



# **Shiny Objects and Salvation:**

Navigating New Technologies for  
Intangible Cultural Heritage  
Preservation



**“...digital information lasts forever—  
or five years, whichever comes first.”**

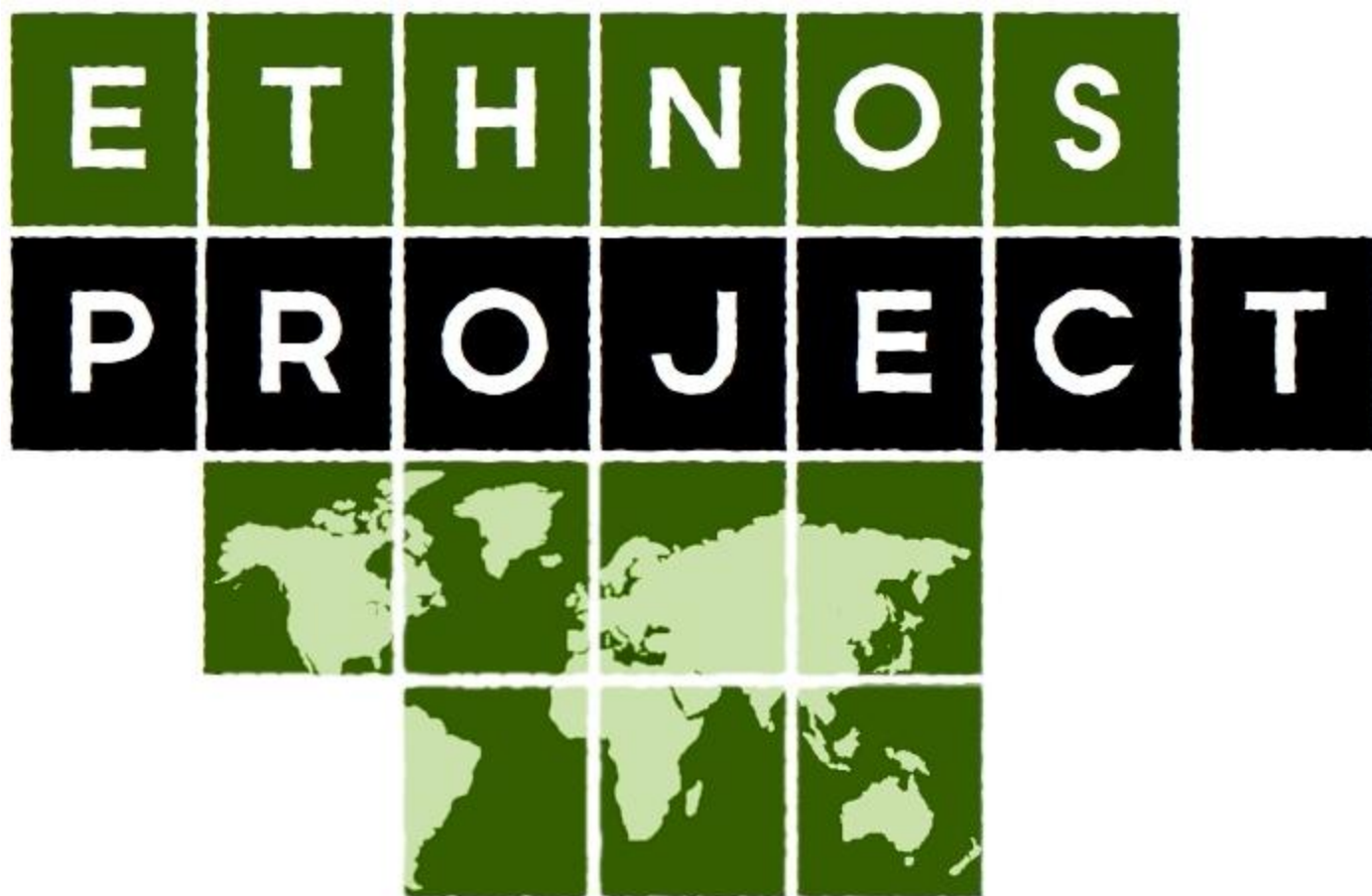
Jeff Rothenberg,  
Ensuring the Longevity of Digital Information



# Introduction



- Web Content Management Systems Administration
- Enterprise-scale web ecosystems
- Mythology, oral traditions, communications
- Humanities and technologies - Indigeneity & ICTs
- Founded the Ethnos Project in 2008





# Ethnos Project

exploring the intersection of indigeneity & information and communication technologies

[Home](#)[About](#)[Blog](#)[Calendar](#)[Forum](#)[Resources](#)[Curated Views](#)

Explore over 700 items in the Ethnos Project Resources Database with Curated Views

Living Archive of Aboriginal Languages: a digital archive of endangered Indigenous literature



## About the Ethnos Project

The Ethnos Project is a research portal and resource database that explores the intersection of indigeneity and information and communication technologies (ICTs). This site welcomes a broad range of inquiry including digital humanities, human computer interaction, Indigenous Knowledge management, culture and development, language preservation, participatory design, and more. [Read more...](#)

SUPPORTUS

Add your voice to the Ethnos Project

[\[learn more\]](#)

# Ethnos Project Resources Database

research portal and resources database of the ethnos project

[Home](#)[About](#)[Blog](#)[Calendar](#)[Forum](#)[Resources](#)[Curated Views](#)

There are 791 resources in the database

## [Living Archive of Aboriginal Languages](#)

The Living Archive of Aboriginal Languages is an open access, online repository comprising digital versions of language materials produced in Literature Production Centres, language centres and other sources in Indigenous languages of the Northern Territory. The archive is continually expanding, and people are encouraged to engage with these materials. There are currently over 1000 items [...]



### CURATED VIEWS

[CURATED VIEW: IDENTITIES](#)[CURATED VIEW: INDIGENITY](#)[CURATED VIEW: PLACES](#)[CURATED VIEW: GROUPS](#)[CURATED VIEW: YEARS](#)[OR CHECK OUT THE WALL...](#)

### CATEGORIES

[Select Category](#)

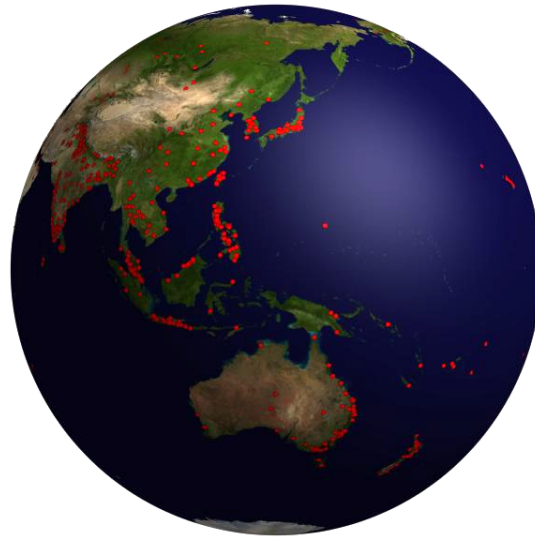
Help us keep current - if you find any broken links, [please let us know](#).

### [Suggest a Resource](#)

Participate in the new Ethnos Project

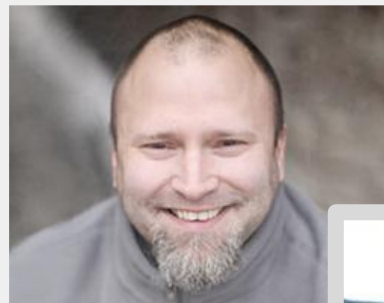
# E

# Introduction



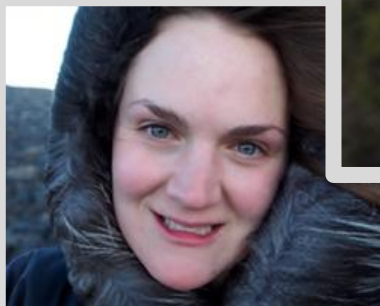
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# Introduction



**Mark**

**Rachael**



**Coppélie**



**Christoph**

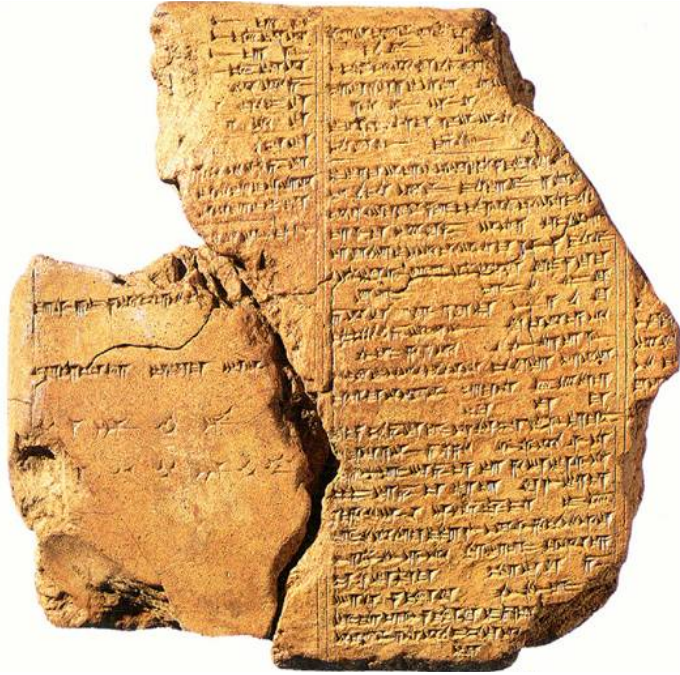


**Allyson**





## The Epic of Gilgamesh, Tablet VI



# E

## Intangible Cultural Heritage



- language, song, poetry, story, history, genealogy
- ritual, ceremony, dance, movement
- recipes, botanical knowledge, hunting, hearth, healing
- land, sacred spaces, seasonal
- form, pattern, movement, design, material, object
- gender, age, role

# E

# Saving languages



The necessity of work with the phonograph in preserving the languages of the aborigines of this continent is imperative. There are stories, rituals, songs, even the remnant of languages which once extended over great States, which are now known only to a few persons.



*Fewkes (1890)*



# Saving languages



## Wax Cylinders Television

### Linguists call for TV to save Aboriginal languages

By GEOFF MASLEN

Television could be used to save some of the remaining original Australian languages, according to linguists at the Australian National University.

In a submission to the Federal Government, they say that barely 50 of the 200 Aboriginal languages that existed before European settlement in 1788 are still being passed on to new generations. Of these, only 20 are being spoken, by probably less than 500 people.

The linguists say all remaining Aboriginal and Torres Strait Islander languages face extinction unless immediate action is taken. Those still spoken by children have some chance, they say, but unless language

maintenance is made a national priority, few if any will survive into the next century.

The submission says television, videos, radio and newspapers could contribute to indigenous people's sense of identity. It points to the television stations set up by several Aboriginal groups in the Northern Territory and South Australia to broadcast in their native languages and adds that it is essential for Aboriginal people elsewhere to receive encouragement and support for similar work.

Dr Tim Shopen, who helped with the submission, says the greatest threat to the survival of Aboriginal languages is "the uniquely bad physical, educational, economic and so-

cial situation in which the speakers find themselves".

"They have third world status in a first world nation," Dr Shopen says. "This makes language maintenance especially difficult for a number of reasons, not least the low status of the languages themselves."

Both new and old Australians will benefit if the original Australian languages are maintained, Dr Shopen says.

The submission says the things most needed, apart from support for Aboriginal and Islander media, are:

- Money for training more Aboriginal teachers. Only the NT and SA provide teacher training courses for indigenous people that are community-based and make use of local languages.

- Support for the training of Aboriginal linguists and teacher-linguists so that Aborigines themselves can undertake research.

- Backing for bi-lingual education, especially where the native language is used as a bridge to English, by introducing reading and writing to Aboriginal children, first in their native language and then in English.

The ANU submission says also that two new northern Australian "creole" languages must be acknowledged as well as the original languages because the new tongues are playing an increasingly important role between and within Aboriginal and Torres Strait Islander groups.

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# Saving languages



Wax Cylinders  
Television  
Radio  
Computers  
Tape Recorders

## **Listen! Native Radio Can Save Languages.**

Martin, Kallen

Native Americas, v13 n1 p22-29 Spr 1996

In the United States and Canada, the number of radio stations operated by Native Americans has greatly increased in recent years, as have the amount of programming in native programs. Such programs help to revitalize languages and revital

## **Saving a Language with Computers, Tape Recorders, and Radio**

Ruth Bennett

*Every language is a window on the human soul, and whenever one is closed forever, that narrows our outlook much more. (Editorial, 2001)*

# E

# Saving language



Wax Cylinders  
Television  
Radio  
Computers  
Tape Recorders  
Phraselators  
Video Games

## Preserving and reviving languages – a high-tech solution



10/10/2007



Simon

A hand-held device called a [Phraselator](#), that can translate between English and been adapted by a Cherokee business man, Don Thornton, to help with the pres

## Video Game to Help Save Indigenous Languages



Society & Culture (tags: Indians, Nati  
Languages, culture, society, american  
GoodNews, humans, interesting, new

# E

# Saving language



Wax Cylinders  
Television  
Radio  
Computers  
Tape Recorders  
Phraselators  
Video Games  
Texting  
Mobile Apps

Social Change | December 14, 2011

## Tina Rosenberg: Can Text Messaging Save Indigenous Languages?

Pulitzer Prize-winner **Tina Rosenberg** says that text messaging may help near-dead dialects in the developing world find new relevance. (This is a nice rebuff to the argument that text messages are partly responsible for the decline of many languages.)

## Indigenous tap new app to save old languages

A modern texting app released in Canada allows indigenous people to communicate in their traditional languages.

**Renee Lewis** Last Modified: 02 Aug 2012 08:50



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# Saving language



Wax Cylinders  
Television  
Radio  
Computers  
Tape Recorders  
Phraselators  
Video Games  
Texting  
Mobile Apps  
Facebook, Twitter  
Talking Dictionaries

Bolivians to save indigenous language using Facebook

## Twitter, Talking Dictionaries and Indigenous Languages in a Globalized World

December 3rd, 2012 | By [Alan Pierce](#)



**“The problem's plain to see: too much technology -  
Machines to save our lives. Machines dehumanize.”**

Styx, “Mr. Roboto”

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# Considerations



Wax Cylinders  
Television  
Radio  
Computers  
Tape Recorders  
Phraselators  
Video Games  
Texting  
Mobile Apps  
Facebook, Twitter  
Talking Dictionaries

## Problems...

- Permanence vs. Impermanence
- Planned obsolescence
- Degradation & deprecation
- Device dependence
- Behavioral expectations

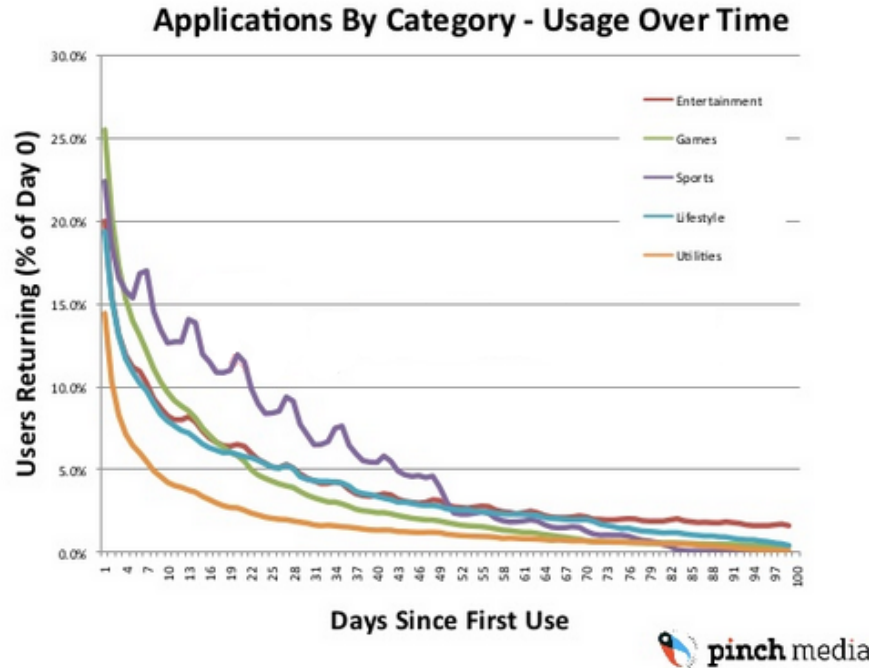


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# Considerations



Wax Cylinders  
Television  
Radio  
Computers  
Tape Recorders  
Phraselators  
Video Games  
Texting  
Mobile Apps  
Facebook, Twitter  
Talking Dictionaries



Stats based on  
30 million+  
iPhone app  
downloads.

By 30 days  
out, less than 5  
percent are  
using the app.



# E

# Tools for ICH preservation



Wax Cylinders  
Television  
Radio  
Computers  
Tape Recorders  
Phraselators  
Video Games  
Texting  
Mobile Apps  
Facebook, Twitter  
Talking Dictionaries

## Hardware:

drones  
Google Glass  
E-Ink  
GoPro cameras  
RFID tags  
smartphones  
tablets  
3D printing

## Technologies:

QR codes  
Internet / cloud  
open source

## Web-based:

Twitter, Facebook  
Instagram  
SoundCloud  
Youtube  
blogs

## Software:

video games, apps  
content management  
GIS / mapping

## Interfaces:

augmented reality  
immersive 3D  
motion capture  
wearable tech  
touch displays



## Quick Response codes

- Created in 1994
- Automotive industry
- ISO standards
- Ease of creation / use





Expecting a technology to save  
a language is like expecting a  
pot to stop hunger.



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# QR CODES **KILL** KITTENS

*How to Alienate Customers, Dishearten Employees,  
and Drive Your Business into the Ground*

SCOTT STRATTEN



QR codes are  
not without  
their critics.

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# QR codes





LCS seeks to nurture the oral heritage of minority cultures by developing respectful methodologies accompanied by appropriate technological solutions.



## Talking Objects pilot

- Project began in 2010, Peruvian Andes
- Item such as Quechua scarf (chalina)
- QR code links item to curated story



Nicolas Villaume, LCS co-founder, describes the project.







QR code attached to the chalina - connects to a story...



# E

# QR codes

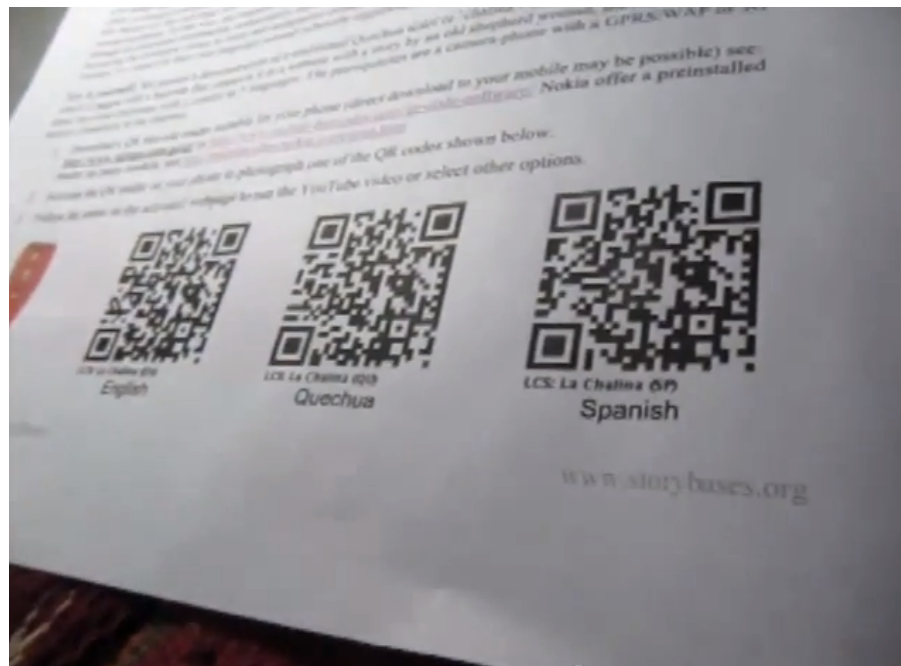


...as told by the 102-year old woman who made the chalina.





LCS recorded versions of the story in English, Quechua, and Spanish.

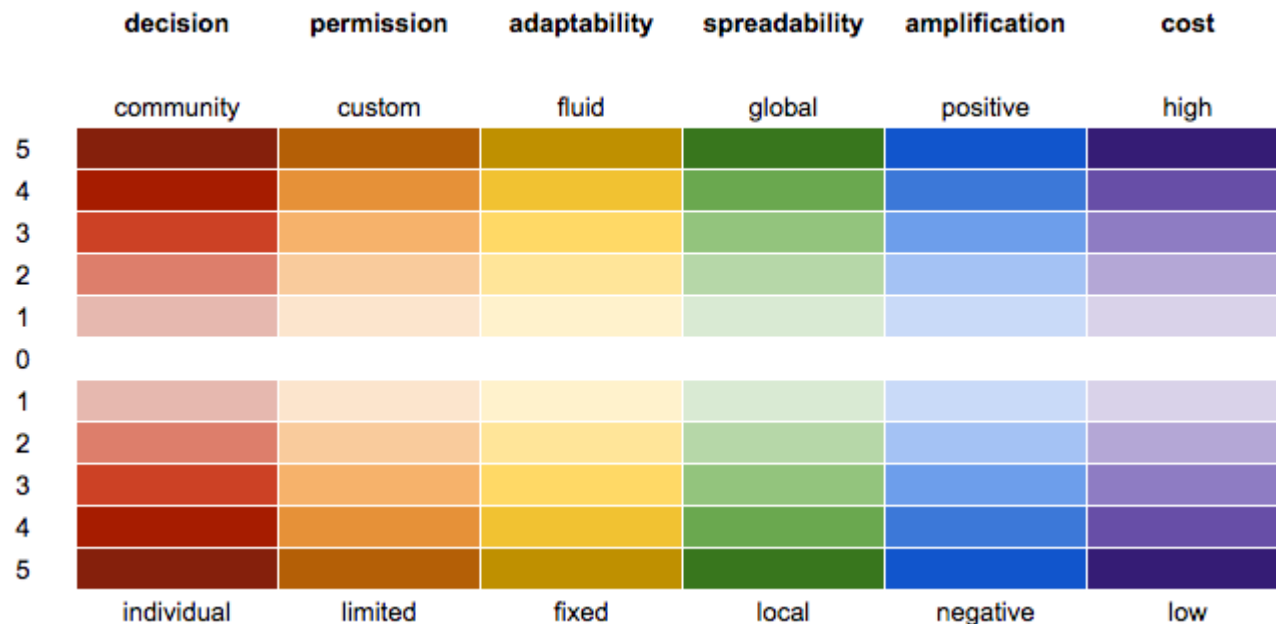






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## Discussion Matrix



ownership  
revitalization  
awareness  
development  
identity  
repatriation  
communication

# Discussion Matrix



“Information technology amplified the intent and capacity of human and institutional stakeholders, but it didn't substitute for their deficiencies.”

-- Kentaro Toyama

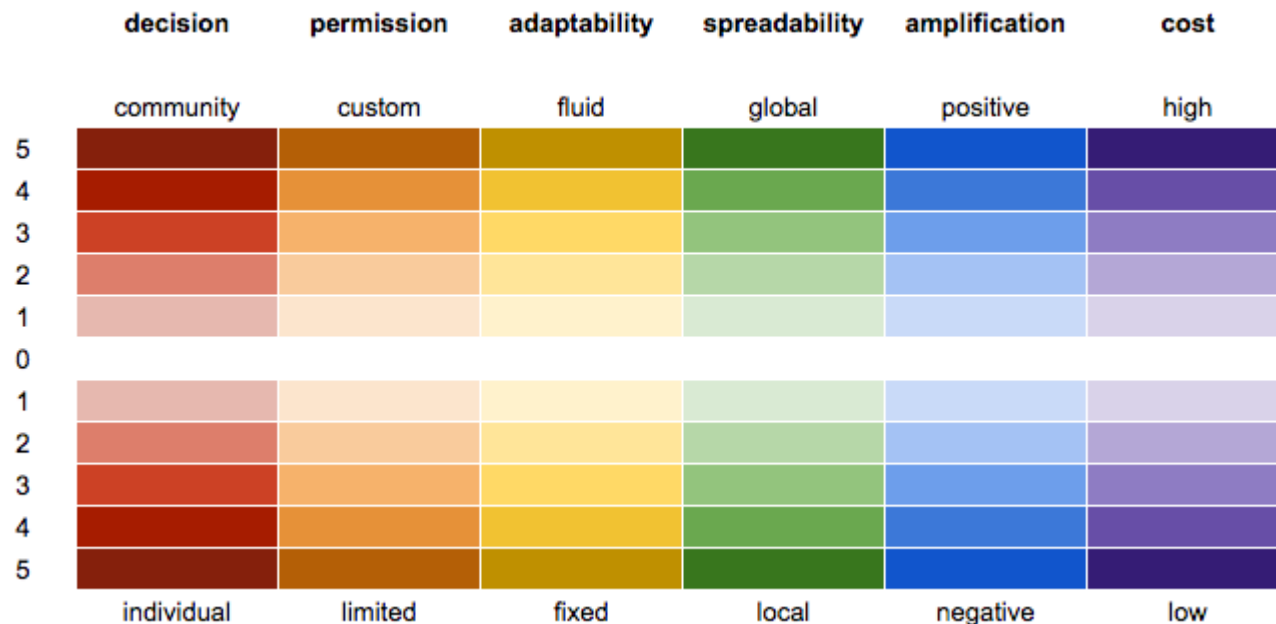
amplification	cost
positive	high
negative	low

ownership  
revitalization  
awareness  
development  
identity  
repatriation  
communication



# E

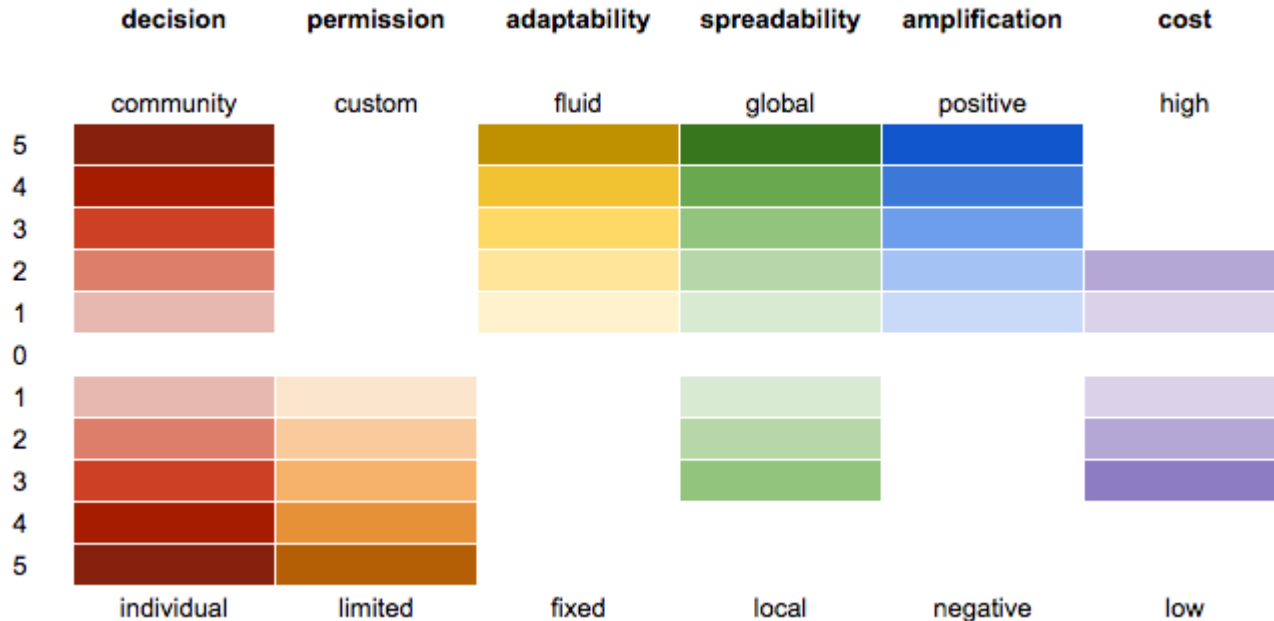
## Discussion Matrix



ownership  
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communication

E

# Discussion Matrix



ownership  
revitalization  
awareness  
development  
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communication

E

# QR codes



## “Encoded Textiles”

Guillermo Bert





## “Encoded Textiles”

- Interview Mapuche community members
- Translate words into QR codes
- Indigenous weavers weave QR code patterns
- Create an exhibit
- Pieces accompanied by mini-documentary

E

# QR codes



An example of  
traditional Mapuche  
backstrap weaving



E

# QR codes



*Ancestral Spirit*, 2012  
Wool and natural dyes encoded with Aztec bar code  
Woven by Anita Paillamil  
Courtesy of the artist  
Photography by Ronald Dunlap

A documentary video (8 min) accompanies this textile and is based on the story of Machi Juan Cusqueo, a shaman from the Mapuche community of Lautaro, in the south of Chile.



*The Visionary*, 2012  
Wool and natural dyes encoded with Aztec bar code  
Woven by Anita Paillamil  
Courtesy of the artist  
Photography by Ronald Dunlap

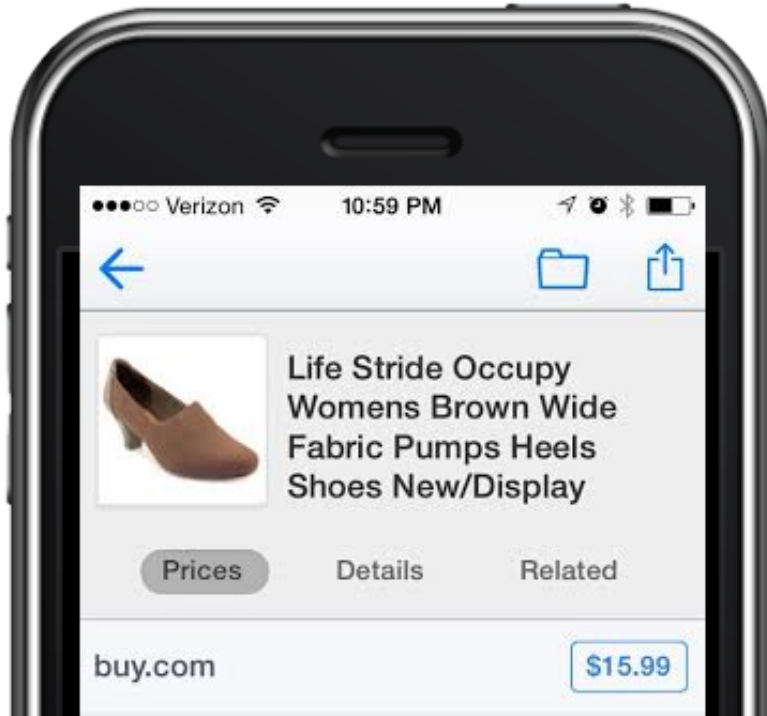
A documentary video (8 min) accompanies this textile and is based on the story of Lorenzo Aillepín "Hombre Pajaro" Performer.





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## QR codes



# E

## QR codes



*Lukutuwe [Fertility]*, 2012

Wool and natural dyes encoded with Aztec bar code

Woven by Anita Paillamil

Courtesy of the artist

Photography by Ronald Dunlap



A documentary video (8 min) accompanies this textile and is based on the story of Jaennette Paillan, a filmmaker, who lives in Santiago, Chile.



# E

## QR codes

This QR code is encoded with a human-readable phrase rather than a URL



# E

## QR codes

**“El Mapudungun es la sabia que se requiere para la transmición de la cultura.”**

Mapudungun [language of the Mapuche] is the sap that is essential for the transmission of our culture.

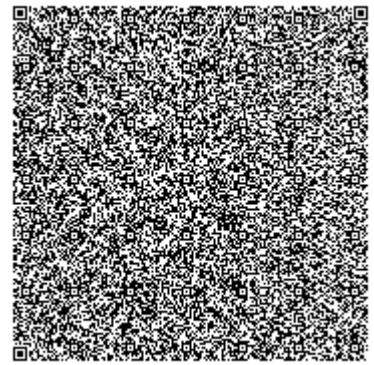
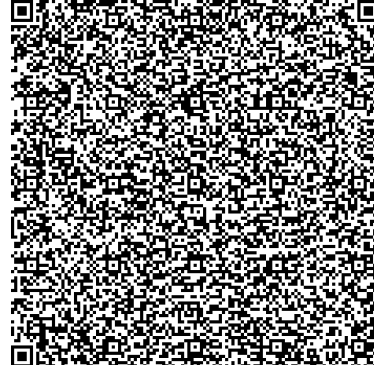




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# QR codes



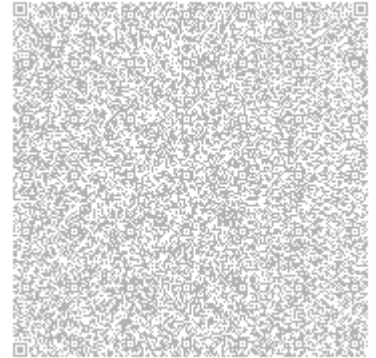
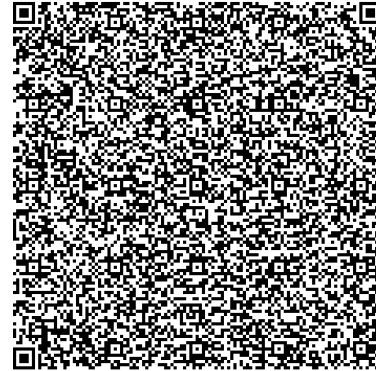


50 characters



1264 characters

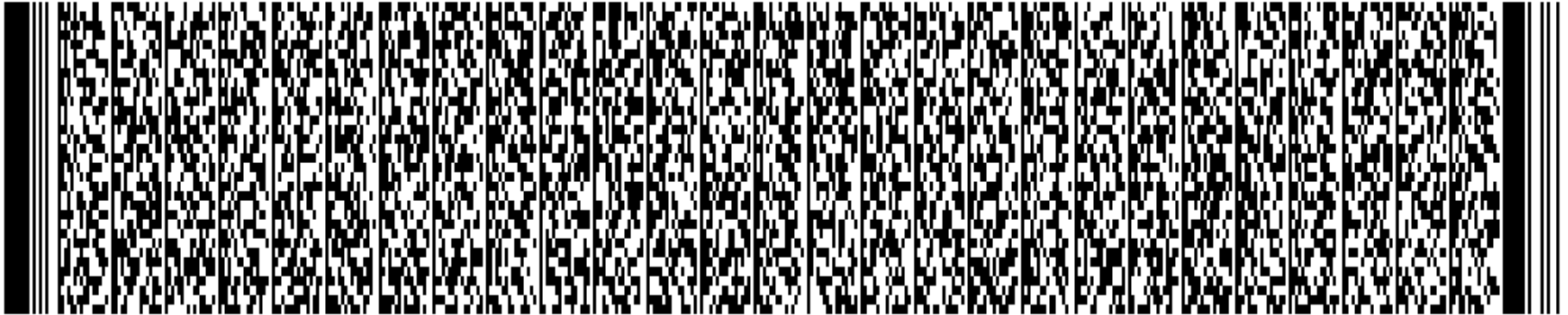




“Encoded Textiles creates hand-woven, large-scale tapestries that combine contemporary bar codes, indigenous design methods, [and] the stories of native peoples. I begin by interviewing (and video-recording) members of the Mapuche community of Southern Chile and collecting their traditional stories, poems, and first-person narratives. Using software that translates words into barcode patterns, I will encode these native stories as bar code patterns and have the patterns woven by indigenous weavers. The conversion of a poem or piece of spoken history into a high-tech bar code, and then its re-conversion back to a traditional weaving, represents the creation of an innovative cultural artifact that celebrates and revives traditional art forms. Alongside each tapestry will be a flat screen displaying a 10-minute documentary about the individual whose words are encoded in the textile itself.”

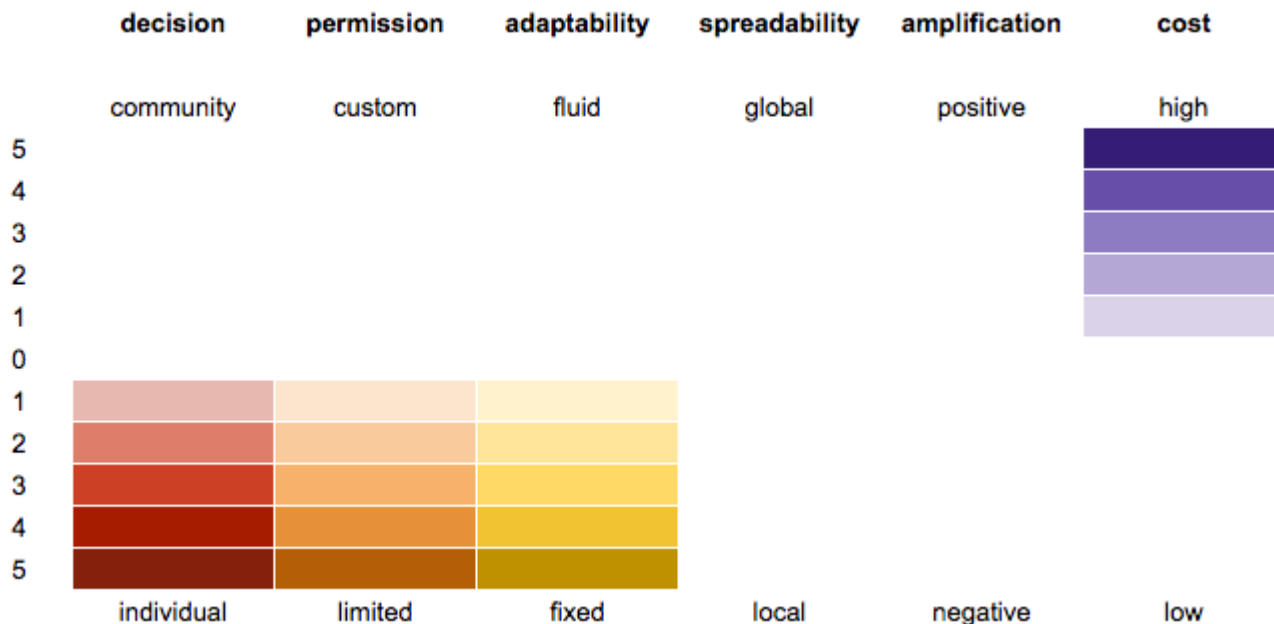
# E

# QR codes



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# Discussion Matrix



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# Video Games





- Cook Inlet Tribal Council
- Based on Kunuuksaayuka
- Robert Nasruk Cleveland
- Community participation



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# Video Games



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# Video Games

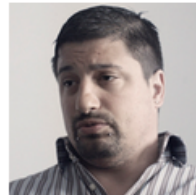
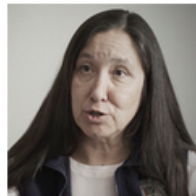


# E

# Video Games



**Minnie Gray and Sean Vesce**







Sawyer, aged 10

My research staff tested Never Alone and concluded that:

- the gameplay was “glitchy”
- you didn’t need to watch the videos
- it was cool but kind of boring

# E

# Video Games



Behind The Scenes (Never Alone Insight Collection)



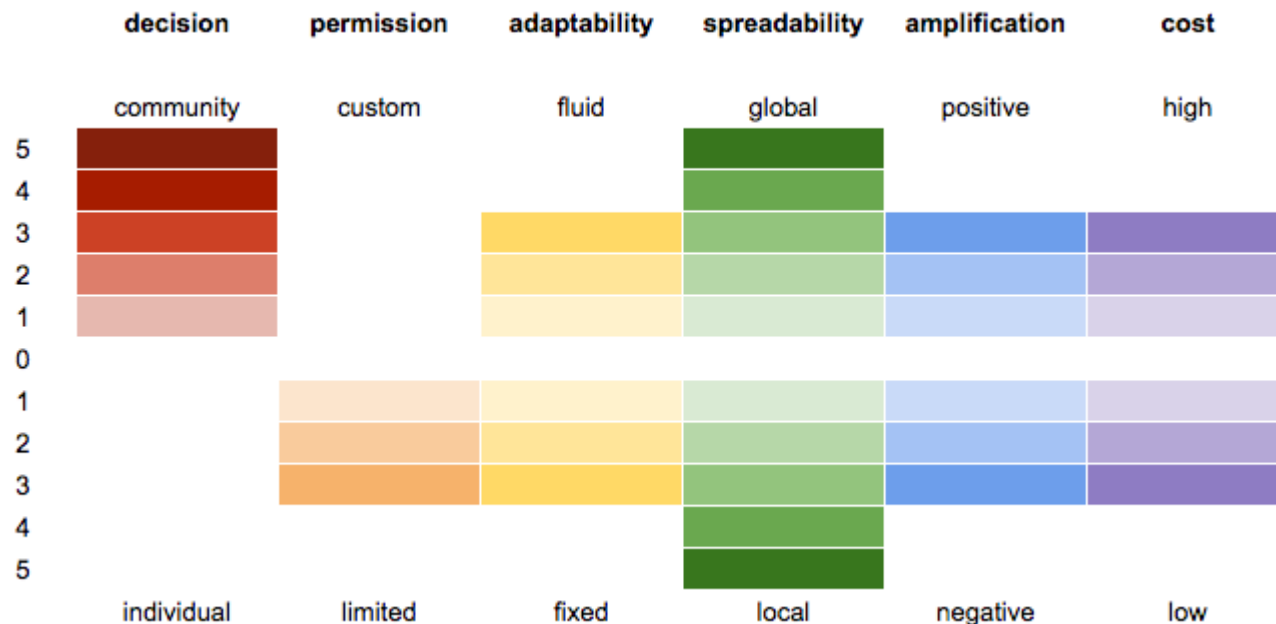
Behind The Scenes (Never Alone Insight Collection)





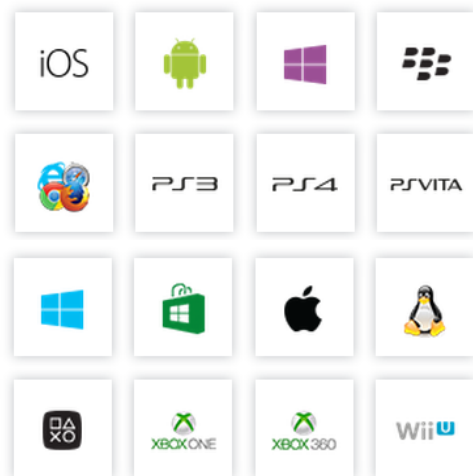
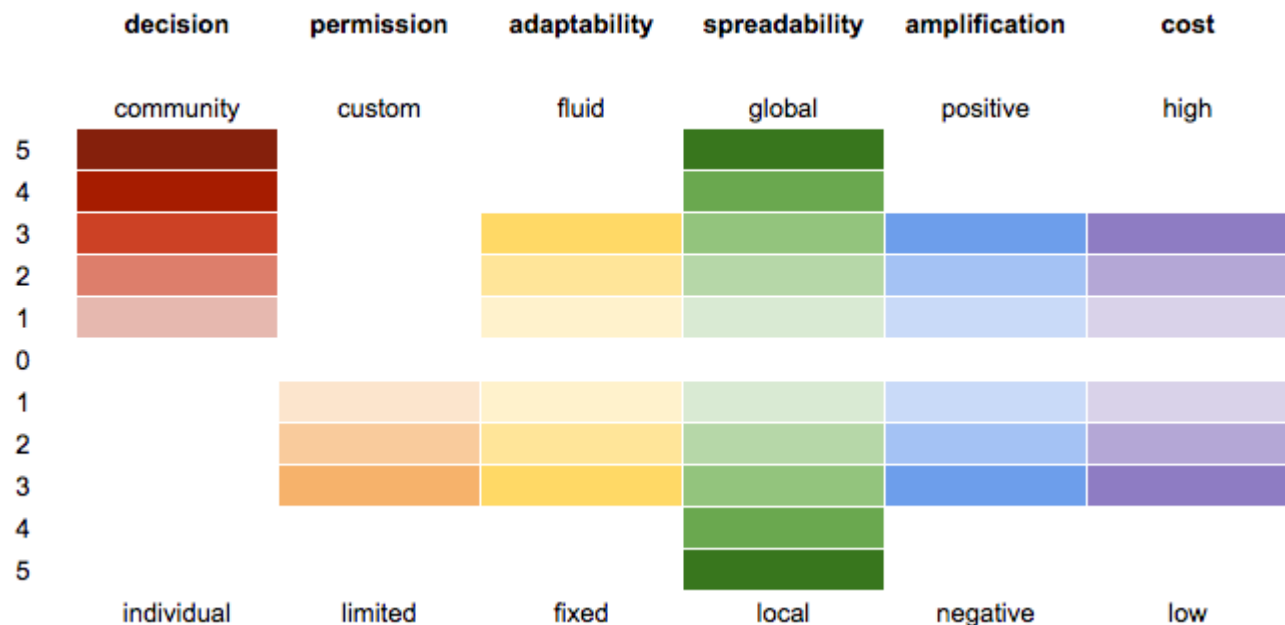
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# Discussion Matrix



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# Discussion Matrix





Mukurtu CMS is a free, mobile and open source platform built with indigenous communities to manage and share digital cultural heritage.

E

CMS



*Mukurtu development with Warumungu  
community members, Tennant Creek 2005*

# E

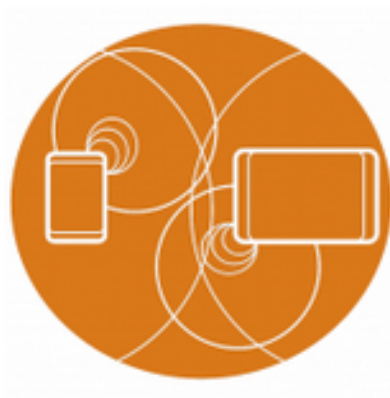
# CMS



## Mukurtu CMS Features



**Cultural  
Protocols**



**Mukurtu  
Mobile**

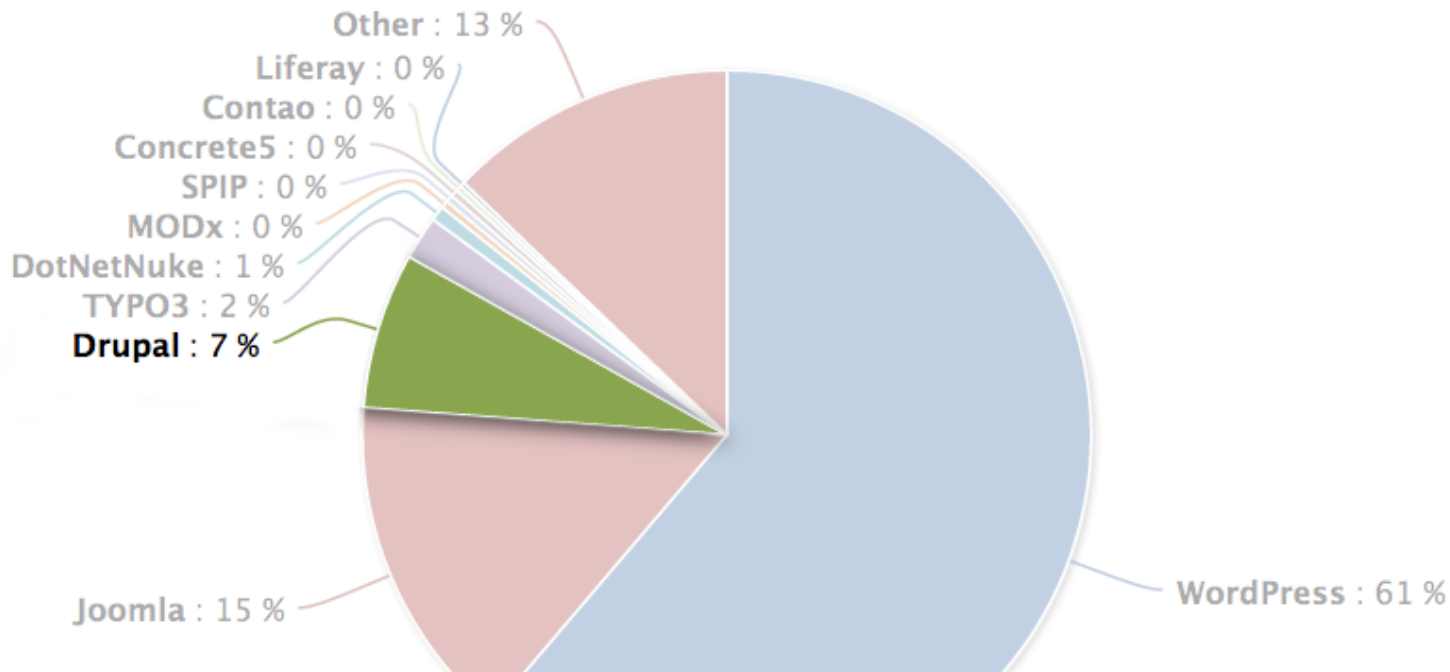


**TK Licenses  
and Labels**



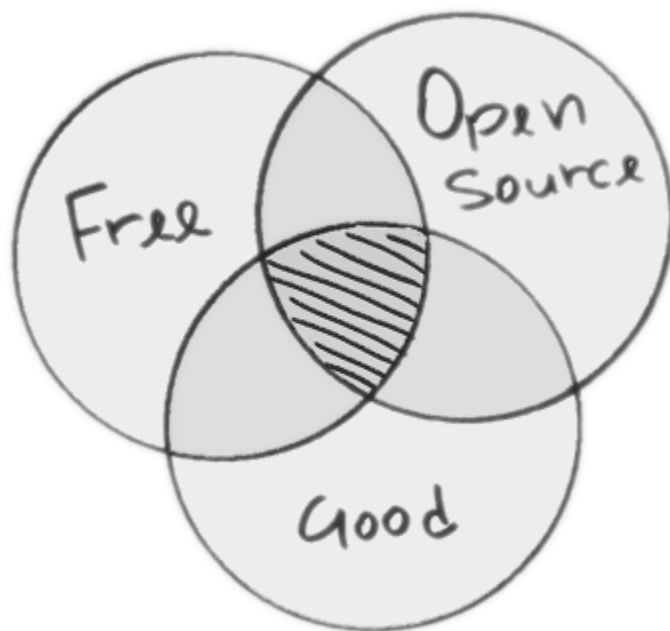
**Roundtrip**





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# CMS



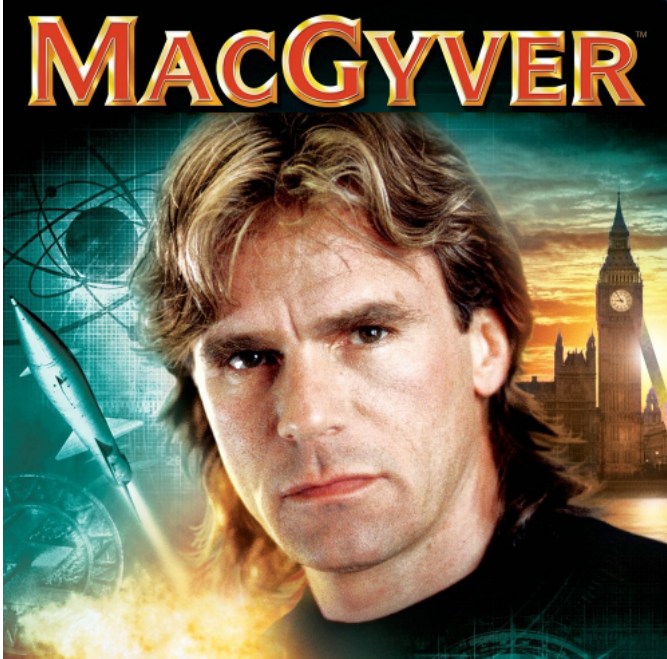


## Drupal 7

- incomplete Entity API
- lack of separation: content & config
- deployment challenges
- lack of separation: logic and presentation in the theme layer
- procedural instead of OOP
- excessive use of structured arrays
- new user learning curve

## Drupal 8

- complete Entity API
- Config. Management Initiative
- Twig templating layer
- mobile features
- user experience improvements
- Symfony framework
- OOP
- modular

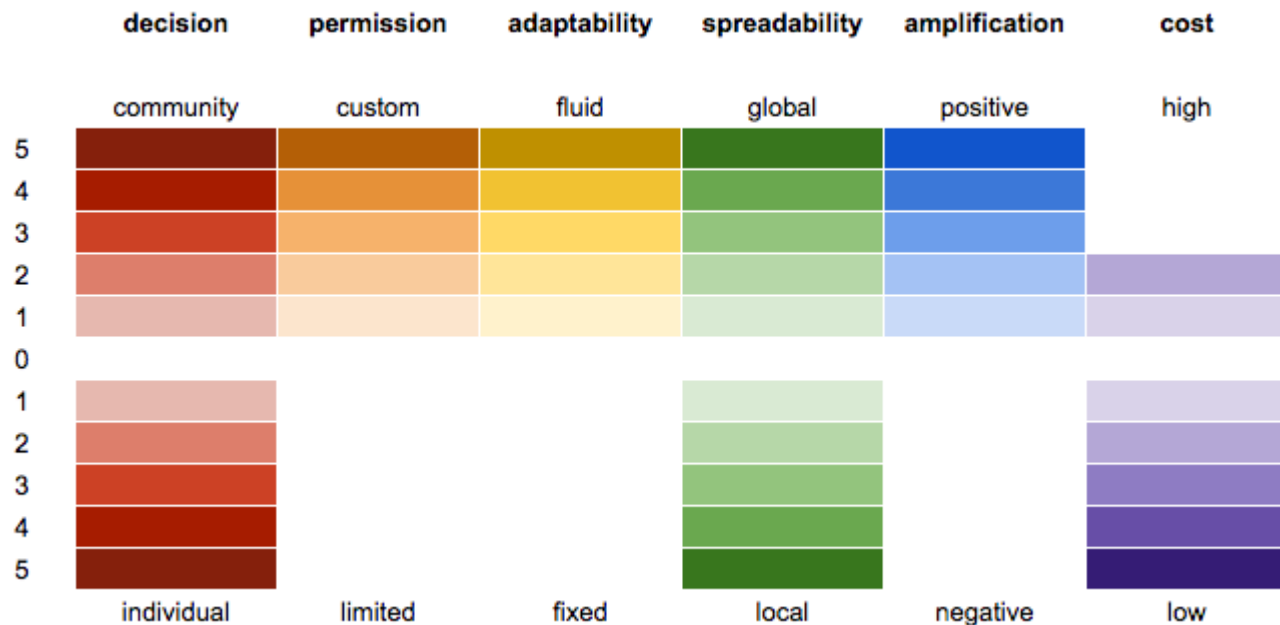


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CMS







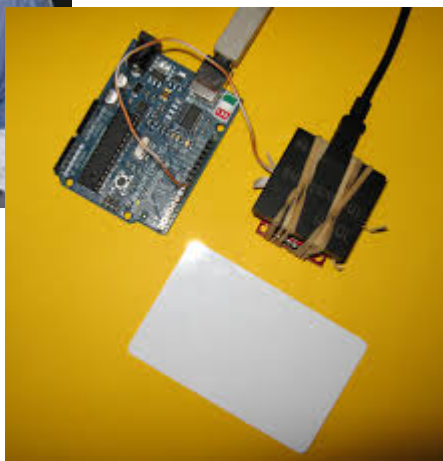
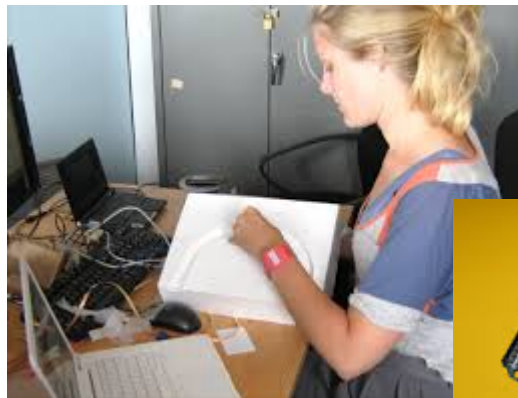
## StoryBeads

a project designed by  
Lizette Reitsma



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# RFID tags



# E

# Community Mapping



Participatory  
community mapping  
of cultural spatial  
knowledge on the  
island of Fiji



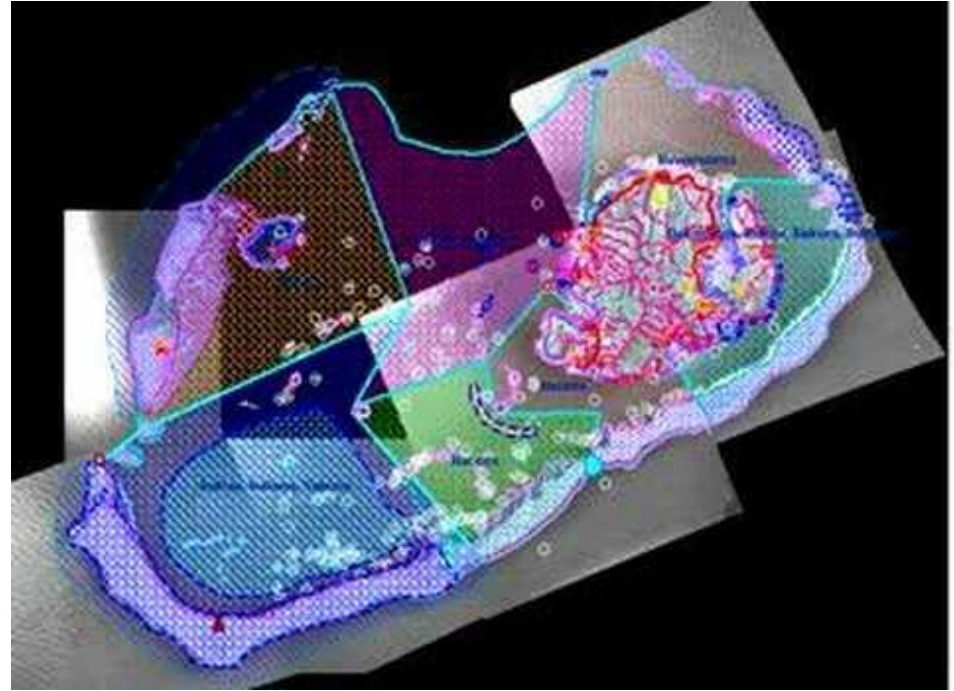


# E

# Community Mapping



GIS and participatory learning and action methods - bringing the community together



# E

# Motion Capture



## Hong Kong Martial Arts Living Archive



Image: <https://www.youtube.com/watch?v=0-MvG96GxZY>

Mark Oppenneer | The Ethnos Project

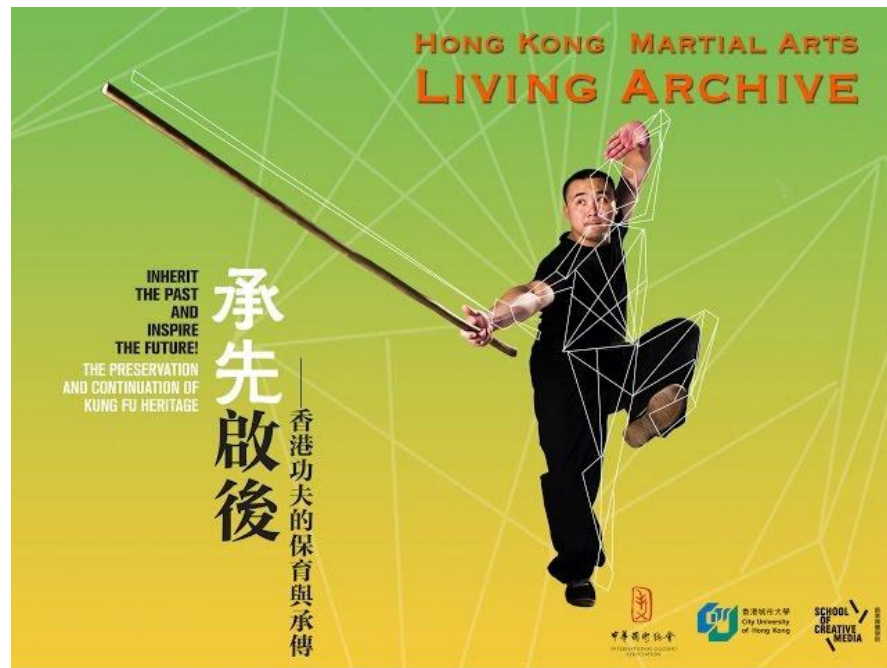


## E

# Motion Capture



3D motion capture for the preservation and continuation of South Chinese Kung Fu heritage in Hong Kong





**“For every complex problem there is  
an answer that is clear, simple, and  
wrong”**

H. L. Mencken

# Parting Shots



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# Parting Shots





# Gracias!

**Mark Oppenneer**  
**Director, The Ethnos Project**

[www.ethnosproject.org](http://www.ethnosproject.org)