St. Kitts and Nevis Heritage and Culture

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Goals

Using freely available open source platforms, we implement two different types of user friendly platforms to increase community participation and visible outreach in research:

- Crowd sourcing heritage perceptions
- Database management of diverse heritage data

- Collecting and including public perceptions of heritage
- Promoting discussion on community places of value
- Engaging communities, academia, public institutions and cultural centers

Crowdsourcing: an overview

- Data collection: a tool *(website, platform, mobile app)* for the "crowd" to submit information
  - Reports: categories, locations, pictures, geo-tagging, value, free text

- Analysis:
  - Data filtering
  - Data aggregation
  - Knowledge discovery

- Challenges:
  - effective interface and te
  - quality control
  - incentives to engage the local community
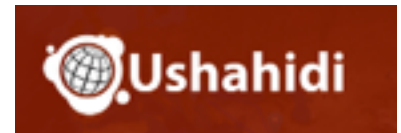
Current Implementation and Uses

- Define data to be collected

- Establish quality control and maintenance

- Administrator workshop

- Media and public dissemination

- Follow up

Future Uses:

- St. Kitts implementation:
    - workshop for administrators
    - media campaign

- Possible implementation in other context or islands

Arches: A platform for diverse data management and visualization

- Database platform based on CIDOC-CRM ontologies

- Data is connected through graphs

- Flexible identification and inventory of multidisciplinary data

- Spatial visualization of data

arches
heritage inventory & management system

Arches Overview:

- Arches Server
    - Core system
    - Manages information stored in database

- Arches Data Packages
    - Modeled graphs of data (archaeological, heritage, site, artifact, person)
    - User Interface

Current Implementation and Uses

- define vocabularies and thesauri

- set up graph documents

- load data into package and arches

- customize for personal use

- quality control: admin rights

Future Uses

- Example of archaeology sites in St. Kitts

- Possible outreach, educational and visibility tool of Nexus, Hera, island networks, etc.

Research benefits: Networks, Crowds, and Heritage Management

- Connectedness: Internet & web, Global communication, News and information

- Decentralized information: Diversity of opinions

- Dynamic evaluation of perception and values

Questions?

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Pictures from personal collection and Ushahidi.com and Archesproject.org

GOING FURTHER!

CIDOC-CRM

"provides definitions and a formal structure for describing the implicit and explicit concepts and relationships used in cultural heritage documentation"

- Semantic glue
  - creates extensive framework that any cultural heritage information can be mapped to
  - Creates understanding between different heritage information and sources

Official release: http://www.cidoc-crm.org/official_release_cidoc.html

Example

<table>
<tr><td>Property id</td><td>Property Name</td></tr>
<tr><td></td><td></td></tr>
<tr><td>P1</td><td>is identified by (identifies)</td></tr>
<tr><td>P2</td><td>has type (is type of)</td></tr>
<tr><td>P3</td><td>has note</td></tr>
<tr><td>P4</td><td>has time-span (is time-span of)</td></tr>
<tr><td>P7</td><td>took place at (witnessed)</td></tr>
<tr><td>P10</td><td>falls within (contains)</td></tr>
<tr><td>P12</td><td>occurred in the presence of (was present at)</td></tr>
<tr><td>P11</td><td>- had participant (participated in)</td></tr>
<tr><td>P14</td><td>- - carried out by (performed)</td></tr>
<tr><td>P16</td><td>- used specific object (was used for)</td></tr>
<tr><td>P31</td><td>- has modified (was modified by)</td></tr>
<tr><td>P108</td><td>- - has produced (was produced by)</td></tr>
<tr><td>P92</td><td>- brought into existence (was brought into existence by)</td></tr>
<tr><td>P108</td><td>- - has produced (was produced by)</td></tr>
<tr><td>P94</td><td>- - has created (was created by)</td></tr>
<tr><td>P93</td><td>- took out of existence (was taken out of existence by)</td></tr>
<tr><td>P15</td><td>was influenced by (influenced)</td></tr>
<tr><td>P16</td><td>- used specific object (was used for)</td></tr>
<tr><td>P20</td><td>had specific purpose (was purpose of)</td></tr>
<tr><td>P43</td><td>has dimension (is dimension of)</td></tr>
<tr><td>P46</td><td>is composed of (forms part of)</td></tr>
<tr><td>P59</td><td>has section (is located on or within)</td></tr>
<tr><td>P67</td><td>refers to (is referred to by)</td></tr>
<tr><td>P75</td><td>possesses (is possessed by)</td></tr>
<tr><td>P81</td><td>ongoing throughout</td></tr>
<tr><td>P82</td><td>at some time within</td></tr>
<tr><td>P89</td><td>falls within (contains)</td></tr>
<tr><td>P104</td><td>is subject to (applies to)</td></tr>
<tr><td>P106</td><td>is composed of (forms part of)</td></tr>
<tr><td>P107</td><td>has current or former member (is current or former member of)</td></tr>
<tr><td></td><td></td></tr>
<tr><td>P127</td><td>has broader term (has narrower term)</td></tr>
<tr><td>P128</td><td>carries (is carried by)</td></tr>
<tr><td>P130</td><td>shows features of (features are also found on)</td></tr>
<tr><td>P140</td><td>assigned attribute to (was attributed by)</td></tr>
<tr><td>P141</td><td>assigned (was assigned by)</td></tr>
<tr><td>P148</td><td>has component (is component of)</td></tr>
</table>

Id							Name
E1	CRM Entity						
E2	-	Temporal Entity					
E4	-	-	Period				
E5	-	-	-	Event			
E7	-	-	-	-	Activity		
E11	-	-	-	-	-	Modification	
E12	-	-	-	-	-	-	Production
E13	-	-	-	-	-	Attribute Assignment	
E65	-	-	-	-	-	Creation	
E63	-	-	-	-	Beginning of Existence		
E12	-	-	-	-	-	Production	
E65	-	-	-	-	-	Creation	
E64	-	-	-	-	End of Existence		
E77	-	Persistent Item					
E70	-	-	Thing				
E72	-	-	-	Legal Object			
E18	-	-	-	-	Physical Thing		
E24	-	-	-	-	-	Physical Man-Made Thing	
E90	-	-	-	-	Symbolic Object		
E71	-	-	-	Man-Made Thing			
E24	-	-	-	-	Physical Man-Made Thing		
E28	-	-	-	-	Conceptual Object		
E89	-	-	-	-	-	Propositional Object	
E30	-	-	-	-	-	-	Right
E73	-	-	-	-	-	-	Information Object
E90	-	-	-	-	-	Symbolic Object	
E41	-	-	-	-	-	-	Appellation
E73	-	-	-	-	-	-	Information Object
E55	-	-	-	-	-	Type	
E39	-	-	Actor				
E74	-	-	-	Group			
E52	-	Time-Span					
E53	-	Place					
E54	-	Dimension					
E59	Primitive Value						
E61	-	Time Primitive					
E62	-	String					

Example of Arches Resource Graph

- Resource Graph: refers to class of heritage records.
  - defines the set of resource types to include in inventory and terms that describe them.

- A resource is archaeological, built, landscape, immovable heritage, organization, person

# Example of Arches Resource Graph

User Defined

Heritage Resources
- Archaeological Heritage (element)
- Archaeological Heritage (site)
- Architectural Heritage
- Landscape Heritage
- Maritime Heritage

Activities
- Investigation activity
- Management activity
- Designation and protection activity
- Historical event

Documents
- Document
- Image

Actors
- Person
- Organization

Arches Defined

1 ARCHAEOLOGICAL HERITAGE (ARTIFACT).E18
2 ARCHAEOLOGICAL HERITAGE (SITE).E27
3 ARCHITECTURAL HERITAGE.E18
4 LANDSCAPE HERITAGE.E27
5 MARITIME HERITAGE.E18
6 INVESTIGATION.E7
7 MANAGEMENT.E7
8 DESIGNATION AND PROTECTION.E7
9 HISTORICAL EVENT.E5
10 DOCUMENT.E31
11 IMAGE.E38
12 PERSON.E21
13 ORGANIZATION.E74

Example of Bloody Point, Challengers
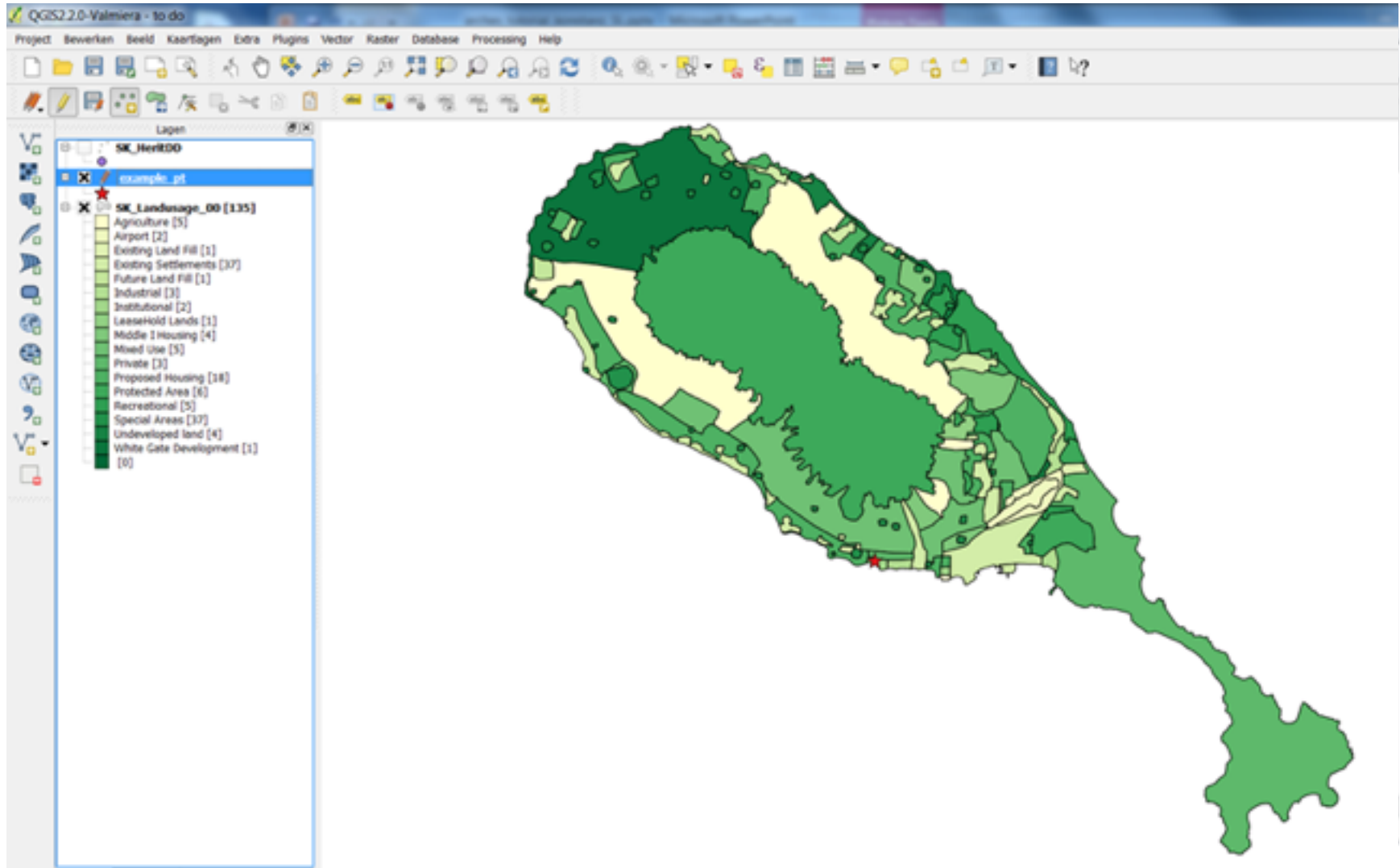
Modified Example of CIDOC_CRM

E52 Time-Span

E53 Place
St. Kitts

Actor (past)

Actor

Actor

P11

Archaeological

Natural

19

Technical Background

- Development:
    - Python
    - Javascript

- Core components:
    - PostGIS
    - ElasticSearch
    - ExtJS
    - OpenLayers

Arches development roadmap

- Import/Export Improvements
- Implement more advanced security model
- Create Geometries from GPS Data
- Arches Graphing Web Interface
- Run Multiple Packages from a Single Arches Instance
- Application Logging
- User Settings
- Admin UI Improvements
- Improve Representation of Spatial-Temporal Relationships
- Arches mobile app
- Improve temporal based searching

Key Points to take Away

- Arches represents a flexible, open source inventory system

- It can be customized to fit needs of project

- It is not a GIS or does it have any analytical tools

- It organizes data and creates communal semantic framework