DRM in Digital Era: An Overview

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INTRODUCTION

- world moves from traditional to the digital environment
- The internet is a worldwide network
- making the information sharing so easy.
- global duplicating system
- questions on protection of intellectual property of creators
What is DRM... ?

**DRM**

- *Digital* – concerned with digital resources available in cyberspace, such as database, websites, e-resources
- *Rights* – deals with legally granted power to the copy right holder to protect the digital work
- *Management* – concerned with mechanism to control or prevent copying the intellect

DRM is a cluster of techniques assigned to restrict unwanted copying & distribution of intellectual property such as music, video, software...
The functional architecture of DRM is based on three important modules.

1. **Content creation & capture**  
   - Rights validation  
   - Rights creation  
   - Rights workflow

2. **Content management**  
   - Repository function  
   - Trading functions

3. **Content usage**  
   - Permissions management  
   - Tracking management
Functional Architecture of DRM
1. Encryption –
   - lock the content
   - secret key/ password (a particular phrase or string of numbers),

2. Public/ private keys
   - Publicly accessible key
   - Secret key- only known by respective owner
   - Both keys are mathematically related
3. Digital certificate
   - electronic passport
   - exchange private information securely
   - link between a person & his virtual identity

4. Digital watermarking
   - embedded information
   - hides the information related to digital signal within the signal itself
   - evidence of its authentication
5. **Access Control**
- Protect the intellectual property of copyright holder
- Authorized user can access it,

6. **Secure Communication Protocols**
- Secure Sockets Layer and Transport Layer Security are cryptographic protocols
- Secure communications on the internet
7. Fingerprinting
- protect the digital media (broadcast, radio, live, web etc.)
- purchaser’s information
- Content based identification technology

8. Rights specification language
- technology or mechanism which describes the author or publisher rights.
- standard vocabulary to describe the DRM and other relevant issues
9. Trust infrastructure
- support transport, opening, displaying and disposing the package.
- DRM support to transport this secure package from author or content provider to consumer or end user.

10. Hashing
- transformation of a string of characters
- shorter fixed-length value or key
- represents the original string
DRM & Libraries

- **Copyright terms** - DRM may be used to prevent copying of works beyond the terms of their copyrights, or may be used to impose copy protection for works otherwise in the public domain, or works that have been licensed for less restricted general uses.

- **Preservation and archiving** - DRM may be used to limit librarian’s ability to preserve or archive a work, e.g., by preventing a work from being moved from more perishable to more permanent storage media.

- **Artistic creation** - It has been understood that the creation of new artistic works may require the transformation of older ones; DRM may be used in ways that prevent such transformation from happening.

- **Historiography** - Historical research fundamentally depends on being able to access and quote older documents and other kinds of works. DRM can be implemented in ways that make historiography more difficult.

- **Fair use** - The ability of anyone to make unlicensed use of the protected works of other within limits established by law.
Library has to create a balance between the digital information & techno savvy users group. The adoption of DRM technology is most necessary if libraries are not to be lost in a world of omnipresent information.
Thanks!