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## **E-book Protection**

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**Metropolia**



# Introduction

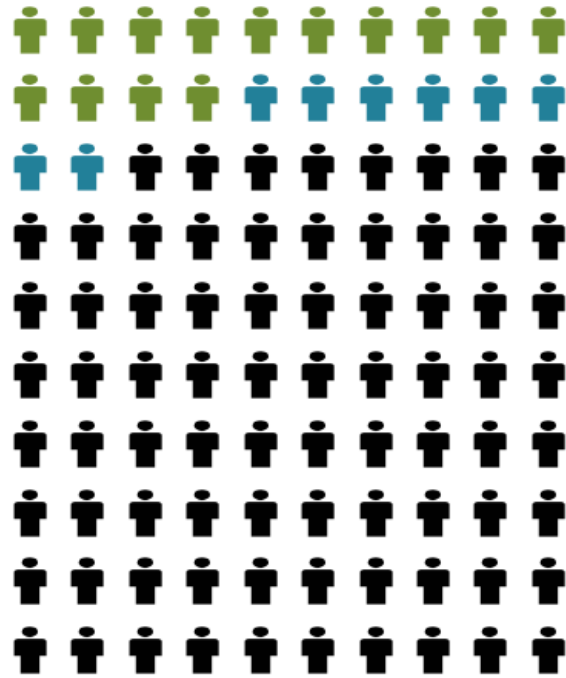
## The Universal Declaration of Human Rights

### Article 27

1. Everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits.
2. Everyone has the right to the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author.

# La Reading of digital books in France in September 2012

bre 2012



*Ce sont davantage...*



Men



under 35  
years old



graduated



**+8 points** depuis mars 2012



14% have already  
fully or partly read an  
e-book



8% potential readers



**-11**

n'en  
d'u

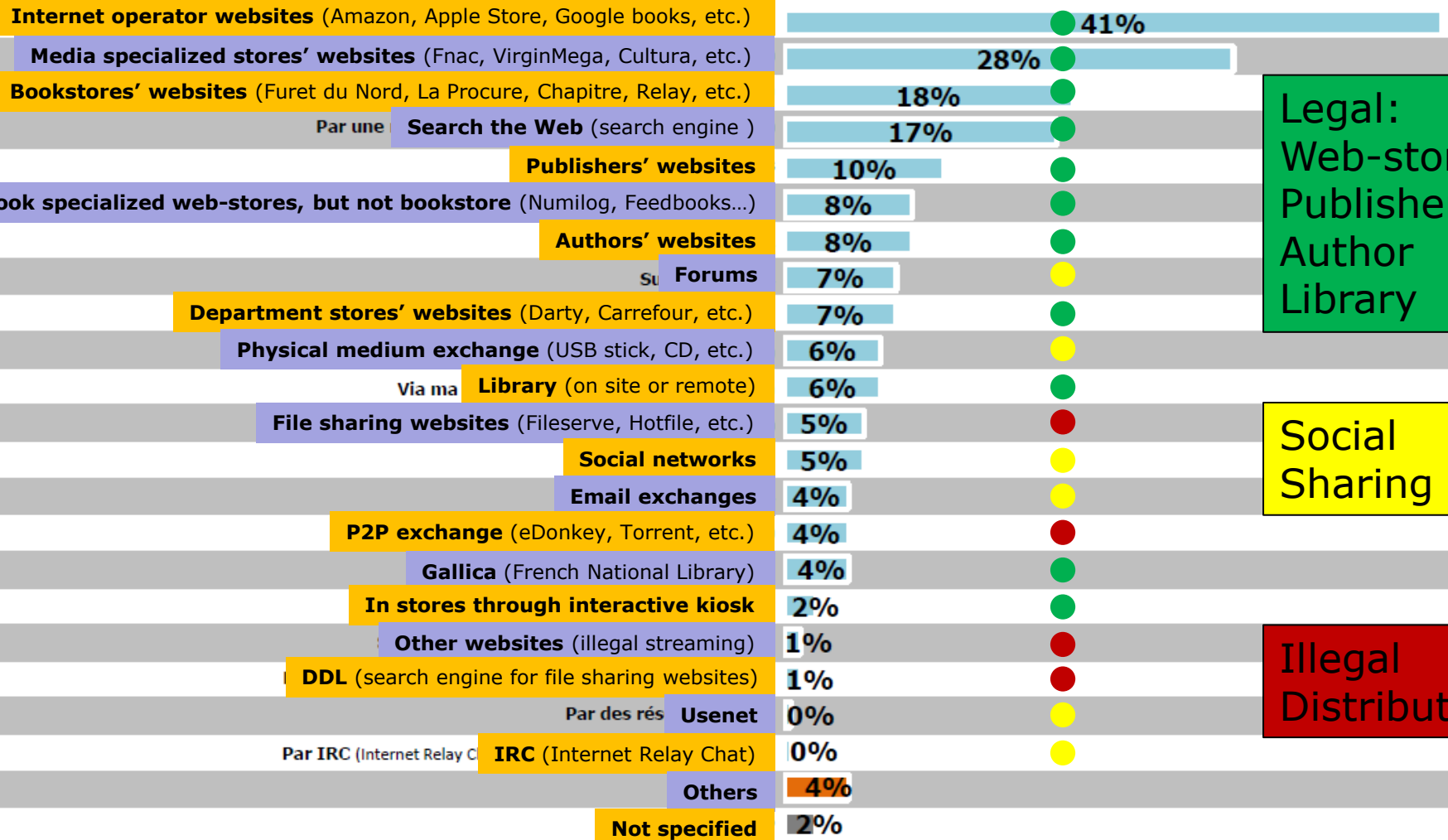
78% of people older  
than 15 years old do  
not envisage to read e-  
book

E-book readers are more often  
men, young and graduated

# Les p The main places and methods of acquiring digital books numériques



multiple possible answers



Un A illicit usage exist... nt...



Po Why yes? ?



Legal offer too expensive

69%

Legal offer did not exist

40%

Usage difficulties due to DRM

14%

Po Why no? n?



Respect for copyright

59%

Pa Fear sanction

29%

P Hope for better quality

21%

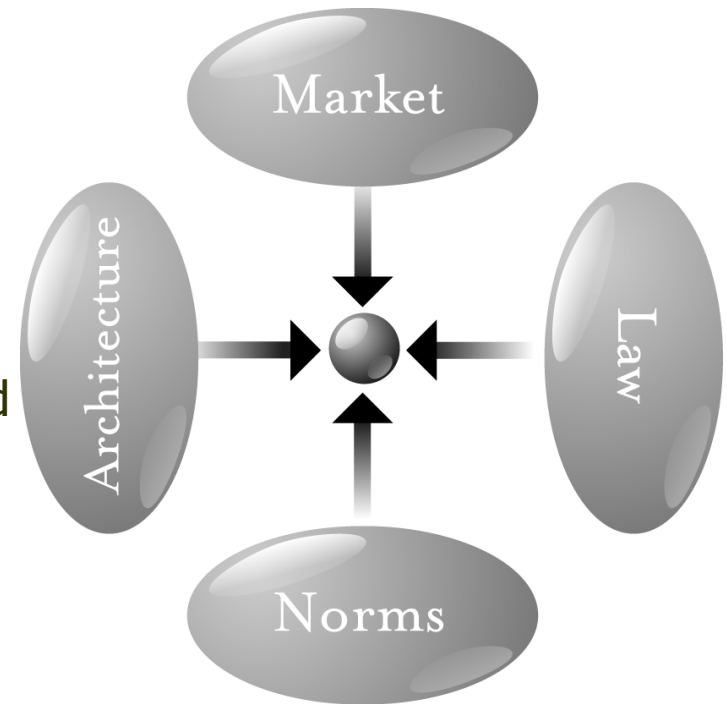
# Ways to Fight Copyright Infringement

## ■ Market

- Make e-book cheaper?
- Price explanation?
- Easy to access and to buy
- Richer collection available
- Remove DRM?
- Paper book/e-book combined offer
- More services

## ■ Norms (Behavioural)

- Educate public about copyright



# Ways to Fight Copyright Infringement

- Legislation (copyright law)
  - WIPO Copyright Treaty (WCT) of 1996
    - Article 11 Obligations concerning Technological Measures
    - Article 12 Obligations concerning Rights Management Information
  - USA: Digital Millennium Copyright Act of 1998
  - EU: DIRECTIVE 2001/29/EC
  - Finland: COPYRIGHT LEGISLATION of 2010
- Strengthening
  - ACTA, CETA, TAFTA, SOPA/PIPA
- Copyright reform
  - Legalize non-market file sharing & consumer fee
    - Organizations: FSF, EFF, La Quadrature du Net
    - Politics: Pirate Party, European Green Party
    - Country: Brazil (turned up side down under Rousseff), France/Netherlands (3c-da.org), Switzerland (copyright working group (result for fall 2013))

# Ways to Fight Copyright Infringement

- Architecture (technical)
  - Currently 3 approaches
    - Digital Right Management (DRM)
      - Encrypted e-book and authentication/signing server
      - Prevention approach
    - Watermark / Social DRM
      - Invisible and visible user information combination
      - A posteriori/social approach
    - DRM-free
      - Free license protection
      - Web/collaborative approach
  - And an upcoming
    - Lightweight DRM
      - Password protected e-book, decrypted by application
      - Prevention/social approach
  - No optimal solution



# Digital Right Management (DRM)

## Pros

- Strong encryption
- Tie to user/device
- Permission control
  - Expiry date & time
- Recovery from crack
- Forward and delete
- Protected by the law

## Cons

- Proprietary, no standard
- Crack exist
- Cost
- Fair use limitations
- Privacy concern
- License VS owning
- Lock-in
- Market fragmentation or monopoly

# EPUB Lightweight DRM (IDPF)

## Pros

- Standard
- Permission control
  - Expiry date & time
- Work offline
- More user freedom and ownership
- Cheaper than DRM
- Extensibility
- Law protection

## Cons

- No release date yet
- No decision
- Patent problem
- License/cost unclear
- No recovery from crack
- Open source dilemma

# Watermark and Social DRM

## Pros

- More user freedom and ownership
- Cheap
- Find original owner when illegal copy is found
- Modification detection

## Cons

- One click crack
- Web-crawler not included
- No permission control
- Original owner can be punished from third-party activities
- Law protection unclear

# DRM-free



## Pros

- Mutual respect and trust
- User full freedom
- Economically viable (SF/fantasy, Scientific/IT)
  - Crowd funding
  - Synergy with paper
- License (CC, Copyheart, Copyfarleft)
- Better circulation of culture/knowledge

## Cons

- Irreversible decision
- Copyright collecting agency/publishers/vendor reticence
- Not practicable for some model



# Conclusion

- For high value content (company documentation, trading secrets) where both ends agree, hard DRM is a good option.
- Otherwise the limitations of the hard DRM outweigh the advantages
  - If you trust your reader at 100% go DRM-free
  - If you don't then prefer watermark/social DRM or lightweight DRM
- Action at others levels
  - Political
  - Education
  - Market



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**Questions / comments**

Thank You!