

Integration of Authoritative and Volunteered Cultural Landscape Information  International Federation of Surveyors
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Internationale Vereinigung der Vermessungsingenieure **FIG COMMISSION 3**
Spatial Information Management

Integration of Authoritative and Volunteered Cultural Landscape Information


Hartmut Müller and Falk Würriehausen, Germany

FIG Working Week 2015
From the Wisdom of the Ages to the Challenges of the Modern World

Sofia, Bulgaria, 17-21 May 2015


TS02D – Crowdsourcing & VGI, paper no 7907
18 May, 16:00-17:30

Hartmut Müller, Institute for Spatial Information and Surveying Technology, Mainz University of Applied Sciences, Germany, <http://www.i3mainz.hs-mainz.de>

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Topics of Presentation

1. Introduction
2. System Requirements
3. Feature Catalogue
4. System Design
5. Quality Control of Contents
6. Conclusions



www.verwaltung-innovativ.de

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Cultural Heritage Protection The Policy Framework



UNITED NATIONS EDUCATIONAL, SCIENTIFIC
AND CULTURAL ORGANISATION

CONVENTION CONCERNING THE
PROTECTION OF THE WORLD CULTURAL
AND NATURAL HERITAGE

Adopted by the General Conference at its seventeenth session
Paris, 16 november 1972



European Treaty Series - No. 178

**EUROPEAN LANDSCAPE
CONVENTION**

Florence, 20.X.2000

The Global Level
The European Level
The National Level
No uniform legislation in Germany



**LANDES-
ENTWICKLUNGS-
PROGRAMM (LEP IV)**

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KuLIS, Cultural Landscape Information System for

- The public administration,
- The general public,
- Members from academia

Hartmut Müller, Institute for Spatial Information and Surveying Technology, Mainz University of Applied Sciences, Germany, <http://www.i3mainz.hs-mainz.de>

Research question

*Suchith Anand, UK, keynote speech 5 Nov 2014 , FIG Commission 3
Workshop, Bologna, Italy*

*How do we combine data from authoritative Ordnance Survey data sets
with feature rich, informal Open Street Map data,
recognizing the variable coverage of Open Street Map
while capturing the best of both worlds?*

KuLIS Requirements (1)

- Development of a feature catalogue → cultural assets
- Design of a spatial database → implementation of the catalogue structure
- Evaluation and import of existing data into the database
- Providing OGC conformal web map services → integration into the Spatial Data Infrastructure (SDI)

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KuLIS Requirements (2)

- Visualization and digitization of cultural assets through a web application interface
- Ability to create and update information of new or existing information about cultural assets by citizen participation
- Management and validation of the provided information by scientific and administrative supervisors
- Analysis tools for in depth investigations and definition of important cultural landscapes

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The Feature Catalogue of Cultural Assets (1)

“Protecting Historical Cultural Landscapes to Strengthen Regional Identities and Local Economies” CULTURAL LANDSCAPE
www.cadses.ar.krakow.pl

Project part-financed by the European Union (European Regional Development Fund) within the INTERREG IIIB CADSES programme.




INTERNATIONAL CL-REGISTER: MULTILINGUAL VERSION




-  Ausgewählte historische Kulturlandschaftselemente (Zeitraum: Prähistorie bis 1990)
-  Wybrane historyczne elementy krajobrazu kulturowego (KK) (Czasokres: prehistoria do roku 1990)
-  Elemente selecționate ale peisajului cultural istoric (perioada: preistorie până 1990)
-  Вибрані історичні елементи культурологічного краєвиду (КК) (Період: передісторія до 1990 року)

Funktion	Kulturlandschafts-komplex	Kulturlandschaftsensemble, funktionale Gruppe	dazu gehörige Beispiele für Kulturlandschaftselemente und Elemententeile
Funkcja	Kompleks KK	Zespół KK (grupa funkcjonalna)	Przynależne elementy KK
Funcție	Complex de peisaj cultural	Ansamblu de peisaj cultural, grupă funcțională	Exemplificări cu elemente de peisaj cultural
Функція	Комплекс КК	Ансамбль КК (функціональна група)	Привласнені елементи КК

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The Feature Catalogue of Cultural Assets (2)

<p>1.</p> <p>Siedlung und Flur</p> <p>Osadnictwo i rolnicza przestrzeń produkcyjna</p> <p>Așezare și hotar</p> <p>Поселення та сільськогосподарський простір</p>	<p>1.1</p> <p>Städtische historische Siedlungen</p> <p>(funktionale Stadtypen: Ackerbürger-, Hanse-, Residenz-, Hafen-, Industrie-, Garnisonstadt)</p> <p>Historyczne osadnictwo miejskie</p> <p>(funkcjonalne typy miast: miasto rolnicze, hanzatyckie, rezydencjalne, portowe, przemysłowe, garnizonowe)</p> <p>Așezări orașenești istorice</p> <p>(tipuri funcționale de orașe: de agricultori, hanseatice, de reședință, port, industrial, de garnizoană)</p>	<p>Stadtquartiere, Stadtviertel</p> <p>Osiedla miejskie, dzielnice</p> <p>Cartier orașenesc</p> <p>Міські поселення, квартали</p>	<p>Altstadtkern: Ackerbürgerhaus, Handwerkerhaus, Kaufmanns-haus, Lagerhaus, Hospiz, Gasse, Treppe, — Marktplatz,</p> <p>— Kirche, — Kloster</p> <p>Gründerzeitliche Stadtviertel: Mietskasernen, Wohnblock, Hin-terhof, Stadtvilla, Straßenraster, Ringstraße und öffentliche Funktionsbauten, — Bahnhof, Gewerbe-, Industriebetrieb etc.</p> <p>Stadterweiterungen im 20. Jh. (Gartenstadt, Werksiedlung etc.): Ein- und Mehrfamilienhaus, Gewerbe- und Industrie-trieb etc.</p> <p>Środek starego miasta: Zagroda, dom rzemieślniczy, dom kupiecki, magazyn/spichlerz, hospicjum, uliczka, schody, rynek, kościół, klasztor</p> <p>Dzielnica z przełomu XIX i XX w.: Stare osiedla mieszkaniowe, blok mieszkalny, podwórko, willa miejska, sieć ulic, obwodnica und budynki użyteczności publicznej, dworzec kolejowy, zakład rzemieślniczy/przemysłowy itp.</p> <p>Rozbudowa miasta z XX w. (miasto-ogród, osiedle robotnicze itp.): dom jedno- lub wielorodzinny, zakład rzemieślniczy/przemysłowy itp.</p> <p>Nucleul orașului: casa agricultorului, casa meseriașilor, casa comerciantului, depozitul, ospiciu, strada, scară, piață comercială, biserică, mânăstire</p>
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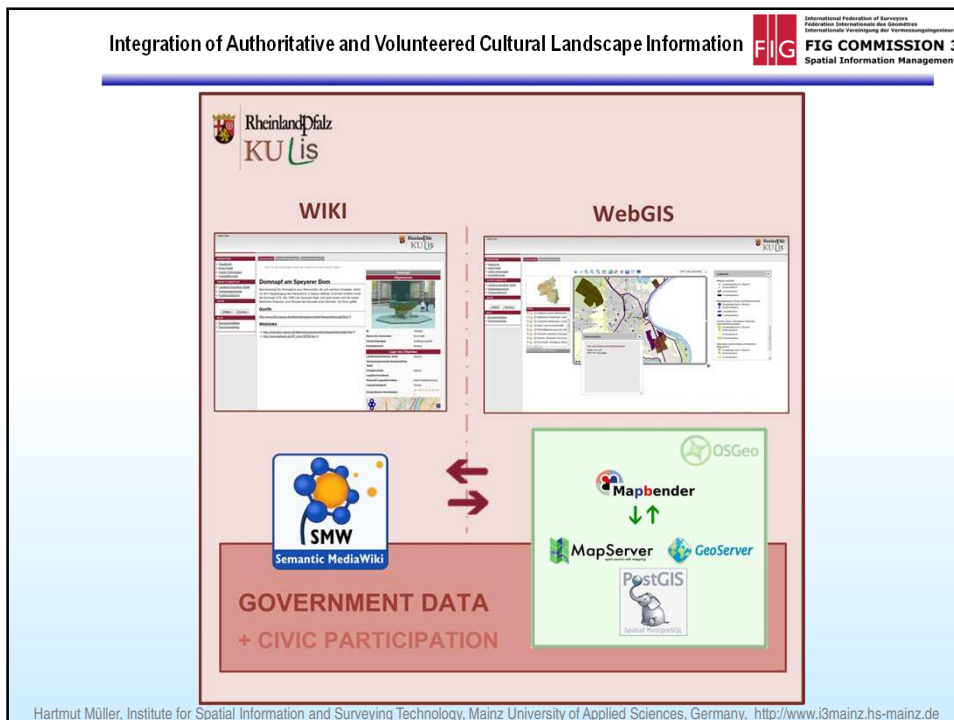
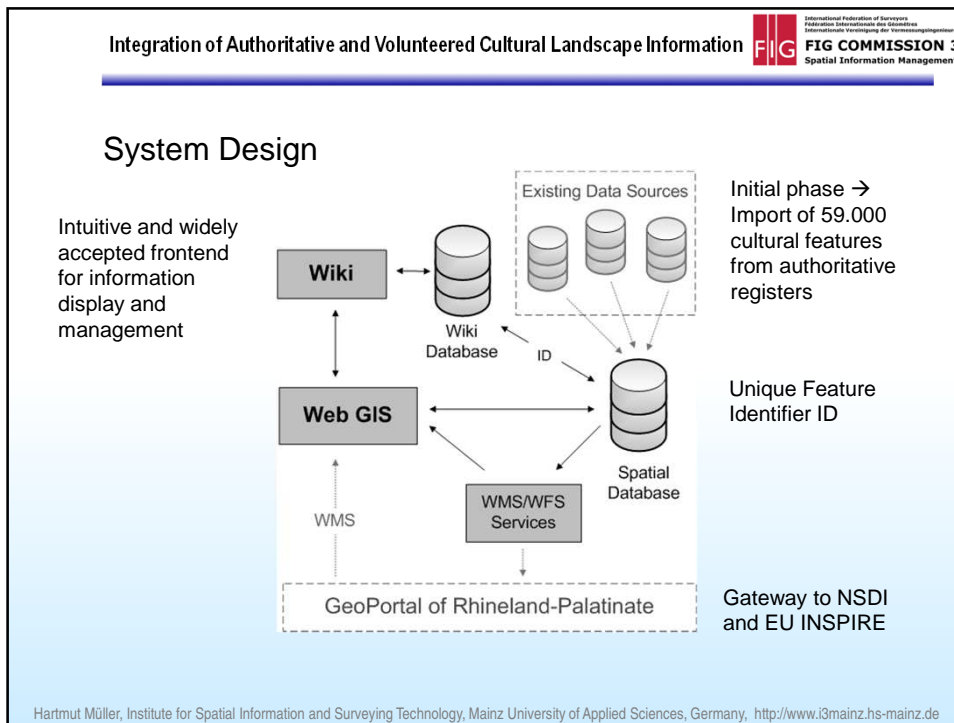
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The Feature Catalogue of Cultural Assets (3)

No.	Functional feature categories
1	Urban Settlements, Health and Social Services
2	Rural Settlements, Agriculture, Horticulture and Fisheries
3	Forestry
4	Production and Processing of Raw Materials
5	Trade, Industry and Energy Production
6	Traffic, Transportation and Communication
7	Government, Administration, Law, Defence and Military
8	Religion and Worship
9	Education, Culture and Science
10	Sports, Tourism and Recreation
11	Natural Landscapes and Nature Conservation
12	Intangible Goods and Associative Features

Category	Complex	Group: Feature
10. Sports, Tourism and Recreation	10.1. Sports	Sports Facilities: Golf Course, <u>Stadium</u> , Tennis Centre ...
	10.2. Recreation	...


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WIKI








SMW
Semantic MediaWiki


**GOVERNMENT DATA
+ CIVIC PARTICIPATION**

WebGIS



Festung Ehrenbreitstein
Allgemeines




ID: 100150
Name des Elementes: Festung Ehrenbreitstein

Lage des Objektes

Landkreis/kreisfreie Stadt: Koblenz

Lagegenauigkeit: Genau
Geografische Koordinaten: 50° 21' 52" N, 7° 38' 50" O




Objekteigenschaften

Formtyp: Punktobjekt
Gruppierung: Einzelobjekt
Zeitliche Einordnung: ...

Objektbewertung


Erhaltungszustand: gut erhalten

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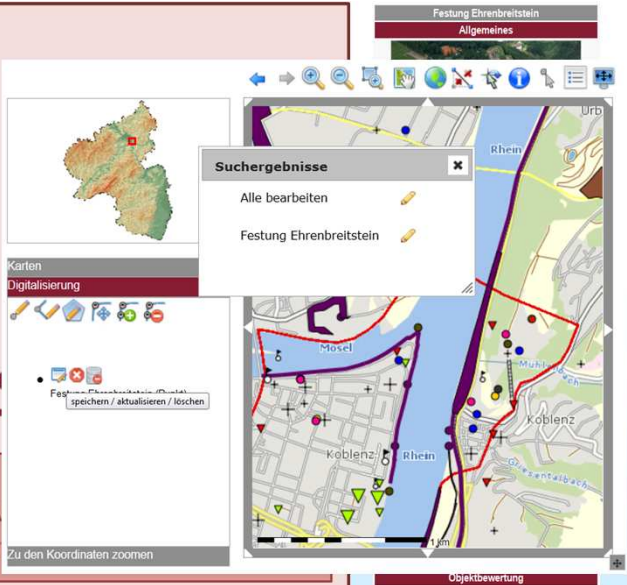
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WIKI



SMW
Semantic MediaWiki

**GOVERNMENT DATA
+ CIVIC PARTICIPATION**



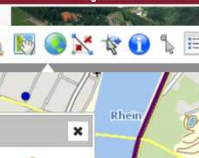
Suchergebnisse

Alle bearbeiten
Festung Ehrenbreitstein

Objektbewertung

Erhaltungszustand: gut erhalten

Festung Ehrenbreitstein
Allgemeines




ID: 100150
Name des Elementes: Festung Ehrenbreitstein

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Erhaltungszustand: gut erhalten

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Pilot Project Upper Middle Rhine Valley

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Rheinland-Pfalz

MINISTERIUM FÜR WIRTSCHAFT, KLIMASCHUTZ, ENERGIE UND LANDESPLANUNG

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Quality Management

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- The public administration,
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- Members from academia

Flag	Revision status of article
	New/Uninspected
	Read/Sifted
	Reviewed/Verified

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- **Entwurfsversion** [gesichtete Version]

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Nutzerbewertung

Verbreitung	seiten, einzigartig
Räumliche Bedeutsamkeit	überregional bedeutsam
Wiedererkennungswert	hoch
Identifikationswert	hoch
Erlebniswirkung	durchschnittlich
Zustand	durchschnittlich

Expertenbewertung

Denkmalpflegerische Raumwirksamkeit	
Naturräumliche Bedeutung	
Bedeutung für das Landschaftsbild	
Bedeutung für die Stadt-/Ortsstruktur, das Stadt-/Ortsbild	
Baukulturelle Bedeutung	
Touristische Bedeutung	
Historische Bedeutung	
Kulturlandschaftliche Relevanz	

Objekteigenschaften

Formtyp	Punktobjekt
Gruppierung	Objektensemble
Zeitliche Einordnung	1837 (willehmische Zeit)
Denkmalschutz	
Naturschutz	
Welterbe	
Liegt im Welterbe	

Nutzerbewertung

Verbreitung	seiten, einzigartig
Räumliche Bedeutsamkeit	überregional bedeutsam
Wiedererkennungswert	hoch
Identifikationswert	hoch
Erlebniswirkung	durchschnittlich
Zustand	durchschnittlich

Expertenbewertung

Denkmalpflegerische Raumwirksamkeit	
Naturräumliche Bedeutung	
Bedeutung für das Landschaftsbild	
Bedeutung für die Stadt-/Ortsstruktur, das Stadt-/Ortsbild	
Baukulturelle Bedeutung	
Touristische Bedeutung	
Historische Bedeutung	
Kulturlandschaftliche Relevanz	

?

Hartmut Müller, Institute for Spatial Information and Surveying Technology, Mainz University of Applied Sciences, Germany, <http://www.i3mainz.hs-mainz.de>

Conclusions (1)

- KuLIS provides a modern IT platform for cultural landscape information based upon open source tools
- KuLIS facilitates citizen participation by using the widely accepted wiki approach
- KuLIS supports scientific research work by providing high end spatial analysis functions
- KuLIS provides a framework for feasible quality management of hybrid VGI and governmental information

Hartmut Müller, Institute for Spatial Information and Surveying Technology, Mainz University of Applied Sciences, Germany, <http://www.i3mainz.hs-mainz.de>

Conclusions (2)

- Activating cooperation of actors from public institutions and citizens is a challenge
- Integration of available data from public registers with information available in wiki style on the Internet is a challenge
- Connection with Location-Based Services is desirable
- Mobile solutions are desirable
- In future, linked data approaches will provide new opportunities

Hartmut Müller, Institute for Spatial Information and Surveying Technology, Mainz University of Applied Sciences, Germany, <http://www.i3mainz.hs-mainz.de>

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Thank you for your attention!

hartmut.mueller@hs-mainz.de

Hartmut Müller, Institute for Spatial Information and Surveying Technology, Mainz University of Applied Sciences, Germany, <http://www.i3mainz.hs-mainz.de>