Digital License Management
in the Open Environment

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Overview

• Can DRM operate in an “Open Environment”?
• DRM covers
  • Rights {License} Management
  • Rights Enforcement
• Open Environment
  • Sharing, Low Trust...
• License Management “challenged” by
  • Depends on Rights Expression Language
  • Depends on client platforms capabilities
  • Enforcement is difficult
License Mgt “Pathways”

- Registration
  - Expressing the License Terms & Conditions
- Certification
  - “Trusted” Assertions
- Awareness
  - Dissemination and Exposure
- Archiving
  - License records management
- Rewarding
  - Attribution, $
What is a License?

- Contract
  - Target Asset
  - Parties (roles)
  - Permissions (+constraints)
  - Prohibitions
  - Duties (for all parties)
  - Admin Metadata
  - Digital Signature
  - Rights Expression Languages
  - CC, ODRL, MPEG REL...
Creative Commons

- Pre-defined Licenses aimed at sharing open content
  - Attribution, Attribution-NonCommercial...
  - Developing Nations, Sampling...
- Mix and match from the following
  - Permissions
    - rights granted by license (eg reproduce)
  - Prohibitions
    - things prohibited by license (eg commercial)
  - Requirements
    - restrictions imposed by license (eg attribution)
License Stream

Creative Commons

Attribution-ShareAlike 2.0

You are free:
- to copy, distribute, display, and perform the work
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- to make commercial use of the work

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1. Definitions

a. "Collective Work" means a work, such as a periodical issue, anthology or encyclopedia, in which the Work in its entirety in unmodified form, along with a number of other contributions, constituting separate and independent works in themselves, are assembled into a collective whole. A work that constitutes a Collective Work will not be considered a Derivative Work (as defined below) for the purposes of this License.

b. "Derivative Work" means a work based upon the Work or upon the Work and other pre-existing works, such as a translation, musical arrangement, dramatization, fictionalization, motion picture version, sound recording, art reproduction, abridgment, condensation, or any other form in which the Work may be recast, transformed, or adapted, except that a work that constitutes a Collective Work will not be considered a Derivative Work for the purpose of this License. For the avoidance of doubt, where the Work is a musical composition or sound recording, the synchronization of the Work in timed-relation with a moving image ("synching") will be considered a Derivative Work for the purpose of this License.

License

<License rdf:about="http://creativecommons.org/licenses/by-nc-nd/2.5/">
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  <requires rdf:resource="http://web.resource.org/cc/Attribution/>
  <prohibits rdf:resource="http://web.resource.org/cc/CommercialUse"/>
</License>
Where is the License?

- License is a URL and a logo attached
  - Usually link to content and license from web page
- Very easy to detach the two
  - And will breach the license conditions
- No generic “packaging” format for both exists or deployable today
  - ad-hoc support for some formats
    - mp3, pdf
Only this time, the movie would not copy. Confused, he checked the packaging and discovered a small “CP” printed in on the back. His disc could not be copied under any circumstances because Universal Pictures had equipped it with copy-protection technology.
Only this time, the movie would not copy. Confused, he checked the packaging and discovered a small “CP” printed in on the back. His disc could not be copied under any circumstances because Universal Pictures had equipped it with copy-protection technology.

In the Universal case, the Paris appeals court said that if a DVD was not copyable, there must be a clear and visible warning. The small “CP” symbol does not meet that description, the court said in reversing the lower court.
**JAZZ SPAGHETTINI, zigzag**

**Author:** m.pompetti  
**Residence:** montreal, quebec, canada  

**MUSIC**  
**Title:** JAZZ SPAGHETTINI, zigzag  
**File size:** 3.6 MB  
**Length:** 3:46  
**Format:** mp3

**DESCRIPTION**  
Love to cook & make music, email if you have questions, or looking for music. cheers zigzag  

**Date created:** 2005-07-12  
**First appeared at:** this site  
**Sampling rate:** 44100  
**Recording mode:** stereo  
**Additional notes:** mp3 format, quicktime  
**First appeared on:** 2005-07-12  

**Tags**  
jazz fest montreal  
MARIO POMPETTI  
zigzag

**How you may use this work**  
**Share it?** Yes, with attribution  
**Remix it?** Yes  
**Use commercially?** Yes  
**Rights holder:** m.pompetti  
**License:** Attribution-ShareAlike 2.5  

**Copyright statement** i you want to use, contact me, broke for pasta
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Matching Semantics

- The CC REL is a compact rendering of the semantics of the legal licenses
- In most cases the REL captures the broad license conditions, such as the right to produce derivatives, or prohibits commercial usage
- However, in some cases, the REL does not capture these semantics
- Example: CC Sampling licenses
Sampling Licenses

- 3 licenses: Sampling, Sampling Plus, Noncommercial Sampling Plus

- “People can take and transform pieces of your work for any purpose other than advertising, which is prohibited. Copying and distribution of the entire work is also prohibited.”

- No new machine semantics defined
- only 3 new license identifiers (URIs)
- No “prohibition” for “advertising”
- “copying” not allowed but “Reproduction” is in machine code?
Attribution - credit must be given to copyright holder and/or author
Extensibility

- CC licenses lack extensibility of its machine-readable REL
- UK Common Information Environment (CIE) report on the use of Creative Commons in the public and education sectors raised a number of areas where the CC licenses lacked support, including:
  - Geographic restrictions
  - Sector restrictions
  - Third party material (including limited duration)
  - No endorsement clause
  - BBC Archive - UK only constraint
ODRL Initiative

- Open Digital Rights Language <odrl.net>
  - Originally developed by IPR Systems
  - Incorporated REL’s from Nokia & Real Networks
  - Created an open and free Initiative
    - Independent Governance Board
    - Working Groups (V2.0, Profiles...)
- Standards adoption
  - Open Mobile Alliance (OMA) DRM spec
    - largest commercial deployment
  - Published as W3C Note
The ODRL REL

- ODRL/CC joint Working Group
  - Express CC semantics in richer ODRL language
  - http://odrl.net/Profiles/CC/
- Specify
  - Rights Holders (and all parties)
  - Details for Attribution
  - Country locations constraint
  - Identify the asset
- Richer set of Terms (Profiles)
- Explicit Agreement now possible
## ODRL/CC Profile Mapping

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This table maps ODRL and CC license permissions and constraints to related ODRL and CC Requirement elements.
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<td><a href="">cc:Reproduction</a></td>
<td><a href="">cc:NonCommercialUse</a></td>
<td><a href="">cc:Notice</a></td>
</tr>
<tr>
<td></td>
<td><a href="">cc:Distribution</a></td>
<td></td>
<td><a href="">o-dd:attribution</a></td>
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Summary

- CC needs more technical clarity and extensibility for community-specific requirements
- Needs to adopt more robust ODRL REL
  - Based on formal IPR model and requirements
  - Proved and deployed in numerous sectors
- License Management challenged in the Open Environment
  - Tools can be built
  - Trust the user community
- Owner expression of rights AND End-User awareness of rights is always a good start!