Quinkan Matchbox: experiences and lessons

Liddy Nevile

Tsukuba Japan

Melbourne Australia

Summary

- Australian Research Council Projects

- Quinkan Country

- Matchbox system development

- Metadata research

- Matchbox project research

ARC Projects

- ARC pure research
- ARC applied research/industry research
  - Telecentra Project (1999-2000)
  - Quinkan Matchbox Project (2001-2004)

Matchbox Development

Develop a ready-to-use, integrated, multimedia cataloguing, maintenance and search facility:
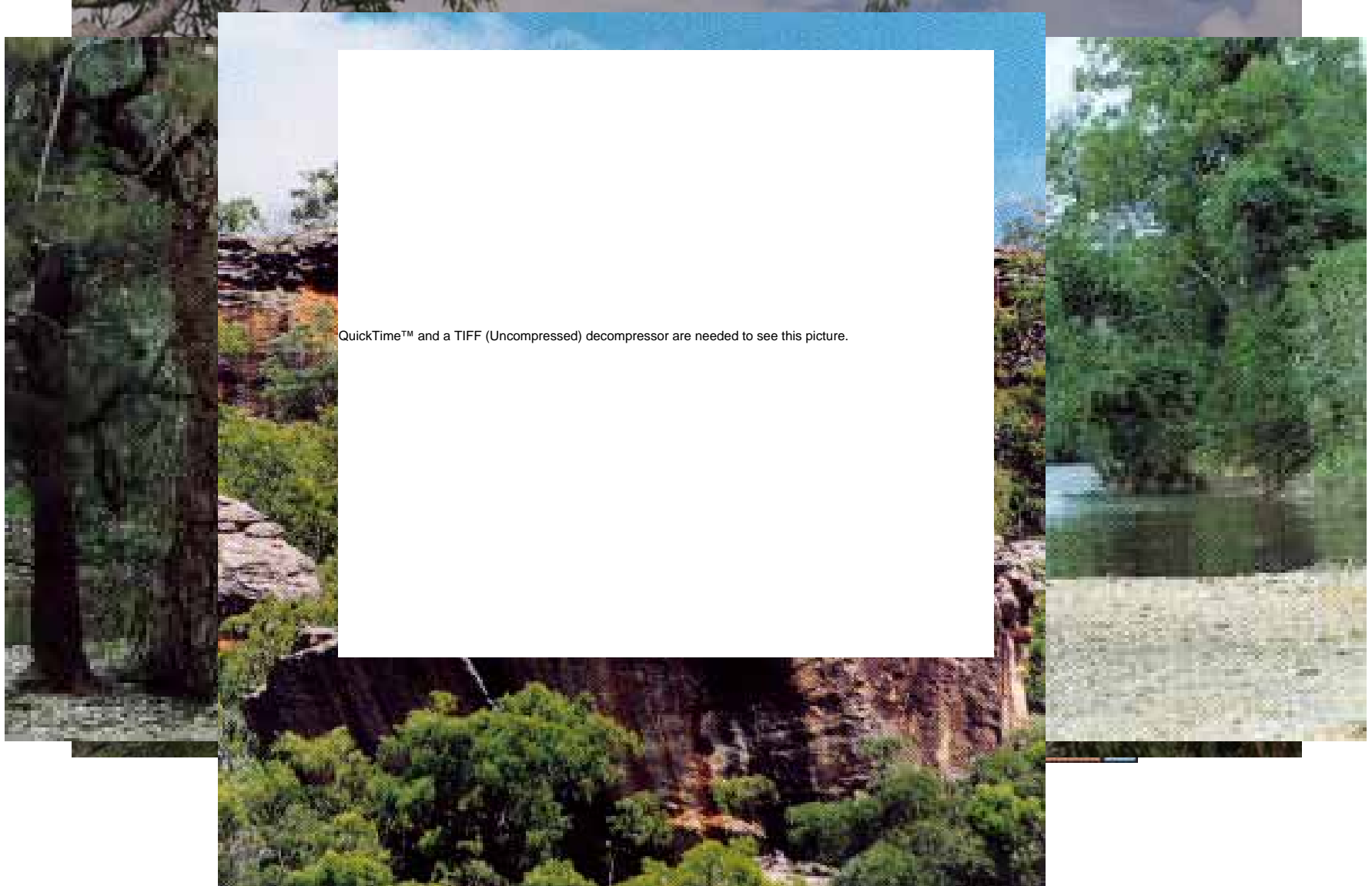
- Document the process
- Develop suitable security and discovery/filter applications
- Produce prototype, inter-operable QDC metadata using Resource Description Framework (RDF) format
- Re-conceptualise the traditional model of cataloguing, maintenance and searching established by subject gateways in the 1990's to provide a rich cultural catalogue and collection process.

Matchbox Research

- Develop a Qualified Dublin Core (QDC) compliant schema for indigenous cultural resources
- Develop a customised cultural data management system
- Recognise different cultural perspectives and different knowledge systems
- Enable distributed users to classify and discover their cultural resources on the Internet
- Investigate new ways of recording cultural knowledge
- Provide the Quinkan Trustees with a system, and
- Create intellectual property in the content of Quinkan Matchbox with ownership by and for the Quinkan Trustees (or agents)

Quinkan Country

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Quinkan Country

QuickTime™ and a TIFF (Uncompressed) decompressor are needed to see this picture.

Quinkan Culture

QuickTime™ and a
TIFF (Uncompressed) decompressor
are needed to see this picture.

Images from the Laura Booklet published by the Ang-gnarra Corporation

Quinkan Region

- People were here more than 36,000 years ago
- The community has been ravaged in the last 200 years

  and so has the culture

- 60 people remain
- 290 km from the nearest city
- but the 100,000 Rock Art paintings are in excellent condition.

Matchbox Requirements

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Who are the users?

- Academics with disciplined knowledge - because they will contribute resources
- Tourists with experiences - because they are interpreting Quinkan Culture
- Elders and Community members - because it is their Culture
- and more....

How do they think…

Structure and rules

??????

dfvnsnvn
sdfhskfsf
Thirhsern   lijtgnvjnv
jfbakfbak
dnskskfbf

???????

Diverse Users

- Explicit disciplines
  - Formal vocabularies, structures and rules
- Implicit disciplines
  - Intuitive procedures, vocabularies and structures ….

What are the resources?

All types of things

- paintings, people, places, reports, photos, ...
- from Elders, archaeologists, ...
- about subjects of all kinds
- in all sorts of forms...

What functions do we need?

- Discover resources or services
- Graze resources and services
- Add a resource or catalogue record
- Annotate a resource or record
- Import/export resources and records
- Use a service eg get permit to go to XX

A really good system is

- immediately comprehensible and yet 'grows' with use;

- acts on behalf of the user, and

- is suitable for / adapts to the user's purposes

Andy di Sessa (Boxer)

The Matchbox System

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Quinkan Matchbox - the system

- Pittwater is underlying system with the functionality
- Matchbox is the application layer
- AnnoSource provides the annotation layer

Matchbox

Pittwater	XYZ

AnnoSource
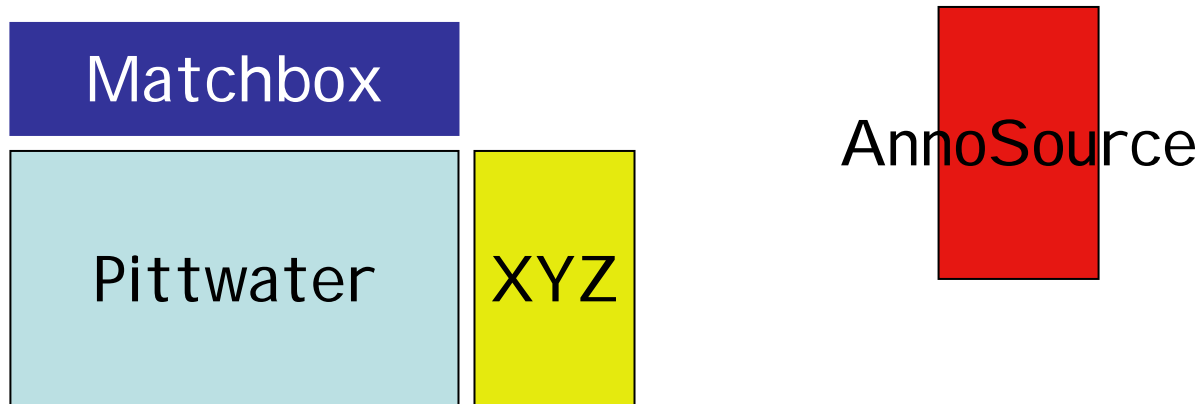
Pittwater Architecture

- Digital repository
- Open source software and PHP and JAVA etc.
- XML documents for metadata schema, templates, etc
- XSLT for style sheets, transformations of schema, etc.
- Lucene for search, taxonomies etc..
- Annotea and Amaya for annotations

Pittwater Functions

- Content creation and rendering
- Cataloguing and discovery
- Catalogue import and export

Web page design

For automatic rendering from the database, page templates need to be designed and stored in XML.

Content Creation

- User accesses online data entry form
- And uploads text, images, video, etc
- And creates metadata

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Content Creation

- Content stored as assets
- Described with metadata
- Associated with templates
- Used for discovery and content rendering

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QHTN Data Collection Form

Please complete and return to QHTN for construction of web pages about your enterprise.

Select template to be used:

○ ⦿ ○

Choose text to be included: [　　　　　　　　　] [Browse...]

Choose image to be included: [　　　　　　　　　] [Browse...]

Choose second image: [　　　　　　　　　] [Browse...]

Choose video: [　　　　　　　　　] [Browse...]

Complete the following catalogue record:

Title of Business: [　　　　　　　　　　　　　　　]

Operators of business; [　　　　　　　　　　　　　]

QHTN Data Collection Form

Please complete and press 'Submit' to return to QHTN for inclusion in the catalogue of web pages about Tropical North Queensland or the Queensland Heritage Trails.

[Help]

URL (address) of site to be included: [   ]

Title of site (the name of the window): [   ]

Site authors: [   ]   Another author

Description of the site's content (50 words): [   ]

Publishers: [   ]   Another publisher's name

Location of publishers: [Tropical North Queensland ▼]

Address of business: [   ]

Location of tourist attraction on Queensland Map version K7643876 (eg K45):
[   ]

Type of business (choose f rom the following): | accommodation |
                                                 | transport |
                                                 | event |

Matchbox Publication Options

Low-bandwidth Touch screen facility

Good-bandwidth Touch screen version 'online' via web
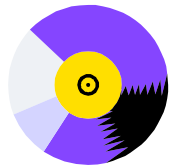
Matchbox

Web version of site for subject expert

Standard Web version of site

Import/Export metadata

- Develop cross-walk
- Create XSLT
- Import/export records
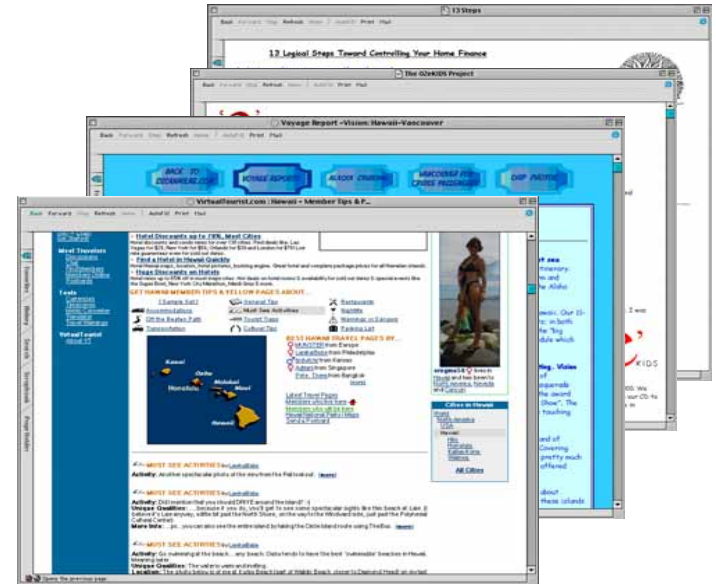
Metadata Exchange
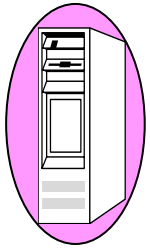
E.g. Picture Australia database of images of FNQ locations
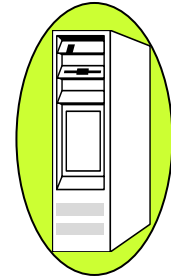
E.g. QLD EPA Regional Database
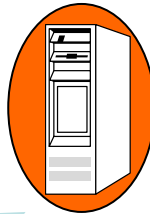
Schema transformation application
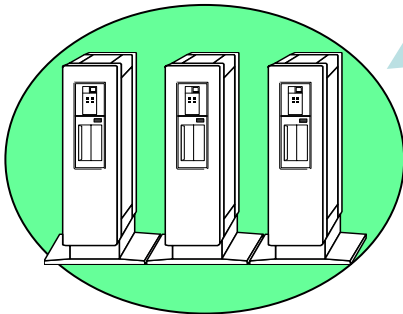
Matchbox database and catalogue system
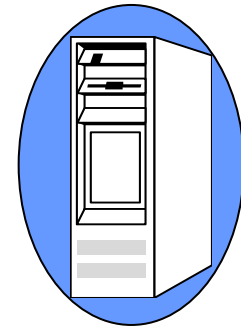
Searching and Browsing

Once the catalogue has been populated, entries can be used for searches or for browsing

- Note that most users search when they know what they want but browse when they are still unsure - and so most do both when looking for something with which they are not familiar.

- Matchbox uses the catalogue hierarchy for 'inverse browsing'.

Welcome to the QHTN Gateway

Look for:

| bungy jumping | in | entire catalogue ⬍ |

[See subject headings] or [See resources]

Click on a heading below to browse lower level headings

[Cape York Peninsula ⬍] [Change location]

Reef Activities

snorkelling, diving, sailing,

the Tablelands

water sports, hiking, tourism, hot-air balloons

the Outback

camping, fishing, riding,

Sports

bungy-jumping, orienteering, mountain climbing, diving

Bird Watching

instruction, hides, photography

4 Wheel driving

bush tracks, sand tracks,

Pre-history

paleontology, rock art

Rain Forest Activities

canopy walk, night walk

Studying in the Tropics

James Cook University, TAFE, learning English

Advanced Search

Search

for keywords	horse-riding	and	rain forest

and ⬍	for activity location including words	

and ⬍	for Tour Company's name	

and ⬍	for Tour Company's address	Cairns ⬍ (pick one)

and ⬍	for availability	daily ⬍

and ⬍	for keywords in Description	beginners guide

and ⬍	after	25 / 06 /2002 (yyyy/mm/dd)

and ⬍	on or before	25 / 07 /2002 (yyyy/mm/dd)

and ⬍	for format of	text - HTML ⬍

and ⬍	for resource type of	text ⬍

and ⬍	for language	EN ⬍

and ⬍	for rights to resources including	no charge ⬍

Favorites History Search Scrapbook Page Hold

Search Results

We found 18 resources.

1. ANIMAL > MAMMAL > HORSE > HORSE CARE

Tablelands Horse Centre.

Complete **horse** care. Feeding Info. Training breeders list. Horse clipart. Breeding Netherland horses for show and family pets....

URL: members.tripod.com/~littlegems/index.html

Last modified 28-May-99 - page size 15K - in English

See catalogue entry | See other similar resources

2. SPORT > HORSES > EQUESTRIAN

Bedarra Island giant horse trails

We've compiled documents containing the most Frequently Asked Questions (FAQs) about every major horse topic. These FAQs are just a starting point;.

URL: www.rabbit.org/faq/index.html

Last modified 30-May-99 - page size 8K - in English

See catalogue entry | See other similar resources

3. SPORT> HORSES > RACING

FAQs about Racing in the Tropics

Whether you're new to the world of horses, or an old-timer, tropical Horses Only' covers all topics of interest to the racing enthusiast. Whether you're a...

URL: www.rabbits.com/

Last modified 26-May-99 - page size 10K - in English

See catalogue entry | See other similar resources

■ ■ ■ ■ ■ ....

Result Pages: 1 2 3 [Next >>]

Accessibility

The Commonwealth and State requirements.	Australian legislation demands web sites are accessible to all - satisfying the W3C Web Content Accessibility Guidelines.
How is it relevant to Matchbox?	When sites are made with Cwth funding, there are no excuses for lack of accessibility. Qld govt requires compliance.
How is compliance achieved?	Compliance with standards is achieved by adopting design and implementation techniques.
What are the costs / benefits?	Compliance makes content accessible on all devices including phones, Palm Pilots, web screens and Braille devices. Cost is in better planning, practices, correct techniques - not significant.

Development Lessons

- Many to do with the development team...
- Technical problems with XML
  - XML lacked structure and flexibility
  - --> new UML profile (Sarah's work)
  - --> separate annotation system (Behzad's work)
- Development failings -->Metadata problems
  - Problems with testing metadata profile
  - Problems with doing project research

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The Metadata Profile
(Work of Sophie Lissonnet)

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What are the resources?

All types of things to be classified by

- type
- discipline
- location
- full-text indexing
- usage ??????????

What is the *organising* factor among them?

- Should we organise around a place?

- a collection?

- people?

- interpretations?

- events?

- research?

- history?

- archaeology?

- traditional practices?

Can we support the Elders,

and academics?
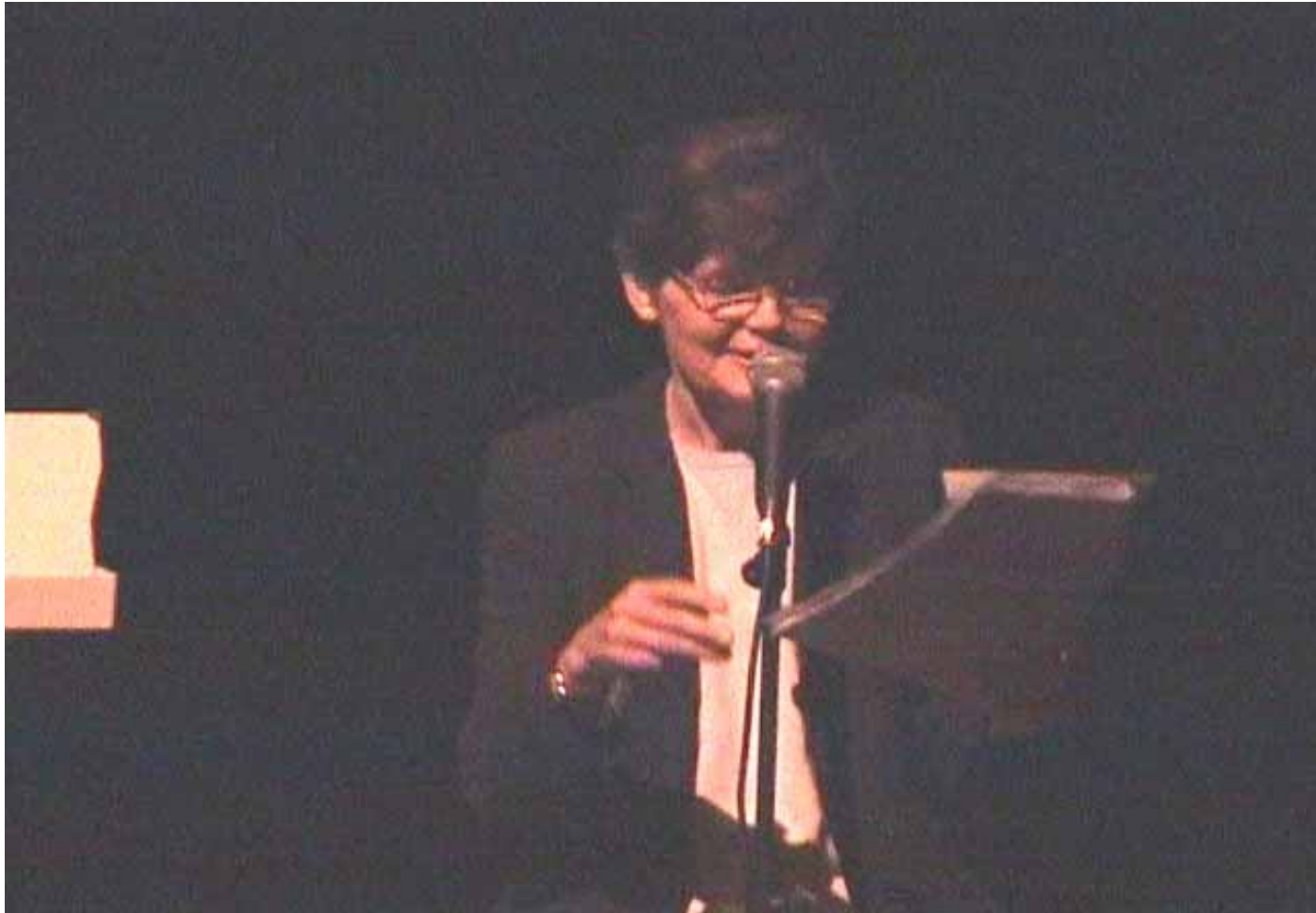
Can we provide for new stories?

Dublin Core Simple vs Qualified

- Five years before CIMI investigated the use of DC and found it wanting for museum purposes
- Would Qualified Dublin Core work better?

Metadata Goals

- Global interoperability and local specificity
- Supportive of many different sets of 'local specificity'
- Global interoperability across sectors and domains
- Metadata to be used for more than just discovery

Digital Collective Model

- The Quinkan Matchbox system is inspired by the Digital Collective model which encourages organisations and individuals alike to enter into partnerships with communities, and contribute physical and digital materials and their descriptions to a locally managed system.

- Holland, M., & Smith, K. (1999). *Broadening access to Native American collections via the Internet*, 2002

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Aggregate, Rationalise, Harmonise

- Collect elements and analyse their use and variations

- Rationalise similarities & differences

- Harmonise remaining inconsistencies

- Currie, M., Geilesky, M., Nevile, L., & Woodman, R. (2002). *Visualising interoperability: ARH, aggregation, rationalisation, harmonisation.DC 2002*

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CIMI Findings in 2000

- DC too focused on digital resources

- Too 'bibliographic'

- Too reliant on the 'dumb-down' principle for inter-operability

- [CIMI]. (2000). *The CIMI experience: a commentary on working with qualifiers for the Dublin Core Metadata Element Set*, 2003, from http://www.cimi.org/public_docs/TBK_DCQ_Commentary_v5_0700.rtf

People descriptions

- Museums very interested in people
- Museums need qualifiers for roles
  - Archaeological team, local resident, park ranger, ...

- Use of MARC List of Relators and Roles
- [MARC-Roles]. (2003, 2003-08-22). *MARC Value List for Relators and Roles*, 2002, from http://www.loc.gov/marc/sourcecode/relator/relatorlist.html

Biographical information

- In cultural domain, biographies matter
- CDWA recognises extrinsic info like this
- J Paul Getty Trust has list of 255,000 artists with biog and bibliog info....
- DC orientation towards business roles not useful ....

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Type

- Important difference between original vs surrogate resources, cultural vs natural, work vs images, …

- Quinkan Matchbox uses work and image because Quinkan culture does not distinguish between natural and cultural

- [VRA]. (2002). *VRA Core Categories, Version 3.0*, 2003, from http://www.vraweb.org/vracore3.htm

Date and Coverage

- Australian archaeological periods unique
- Precise dating is unexpected
- Difference between 'immigrant' and Indigenous interest in dates
- 5 seasons per year
- Some events are cyclical some dated

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Subject and Keywords

- LCSH, eg, not appropriate
- Aborigines classified anthropologically
- LCSH terms are prejudicial
- Australian terms are unique:
  - 'Terra nullius', 'tent embassy', 'land rights'

Language

- ISO 639-2 does not include Australian languages
- Spellings of Oz languages not fixed - sometimes 60 different spellings
- There is an Australian typology but not available ….

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Metadata lessons

- DC still too focused on resources but
- QDC much easier to use than DC simple
- In particular, need for descriptions of people, places and events
- DC good for extension and so local specificity
- Interoperability still being tested…

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'Stretch' Use cases

- Example 1 - supporting interpretation
- Example 2 - supporting interactivity
- Example 3 - graphical cataloguing
- Example 4 - annotations and annotations of annotations

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Example One

QuickTime™ and a TIFF (Uncompressed) decompressor are needed to see this picture.

QuickTime™ and a TIFF (Uncompressed) decompressor are needed to see this picture.

Example Two

- When Aboriginal people meet, they greet each other with lengthy descriptions of their identity and family connections.

- Tom adds his photo.

- Mary adds her photo.

- The relationship between them is in the metadata (dc:subject and dc:description)

  but it is not operational.

English representations

•

QuickTime™ and a TIFF (Uncompressed) decompressor are needed to see this picture.

Example Three

- Aboriginal descriptions of country…..

QuickTime™ and a
TIFF (Uncompressed) decompressor
are needed to see this picture.

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Graphical cataloguing

```
<rdf:RDF
  xmlns:rdf='http://wv
  xmlns:NS0='http://c
  <rdf:Description rdf
    <rdf:type rdf:resou
  </rdf:Description>
  <rdf:Description rdf
    <rdf:type rdf:resou
    <NS0:has-name rd
  </rdf:Description>
  <rdf:Description rdf
    <rdf:type rdf:resou
  </rdf:Description>
  <rdf:Description rdf
    <rdf:type rdf:resou
  </rdf:Description>
  <rdf:Description rdf
    <rdf:type rdf:resou
    <NS0:is-same-as r
    <NS0:is-same-as r
  </rdf:Description>
  <rdf:Description rdf
    <rdf:type rdf:resou
  </rdf:Description>
  <rdf:Description rdf:about='#ptgjner25243'>
```

QuickTime™ and a TIFF (Uncompressed) decompressor are needed to see this picture.
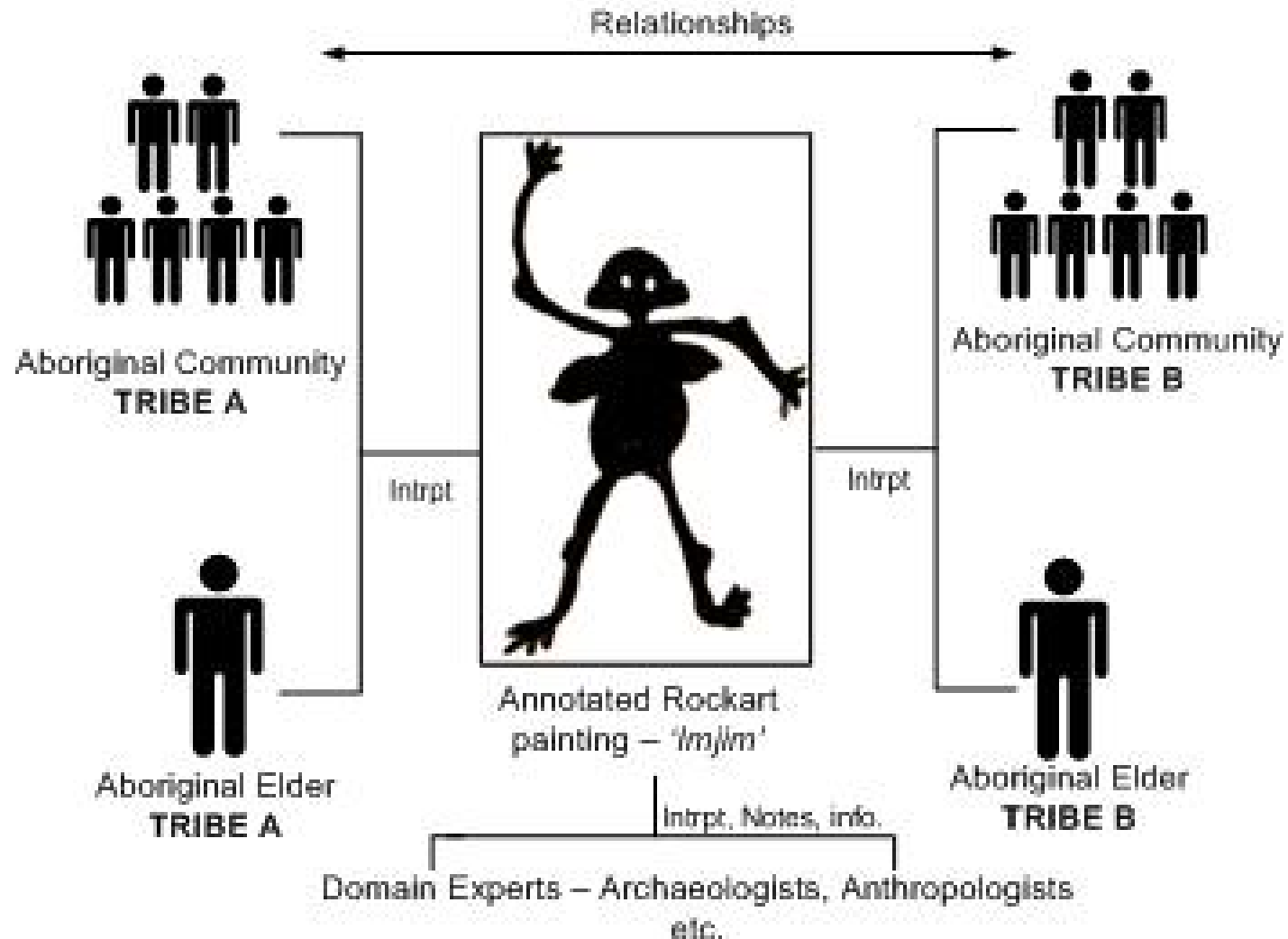
and lots more.....

Example Four

- User self-identifies as:
  - interested in cultural view
  - not keen to see images of recently dead ancestors
  - needing screen reader (illiterate)
- System matches resources to user's needs and preferences

Matching Users - Access4All

- User accessibility needs profile:
  - Control, display, content
- Resource accessibility characteristics:
  - DC Accessibility term
  - http://dublincore.org/groups/accessibility

Matching Users with SWeb

Relationships

Aboriginal Community **TRIBE A**

Aboriginal Community **TRIBE B**

Intrpt

Intrpt

Aboriginal Elder **TRIBE A**

Aboriginal Elder **TRIBE B**

Annotated Rockart painting – 'lmjlm'

Intrpt, Notes, info.

Domain Experts – Archaeologists, Anthropologists etc.

Metadata evolution

- If metadata is in the object, first photo does not know about second photo
- If metadata is available, metadata can link the two objects (photos).
- If metadata is available and structure is clear, applications can link content.
- If metadata is structured appropriately, apps. can mix-and-match content easily.

Metadata evolution

- We are abstracting the semantics from the management ...

- so we can play with the semantics...

- We have a Web of content with discovery, content rendering to order ...

- Now we are building a semantic Web.

Conclusion

- We are beginning to feel that we are able to offer tools that will work for people.

- We have a sense of communication between ourselves and the system we are building.

- We believe this communication will be useful, understandable and the system will act as the Community's agent.

Thank you

Presentation is available at http://www.sunriseresearch.org/presentations/20050127/

Matchbox Application profile is available at http://www.sunriseresearch.org/presentations/20050127/map.html