provide sound grabs, such as their stories, etc. The aim is to use the power of people to make the knowledge provided on the web and through computer software up to date and relevant.

The software we use and develop include:

- image selection and editing
- sorting and sending information on email and linking resources to mailing lists
- annotation tools for audio and video, and linking information with similar tags
- language parsers
- text to speech
- upload and presentation of audio and video material in easy to use formats
- video and audio clipping to improve annotation
- security of material uploaded including retaining authorship and respect of cultural protocols

2. Why is IT important for Language and communities

See http://www.cities.org.au/index.php/CITIES:About

CITIES was set up by Aboriginal and non-Aboriginal people who are interested in using Information Technology, in particular computing (ICT), to share Indigenous knowledge firstly within the Indigenous community, then beyond, with respect for cultural protocols and IP.

Our aim is to work with Aboriginal Communities to promote economic, educational and social policy and objectives that ensure people have the capacity to live a life that they value. Incorporating an Aboriginal perspective into all aspects of modern knowledge sharing and communication as well as into Indigenous policy and community development supports this.

In particular, our role is to provide IT services as requested by the community. We work with community and government organisations to develop these services in a way that ensures they provide a secure, culturally sensitive and user friendly resource to community, as well as to government organisations servicing the Indigenous Community.

We see the use of ICT to support learning and teaching in critical cultural areas such as language will enhance IT as a possible area of employment and engagement in the view of Indigenous people. Until the resources provided strike a cord with the users, there will not be the motivation for people to become engaged in their design. This is why we develop our resources in stages, so that people will be involved in their development, and play a role int he design of new services.

There is a need for Indigenous designers, developers and content creators if we are to even freely and honestly share Indigenous knowledge online. While many of the issues confronting developers of appropriate Indigenous resources relate to novice users in general, there are also specific foci and interests that are relevant only to these communities such as access protocols relating to mourning and the level of access of the individual to sacred/secret knowledge.

We hope to use IT to help translate the traditional culture protocols into contemporary services that will illustrate the strength of these protocols in ensuring the accurate and respectful sharing of knowledge around land management, interpersonal respect and the learning of tacit knowledge through audio and video resources, as well as re-enactment.

3. What are the issues surrounding IP and Language

Question by Mr Husic:

I understand that, but if the priority is the survival of the language, would that be better served by opening it up so you are not retaining control by small groups

but rather there is fluency in the spread of languages? The aim would be to protect languages from being extinguished and that could be better served by providing more open access rather than clamping down on IP or classifying languages. Not the resources, I understand what is required to be invested in the development of resources and that you do not want to give that IP up, but the languages themselves might be better served by providing greater access.

This arose from our submission where we recommended:

Funding the development and distribution of software that supports the acknowledgement of IP of Indigenous knowledge and stories, and enforces Indigenous protocols online to facilitate the sharing of knowledge through the Internet.

Information Technology provides an ideal avenue to provide communities with secure sharing of these resources. The main obstacle is the lack of knowledge that people have of their right to these resources and how to access them. However opening the resources up to free public access would be counter productive.

Firstly some of the knowledge recorded in the archives is knowledge that relates to a specific area, and a specific understanding. IF this knowledge is shared openly it can be misunderstood, and misused. For instance specific people in a community who know the requirement of that area, in terms of fire control and land maintenance, are always the ones to tell the process of fire burning.

Aboriginal communities are still talking about what they are allowed to share and under what responsibilities that sharing would take place. We are given these archival language resources as guardians, not owners, and the guardianship is by community, or immediate family. People need to be supported to meet and talk about these issues, not always fighting for the right to get the information, or travel to their community. Because of the long history of racism and the lack of control by Aboriginal people, there is a long way to go for our people to come back together and clarify these issues, but we need to do it ourselves, in our own time and place.

There are many archival language resources stored at AIATSIS with varying levels of publication authority. These are generally available to the family of the speaker or their language community so could be published online under secure login or other access. However even this requires some approval process first, as this is a new avenue for knowledge sharing the community. Where the speaker on the tape is known, permission is required from the nearest living relative, as decided by community members. Where there are many speakers, the local Elders Group is usually the first point of contact. If they are not skilled in language, they will refer to the local language teachers and speakers. Without sufficient travel funds this process can drag on too long and the community loses faith that they will be able to access their resources.

Also many Indigenous communities have rapidly growing collections of audio-visual recordings in urgent need of conservation. These are often in the local language. Particularly young Indigenous people are highly literate in audio-visual technology and are active in collecting resources using mobile and other equipment. This provides opportunities for education and employment of the next generation. Much of the information about these artefacts is currently only known to the Indigenous media workers who recorded them and may be lost to future generations, for instance their relation to other material, the context of their use, etc.

The lack of appropriate security and software to enforce Indigenous protocol relating to knowledge sharing raises concerns for uploading material to the Internet. These trust issues were discussed by participants at the AIATSIS Symposium on Information Technologies and Indigenous Communities in July 2010, and find resonance with much

of the present research into online trust and security systems (Zhao et al, 2004).

The areas of trust as expressed by Indigenous users include the need for:

- Community or family permission to publish archival material online
- Rapid consultation and approval process to maintain community enthusiasm
- Retention of data on authorship when distributing audio visual material
- Services to restrict access by genealogical relationship
- Services to restrict access for period of time, such as mourning
- Services to link material to a specific context in which I cannot be misinterpreted, and retain that link.

Therefore the annotation, archiving and sorting of video collections are considered critical by Indigenous organisations yet there is not suitable and robust tool for this process. Furthermore, the same problem exists with this material as for Indigenous material stored in museums and government archives. The aim to make this material accessible to Indigenous people (Nakata & Langton 2005) but this would require the implementation of suitable protocols for the handling of this material.

Concurrently, the research into the usability of existing web services and redesigning these for Indigenous communities has been hampered by the irrelevance of much material presently online, computer illiteracy and lack of trust in the medium (Dyson & Leggett 2006, Kutay, 2009). People are wary that their knowledge will be used inappropriately, out of context or separated from the community narrative (Nakata & Langton, 2005, Kutay & Ho, 2011). This is compounded by what is seen as insufficient government protection and lack of community control (Janke, 1999). For indigenous people to utilise the internet both issues of relevancy and usability must be considered while developing trust in terms of security of access and ensuring the material remains in the context selected for it, while retaining the scope and flexibility of cloud computing where possible.

The aim of any software developed to solve this issue should be is to use, where possible, existing tools and architectures to develop a comprehensive system that is relevant to Indigenous media organisations and able to be edited and adapted to the different types of organisational needs. There have been database designs developed to store kinship data using eXtensible rights Markup Language (XrML: see Hunter, 2006).

Maintaining such a system depends on an online repository where the media is always located, however this is hard to enforce, and does not deal with the situation where local media material deposited within isolated intranet may later be shared. Since then advances in HTML descriptions support the use of multimedia chopping such as Annodex (Pfeiffer et al 2003) for enabling the download of only required or permitted segments (and hence decrease download time). This approach is already being used as part of the distributed international language museum for preservation and annotation with EOPAS (Thieberger & Schroeter, 2006) and for oral history sites (Kutay & Ho, 2011).

Some of the issues arising from this previous research have a wider application than Indigenous knowledge sharing. The main issues that need to be dealt with include:

- Implementation of community protocols relating to viewing rights and authorship (Janke, 1999; Hunter, 2006)
- Security of access to viewing, annotating and copying material (Mazurek et al., 2010)
- Annotation tools to tag artefacts for elearning contexts (Thieberger & Schroeter. 2006)
- Support for P2P cloud provisioning for intranet and synchronous distributed databases (Ranjan, 2010)
- Need for fast download on low bandwidth and mobile devises (Wong et al 2007)

- Support for users of low computer literacy on low bandwidth and low memory devices (Dyson & Leggett, 2006)
- extension of trust to cloud service provision (Zhao et al., 2004) with distributed authorization control (Varandharanjan, 2005)

Web services are required that include annotation tools and XML data wrapper for the media artefact. Collaborative editing tools would also be needed to enable users to supply annotation data that relates to rights to view material and protocols for adding or changing meta tagging.

It is important that Indigenous groups retain the knowledge IP over all resources that are developed for their language. As IT resources can and should be developed across languages, the local groups or regional groups should have IP control over the particular implementation of this resource using the database of their language.

Recommendations:

1. That all AIATSIS tapes that are available to family or community be placed online under password protection so that authorized individuals or employees of AIATSIS are able visit communities and let the people here the resources, and recommend access levels, such as the type of login/access protection and the format for download, eg mp3 for mobile phone.
2. That this process be carried out without delay and without interruption. When communities know the process is happening it needs to keep going.
3. That resources be put towards a centre for research and training in Indigenous IT for language sharing, where Indigenous students can learn advances IT in the environment of language sharing. This should be linked to an existing Computer Science programs at University and a TAFE program to provide a combined package.
4. That Australia move towards educating all people in one local Aboriginal language, leading to a future requirement that language be used in courts by all court officials, and in all schools by teachers for some part of the day. We need to take a totally different approach to the scope of language use.

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