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## Open E-Book Digital Rights Management Standards

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## Overview

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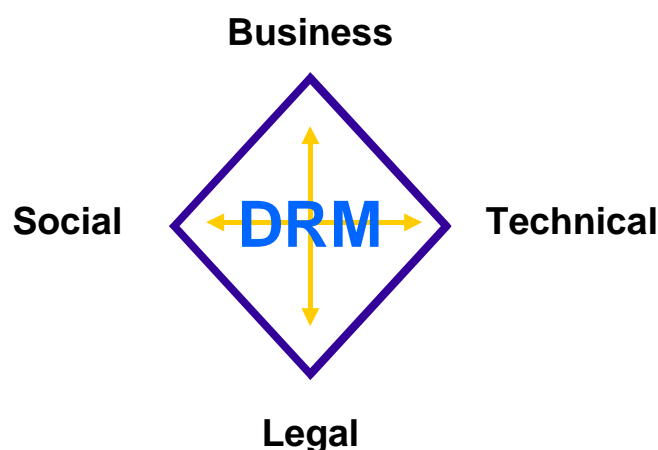
- ◆ DRM Definition and New Opportunities
- ◆ Architectures
  - ◆ Technical
  - ◆ Information
- ◆ Standards
  - ◆ EBX, OEBF, ODRL
- ◆ Ebook Examples
  - ◆ Adobe, IPR Systems
- ◆ MPEG-21
- ◆ Conclusion

## DRM Definition



- ◆ DRM has always had a “security/protection” emphasis
- ◆ Broader activities
  - ◆ “Digital Rights Management (DRM) involves the **description, identification, trading, protection, monitoring and tracking** of all forms of rights usages over both **tangible** and **intangible** assets including management of **Rights Holders** relationships”
- ◆ Need a good simple definition!

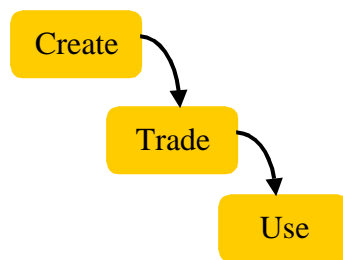
## DRM Perspectives



## New Opportunities



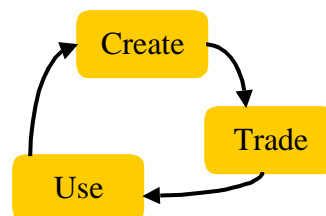
- ◆ From "Creation Waterfall"
  - ◆ Pay for possession
  - ◆ Limited re-use rights available



## New Opportunities



- ◆ Towards "Creation Life-Cycle"
  - ◆ Blurring creation and use towards re-creation and re-use
  - ◆ Pay for usage, not possession
  - ◆ Share the rights
  - ◆ Share the revenue
  - ◆ Require Trusted services to validate rights and trades
  - ◆ Transparent Rights

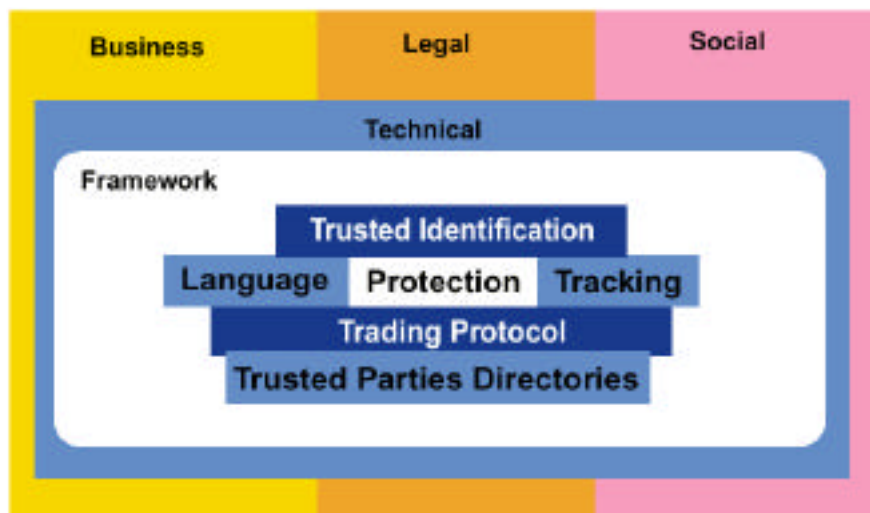


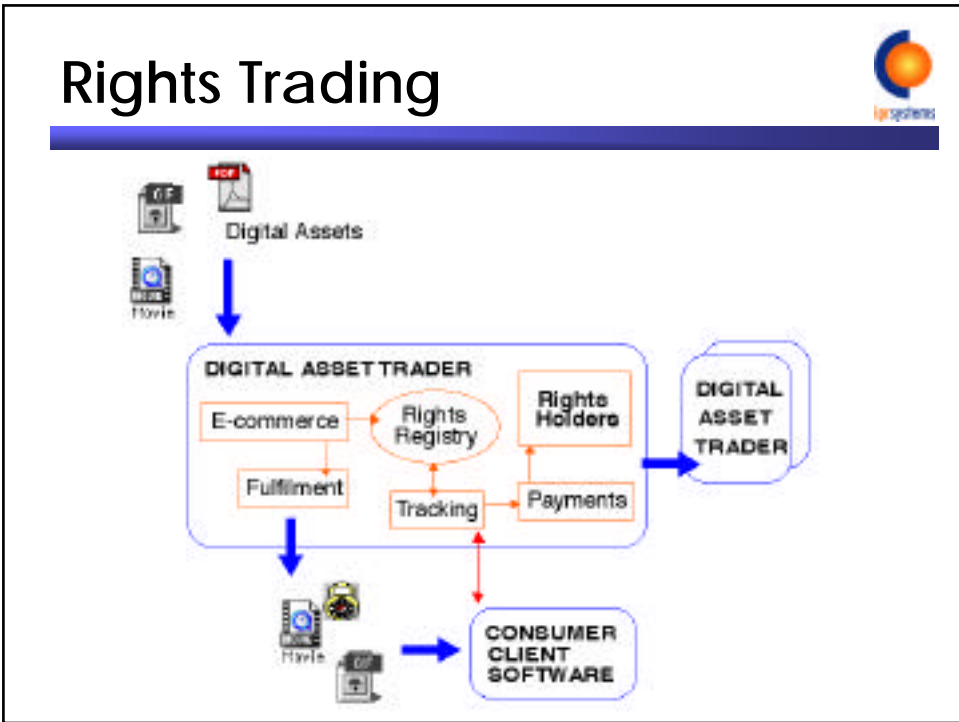
## DRM Architectures



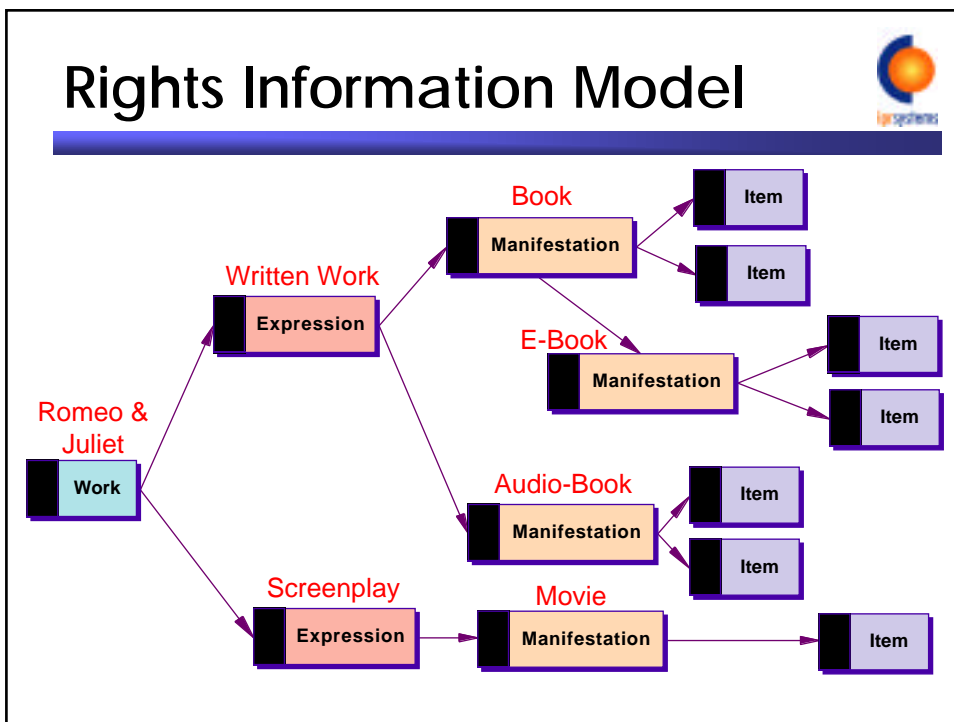
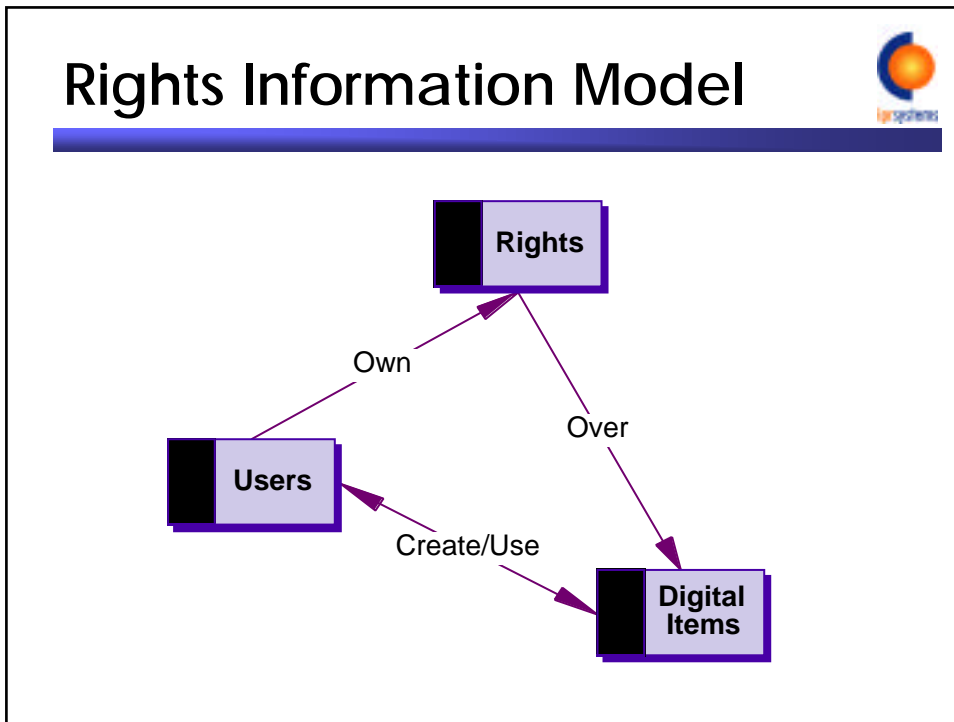
- ◆ Technical Architecture
  - ◆ Support in Digital Supply Chain
  - ◆ Trading, Tracking, Protection, Ids...
  - ◆ And support the...
- ◆ Information Architecture
  - ◆ Model Assets and Relationships
  - ◆ Digital Rights Expression Language

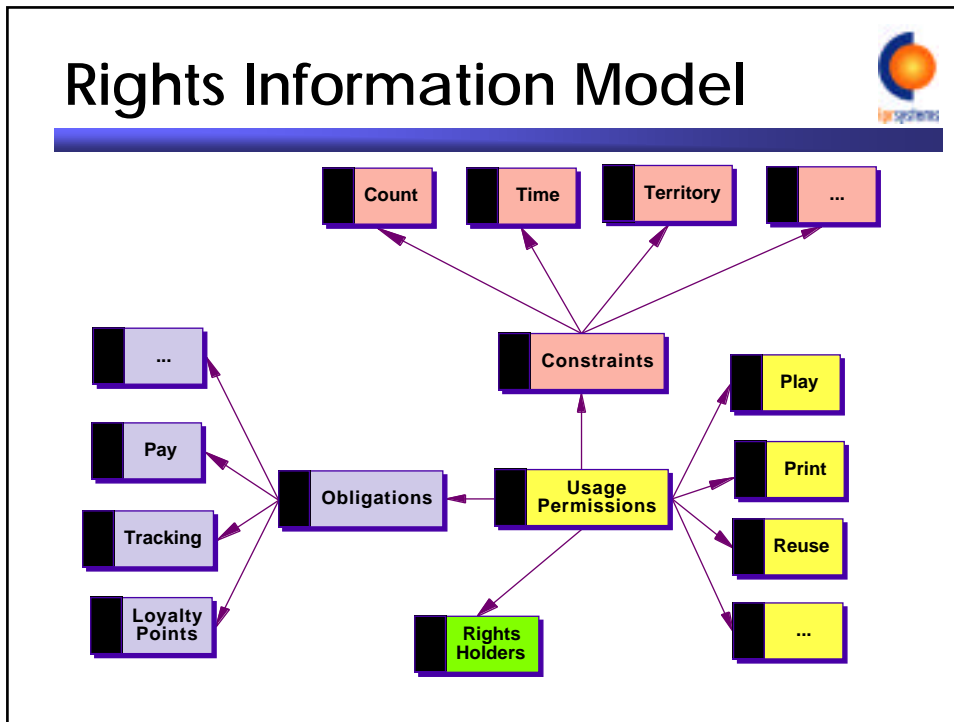
## DRM Technical Framework





- # DRM Information Architecture
- ◆ Model
    - ◆ Using <indecs> Principles
    - ◆ Primary Entities include:
      - ◆ Parties
      - ◆ Content
        - ◆ Model with IFLA
      - ◆ Rights





- ## DRM Standards
- ◆ (Slowly) emerging via sector/industry groups
  - ◆ Very little direct support in Content Standards
    - ◆ Most use Rights element as a link
    - ◆ PRISM <<http://prismstandards.org>>
    - ◆ DIG35 <<http://www.digitalimaging.org>>
  - ◆ Ebook Support
    - ◆ EBX/OpenEBook Forum
  - ◆ Rights Languages
    - ◆ ODRL and XrML
  - ◆ MPEG-21
- The 'IP Systems' logo is in the top right corner.

## EBX



- ◆ Electronic Book Exchange Working Group
  - ◆ <<http://www.ebxwg.org>>
- ◆ Started Late 1999/Early 2000
- ◆ 25 Members
- ◆ Need DRM for eBook Market to succeed
- ◆ Stakeholders want compatible solutions
- ◆ Developed a specification for "Rights Vouchers"
  - ◆ Certified Trusted systems exchange rights (also content)



## EBX



- ◆ Current draft (v0.9) is incomplete but usable:
  - ◆ A standard set of basic rights
  - ◆ A set of data definitions for rights objects
  - ◆ A standard protocol for rights exchange and enforcement in a distributed environment
- ◆ Lacks:
  - ◆ "Governance" for its authentication system
  - ◆ Intellectual property review
  - ◆ Reconciliation with year 2001 requirements
- ◆ Merger with OEBF...



## OEBF



- ◆ OpenEBook Forum
  - ◆ <<http://www.openebook.org>>
- ◆ Approx 90 Members
- ◆ Activities:
  - ◆ Requirements
  - ◆ Publication Structure
  - ◆ Identifiers
  - ◆ Metadata
  - ◆ Rights & Rules
  - ◆ Systems



## Rights and Rules



- ◆ Requirements Phase (3 Months)
  - ◆ From OEBF (ie WGs) and related external orgs
- ◆ Analysis Phase (2 Months)
  - ◆ Critique, commentary, relevance and priority
  - ◆ Develop Use cases to be addressed
- ◆ Development Phase (4-13 Months)
  - ◆ Technical harmonisation tasks:
    - ◆ Standard for interoperability in implementations
    - ◆ Authentication systems and governance
    - ◆ Rights language used in the specification
    - ◆ Certification specification process by which implementations are evaluated and "rated"

# Open Digital Rights Lang

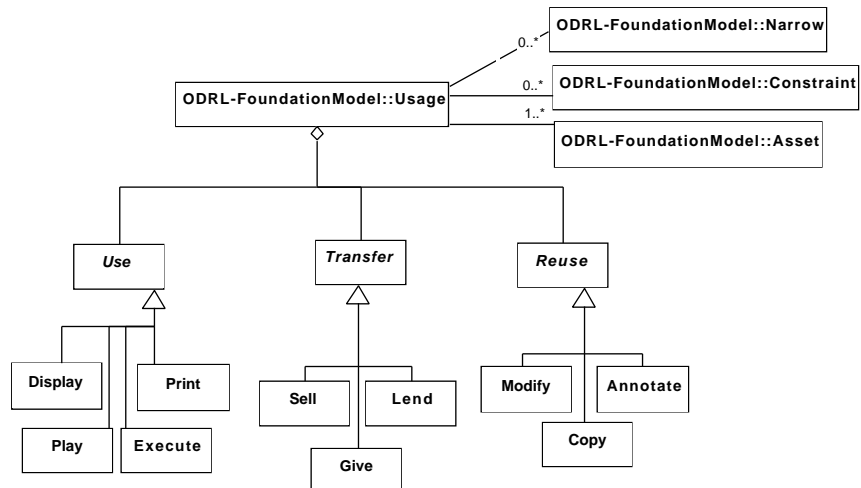


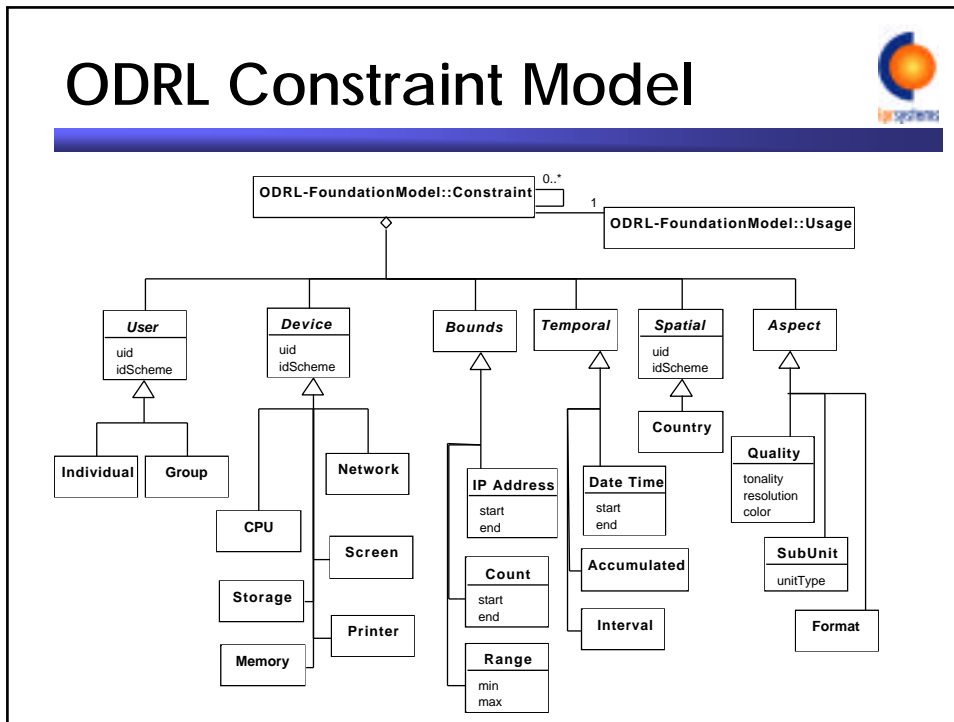
- ◆ Semantics of a core DRM Language
  - ◆ Open or Trusted environments
  - ◆ Foundation for extensible (ie XML) and sector-specific rights language
- ◆ Interoperability across sectors/industries
- ◆ Submitted to Ebook and MPEG communities

◆ <http://odrl.net/>



# ODRL Usage Model





## ODRL - Usage

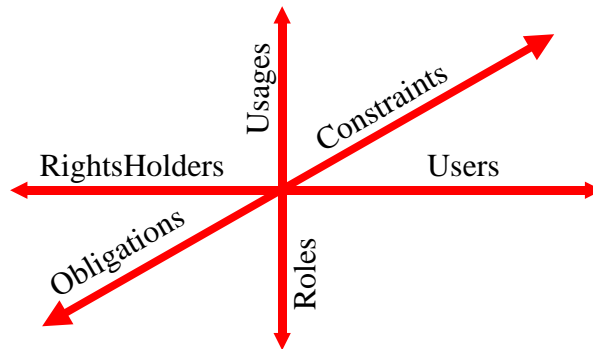
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</od:asset>
<od:usage>
  <od:display>
    <od:requirement>
      <od:payment <od:amount cur="AUD"> 10.00 </od:amount> </od:payment>
    </od:requirement>
  </od:display>
  <od:print>
    <od:constraint <od:cpu/> </od:constraint>
    <od:requirement>
      <od:payment <od:amount cur="AUD"> 20.00 </amount> </od:payment>
    </od:requirement>
  </od:print>
</od:usage>
  
```

## Rights Complexity



- ◆ Need Balance:
  - ◆ Current Technology Offerings
  - ◆ Usability




## Ebook Examples



- ◆ Adobe
  - ◆ Ebook Software
- ◆ IPR Systems
  - ◆ Digital Rights Exchange (DRX)
  - ◆ Example:
    - ◆ <http://www.ozauthors.com.au>

## ebook details Purchase options: 1

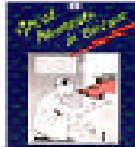


### Great Moments in Science

Author(s): [Karl Kruszelnicki](#)

Literary form: Other

Subject categories: Science/General



#### Publication details

Published date:	24/01/01		
Publication country:	AUSTRALIA	Parts:	36 Chapters
Edition:	1st	Words:	13500
ISBN:	1-7406-4035-7	Illustrations:	0

#### Purchase options

Usage	Details	Price (\$AUS inc GST)	Add to my bag
<b>Online</b>			
Preview	5 pages	Free	<a href="#">view</a>
<b>Download licence</b>			
View	For any computer	\$10.00	<a href="#">view</a>
View & Print	Locked to a single computer	\$10.00	<a href="#">view</a>

### Usage rights & pricing

Usage	Pages	Online	Price
Preview	5	Low-resolution Image (GIF)	free

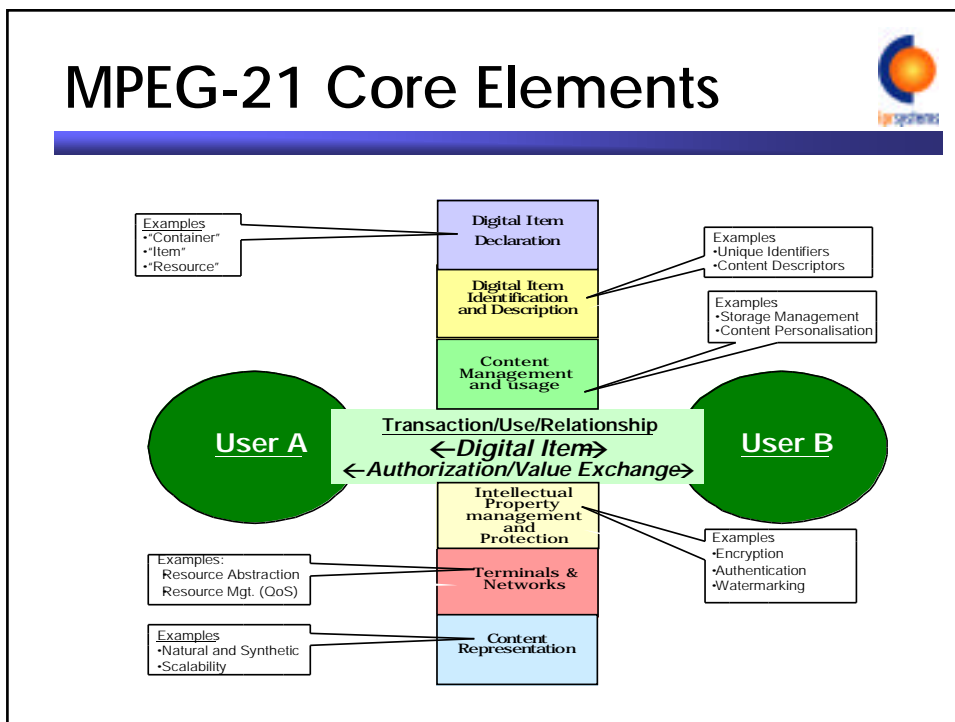
Licence Usage	Download	Price
<input type="checkbox"/> Read	<input checked="" type="radio"/> Secure <input type="radio"/> Not Secure	\$0.00
<input checked="" type="checkbox"/> Print & Read	<input checked="" type="radio"/> Secure <input type="radio"/> Not Secure	\$10.00

#### Revenue disbursement

[search member registry](#)

Member Name	Reason	%
<input type="checkbox"/> Renato Iannella	By (author)	80
<input type="checkbox"/> Mary Pignotti	Illustrated by	10
<input type="checkbox"/> Corky J Smith	Photographs by	10
<input type="checkbox"/>	- Select -	
<b>Total %</b>		0

- Manage details**
  - password
  - personal
  - contact
  - profile
  - account
  - preview profile
- Manage ebooks**
  - publish an ebook
  - awaiting review
  - under review
  - accepted and live
  - dormant
  - register member
- ebook reports**
  - licence activities
- My OzAuthors**
  - shopping bag
  - bookshelf
  - wishlist
- Publishing guide**
  - out of stock
  - formatting
  - pricing
  - security
  - fees and revenue



## Additional Activities



- ◆ MPEG-21 - Rights Dictionary and Language
  - ◆ <[http://www.csel.it/mpeg/cfp/call\\_for\\_requirements\(rights\\_language\).htm](http://www.csel.it/mpeg/cfp/call_for_requirements(rights_language).htm)>
- ◆ IETF - Internet DRM WG
  - ◆ <<http://www.idrm.org>>
- ◆ DOI - Feasibility study for a Rights Data Dictionary
  - ◆ <<http://www.doi.org/news/010418-multimedialP.html>>
- ◆ W3C - DRM Workshop
  - ◆ <<http://www.w3.org/2000/12/drm-ws/>>
- ◆ OASIS - Access Control Markup Language
  - ◆ <<http://www.oasis-open.org/committees/xacml/>>

## Conclusion



- ◆ DRM is emerging as a new tool to enable innovative new business models
- ◆ Everyone wants DRM solved
  - ◆ but its not an easy solution to generalise
- ◆ DRM technologies are "embryonic"
  - ◆ but evolving fast...
- ◆ DRM technologies need to meet all the needs of Rights Holders and Consumers
- ◆ Will be the catalyst for the ebook market