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## **Title of the Invention**

Improved Copyright Protection

## **Description of the Invention**

A method of checking externally created and internally created material for copyright protection and setting user access privileges accordingly.

## ***Problem or Opportunity***

Copyright law applies to music, movies, games, photos, software and other files in digital format. Copyright protection is available to both published and unpublished works and unlike some other forms of intellectual property, copyright protection is secured automatically when a work is created and fixed onto a medium. Copyrights, however, exist in two forms, registered or unregistered. While unregistered copyright protection is attached immediately upon creation and fixture of the work, the work must be filed with the United States Patent and Trademark office to be considered registered. Registering a trademark affords the creator additional rights.

Problems exist in controlling the unauthorized copying and dissemination of copyrighted material. Downloading or distributing copyrighted material without the explicit permission from the copyright holder is against the law. Unauthorized distribution of copyrighted material is made easier due to peer to peer connections and other sharing programs and may even be occurring without the owners' knowledge or consent.

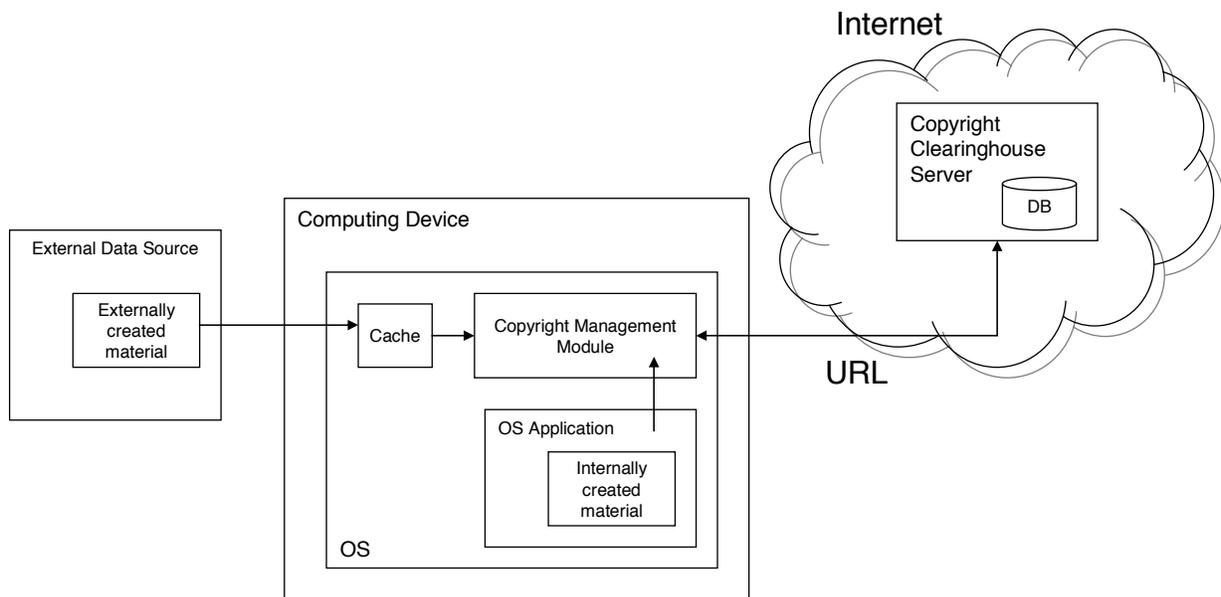
Limitations to copyright however do exist. One such limitation is for "fair use". "Fair Use" provides that otherwise infringing actions may be excused for usages such as criticism, comment, news reporting, teaching, scholarship, and research.

## ***Detailed Description of the Invention***

The operating system contains a module that checks for registered copyrighted material known as a Copyright Management Module. When internally generated material is saved or updated, the OS prompts the user, by means of a dialogue box, to determine if he/she wants to register the copyright or enact other limitations on the ability of subsequent

users to modify or copy the material. Based on the users' answer, the OS modifies the file's properties to include an identifying tag, such as a digital watermark, to reflect the limitations on the material's ability to be copied or disseminated. This information is communicated via a specified URL to a copyright clearinghouse and subsequently stored.

Externally generated material is imported into a cache. The OS first checks the file's properties for an identifying tag, such as a digital watermark. If no identifying tags are found, the OS is presented the option of searching copyright registries, such as a copyright clearinghouse, on the internet to determine if the material has been registered and/or user rights have been set by the creator. If user rights have been established, the OS prompts the user, by means of a dialogue box, to decide whether or not the user intends "fair use" of the material. The OS grants the users' rights to modify or disseminate the materials accordingly. If user rights have not been established, the OS defaults to granting full access.



**Figure 1: Digital Copyright Registration System**

**Description of Elements of Digital Copyright Registration System in Figure 1**

Computing Device: Any computing device such as a desktop computer, laptop, mobile device, etc.

Operating System: All file activity, applications, email activity, etc are performed by the software located in the OS (i.e. Linux).

External Data Source: Any external source such as a personal computer, flash drive, mobile device, website, etc. where data is stored.

Externally created material: Material that is created outside of the local computing device.

Cache: Location where externally created material is inputted.

OS Application: Any application on the OS in which material can be generated by a user.

Internally created material: Material that is created using an application on the local computing device.

Copyright Management Module: Assigns copyright or usage restrictions on internally generated material and analyzes the copyrights or usage restrictions of externally created materials and assigns user rights accordingly through communication with a copyright clearinghouse.

Copyright Clearinghouse Server: Accessed via a specific URL by the Copyright Management Module containing a database of all copyright and material usage and dissemination rights.

The method for checking for copyright protection begins when the user creates material locally or imports it from an external source.

**Figure 2: Method for registering documents for copyright protection using Digital Copyright Registration System for internally created material**

In step 1, the OS recognizes that the user has created a new piece of material when a file is saved or updated.

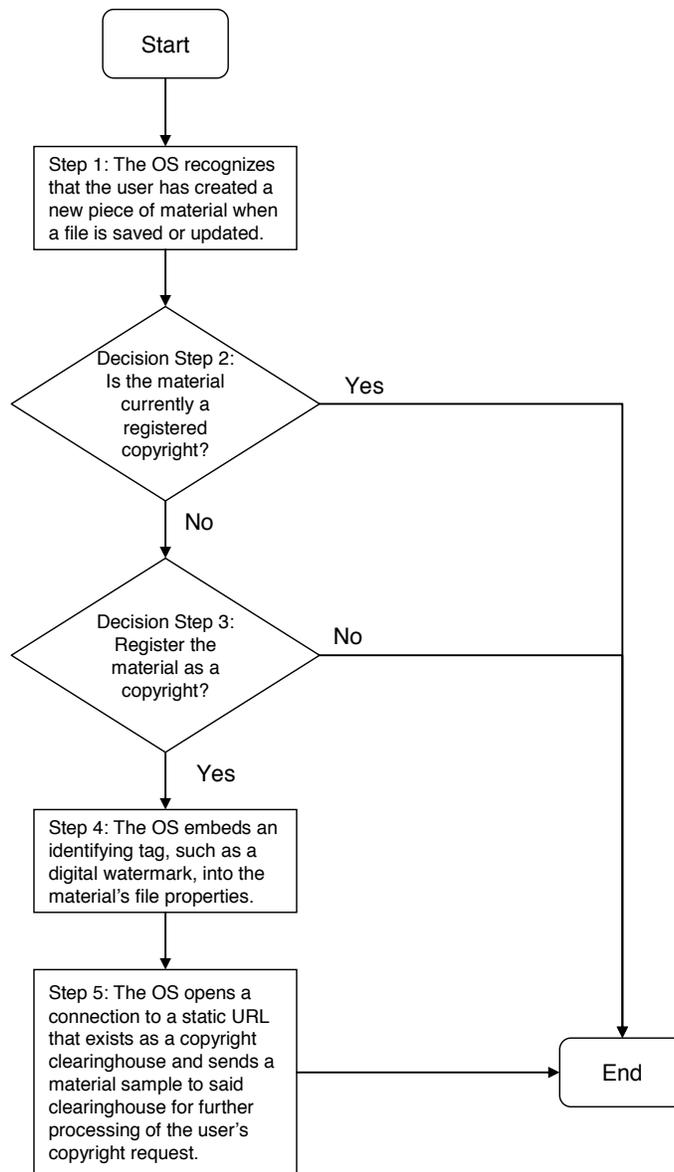
In decision step 2, the OS prompts the user, by means of a dialogue box, to determine if the material is currently a registered copyright. If no, continue to decision step 3. If yes, no additional steps are taken.

In decision step 3, the OS prompts the user, by means of a dialogue box, to determine if the user would like the work to be a registered copyright. If no, no additional steps are taken. If yes, proceed to step 4

In step 4, the OS embeds an identifying tag, such as a digital watermark, into the material's file properties.

In step 5, the OS opens a connection to a static URL that exists as a copyright clearinghouse and sends a material sample to said clearinghouse for further processing of the user's copyright request.

The method ends



**Figure 2: The method for registering internally generated material for copyright protection using the Digital Copyright Registration System**

**Figure 3: Method for determining usage rights using Digital Copyright Registration System for externally created material**

In step 1, the user requests a material file from an external source.

In step 2, the OS imports the material into a cache.

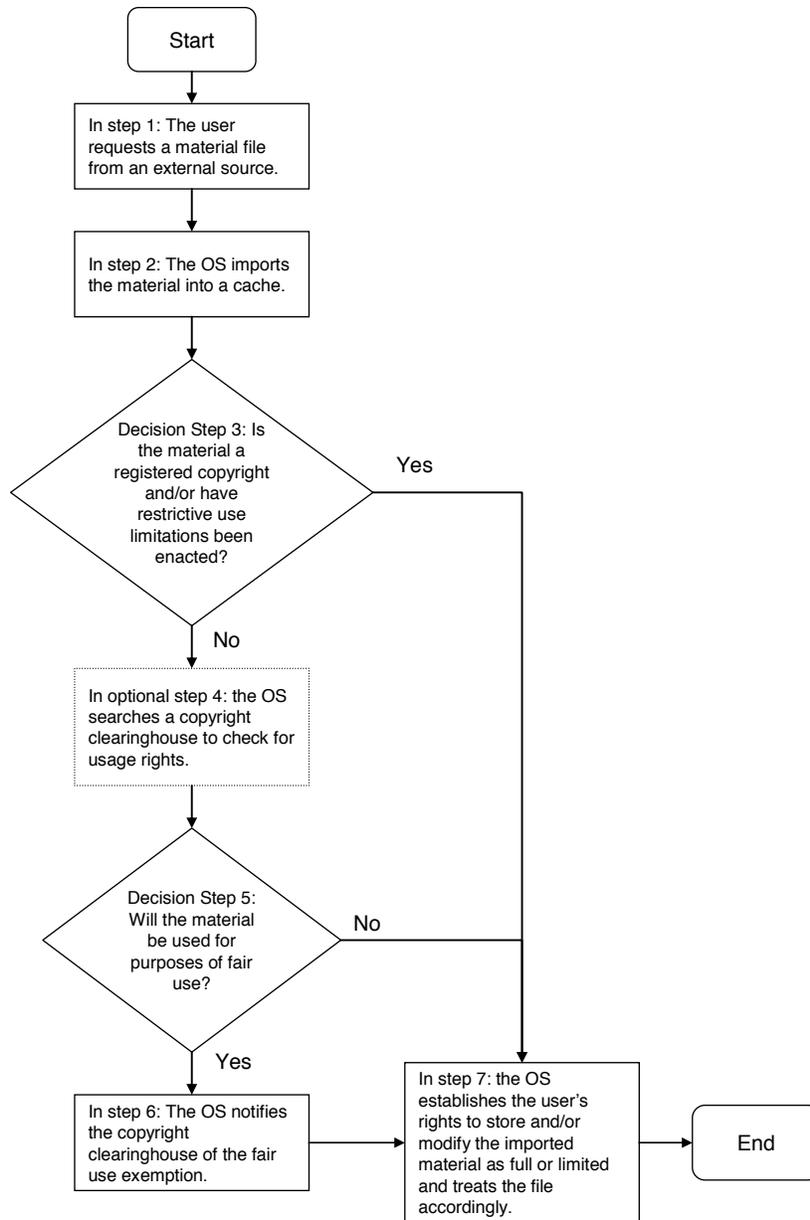
In decision step 3, the OS searches the file's properties to for an identifying tag, such as a digital watermark, that indicates whether the material is a registered copyright and/or if restrictive use limitations have been enacted. If no, continue to optional step 4. If yes, proceed to step 7.

Optionally, in step 4, the OS opens a connection to the internet to search a copyright clearinghouse that contains listings of registered copyrighted material to check for usage rights.

In decision step 5, the OS prompts the user in a dialogue box to ask if the material will be used for the purposes of fair use. If yes, continue to step 6. If no, proceed to step 7.

In step 6, the OS notifies the copyright clearinghouse of the fair use exemption.

In step 7, the OS establishes the user's rights to store and/or modify the imported material as full or limited and treats the file accordingly.



**Figure 3: The method for determining the usage rights of externally generated material for Digital Copyright Registration System**