

Online Digital Trading

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Abstract: This paper summarizes the main options a digital content creator has in order to obtain money by online trading of digital works. There are multiple ways to get paid for the digital products, like licensing, for example, however this article tries to present the most successful business models targeting the online market. The exclusive rights stated by the copyright laws are helping the authors to maximize to potential advantages coming from their digital creations.

Key-Words: Digital Trading, Business Model, Online Market, Copyright, Creative Commons Licenses.

1. Introduction

Information technology enables an extensive range of business models (B2B and B2C) while only a few of them were actually validated by the market, such as the collaborative platforms or virtual communities [10].

Some of these models are representing only a new perspective of the traditional ways of doing business (e-auctions, e-procurement, e-shops, etc.), while many others are adding value by intensively relying on innovative information management in the context of the Internet age.

An intellectual property creation has no value by itself until it is monetized or commercialized on the market via a business model. So, by selecting a successful business model, a digital product may become more valuable. This is the reason why the classical business models must be adapted and completely new innovative business models have to be developed in order to fulfill the online market requirements.

The process of transforming a digital content into money is called monetization and it can be done differently, depending on the business model selected.

Any author of a digital content will want to rely on the exclusive rights stated by the copyright laws in order to maximize his potential advantages coming from the creation. Also, based on the same rights,

he will want to deny others to have similar advantages by sharing or distributing the digital work.

The paper is organized as follows.

The main concepts related to copyright are presented in *Copyright Basics* section.

Some Rights Reserved section deals with license types related to intellectual property.

Business Models for Digital Trading section analyzes the method that can be used to monetize the digital content.

The section entitled *Digital content protection* presents the Content ID, a content management tool that can be used to enforce the copyright policies by the holder.

The paper ends with conclusion and future work.

2. Copyright Basics

Intellectual property rights were introduced to protect the benefits of authors by granting them some property rights over the intellectual (human mind) creations [1]. While copyright and industrial property are the two main branches of intellectual property, the current article will be focused on the copyrighted digital content only.

Copyright, or *the right to copy*, grants for a limited time some exclusive rights for the author of an intellectual work, like the right to sell, copy, reproduce, distribute,

display, make adaptations, perform and so on [9].

The copyright symbol (Figure 1) usually appears inside the copyright notices of the intellectual property creations.

Digital content is defined in [2] as the *information implementation within the computer memory regarding a certain aspect of the surrounding world*. For the digital content of our days, most of its appearances are somehow redundant, since such creations are protected by the copyright laws by default, with or without the presence of the copyright sign, so a very common opinion states that most of the copyright footnotes placed on the websites are useless because the content is automatically copyrighted by law from the date of the creation.



Figure 1. The Copyright mark [3]

In this context, the expression *all rights reserved* has the meaning that all the rights are reserved by the author of the intellectual work.

3. Some Rights Reserved

In a world highly focused on social media platforms, sharing content is something extremely common but sharing also may involve the violation of some of the exclusive rights granted to the creator by the copyright law.

So, what if the creator will want to drop some exclusive rights he owns, like the permission to distribute the work? For such cases, the author will actually want to rely on the copyright laws not only to protect his exclusive rights but also to grant some of these rights to the others.

For such cases, the classical *all rights reserved* actually becomes *some rights reserved*, as stated by the Creative Commons licenses system initially released in 2002 and now adapted (or ported) to more than 50 countries worldwide [4], Figure 2.



Figure 2. The Creative Commons Copyright mark [3]

By the use of the six predefined types of licenses described below (Table 1), the authors may choose a combination of rights from *all right reserved* to *no rights reserved*. The wizard can be accessed online via the Creative Commons website - <http://creativecommons.org/choose/>, as illustrated in Figure 3.

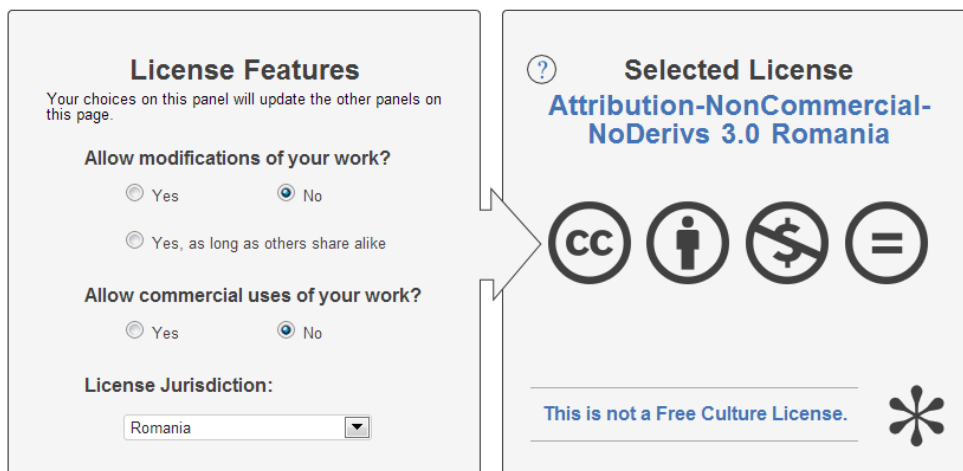








Figure 3. Creative Commons – Choose a License wizard [5]

The six standard license types are actually obtained by combining the answers for the two main decisions an author may take related to the rights he wants to grant to

others – allow future modifications and make the work available even for commercial use.

Table 1. The six Creative Commons standard licenses

Allow Modifications?	Allow Commercial Use?	License Type	License Symbol	License Description
Yes	Yes	CC-BY		freely share and adapt
Yes	No	CC BY-NC		freely share and adapt for non-commercial use
No	Yes	CC BY-ND		freely share but any derivative works are prohibited
No	No	CC BY-NC-ND		freely share for non-commercial use but any derivative works are prohibited
Yes (Share Alike)	Yes	CC BY-SA		freely share and adapt but any derivative works may be distributed only under similar license terms
Yes (Share Alike)	No	CC BY-NC-SA		freely share and adapt for non-commercial use but any derivative works may be distributed only under similar license terms

Search engines of today allow the users to look for reusable content that can be freely shared or modified, even commercially, and most of these options are based on creative commons standard licenses.

4. Business Models for Digital Trading

Today, everybody is trying to find innovative ways to get paid for digital products by monetization that is basically a term used to describe the process of transforming a digital content into pure money. It can be done by sharing the content in a pay-per-view network, for example, so the creator will actually receive money in exchange for the clicks or views coming from the users surfing the Internet.

Since monetization means transforming the value of a digital content into money, the question that arises here is where exactly is the money coming from?

Basically, there are three possible answers, depending on the payment type preferred by the users [6]:

- pay by attention – displaying ads, sponsoring or registering to get it free;
- pay if they like the content – pay-per-view, freemium, donations;
- pay regardless they like the content – pay monthly, pay per usage time, premium services.

The most significant business models used in our days are detailed below:

- **Licensing** – giving the permission or the authorization to use the licensed content for a fee. For the software products, for example, a software license grants the permission for the final user to use that product. Even the free or the open-source content is carrying a license but with no fees involved. Not only products can be licensed but also technologies, for example a company can license a speech recognition tool to other companies that can build up complete

solutions for the market needs by mixing the licensed content into new artifacts called **derivative products**.

- A football game, for example, depending on the team the player is choosing, may suggest **affiliate** links to buy related gifts from the team’s fan shop. Such affiliate links may generate substantial affiliate revenues.
- **Subscriptions** represent a well-spread model for the digital content, most of the magazines and newspapers are implementing a payment method after reading a predefined number of articles or pages. The payment method can sometimes involve taking surveys or viewing some promotional materials. The subscription can cover the full content or only parts of it, for example, like books by chapter or albums by song.
- **Completely free content** can be monetized by affiliation, ads or by simply gaining a high number of enthusiastic users that later can generate profits by providing services or related products.
- **Freemium** basically means the existence of a premium paid service along with its free version, like ad-free vs. ad-supported or business use vs. personal. For some applications, the free version may allow the user to buy

extra-services, like new levels or skills, for games.

5. Digital content protection

One of the best answers about the way in which the creator of an intellectual property digital asset can protect not only himself but also his creation against content monetization by others is called Content ID and it comes from Google. It is successfully applied for YouTube content, since almost anybody can upload a file (audio and/or video) on the YouTube even if he has no appropriate rights to perform such an action.

Content ID is an absolutely free content management tool that can be used to enforce the copyright policies by the holder [11].

The Content ID is based on ID files, such a file basically represents, according to Google, “the digital content identification file which corresponds to a reference file (a piece of content like a movie, music, or other audiovisual material). This file is generated using Google software and is also known as a fingerprint” [12].

Details about matching can be found on the details page of the video file, as illustrated in Figure 4.



Figure 4. Content ID matching results [12]

Content ID is suitable not only for video files, but it can also be applied to audio-only formats as well, by comparing the uploaded content against the reference files in order to find a match.

The service was launched in 2005 as a tool intended to allow the copyright owners to maximize the advantages that are directly

coming from the distribution of their digital content.

When YouTube uploaded content generates a match, the content owner has several options, like the following:

- monetize – the new uploaded file will display ads before the video file so the money coming from these adds are

going directly to the content owner while the user that uploaded the protected file will be informed by e-mail about the fact some ads may appear before the video content. Of course, for the case in which the Content ID match is wrong, an original content will receive ads without creator's permission, so somebody else

- will make money for this digital asset.
- track – the video will remain unaffected but usage statistics will be available to the owner level;
- block – the content will not be allowed for visualization or the audio part will be muted, depending on the type of the match (Figure 5).

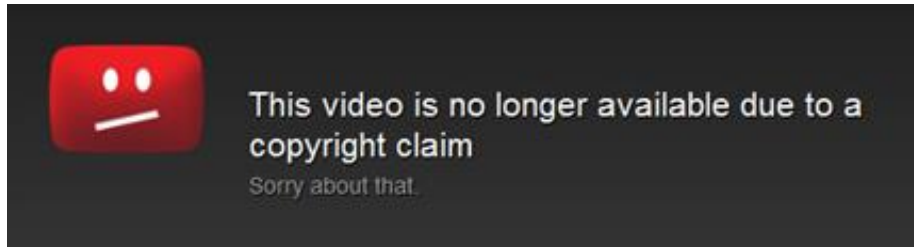


Figure 5. YouTube – Blocked file due copyright claim

One approach to include copyright information in multimedia files is by using steganography. In [8] are presented such techniques that could help in finding copyright infringements.

Another direction is how to protect online content provided to students in an e-learning environment.

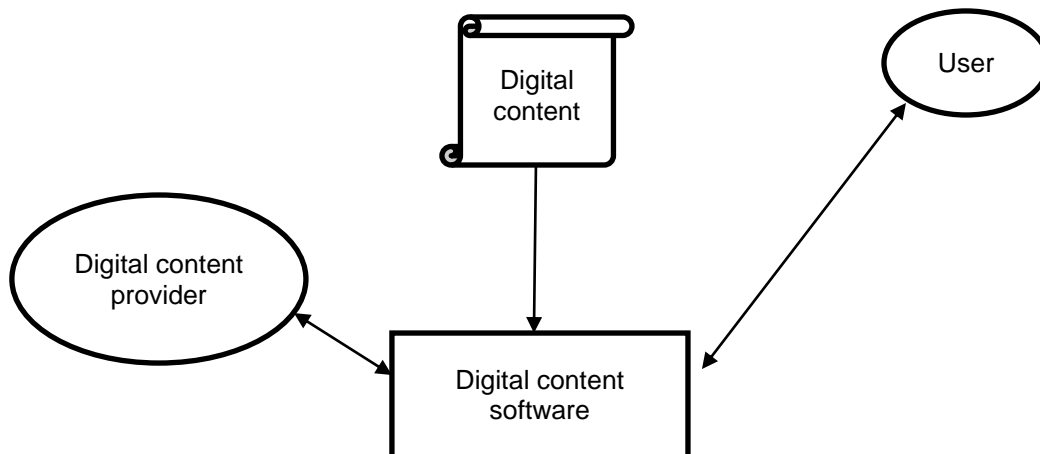


Figure 6. A digital content protection system

Figure 6 presents the proposed system. The user can access the digital content through a dedicated software only after the content is validated by the digital content provider (DCP) or a specialized validation authority.

6 Conclusions

Online digital trading requires innovative ways to get paid for the content provided in the virtual environment. Even if some of the business models used for the monetization of the digital products

actually represent only a new perspective of the traditional ways of doing business, fortunately many others are adding a great value by innovation.

Subscriptions seem to be the most preferred monetization business model for the media companies providing newspapers and magazines while the game industry heavily focuses on the freemium services in the context of the mobile devices expansion.

The next steps for this research involve the detailed analysis of copyright protection and to implement a specific

method to protect the copyrighted material, especially for online education.

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